



# NT Infrastructure Plan and Pipeline **2023**





## About Infrastructure NT

Infrastructure NT is the Northern Territory's infrastructure body. Infrastructure NT undertakes strategic infrastructure planning and development that coordinates and aligns infrastructure needs with economic and population growth.

## Acknowledgement of Country

Infrastructure NT acknowledges the Traditional Owners and Custodians across the Northern Territory and their connection to country.

We pay our respects to their communities and Elders – past, present and emerging.

*Cover: Tanami Road. Credit: GHD.*

*Below: Cruise ship in Darwin Harbour.*

*Credit: Tourism NT and PRLX Creative Production.*





Above: The Old Telegraph Station Alice Springs NT. Credit: Steve Strike.

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Above/right: Mindil Beach. Credit: Department of Chief Minister and Cabinet.

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# Minister's statement



## Hon. Eva Lawler MLA

Minister for Territory  
Development

Northern Territory  
Government of Australia

The Northern Territory Government has a clear vision for infrastructure investment that enables growth of the Territory economy and population. Our 2030 goals will not only support the wellbeing and quality of life for all Territorians, but this growth will be underpinned by sustainability and resilience.



Above: Stokes Hill Wharf. Credit: Department of Chief Minister and Cabinet.

Northern Territory Government 2030 growth targets:

Gross State Product  
\$40 billion by 2030

Diversify our economy  
to build resilience

Lead the green  
economy – sustainable  
transition to net zero

Create 35 000 more  
jobs

Boost our population  
to 300 000 to create  
critical mass

The Territory is unlike anywhere else. Our unique histories, diverse people and cultures – matched with our dramatic natural landscape – creates a land of opportunity. Infrastructure is crucial to unlocking the opportunities on offer and making the Territory the best place to live and invest.

Since the release of the NT Infrastructure Strategy 2022–2030 and the NT Infrastructure Plan and Pipeline 2022, significant change has occurred – both domestically and internationally.

Through this change, the Territory has emerged as a key strategic location and nexus for many global ambitions. Our impressive investment portfolio has grown with this ambition from more than \$30 billion in 2022 to \$53 billion in 2023.

The Territory's key value proposition has strengthened with our abundance of viable land for development, globally significant solar irradiance and world-class gas and critical minerals. These attributes are now being recognised as the key ingredients for sustainable global energy transition to net zero. These new green economies will build diversification and resilience into the Territory's economy while decarbonising our energy here at home.

In mid 2023, the Northern Territory Government took the next big steps towards developing the Middle Arm Sustainable Development Precinct as a new clean energy, investment and jobs powerhouse. Powered by renewables and lower-emissions energy, the precinct is being developed to attract industries that reflect the Territory's future economy – including hydrogen, carbon capture, natural gas, advanced manufacturing and minerals processing. To give interested companies certainty as they develop projects at Middle Arm, the Territory Government issued a commitment 'not to deal' to 5 proponents over specific parcels of land at the precinct.

Our strengths also support a green digital economy. Opportunities like data centres, data embassies and data warehousing all require vast amounts of space and energy – both of which the Territory has in abundance.

The Australian Government has also recognised the importance of Australia's north in the Defence Strategic Review that articulates the need for hardening northern bases to protect national interests.

The Northern Territory Government is continuing to invest heavily into infrastructure with over \$4 billion committed in the 2023–24 budget. This includes the Darwin Ship Lift, Middle Arm Sustainable Development Precinct, the NT Art Gallery and National Aboriginal Art Gallery, roads, housing, schools, policing and health infrastructure.

The NT Infrastructure Plan and Pipeline provides a detailed roadmap to the investments that will enact our 2030 vision.

The Plan and Pipeline summarises an analysis of the Territory's private sector investment portfolio that will drive future growth. This analysis provides an understanding of where infrastructure investment should be prioritised to sustainably support growth and achieve the vision of the NT Infrastructure Strategy 2022–2030.

The Plan and Pipeline now incorporates important findings from the NT Infrastructure Audit 2023. Over 60 stakeholder workshops across the Territory were delivered by Infrastructure NT in 2022 to inform the Audit, which informed the enabling infrastructure plan as well as some initial funded projects under the infrastructure pipeline – particularly housing and water security.

The Territory has always had significant opportunities. Now is the right time to realise these opportunities for the benefit of all Territorians.

Invest in the right infrastructure, in the right place, at the right time

Support increased growth, productivity and innovation

Improve liveability

Embed sustainability and resilience

Below: Kilgariff. Credit: Land Development Corporation.



# Executive summary

The Northern Territory Government's new Infrastructure Framework aligns infrastructure planning and investment with the Territory Government's 2030 goals. The NT Infrastructure Strategy 2022–2030 articulates a vision of:

Infrastructure investment that enables growth of the Territory economy and population and supports the wellbeing and quality of life for all Territorians, underpinned by sustainability and resilience.

The NT Infrastructure Framework consists of 4 key components – the Infrastructure Strategy, the annual NT Infrastructure Plan and Pipeline and the NT Infrastructure Audit.

The NT Infrastructure Audit was carried out in 2022 and 2023 and is now incorporated into this edition of the NT Infrastructure Plan and Pipeline 2023. The Infrastructure Audit is largely informed by the views of over 200 Territorians interested in infrastructure from industry bodies, local government, non-government organisations and service providers, regional economic growth committees, investors and government agencies. Six key themes emerged, including:

- digital connectivity for both economic opportunities and liveability
- housing
- utilities, particularly water security
- repairs and maintenance of existing assets
- land availability
- physical connectivity through transport and supply chains.

## Underpinning these themes is the importance of liveability.

The NT Infrastructure Plan and Pipeline 2023 continues to adopt a place-based approach by grouping projects, programs and proposals by national, Territory-wide, regional and community significance. Place-based infrastructure planning provides better integration of government strategies and goals with community values, views and needs. It also aligns with local decision making and recognises the unique characteristics and challenges for each region. A place-based approach can also highlight opportunities for common user infrastructure and synergies in infrastructure delivery to maximise the benefits gained from infrastructure investments.





Previous key infrastructure investments identified in the Plan and Pipeline that continue to be priorities include:

- Middle Arm Sustainable Development Precinct common user infrastructure
- Darwin Regional Water Supply Program including Manton Dam return to service and Adelaide River Off-stream Water Storage
- infrastructure to keep pace with current economic growth including housing and land release for both residential and industrial use
- continuing to invest in strategic road corridors including Central Arnhem Road and Tanami Road
- creating a network of regional logistics hubs and intermodal facilities
- infrastructure in Central Australia to support the recovery of our internationally significant tourism market
- investing in common user infrastructure in preparation for the Beetaloo Sub-basin development.

The implementation pathways have been updated to incorporate findings from the NT Infrastructure Audit 2023.

The Audit recommended applying an infrastructure investment prioritisation framework to help prioritise what needs to be done to meet community needs while adapting to changing needs and the environment.

This method is widely accepted as best practice when considering infrastructure investment.

# Implementation pathways

The NT Infrastructure Plan and Pipeline is updated annually to align with budget processes and provide implementation pathways to achieve and respond to changing conditions, challenges and opportunities.

The following table summarises the implementation pathways from the NT Infrastructure Plan and Pipeline 2022, identifying where pathways have been achieved, are in progress or are ongoing.



The table summarises the implementations pathways identified in the 2023 annual review of the Infrastructure Plan and Pipeline and identifies those that are new and those that are new and already in progress.



The table also summarises the implementation pathways identified in the NT Infrastructure Audit 2023 and identifies those that are new and those that are new and already in progress.



The implementation pathways have been updated to incorporate the findings from the Audit.

The NT Infrastructure Audit recommended applying an infrastructure investment prioritisation framework to help prioritise what needs to be done to meet community needs while adapting to changing needs and the environment.

Responding to the implementation pathways does not necessarily mean building more and bigger infrastructure. We need to look at the infrastructure we have, see how it meets or does not meet the needs of the community and how it can be improved or repurposed. Then we can determine what new infrastructure is required to meet community needs and enable growth of our industries.

Implementation pathways have been considered against the following infrastructure investment prioritisation framework, which includes assessing infrastructure needs for:



**Reform**

**Reform** to improve service performance through changed service delivery, organisations or laws



**Better or different use**

**Better or different use** of infrastructure by using smart infrastructure and intelligent systems to make the most of the infrastructure or repurpose the infrastructure for a different use



**Improve**



















**Improve** existing infrastructure by adding runways, widening roads, adding services to transport corridors, facilities, building upgrades, extend capacity or building on an existing facility









































**New**


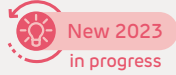
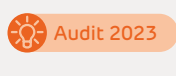
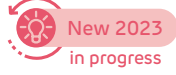
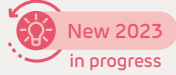
**New** infrastructure once other options are eliminated, resulting in a new asset to deliver services and meet changing infrastructure needs.

These implementation pathways provide clear direction to either make reforms or prioritise investment to meet our changing needs. Chapter 3 provides further information on infrastructure investment prioritisation.









Implementation pathway	Prioritisation action	Progress	Page No
<b>Investing in the right infrastructure, in the right place, at the right time</b>			
Strategically plan new enabling infrastructure ecosystems to de-risk and secure investment	 Reform	 Ongoing System reform achieved	33
Balance investment in social and economic infrastructure	 Reform	 Ongoing System reform achieved	33
<b>Support increased growth, productivity and innovation</b>			
Grow capacity and capability to lead and drive the development of northern Australia	 Reform	 In progress	35
Invest in infrastructure to increase the value of existing supply chains	 New	 In progress	35
<b>Improve liveability</b>			
Integrate place-based planning with local decision making and regional development strategies	 Reform	 In progress	35
Improve connectivity and equitable access	 New	 In progress	35
<b>Embed sustainability and resilience</b>			
Accelerate the delivery of sustainable development precincts	 New	 In progress	37
Consider economic, environmental, social, cultural and governance sustainability principles and resilience in infrastructure decision making	 Reform	 In progress	37
Support the delivery of multi-purpose infrastructure to increase community resilience	 New	 Audit 2023 in progress	37

Implementation pathway	Prioritisation action	Progress	Page No
<b>NT Infrastructure Audit</b>			
Define baseline levels of service to assist with future infrastructure planning, prioritising maintenance and capital upgrades of existing assets and identifying gaps in service delivery	 Reform	 Audit 2023	44
Develop and adopt a fit for purpose framework for service needs assessment for all government agencies to use in their place-based infrastructure planning, funding submissions and project delivery	 Reform	 Audit 2023	44
Facilitate greater transparency and collaboration in infrastructure planning and assessment frameworks to provide clarity on development pathways for new projects	 Reform	 Audit 2023	45
Review and optimise the existing NT Project Development Framework to ensure it is fit for purpose and scaled for Northern Territory specific and project specific needs	 Reform	 Audit 2023	45
Infrastructure NT to work with Northern Territory Government agencies to develop function specific Infrastructure Investment Plans	 Reform	 Audit 2023	45
Consider the most appropriate type of solution in infrastructure planning, whether it is: <ul style="list-style-type: none"> <li>improving service performance through <b>reform</b></li> <li><b>better use</b> of existing infrastructure</li> <li><b>improvements to</b> existing infrastructure</li> <li>constructing <b>new infrastructure</b> when required, after eliminating less capital-intensive options</li> </ul>	 Reform	 Audit 2023	45
Consider using a broad range of procurement, governance and financing options and delivery models for infrastructure projects	 Reform	 Audit 2023	46
Take a coordinated and place-based approach to asset maintenance in rural and remote areas	 Reform	 Audit 2023	46
Ensure social infrastructure such as education, health, police and community facilities keep pace with a growing population and a diverse demographic to improve liveability, which plays a key role in attracting and retaining people in the Territory	 Reform	 Audit 2023	46

Implementation pathway	Prioritisation action	Progress	Page No
<b>Growing the Territory</b>			
Undertake ongoing monitoring and detailed analysis of economic growth in parallel with population growth to inform infrastructure needs	 Reform	 Ongoing System reform achieved	64
Annually monitor economic growth to match appropriate supporting infrastructure investment	 Reform	 Ongoing System reform achieved	64
Invest in regional infrastructure to support growth	 New	 In progress	64
Investigate rapid regional growth learnings from other jurisdictions to gain insights to apply to the Northern Territory's rapid growth challenges and opportunities	 Reform	 In progress	64
Adopt place-based approaches to planning for growth	 Reform	 Achieved	64
Investigate how much renewable energy the Territory could reasonably produce	 Reform	 New 2023 in progress	64
Look at opportunities for co-investment in common user infrastructure	 New	 In progress	64
Unlock private sector investment through the delivery of well considered and targeted enabling infrastructure	 New	 Audit 2023	64
<b>Market capacity</b>			
Improve industry capacity and capability by prioritising procurement and portfolio management and increasing pipeline transparency, certainty and confidence	 Reform	 New 2023 in progress	72
Improve value for money and reduce risk by consistently adopting appropriate best-practice front-end due diligence for projects	 Reform	 New 2023	72
Deliver skills training in communities aligned with the local employment pipeline through partnerships with private investors	 Reform	 Audit 2023	72

Implementation pathway	Prioritisation action	Progress	Page No
<b>Transport and logistics</b>			
Protect strategic transport infrastructure (corridors and nodes) from encroachment by incompatible land use and development that may impact their operation or expansion	 Reform	 Audit 2023 in progress	121
Continue to work with the NT Logistics Advisory Council and stakeholders to ensure an enhanced and cohesive understanding of supply chain opportunities and impediments	 Reform	 New 2023 in progress	121
Develop transport corridors to prepare for future growth and facilitate private sector project development through efficient supply chains	 Better or different use	 Audit 2023	121
Support resilience and economic development through increased capacity of the rail network and port infrastructure	 Improve	 Audit 2023	121
Identify and protect strategic transport infrastructure (corridors and nodes) for passenger and freight movements to allow for logical upgrades, network extensions and intensification	 Improve	 Audit 2023 in progress	121
Unlock private sector investment through the delivery of well-considered and targeted enabling infrastructure	 New	 Audit 2023	121
Establish a network of regional logistics hubs	 New	 New 2023 in progress	121
Continue to prioritise Northern Territory and Australian Government investment to improve the reliability of the road network and resilience of the supply chains	 New	 New 2023 in progress	121
Develop a Darwin Harbour Development Plan to inform decision making, industry development and opportunities for further action by both government and non-government stakeholders	 Reform	 New 2023	121









Implementation pathway	Prioritisation action	Progress	Page No
<b>Utilities</b>			
Plan for new sustainable development precincts, including associated infrastructure and transmission corridors designed with key sustainability principles, specifically including: <ul style="list-style-type: none"> <li>• contribution to net zero emissions</li> <li>• efficient water use</li> <li>• circular economy principles</li> </ul>	 Reform	 Audit 2023	133
Develop and implement an infrastructure plan to improve digital connectivity across the Northern Territory, including a clear infrastructure roll out roadmap	 Reform	 Audit 2023 in progress	133
Transition to smarter, cleaner and more reliable energy by implementing Electricity Systems Plans and Strategies	 Reform	 In progress	133
Recognise water has significant value to communities, supporting prosperity, amenity, liveability, health, spirituality and customary values	 Reform	 Audit 2023	133
Promote the most efficient, effective and flexible use of existing and planned utilities infrastructure	 Better or different use	 Audit 2023	133
Prioritise strategic actions to reduce the digital divide between urban and remote areas	 Better or different use	 Audit 2023	133
Undertake continued water exploration and targeted water resource investigation	 Better or different use	 Audit 2023	133
Rethink how water and wastewater services are delivered and use technology to improve efficiency and levels of service when renewing ageing assets	 Better or different use	 Audit 2023	133
Establish the circular economy industry as a contributor to the Territory's goal of a \$40 billion economy by 2030	 Better or different use	 Audit 2023 in progress	133
Ensure that waste management approaches and infrastructure consider industry needs and integrate existing circular economy and renewable energy strategies	 Better or different use	 Audit 2023	133
Investigate opportunities to utilise reverse logistics models integrated with future logistics hubs	 Better or different use	 Audit 2023	133
Leverage new local energy supply solutions that either replace or complement diesel generation in remote and regional areas	 Improve	 Audit 2023 in progress	133




















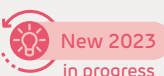
Implementation pathway	Prioritisation action	Progress	Page No
<b>Utilities (continued)</b>			
Continue to support coverage improvements beyond urban centres by investing in digital infrastructure and leveraging Australian Government initiatives and private sector investment	 New	 Audit 2023 in progress	134
Unlock private sector investment through the delivery of well considered and targeted enabling infrastructure	 New	 Audit 2023	134
Enable new industries based on economical and abundant new sources of energy, including large-scale solar and wind	 New	 Audit 2023	134
Accelerate work to deliver infrastructure solutions for future water demand	 New	 Audit 2023 in progress	134

Below: Yuelamu MW link. Credit: Telstra.



Implementation pathway	Prioritisation action	Progress	Page No
<b>Social infrastructure</b>			
Ensure that social infrastructure such as education, health, police and community facilities keep pace with a growing population and a diverse demographic to improve liveability, which plays a key role in attracting and retaining people in the Northern Territory	 Reform	 Audit 2023	150
Support workforce and population growth by planning and investing in projects that support liveability	 Reform	 Audit 2023	150
Recognise and measure the impact and value of investment in social infrastructure and support forward looking development of social infrastructure	 Reform	 Audit 2023	150
Ensure there is sufficient housing timed to support the predicted population growth associated with economic development across the Territory	 Reform	 Audit 2023 in progress	150
Deliver skills training in communities aligned with the local employment pipeline through partnerships with private investors	 Reform	 Audit 2023	150
Ensure justice and public safety facilities are fit for purpose, consider growth in service delivery and the functional needs of contemporary and culturally appropriate service delivery	 Reform	 Audit 2023	150
Investigate opportunities to support student accommodation in the Darwin CBD to support the new Charles Darwin CBD Campus	 Reform	 New 2023 in progress	150
Implement the NT Health Clinical Services Plan to address predicted future health service demands and projected requirements for new, upgraded and repurposed infrastructure	 Improve  New	 Audit 2023	150
Deliver education and training facilities to meet the needs of the community	 Improve	 Audit 2023 in progress	150
Enhance Territorians liveability and social benefits through improving tourism, art and culture, sport and recreation infrastructure	 Improve	 Audit 2023	150
Unlock private sector investment through the delivery of well considered and targeted enabling infrastructure	 New	 Audit 2023	150
Continue to prioritise the roll out of the National Partnership for Remote Housing	 New	 Audit 2023 in progress	150
Prioritise actions to address shortfalls in accommodation for key workers, students and vulnerable people	 New	 Audit 2023 in progress	150

Implementation pathway	Prioritisation action	Progress	Page No
<b>Land</b>			
Support land development prioritisation by accurately forecasting demand for residential, industrial and commercial land	 Reform	 Audit 2023	156
Support communities to realise the potential economic development of Aboriginal owned land	 Reform	 Audit 2023	156
Continue to streamline regulatory processes and land tenure arrangements	 Reform	 Audit 2023 in progress	156
Unlock private sector investment by the delivery of well considered and targeted enabling infrastructure	 New	 Audit 2023	156
Support the delivery of serviced land and provide housing choice that enables population growth and responds to the needs and aspirations of our current and future communities, particularly considering the needs of: <ul style="list-style-type: none"> <li>• an ageing population</li> <li>• people living with a disability</li> <li>• people who require social and/or affordable housing</li> <li>• students</li> </ul>	 New	 Audit 2023 in progress	156
Accelerate planning and delivery of future sustainable development precincts to support emerging industries including the Middle Arm Sustainable Development Precinct	 New	 Audit 2023 in progress	156
Support planning and delivery of serviced industrial land in key regional centres such as Katherine and Alice Springs	 New	 Audit 2023 in progress	156

Implementation pathway	Prioritisation action	Progress	Page No
<b>Nationally significant projects, programs and proposals</b>			
Progress Stage 2 submission (Potential Investment Options) to Infrastructure Australia for enabling infrastructure to develop the Beetaloo Sub-basin (as all road upgrades are now funded, this will be for the remaining infrastructure required)	 Reform	 In progress	185
Progress Stage 2 submission (Potential Investment Options) to Infrastructure Australia for common user infrastructure at the Middle Arm Sustainable Development Precinct	 Reform	 Achieved	185
Progress Stage 3 submission (Investment Ready Proposal) to Infrastructure Australia for common user infrastructure at the Middle Arm Sustainable Development Precinct	 Reform	 In progress	185
Submit Stage 1 submission (Early Stage Proposal) to Infrastructure Australia for Northern Territory freight rail and logistics capacity improvements	 Reform	 Achieved	185
Progress Stage 2 submission (Potential Investment Options) and Stage 3 submission (Investment Ready Proposal) to Infrastructure Australia for Northern Territory freight rail and logistics capacity improvements	 Reform	 In progress	185
Submit Stage 1 submission (Early Stage Proposal) to Infrastructure Australia for the Marine Industry Park	 Reform	 In progress	185
Submit Stage 1 submission (Early Stage Proposal) to Infrastructure Australia for Central Arnhem Road	 Reform	 In progress	185
Remove and strengthen the Infrastructure Australia Priority List proposal “Enabling infrastructure and essential services for remote Northern Territory communities in Wadeye, Tiwi Islands, Jabiru”	 Reform	 Achieved	185
Accelerate planning for and delivery of residential, commercial and industrial land	 Reform	 In progress	185
Support job creation and business growth across the economy by developing waste recycling facilities in the network of regional logistics hubs, reducing reliance on interstate waste processing and waste going to landfill	 New	 New 2023 in progress	185

Implementation pathway	Prioritisation action	Progress	Page No
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### Territory-wide

Plan for regional waste facilities	 Reform	 In progress	190
Develop options to ensure that entry level and affordable housing are in the market, including options to accelerate market participation by community housing providers	 Reform	 In progress	190
Complete Infrastructure Audit	 Reform	 Achieved	190









### Darwin, Palmerston and Litchfield Region

Accelerate planning for land release in Holtze and Kowandi	 Reform	 In progress	220
Progress the business/economic case for Darwin Waterfront development	 Reform	 In progress	220
Progress the business/economic case for Darwin City Stadium	 Reform	 In progress	220




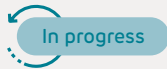








### Top End Region

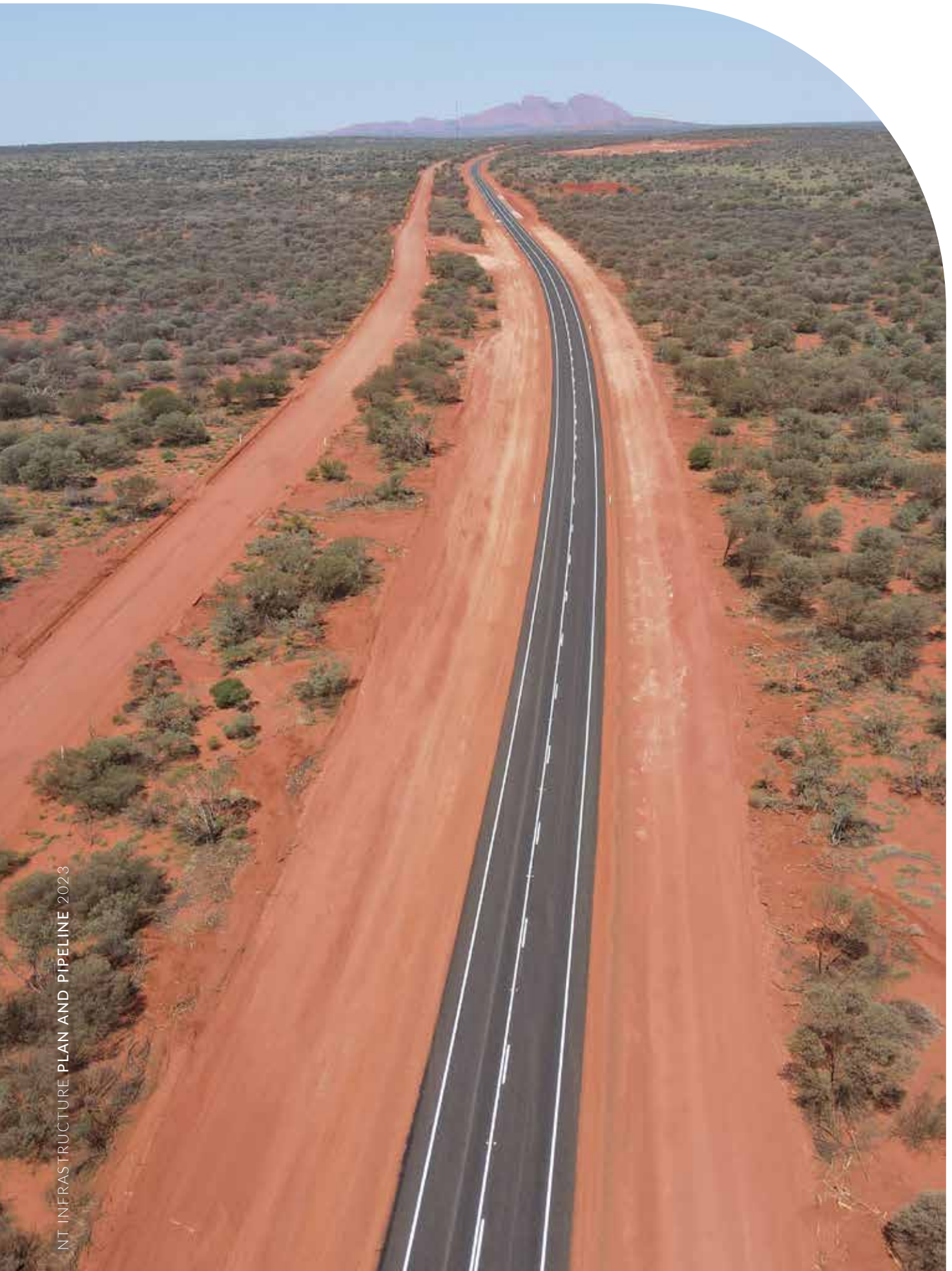
Progress Kakadu road upgrades	 New	 In progress	246
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### Big Rivers Region

Undertake infrastructure planning to enable major private sector projects	 Reform	 In progress	265
Identify actions to alleviate accommodation pressures	 Reform	 In progress	265
Identify infill opportunities for accommodation, including consolidating existing government footprints by co-locating government services to free up land for development in Katherine	 Reform	 In progress	265
Continue to progress Katherine Logistics and Agribusiness Hub*	 New	 In progress	265

\* also included in Transport and Logistics implementation pathway – Establish a network of regional logistics hubs

Implementation pathway	Prioritisation action	Progress	Page No
<b>Central Australia Region</b>			
Identify and take immediate action to alleviate accommodation pressures	 Reform	 In progress	288
Identify infill opportunities for accommodation, including consolidating existing government footprints by co-locating government services to free up land for development in Alice Springs	 Reform	 In progress	288
Accelerate design and delivery of further Kilgariff stages	 New	 Achieved	288
<b>Barkly Region</b>			
Continue to progress the planning of the Mount Isa to Tennant Creek rail link	 Reform	 In progress	307
Undertake infrastructure planning to enable major private sector projects	 Reform	 In progress	307
<b>East Arnhem Region</b>			
Continue with Gove Futures Program to identify enabling infrastructure for economic sustainment and future growth, particularly Gove Port	 Reform	 In progress	323



# Summary of key projects, programs and proposals

Key projects, programs and proposals are provided throughout this Infrastructure Plan and Pipeline. A list delineated by region is provided below.

## Nationally significant

Project	Map Reference	Page
Central Arnhem Road upgrades	1	162
Darwin region water supply infrastructure upgrades – Adelaide River Off-Stream Water Storage (AROWS)	2	164
Darwin Ship Lift Facility	3	165
Digital industries		166
– DCI data centres	4	168
– Hawaiki Nui subsea system	5	166
– HyperOne high speed fibre cable	6	166
– Inligo Network	5	168
– NEXTDC	7	168
– Vocus Darwin-Jakarta-Singapore Cable	5	166
Enabling infrastructure for developing the Beetaloo Sub-basin	8	170
Marine Industry Park	9	171
Middle Arm Sustainable Development Precinct		172
– Avenira Limited’s Lithium Cathode Battery Manufacturing Project	10	174
– Fortescue Green Hydrogen Hub	11	174
– Tamboran Resources Limited	12	175
– Tivan Limited Vanadium Electrolyte Facility	13	176
– Total Eren Australia H2	14	177
National Aboriginal Art Gallery	15	178
Northern Territory freight rail and logistics capacity improvements (Regional logistics hubs)	16	179
Northern Territory remote community power generation program	17	182
SunCable – the Australia-Asia Power Link	18	183
Tanami Road upgrades	19	184

## Territory-wide

Project	Map Reference	Page
Aurizon – Railway service expansion	20	188

## Darwin, Palmerston and Litchfield regions

Project	Map Reference	Page
Amphibian ALBATROSS G-111T Aircraft Manufacturing	21	202
Civic and State Square Precinct Revitalisation	7	202
Darwin Waterfront Development	7	203
Defence strategic infrastructure	7	204
Holtze and Kowandi Residential Land Release	22	205
INPEX – Ichthys LNG onshore processing facility	23	205
Lambells Lagoon Agricultural Precinct	24	206
Larrakia Cultural Centre	7	206
QRZ Bowerlee Village Development	25	207
Strategic Oil Reserve Darwin – Crowley	26	207
The Green Energy Project (Larrakia Energy and Korea Midland Power Co.)	27	208

## Top End region

Project	Map Reference	Page
Core Lithium – Finniss Lithium Project	28	238
Mt Bundy (Toms Gully, Rustlers Roost and Q29)	29	238
Sustainable future of Jabiru and Kakadu	30	239
Tiwi H2 Project	31	239

## Big Rivers region

Project	Map Reference	Page
Defence strategic capital works	32	258
Fountain Head Gold and Hayes Creek projects – PNX Metals	33	258
Katherine Agribusiness and Logistics Hub	34	259
Katherine East – land development	35	259
Merlin Diamond Project – Lucapa Diamond Company Limited	36	260
Mount Todd – Vista Gold	37	260

## Central Australia region

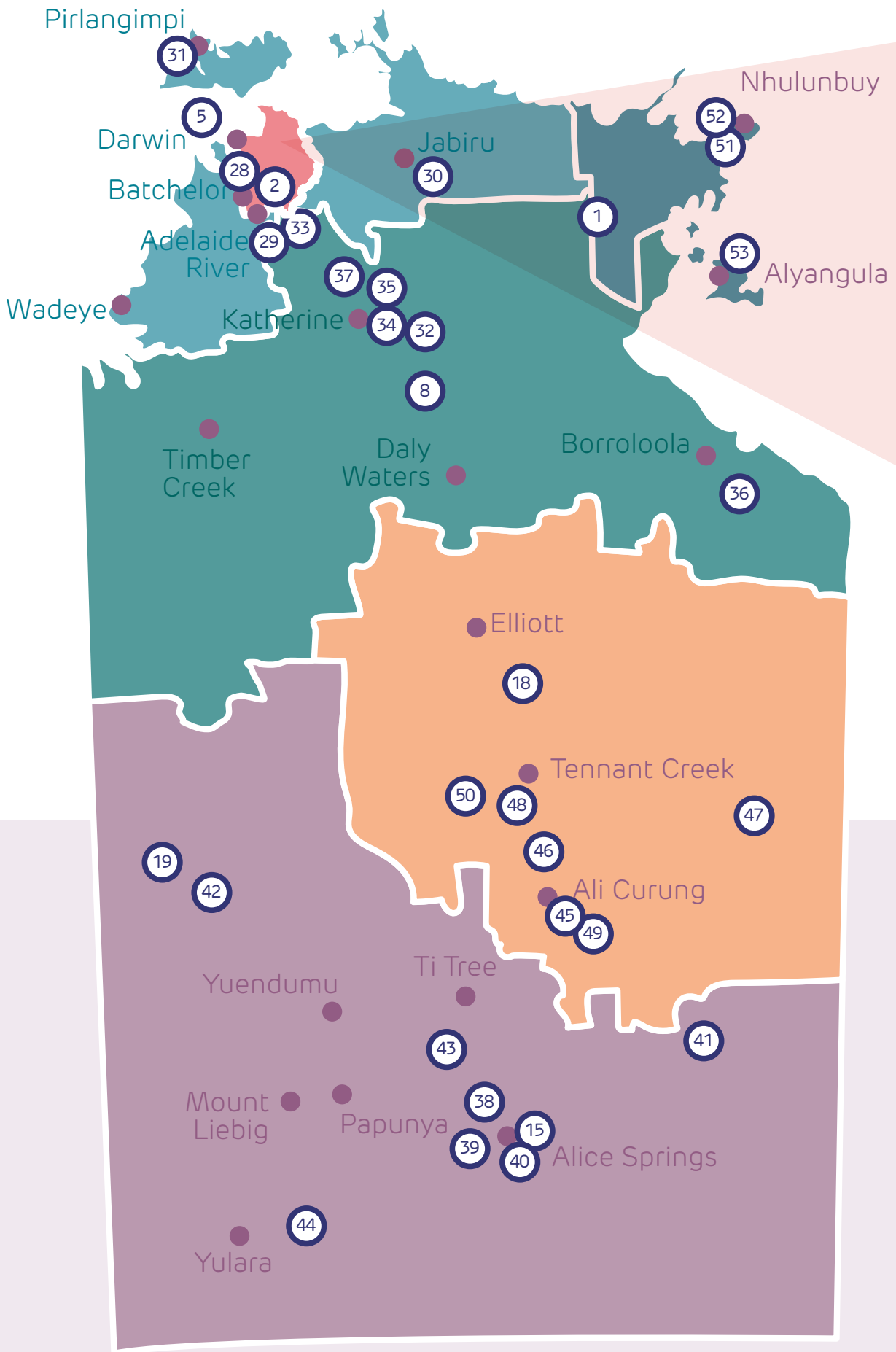
Project	Map Reference	Page
A better, safer future for Central Australia	38	278
Community and Regional Infrastructure	39	279
Lasseters Casino and Resort Development	40	280
Molyhil Tungsten-Molybdenum-Copper Project – Thor Energy	41	280
Newmont – Granites Gold Mine expansion	42	281
Nolans NdPr Project – Arafura	43	281
Verdant Minerals Limited and Parkway Corporate Limited Joint Venture – Karinga Lakes Potash Project	44	281

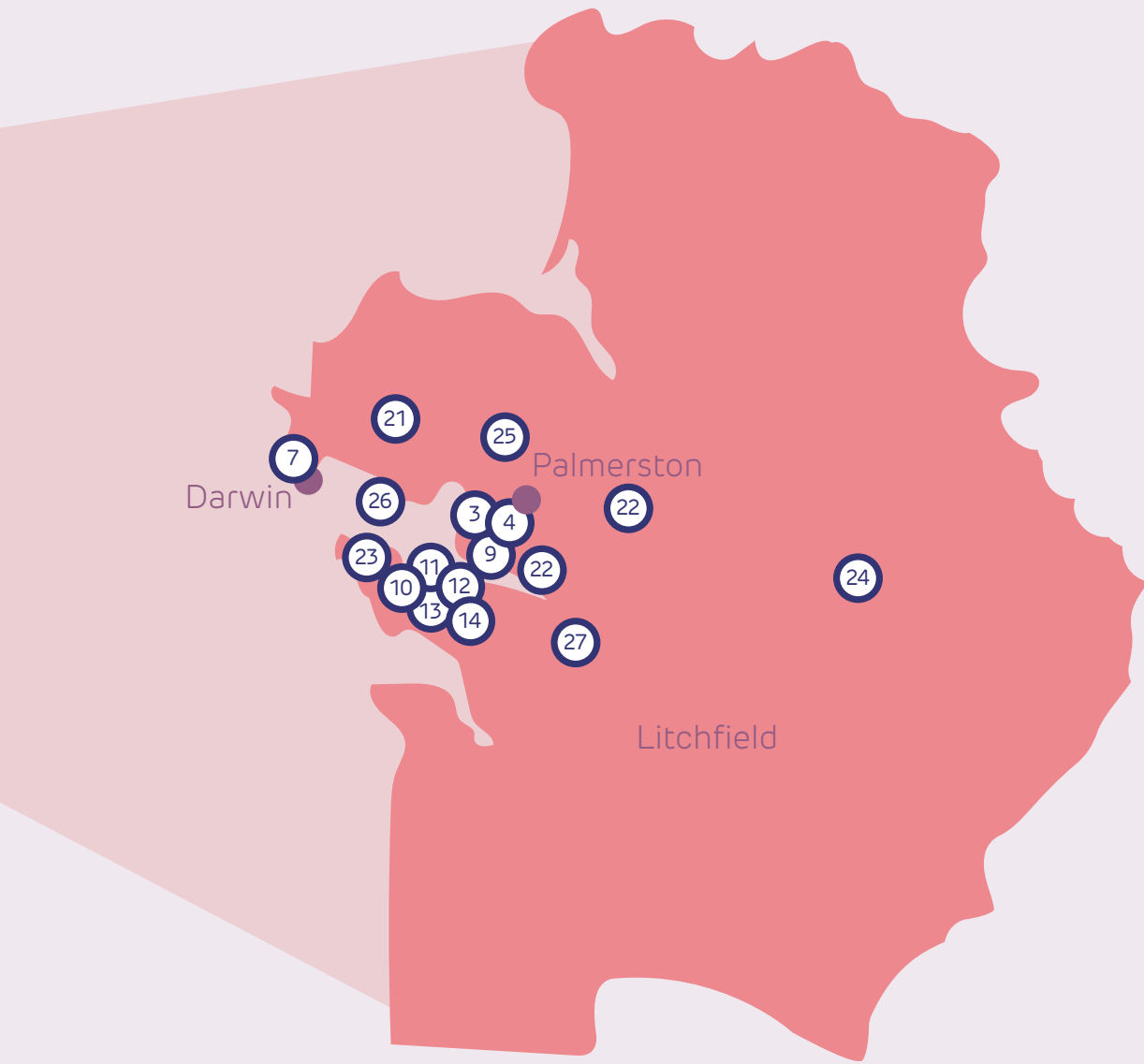
## Barkly region

Project	Map Reference	Page
Aboriginal Land Economic Development Agency (ALEDA) Project	45	302
Ammaroo Ammonium Phosphate Fertiliser Project – Verdant Minerals Ltd	46	302
Avenira Limited's Phosphate Rock Mine and Yellow Phosphorous Plant	47	302
Rover Project – Castile Resources	48	303
Singleton Farm project – Fortune Agribusiness Funds Management Pty Ltd	49	303
Tennant Creek Central Gold Mill – Tennant Mining	50	303

## East Arnhem region

Project	Map Reference	Page
Equatorial Launch Australia – Arnhem Space Centre	51	318
Gove Peninsula – A post mining future	52	319
Winchelsea Mine	53	319





**KEY**

- Town/city
- 1 Project

*Locations are indicative*

**TERRITORY-WIDE PROJECTS**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid #000; border-radius: 50%; text-align: center; line-height: 15px; margin-right: 5px;">5</span> Inlingo Network Unite</li> <li><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid #000; border-radius: 50%; text-align: center; line-height: 15px; margin-right: 5px;">6</span> HyperOne</li> <li><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid #000; border-radius: 50%; text-align: center; line-height: 15px; margin-right: 5px;">16</span> Northern Territory freight and logistics capacity improvements (regional logistics hubs)</li> </ul> | <ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid #000; border-radius: 50%; text-align: center; line-height: 15px; margin-right: 5px;">17</span> Northern Territory remote community power generation program</li> <li><span style="display: inline-block; width: 15px; height: 15px; border: 1px solid #000; border-radius: 50%; text-align: center; line-height: 15px; margin-right: 5px;">20</span> Aurizon – Railway service expansion</li> </ul> |
|---|---|

# Introduction

The new NT Infrastructure Framework has been in place for over 12 months with the NT Infrastructure Strategy 2022–2030 adopted and the first in the NT Infrastructure Audit Series completed. Additionally, the investment portfolio has grown significantly.

With a number of key investors now moving into front-end engineering and design, strategic infrastructure planning and investment is critical to achieving Government’s growth agenda.

The NT Infrastructure Plan and Pipeline are key elements of the NT Infrastructure Framework. The NT Infrastructure Plan and Pipeline 2023 has been informed by engagement with a broad range of stakeholders through the NT Infrastructure Audit as well as through the investment portfolio and potential private sector project proponents.

The 2023 Plan and Pipeline is more robust due to the extensive work undertaken through the Infrastructure Audit, which has largely informed the changes.

The Plan and Pipeline identifies infrastructure that is needed to support both economic and population growth. Economic infrastructure will de-risk investment for the private sector by providing the certainty and right foundations to choose the Territory as their investment location of choice. Social infrastructure will attract and retain the population needed to support this growth and improve the quality of life for all Territorians.

Clearly identifying projects that are funded (the Infrastructure Pipeline) and those that are proposed (the Enabling Infrastructure Plan) provides clarity for industry when making workforce capacity and investment decisions and improves business confidence.



The **Investment Portfolio** summarises the anticipated investment that will occur in the next 5 years that will impact the Territory's economy, particularly jobs supported during construction and operations. The increase in job numbers is directly linked to population growth, which subsequently affects infrastructure needs.

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The **Enabling Infrastructure Plan** component of this document will enable evidence based decision making by Government that in turn helps ensure infrastructure investment is prioritised to where it can have the most impact.

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**Implementation pathways** provide clear direction to either make reforms or prioritise investment to meet our changing needs.

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The **Infrastructure Pipeline** separates out known and funded projects in both the private and public sectors to assist in managing the 'boom and bust' cycle and market capacity.



# How to read this document

To help stakeholders navigate the Infrastructure Plan and Pipeline, an overview of each chapter is provided below:

## Minister's statement

Aligns the role of the Infrastructure Plan and Pipeline with the Northern Territory Government's clear goals to be achieved by 2030

## Executive summary

Provides a high level summary of the Infrastructure Plan and Pipeline including implementation pathways and projects of significance for economic growth of the Territory

## NT Infrastructure Framework

Provides a clear direction and whole-of-government leadership for project planning, development and delivery that analyses, prioritises and supports well informed, evidence based government infrastructure investment

## NT Infrastructure Strategy

Sets the vision for infrastructure investment that enables the Territory economy and population to grow and supports wellbeing and quality of life for all Territorians, underpinned by sustainability and resilience

## NT Infrastructure Audit

Provides an evidence base to guide future infrastructure investment decision making and focus attention on the investments and reforms to improve our living standards and local and national productivity

## Growing the Territory

Provides context around the need for economic and population growth, the opportunities in the Territory for growth, the important role of private sector investment and government's support through investment in enabling infrastructure

## Market capacity

Provides context around market and workforce capacity challenges and opportunities resulting from the unprecedented investment in infrastructure from a national and Territory perspective

## NT key industry sectors

Details the industry sectors key to achieving a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs by 2030 and subsequent population growth

## Enabling infrastructure ecosystems



Explains how thinking about our infrastructure as an ecosystem will help plan a more integrated approach to infrastructure investment, planning and delivery

## A place-based approach



Details the projects, programs and proposals led by the private sector and the 3 levels of government that will address challenges and opportunities in each of the regions throughout the Territory from a nationally significant perspective, Territory-wide and the 6 distinct regions

## Investment portfolio



Details the anticipated value of private sector capital investment, including investment from the mineral and gas industries, Defence investments, other private sector led investments and Government led major projects.

Details estimated number of jobs supported, short term accommodation required and estimated population growth. Including government investment, there is over \$53 billion of capital investment in the pipeline over a 5 year period starting in 2023-24

## Enabling infrastructure plan



Details the opportunities to grow the economy and contribute to the national agenda by enabling private investors in the key growth sectors, while balancing the need for investment in social infrastructure

## Infrastructure pipeline



Details projects and programs that are funded and will be delivered in the short term to help industry with workforce capability and capacity decisions and assist in managing the 'boom and bust' cycle

# 1

# NT Infrastructure Framework

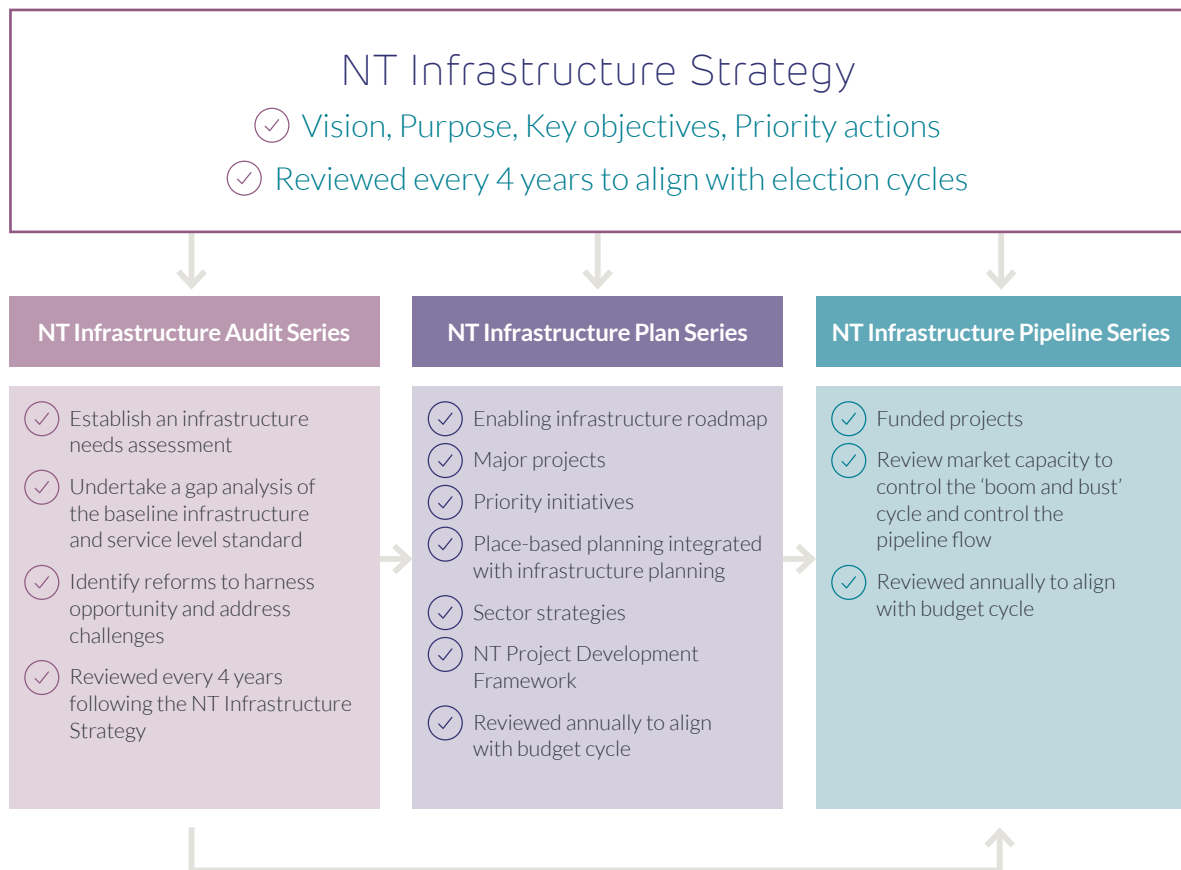
The Northern Territory Infrastructure Framework provides a clear direction on how the Northern Territory Government will plan, develop and deliver infrastructure projects in the Territory.

Infrastructure is central to meeting the needs of Territorians and enabling private sector investment.

The Framework supports well informed, evidence based investment in infrastructure, including transport and logistics, land, utilities (power and water, digital technologies) and social infrastructure (housing, health, education, policing, safety and liveability).

The Framework is a place-based strategic plan that ensures land and infrastructure planning matches economic and population growth in the Territory.

It aligns with the Infrastructure Australia Framework and includes an Infrastructure Strategy, Audit Series, Plan Series and Pipeline Series.



# 2

# NT Infrastructure Strategy 2022–2030

Infrastructure plays a key role in supporting sustainable economic and population growth in the Northern Territory.

The Northern Territory Government has a clear vision to deliver infrastructure that meets the needs of Territorians.

The following cross cutting objectives for implementation pathways and infrastructure investment will achieve this vision.

## Vision

Infrastructure investment that enables growth of the Territory economy and population and supports wellbeing and quality of life for all Territorians, underpinned by sustainability and resilience.

## Invest in the right infrastructure, in the right place, at the right time

Investing in the right infrastructure, in the right place, at the right time is critical. Evidence based decision making helps ensure infrastructure investment is prioritised where it will have the most impact and within an affordable investment envelope.





By 2030, the Territory’s industries will be more diverse and productive, our population will be over 300 000, our regions will be thriving communities and our economy will be worth \$40 billion.

Infrastructure investment must be balanced so it meets the key drivers of population and economic growth through social (health, education and emergency services) and economic (roads, rail, airports, ports, water, digital, energy and common user) infrastructure.

The NT Infrastructure Strategy 2022–2030 outlines this vision for government infrastructure investment and identifies 3 key elements that will influence the ability to achieve this vision:

Government investment in enabling infrastructure will also unlock private sector investment.

- **cross cutting objectives** that apply to all infrastructure investment and delivery
- **industry sectors** that will grow our economy
- **enabling infrastructure ecosystems** that will support this growth.

Implementation pathway	Prioritisation action	Progress
<b>Investing in the right infrastructure, in the right place, at the right time</b>		
Strategically plan new enabling infrastructure ecosystems to de-risk and secure investment	 Reform	 Ongoing System reform
Balance investment in social and economic infrastructure	 Reform	 Ongoing System reform

## Sustainable development precincts

Encouraging diverse investment in an industrial precinct and taking a common user approach is efficient, supports mid-tier innovators by decreasing initial capital costs, de-risks private sector investment, provides clear pathways to secure regulatory approvals and accelerates the activation of a precinct by delivering input and logistics certainty.

The benefits of a master planned precinct include:

- ✓ co-locating similar industries in one place rather than dispersed throughout a region
- ✓ an overarching environmental performance framework
- ✓ shared infrastructure reducing duplication
- ✓ better certainty for the community about potential development over the long term
- ✓ assessing and managing cumulative impacts on the environment, culture, economy and society rather than incremental consideration project by project
- ✓ greater certainty for investors and proponents about what is appropriate and acceptable at the precinct
- ✓ strategic planning for the pipeline of jobs, procurement, social infrastructure and land release.

Sustainable development precincts are large enough to pool resources and share services while being small enough to allow innovation not normally possible in traditional capital-intensive approaches.

The Northern Territory Government has adopted 5 principles of sustainability to underpin all master planning for sustainable development precincts – economic, environmental, social, cultural and governance.

The Northern Territory Government is working with industry and the Australian Government to transform Middle Arm into a sustainable 'development ready' industrial precinct.

An industrial precinct to support minerals processing, advanced manufacturing, renewables, the hydrogen and gas industries requires access to port and marine infrastructure, road and rail connectivity and integrated renewable power and water headworks as well as carbon capture reticulation infrastructure.

The Middle Arm Sustainable Development Precinct is a blueprint for the future of Australian industrial hubs: strategic, sustainable and high-tech. In a global-first, the precinct will be largely powered by renewables, master planned to achieve a circular economy approach of sustainable and responsible production and will use technology to achieve low-to-zero emissions.

Synergies in the co-location of industry types and enabling infrastructure requirements will drive an effective use of infrastructure. The essential elements and opportunities of a sustainable development precinct as it relates to Middle Arm include:

- maximising renewable energy use
- maximising economic outcomes while minimising environmental and social impacts
- efficient water use including reuse where possible
- circular economy principles including reusing waste streams (such as using waste as a feedstock) and carbon capture
- efficient use of infrastructure through the development of common user infrastructure.




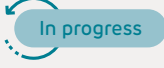
## Support increased growth, productivity and innovation

The Northern Territory needs to become more productive and innovative to support growth to benefit Territorians and all of Australia.

The Territory has a low infrastructure base, vast distances and sparse populations but also offers unique strategic opportunities and advantages.

To build a sustainable and diverse \$40 billion economy, the Territory needs to:

- think big, start small, learn fast and scale up
- support, diversify and grow our innovation ecosystem
- collaborate locally, nationally and internationally
- deliver innovation to support Northern Territory Government strategic objectives.

Implementation pathway	Prioritisation action	Progress
<b>Support increased growth, productivity and innovation</b>		
Grow capacity and capability to lead and drive the development of northern Australia	 Reform	 In progress
Invest in infrastructure to increase the value of existing supply chains	 New	 In progress

## Improve liveability

Improving liveability is key to attracting and retaining people to live, work and ultimately call the Northern Territory home.

Both infrastructure and non-infrastructure factors that impact liveability include water quality, availability of shade, digital and physical connectivity, personal safety, health care, housing supply and choice, access to quality education and employment, transport access, community events and entertainment.

Supporting a Territory lifestyle that is active, creative, culturally rich, socially diverse and safe, attracts visitors and creates a sense of place that keeps people here long term.

A place-based approach is key to plan and invest in infrastructure that provides a safe and attractive environment.

Implementation pathway	Prioritisation action	Progress
<b>Improve liveability</b>		
Integrate place-based planning with local decision making and regional development strategies	 Reform	 In progress
Improve connectivity and equitable access	 New	 In progress









## Embed sustainability and resilience

Infrastructure sustainability refers to infrastructure that is designed, constructed and operated to optimise long term environmental, social and economic outcomes.

The Northern Territory Government has adopted Infrastructure Australia’s 4 principles of sustainability and added an additional ‘cultural sustainability’ component in recognition of our rich Aboriginal history.

Component of sustainability	Principle
Economic	Infrastructure should grow productivity, the Australian economy and allow equitable access to economic and growth opportunities, while efficiently using financial resources.
Environmental	Infrastructure and policies should protect environmental outcomes by reducing pollution, balancing resource consumption, conserving natural ecosystems and resources and supporting climate mitigation and adaptation.
Social	Infrastructure and policies should improve quality of life, access and wellbeing to create an inclusive and fair society.
Cultural	Infrastructure and policies that maintain cultural beliefs, cultural practices, heritage conservation and culture as its own entity.
Governance	Infrastructure and policies should build trust in governance and institutions through transparent, accountable and inclusive decision making.

Implementation pathway	Prioritisation action	Progress
<b>Embed sustainability and resilience</b>		
Accelerate the delivery of sustainable development precincts	 New	 In progress
Consider economic, environmental, social, cultural and governance sustainability principles and resilience in infrastructure decision making	 Reform	 In progress
Support the delivery of multi-purpose infrastructure to increase community resilience	 New	 Audit 2023 in progress

## Climate change

Climate change is a key consideration in improving liveability and embedding sustainability and resilience in our infrastructure decision making.

Changes to our weather patterns and systems from climate change have consequences for the wellbeing, safety and health of the population, the integrity of utilities and essential infrastructure, the natural environment, key industries and service delivery. The impacts of climate change are going to change how we live, how we conduct business and the types of services that need to be provided. It will affect all Northern Territory sectors and industries and all Territorians.

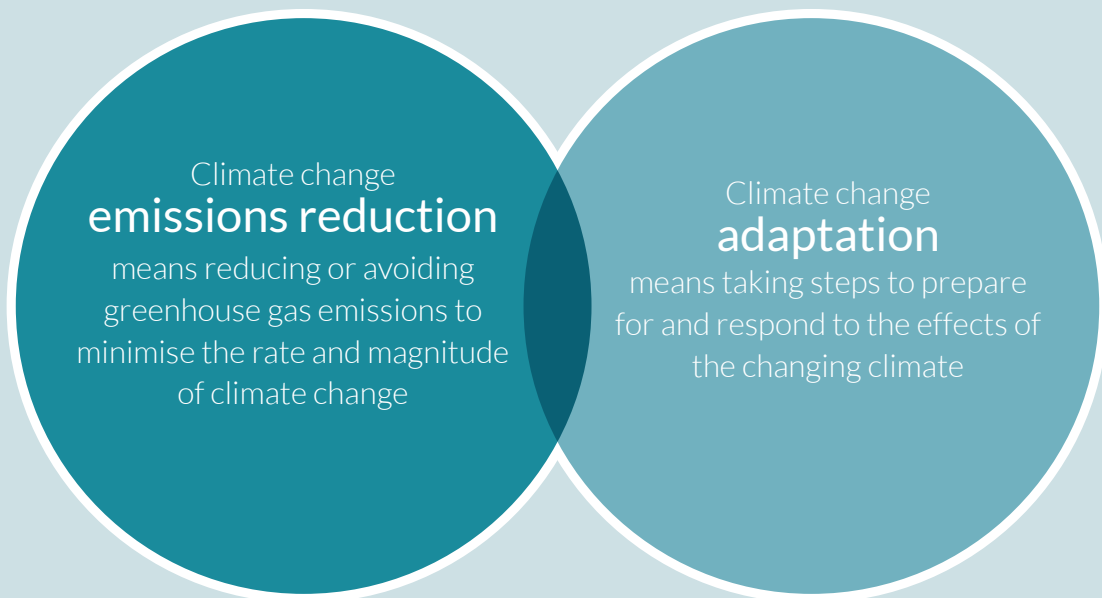
If we continue to emit greenhouse gases at the current rate, globally humans will experience

further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems including:

- increasing temperatures
- more extreme weather with less frequent but more intense cyclones
- more frequent and harsher fires
- rising sea levels.

The Northern Territory Government is taking a strategic approach to build the resilience of the Territory. While there are many opportunities to limit climate change and its risks, with many solutions that allow for continued economic and human development, we also need to learn how to adapt to a changed climate.

### *Emissions reduction v Adaptation*



Emissions reduction actions	Adaptation actions
Increased use of renewables	Risk reduction
Electric vehicles	Climate change wise building
Reduce embodied carbon	Reduce heat absorption on street and pavements
Circular economy including green supply chain	Urban planning and infrastructure design to accommodate sea levels, fires, heatwaves, drought, flooding, more cyclones
Technology to reduce manufacturing	

The Northern Territory Climate Change Response: Towards 2050 (Climate Change Response) provides the blueprint for the public, private and community sectors on the actions required to respond to changing climate, ensuring the future prosperity of the Northern Territory.

The Climate Change Response Three Year Action Plan (2020–23) identified 4 key objectives to inform future actions and guide development of mitigation and adaptation strategies:

- ✓ achieve net zero emissions
- ✓ build a resilient Territory
- ✓ unlock opportunities from a low carbon future
- ✓ inform and involve all Territorians.

The next phase of the Climate Change Response will provide a whole of economy plan aimed at decoupling emissions from economic development to guide and support a decarbonised Northern Territory. The Office of Climate Change is working on a Climate Change Adaptation Strategy for the Territory and an accompanying Climate Risk Ready Guide.

This strategy provides the steps to support the Northern Territory to do things differently and establish a new 'business as usual' approach that is grounded in a systematic process of understanding and acting on climate change risks.

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#### RELATED NT STRATEGIES

- > *Climate Change in the Northern Territory – State of the science and climate change impacts*
- > *Northern Territory Climate Change Response: Towards 2050*
- > *Electricity Systems Plans and Strategies*

#### RELATED NATIONAL STRATEGIES AND INCENTIVES

- > *National Climate Resilience and Adaptation Strategy*
- > *Emissions Reduction Fund*
- > *Climate Active*
- > *Renewable Energy Target (RET) scheme*

# 3

## NT Infrastructure Audit

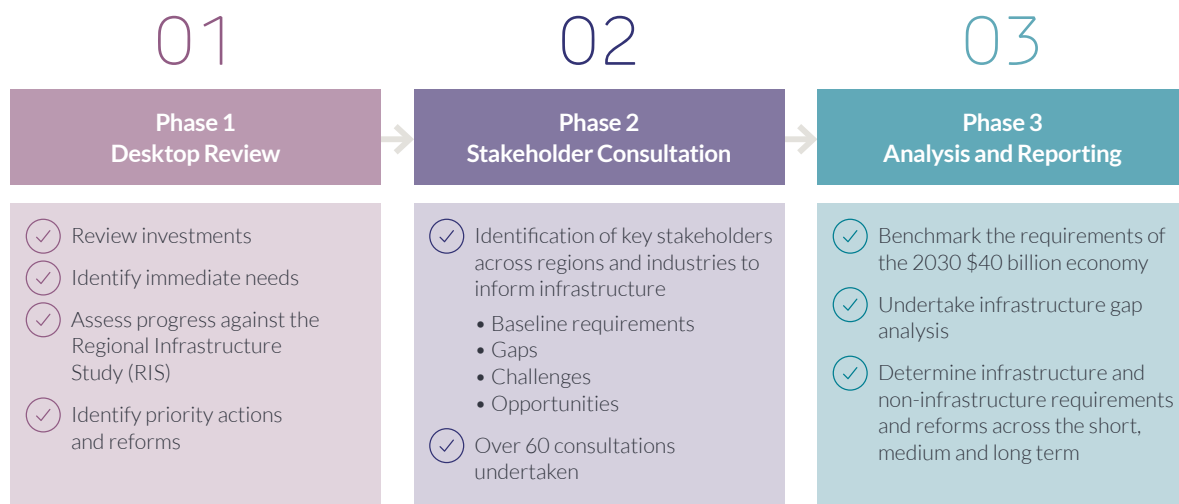
Infrastructure NT undertakes strategic infrastructure planning and development that coordinates and aligns infrastructure needs with economic and population growth. This involves developing an evidence base to guide infrastructure decision making and focus on investments and reforms that will improve our living standards and productivity.

Infrastructure NT commissioned an infrastructure audit to find out what needs to be done to make sure our existing and future infrastructure needs can be met to achieve the Northern Territory Government's vision of a \$40 billion economy by 2030.

The NT Infrastructure Audit 2023 took a place-based approach to target the different and specific circumstances experienced in communities across the Territory to make sure existing and new infrastructure meets the needs of local people.

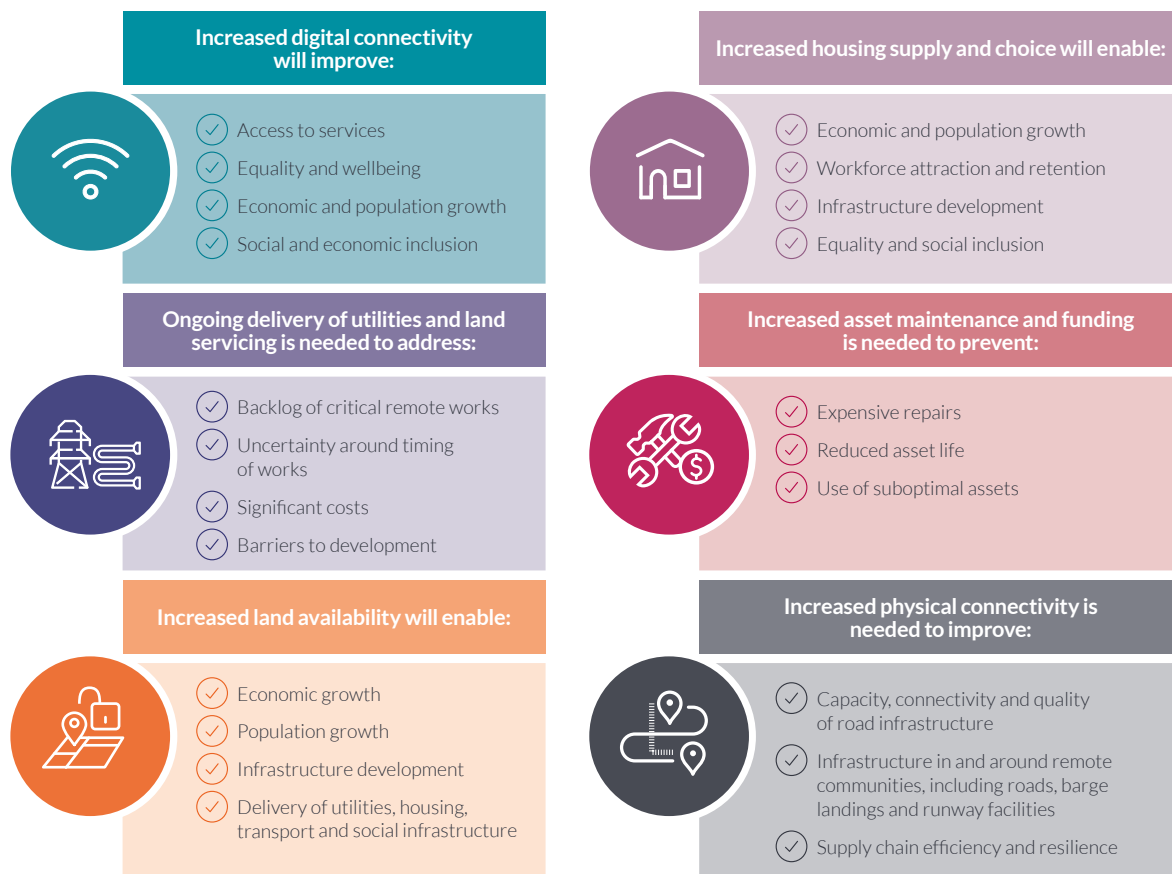
The Infrastructure Audit was developed after collaborating and partnering with a range of diverse stakeholders to capture a wide range of feedback on how infrastructure can be used to respond to opportunities and challenges in the Northern Territory.

The Audit included a 3 phase approach



The Audit identified 6 key themes that are challenges the Northern Territory Government has been actively working to address for many years.

### Overview of key themes from stakeholder feedback



One common theme in all stakeholder feedback was the importance of liveability. A high level of liveability can keep existing residents and businesses in the Territory and is linked to sustainable economic growth.

Liveability is important for workforce attraction and retention and is critical to achieving a good quality of life for all Territorians. Infrastructure and non-infrastructure factors that impact liveability include water quality, availability of shade, digital and physical connectivity, personal safety, health care, housing supply and choice, access to quality education and employment, transport access, community events and entertainment.

The Audit provides data, information and analysis to support future infrastructure planning to address the gaps and constraints identified by stakeholders and ensure the needs of the community and businesses are met as the Northern Territory plans for significant growth.

It enables the Northern Territory Government to look at each infrastructure ecosystem as connected rather than individual parts to find synergies and obstacles, and identify efficiencies and dependencies, when making planning and investment decisions for infrastructure.

Infrastructure NT acknowledges there are infrastructure gaps and constraints in the Territory. That is why the Northern Territory Government is planning significant investments to grow the Territory.

## Future trends

To make sure that infrastructure meets the needs of Territorians now and in the future, we must consider the drivers for change in the Northern Territory. It is critical to consider the external influences and future trends that will impact on the Territory infrastructure planning for the years ahead.

Future trends that will play a pivotal role in how the Territory grows and changes to 2030 and beyond include climate change, land use, Closing the Gap, liveability and social inclusion, digital, defence and implementation pathways to reform and prioritise infrastructure to meet the needs of the Territory.

### Climate change

Climate change is a current and future trend that must be considered by the Northern Territory Government in its infrastructure planning and project evaluations.

Climate projections anticipate more hot days and warm periods. Coupled with aspirations for population and economy growth, this will see an increased demand on our water resources making water security issues more prominent.

Impacts are already being experienced across the Northern Territory with tropical cyclones expected to become less frequent but more intense, more frequent and harsher fire weather and the mean sea level and storm surge will continue to rise.

We need resilient infrastructure, maintained networks and renewable energy sources to effectively challenge traditional sources of energy on an economic basis.

### Land use

Planning for the best use of land is critical to providing suitable areas for people to live, work and have families in our cities, towns and communities. We cannot grow the population or economy without the land needed to build houses, shops, businesses, farms and roads.

Strategic land use planning provides a policy framework for future growth and changes to land use. The timely supply of land is a central issue for the Northern Territory's growth.

Planning is critical to ensure there is sufficiently serviced land available for residential, commercial and industrial use, in the right places and when there is a spike in demand, such as when major projects attract people and new business to the Territory.

## Closing the Gap

Aboriginal people represent 30% of the Territory's population and a much higher proportion of the population in remote towns, communities and outstations/homelands.

The 2019 Closing the Gap Report confirms Aboriginal and Torres Strait Islander peoples continue to experience poorer housing outcomes than other Australians and inadequate housing has serious negative implications for health, education and employment.

Land use and development planning must respect Aboriginal Territorian's connection to country and needs to support broader reforms that increase economic opportunities and improve the lives of Aboriginal communities in urban, remote and regional centres.

Closing the gaps in outcomes between Aboriginal and non-Aboriginal Australians is one of the Northern Territory Government's most important priorities with a focus on implementing the 4 priority reform areas at the centre of the National Agreement on Closing the Gap.

### Liveability and social inclusion

Social infrastructure plays a critical role in supporting health, wellbeing and economic prosperity of our entire communities. It helps bring people together, enhances quality of life and contributes to positive health and education outcomes.

A happy, healthy and sustainably growing population is essential to the future of the Northern Territory. A high level of liveability can draw and retain existing residents and businesses and is linked to sustainable economic growth.

The quality of governance including good planning, co-operation and fit-for-purpose design will influence the liveability of cities, regions, towns and communities in the Territory.

The Northern Territory experiences higher levels of disadvantage than any other jurisdiction in Australia. Infrastructure planning can help combat disadvantage by prioritising projects and approaches to project delivery that support communities, create jobs and deliver benefits that would not otherwise be available to disadvantaged groups.

Economic development can be supported in the Territory by recognising the value of investment in social infrastructure and liveability.

## Digital

Digital services are part of everyday life for almost all Australians and will continue to be relied on in the future.

As the reliance on digital services increases, people without access to digital products and online services face a greater barrier to inclusion. This can result in exclusion from essential services such as health, employment, education and commerce.

The Territory's expansive land mass, sparse population and harsh weather conditions introduce logistical challenges in delivering connectivity to 40% of the population who live and work in remote locations.

A lack of basic enabling infrastructure, such as mobile towers and transmission infrastructure, in these remote areas means nearly 10% of the region's population does not have access to mobile phone services.

Improving digital services and access for communities will reduce barriers for residents to social and economic services particularly for people and communities in remote regions.

## Defence

The Defence presence in the north is integral to life in the Territory, the security of Australia and the stability of our region. The ability of Defence and national security agencies to sustain operations in Australia and the Indo-Pacific region is critical for trade, security, protection of our sovereign borders and for humanitarian support. This requires infrastructure and industrial capability to be in place to support these operations.

Defence relies on airport, port and road infrastructure throughout the Territory to conduct its duties and operations.

Defence is undertaking a significant infrastructure investment program across the Northern Territory, which is seeing much of the estate being modernised to support new platforms, programs and training initiatives in the region. The majority of these major projects are delivered by Defence's Capital Facilities and Infrastructure Division, the Estate Works Program and the United States Force Posture Initiative Infrastructure Program. Some projects are also delivered through the US Department of Defence procurement system.

It is important to integrate defence projects and personnel into communities to ensure growth of the defence footprint does not cause negative economic or social implications for the Northern Territory.

## Implementation pathways

The Infrastructure Audit identifies implementation pathways to action the key themes and findings of the Infrastructure Audit and respond to future trends facing the Northern Territory. These pathways provide clear direction to either make reforms or prioritise investment to meet our changing needs for transport and logistics, utilities, social outcomes and land ecosystems across all regions in infrastructure ecosystems.

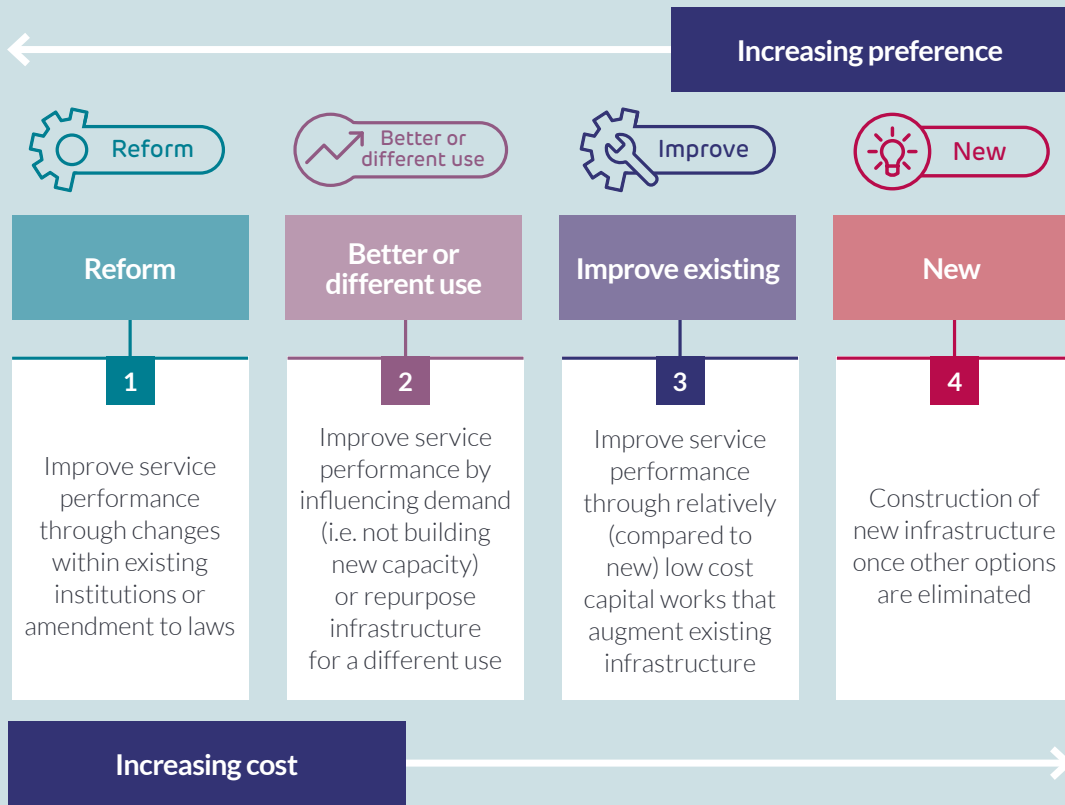
The Audit also identifies short, medium and long term infrastructure priorities for each ecosystem.

The reform implementation pathways are discussed below. The ecosystem implementation pathways are discussed in the ecosystem chapters throughout the Plan and Pipeline.

Responding to the implementation pathways does not necessarily mean building more and bigger infrastructure. We need to look at the infrastructure we have, see how it meets or does not meet the needs of the community and how it can be improved or repurposed. Then we can determine what new infrastructure is required to meet community needs and enable growth of our industries.

Implementation pathways have been considered against the following infrastructure investment prioritisation framework:

- > **Reform** to improve service performance through changed service delivery, organisations or laws
- > **Better or different use** of infrastructure by using smart infrastructure and intelligent systems to make the most of the infrastructure or repurpose the infrastructure
- > **Improve existing** infrastructure by adding runways, widening roads, adding services to transport corridors, facilities, building upgrades, extend capacity or building on an existing facility
- > **New infrastructure** once other options are eliminated, resulting in a new asset to deliver services and meet changing infrastructure needs.





## Implementation pathway reforms







### Levels of service and strategic assessment of service needs

Implementation pathway	Prioritisation action	Progress
<b>NT Infrastructure Audit</b>		
Define baseline levels of service to assist with future infrastructure planning, prioritising maintenance and capital upgrades of existing assets and identifying gaps in service delivery	Reform	Audit 2023
Develop and adopt a fit for purpose framework for service needs assessment for all government agencies to use in their place-based infrastructure planning, funding submissions and project delivery	Reform	Audit 2023
<b>Benefits</b>		
Drives asset owners understanding of customer needs and expectations		
Limits building assets and increased capacity in the wrong places		
Reduces genuine need that is being overlooked due to a vocal minority		
Preferences the most cost-effective ways to address service needs and infrastructure challenges		
Demonstrates and encourages fiscal restraint by prioritising value for money options		





## Collaborative planning and decision making

Implementation pathway	Prioritisation action	Progress
<b>NT Infrastructure Audit</b>		
Facilitate greater transparency and collaboration in infrastructure planning and assessment frameworks to provide clarity on development pathway for new projects	 Reform	 Audit 2023
<b>Benefits</b>		
Enables more multi-use assets rather than bespoke to an individual organisation and potentially at a lower cost		
Ensures appropriate consideration of all potential solutions to a problem		
Delivers better value for money		
Builds business and investor confidence surrounding government decisions and policy		

## Project planning and development

Implementation pathway	Prioritisation action	Progress
<b>NT Infrastructure Audit</b>		
Review and optimise the existing NT Project Development Framework to ensure it is fit for purpose and scaled for Northern Territory specific and project specific needs	 Reform	 Audit 2023
Infrastructure NT to work with Northern Territory Government agencies to develop function specific Infrastructure Investment Plans	 Reform	 Audit 2023
Consider the most appropriate type of solution in infrastructure planning, whether it is: <ul style="list-style-type: none"> <li>improving service performance through <b>reform</b></li> <li><b>better use</b> of existing infrastructure</li> <li><b>improvements to</b> existing infrastructure</li> <li>constructing <b>new infrastructure</b> when required, after eliminating less capital-intensive options</li> </ul>	 Reform	 Audit 2023
<b>Benefits</b>		
Drives a place-based, transparent and robust approach to project evaluation		
Ensures whole of life costs, including operations, maintenance and asset retirement are included in infrastructure planning		
Informs asset design, ensuring project benefits are fully utilised, meet their design life and are fit for purpose		

## Innovative approaches

Implementation pathway	Prioritisation action	Progress
<b>NT Infrastructure Audit</b>		
Consider using a broad range of procurement, governance and financing options and delivery models for infrastructure projects	 Reform	 Audit 2023
Take a coordinated and place-based approach to asset maintenance in rural and remote areas	 Reform	 Audit 2023

### Benefits



Provides value for money and efficiencies in tendering

Assists with risk identification, management and mitigation

Provides the opportunity to coordinate maintenance programs across government assets to achieve efficiencies of time and cost

Provides economic growth opportunities in regions where known programs of ongoing work provides an incentive for business and skills development

## Support economic development by recognising the value of investment in social infrastructure and liveability

Implementation pathway	Prioritisation action	Progress
<b>NT Infrastructure Audit</b>		
Ensure social infrastructure such as education, health, police and community facilities keep pace with a growing population and a diverse demographic to improve liveability, which plays a key role in attracting and retaining people in the Territory	 Reform	 Audit 2023
<b>Benefits</b>		
Increases the attractiveness of the Northern Territory and helps address the historic migration of Territory residents to other states		
Provides confidence that social infrastructure such as education, health and police facilities will keep pace with a growing population		

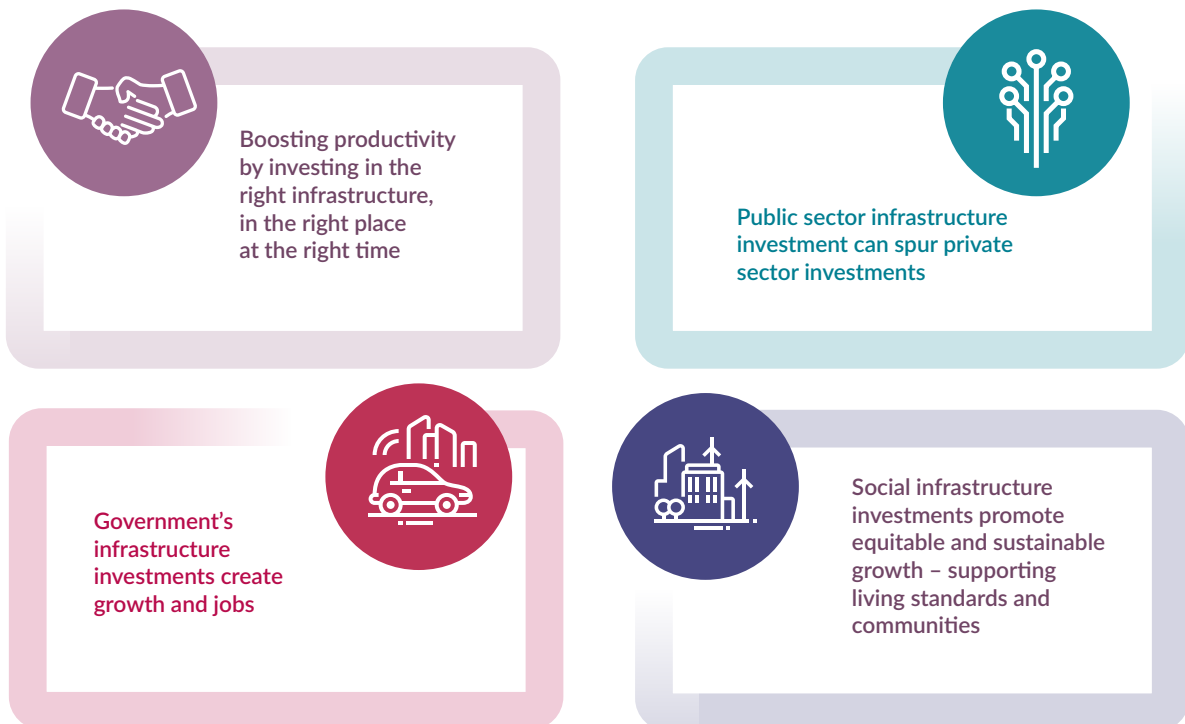
## Enabling infrastructure for economic growth

Smart, sustainable and effective infrastructure planning and delivery will enable the work underway across the Northern Territory to meet the government's growth targets. Understanding the journey to those targets and where the infrastructure gaps and challenges lay ahead, is of key importance and the focus of the Infrastructure Audit.

The Northern Territory Government can use infrastructure to enable growth in 4 key ways:

1. Investing in the right infrastructure, in the right place, at the right time delivers productivity improvements in an economy. Whether it is reducing traffic congestion, expanding the capacity of rail or ports, or enabling digital connectivity, infrastructure solutions can boost growth through productivity.
2. Investing in public infrastructure can spur or help attract investment by the private sector. Whether it is servicing land for housing developments or new roads that support the delivery or operations of major projects, infrastructure can be an important lever for governments to enable growth.
3. Investing in public infrastructure and capital works is a significant component of economic growth. The Northern Territory Government delivers a comprehensive portfolio of public works and infrastructure projects across the Northern Territory, which supports broad based growth and job creation throughout all Territory regions.
4. Investing in social infrastructure supports the liveability, health and safety of our communities. Without access to basic services and support, people cannot live, work and thrive in a community. Investment in social infrastructure can improve and promote equitable growth in an economy. Improving schools and better health facilities, for example, will often assist the most socio-economically disadvantaged people in a community.

### How governments can use infrastructure to enable growth



## Key opportunities and major projects

The Northern Territory Government is planning significant investments to grow the Territory and has set ambitious growth targets. Infrastructure will enable this growth. Understanding the Territory's infrastructure ecosystems, investment portfolio of major private sector projects, current infrastructure pipeline and infrastructure gaps and considering potential responses to improve project planning, evaluation and delivery will assist the Territory on its growth journey.

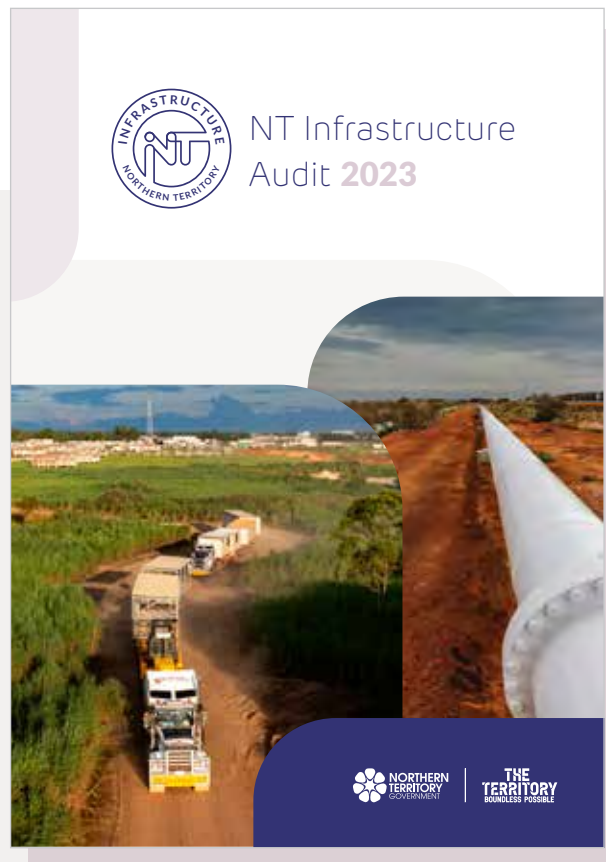
Delivering major projects is vital to meet the Northern Territory Government's ambitious economic, demographic and labour targets for 2030.

To ensure private sector projects can be delivered, coordinated work across government agencies is underway to improve infrastructure in the Territory. Investment in transport and logistics infrastructure will boost the Territory's export potential, with positive downstream outcomes for local business and jobs during project construction.

Investment in utilities, water supply and infrastructure are necessary to support industry growth and maintain the population.

An uplift in labour force will be required to deliver these projects, as well as social infrastructure to support an increased population. Social infrastructure will play a key role in attracting and retaining new skilled workers and supports government service delivery.

Given the overlap and interdependency between projects in the Territory economic portfolio, it will be important to align the Territory's resources and effort to meet these interdependencies and provide certainty for investors.



The Infrastructure Audit can be viewed at [NT Infrastructure Audit | Department of Infrastructure, Planning and Logistics](#)



Above: Carpentaria Highway. Credit: Exact Contracting.

# 4

## Growing the Territory

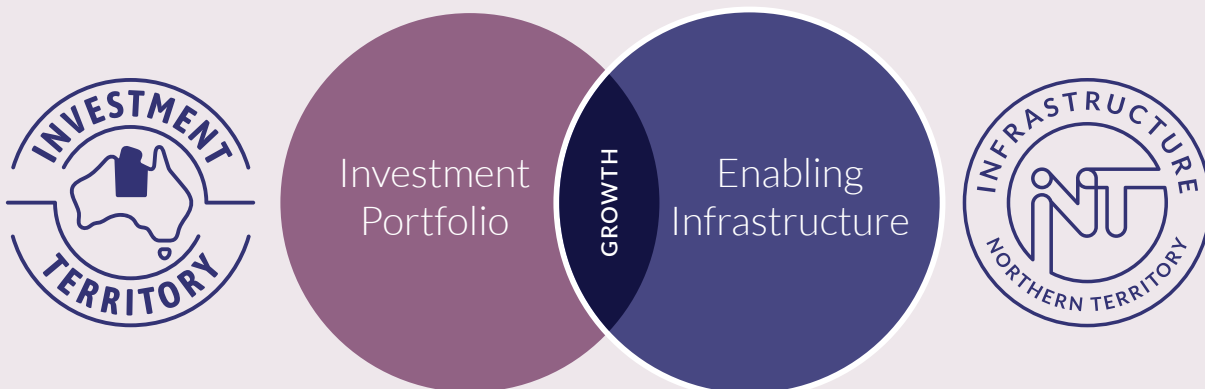
Our investment portfolio and enabling infrastructure are fundamentally linked to our growth story. It is clear that infrastructure investment is required to support both economic and population growth. Achieving the best outcomes for the Territory will require strategic thinking, careful planning and execution and collaboration between all levels of government, industry and the community.

Investment Territory and Infrastructure NT continue to partner to drive the growth of the Territory.

Investment Territory works to ensure we are partnering with like-minded companies that have bold aspirations to build projects at scale, build using renewable energy and with a commitment and action to support the Territory's pathway to net zero emissions by 2050.

Infrastructure NT undertakes the strategic planning and delivery of the key government enabling infrastructure projects to achieve the Northern Territory Government's vision and support the planning and delivery of the investment portfolio. This collaboration creates an environment to foster the growth of the Northern Territory.

The Territory's investment value proposition



## The 2023 investment portfolio

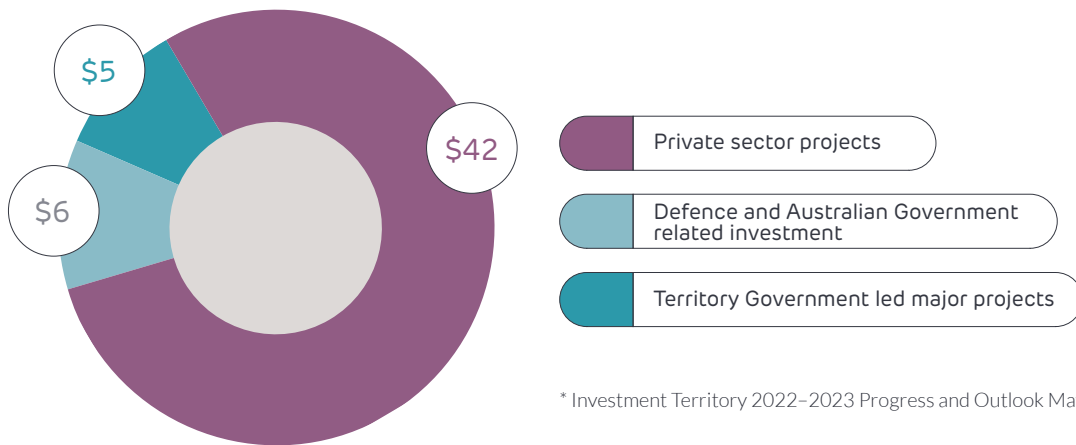
In 2023, the Territory's total investment portfolio grew from \$30+ billion in 2022, to more than \$53 billion in capital investment over the next 5 years. The investment portfolio projects consist of a variety of private sector-led projects and government funded infrastructure projects. The size and breadth of the investment portfolio demonstrates the growing interest and ongoing investment in the Northern Territory.

The graphic below depicts the investment portfolio composition. A total of \$42 billion is private sector projects, \$6 billion is Defence and Australian Government related investment and the remaining \$5 billion is Territory Government major infrastructure projects to support growth.

The \$42 billion of private sector investment is growing and becoming more diversified, which is consistent with the Territory's overall economic ambition. The portfolio mix increasingly reflects the types of opportunities that are a priority for the Territory. A breakdown of the \$42 billion can be articulated as follows:

- renewable energy \$8 billion
- hydrogen \$14 billion
- energy transition \$8 billion
- critical minerals \$7 billion
- digital technologies \$3.5 billion
- agribusiness \$650 million
- projects in other sectors \$1 billion.

Investment portfolio (\$ billions)\*



\* Investment Territory 2022-2023 Progress and Outlook May 2023

The nature of the investment portfolio is changing in important ways. Understanding our private sector investment portfolio helps to inform prioritisation of Northern Territory Government investment in enabling infrastructure. The mix of the portfolio increasingly reflects the types of opportunities that are a priority for the Territory.

A total of \$30 billion of the \$42 billion private sector portfolio comprises investment that will progress the Northern Territory towards a net zero economy with investment in renewable energy, hydrogen and energy transition. The investment portfolio also includes investment in critical minerals to provide

opportunities for the Northern Territory to become a reliable minerals supplier to support the transition to a decarbonised economy. This presents a substantial economic and strategic opportunity for the Northern Territory and our private sector partners.

The \$42 billion in private capital investment is expected to create 18 000 jobs in construction, \$3 billion operational investment and 5 600 jobs in operations.

Net Zero Australia is a partnership between the University of Melbourne, University of Queensland, Princeton University and international management consultancy Nous Group. Launched in 2021, the Net Zero Australia study aims to provide rigorous and independent analysis of the pathways to net zero in both domestic and export emissions in Australia.

Its purpose is to help individuals, communities, companies and governments appreciate:

- the scale, complexity and cost of the net zero task
- different ways in which the future could unfold
- how we all might contribute to the required changes
- how unintended consequences might be avoided and negative impacts reduced.

Net Zero Australia applies the approach pioneered by Princeton University's Net Zero America study to Australia, and aims to be technology neutral, evidence driven and non-political.

Net Zero Australia: Interim findings from a ground-breaking study, released in August 2022, considers what net zero might look like for Australia and what change we need to make to our economy.

Net zero is both an immense challenge and a once-in-a-generation, globally significant and nation-building opportunity.

Ten key insights were taken from the Net Zero Australia interim modelling results:

- ① Renewables will produce most or all domestic energy by 2050.
- ② More productive use of energy can keep domestic demand about the same, despite population growth.
- ③ Carbon capture, utilisation and storage (CCUS) can play an important role in complementing renewables.
- ④ Unprecedented capital investment is needed, which will produce significant benefits.
- ⑤ Domestic energy's share of GDP need not rise above today's level, while being less prone to price shocks.
- ⑥ Clean energy can replace our fossil fuel exports.
- ⑦ The cost to export clean energy may rise, but should be competitive in a decarbonising global economy.
- ⑧ A large workforce with new skills will grow across the nation, particularly in northern Australia.
- ⑨ Emissions from farms, forestry and waste should fall, but are unlikely to reach net zero.
- ⑩ Large changes in land and sea use will occur, and will need careful planning and community engagement.



Left: Tiwi Island solar project. Credit: Power and Water Corporation.

Early downscaling results were also presented in the interim findings, exploring mapped land and sea use changes that may arise from a net zero transition.

New renewable energy sources will require much more surface area than the energy sources they are replacing. Growth in large scale renewable energy will see significant changes in land use and will need careful planning and community engagement.

## Net Zero Australia – National Map

### Early downscaling

E+ in 2050, solar and wind with transmission

Net Zero Australia projects:

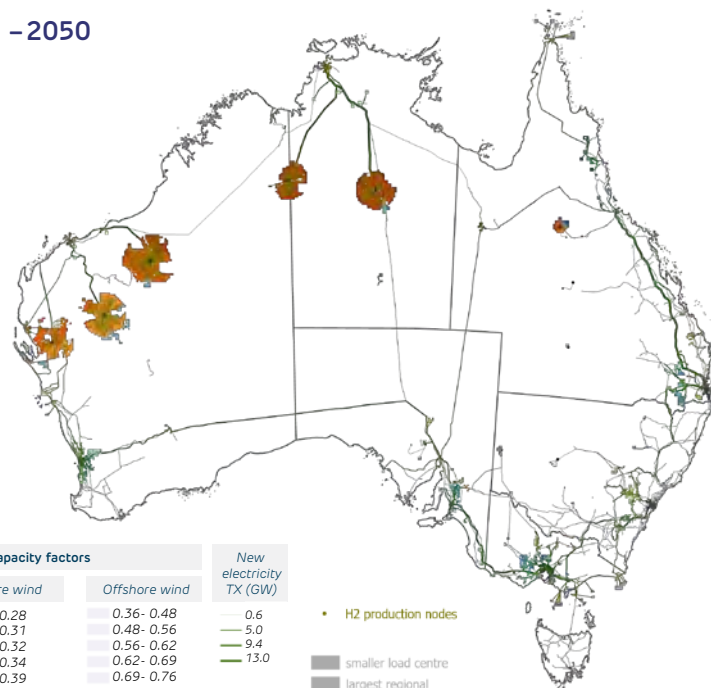
- 1.9 TW solar PV (2,242 projects)
- 132 GW onshore wind (194 projects)
- 42 GW offshore wind (36 projects)

Electricity generation is about **40x the capacity of the National Electricity Market** (in 2022).

### NATIONAL MAP – 2050

**INDICATIVE ONLY**  
Purpose of downscaling is to show scale and pace of change, not to identify specific projects

VRE project capacity factors			New electricity TX (GW)
Solar PV	Onshore wind	Offshore wind	
0.16- 0.22	0.26- 0.28	0.36- 0.48	0.6
0.22- 0.25	0.28- 0.31	0.48- 0.56	5.0
0.25- 0.27	0.31- 0.32	0.56- 0.62	9.4
0.27- 0.28	0.32- 0.34	0.62- 0.69	13.0
0.28- 0.29	0.34- 0.39	0.69- 0.76	



Source: <https://acee.princeton.edu/wp-content/uploads/2022/08/Net-Zero-Australia-interim-results-public-version-25-August-22.pdf>

## Supporting population growth

Population growth is central to the Northern Territory Government’s vision of a total population target of 300 000 by 2030. This will increase demand for infrastructure and increase pressures on access to housing, health services, education opportunities and recreation activities.

Additional infrastructure will be needed to support the community and maintain amenity and liveability.

To achieve a \$40 billion economy by 2030, the Northern Territory must attract a stable workforce to sustain population growth. Increasing the population also provides the scale to support new developments that will benefit Territorians and the economy.

The NT Infrastructure Audit 2023 recognised that creating a place where people want to live, play, work, learn and enjoy life is critical to attracting people to the Territory for employment and keep people here. To do this, we need to know what services and infrastructure people need, based on where they live, such as housing, health, education, employment, wellbeing and social services.

Developed with input from a broad range of stakeholders, the Infrastructure Audit identified 6 key themes that need to be addressed in order

to retain and attract our workforce. These themes are challenges the Northern Territory Government has been actively working to address for many years.

One common theme, in all stakeholder feedback, was the importance of liveability. A high level of liveability can keep existing residents and businesses in the Territory and is linked to sustainable economic growth.

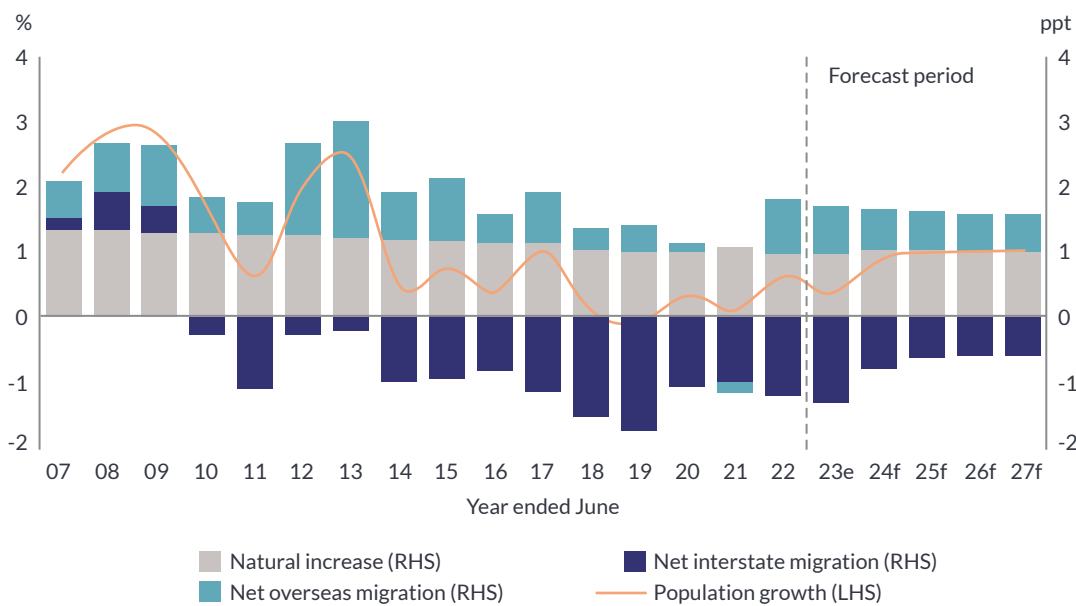
To keep pace with economic growth, we must embrace the social infrastructure contribution to liveability and sustaining population growth.

The outcomes of the Infrastructure Audit are discussed in Chapter 3.

### Historical population trends

The Territory’s population (250 700 in 2021–22) is expected to grow by an average of 1% per annum over the 5 years to 2026–27 as migration patterns normalise after COVID-19. This is a significant improvement compared to the previous 5 years, which saw a growth average 0.2% per annum as workers and their dependants left the Territory after the Ichthys LNG project construction phase concluded.

Territory annual population growth and percentage point contribution by components



e: estimate; f: forecast; ppt: percentage point; RHS: right-hand side; LHS: left-hand side  
 Source: ABS, National, state and territory population, Cat. No. 3101.0; Department of Treasury and Finance

The Australian, state and territory governments agreed to initiatives to help strengthen Australia's migration system going forward at the September 2022 Jobs and Skills Summit.

These initiatives include:

- increasing Australia's permanent migration program planning levels by 35 000 in 2022–23
- accelerating visa processing and resolving backlogs
- encouraging more migration from regions around Australia through reforms to the Pacific Australia Labour Mobility scheme and the new Pacific Engagement Visa.

With interstate migration outcomes influenced by employment opportunities, it is likely population growth will be stronger than forecast if major projects in the Territory's investment portfolio reach final investment decision.

The Territory has a young population with a median age of 33.5 compared with 38.5 nationally.

### Population growth historical trends

Historical Trends (2001 to 2022)			
	Max 5-year average (%)	Max 10-year average (%)	Max annual growth
<b>Northern Territory</b>	2.2	1.8	6 153
<b>Greater Darwin</b>	2.8	2.7*	5 366
<b>Rest of NT</b>	1.5	1.0	2 048
<b>Regions</b>			
<b>Darwin, Palmerston, Litchfield</b>	2.8	2.7	5 366
<b>Top End</b>	3.0	2.2	644
<b>Big Rivers</b>	1.4	1.0	428
<b>Central Australia</b>	0.7	0.3	554
<b>Barkly</b>	2.1	1.0	155
<b>East Arnhem</b>	2.6	1.8	512

The Territory is expected to have a surge in population growth due to economic growth. A mix of micro-economic data and local intelligence suggests population growth is likely to continue and needs to be addressed.

## Target population growth

The table below provides regional population targets and indicative population growth required to reach a regional share of the overall Territory 2030 target, based on historical maximum 10-year averages for each region. Population growth in the regions

will need to be supported through investment and project activity, generating temporary population growth during construction and longer term resident population growth for operations and supporting industries.

Target population growth to achieve a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs (not forecast or projections)

Target Population Growth			
	2030–31 target (modelled on max 10-year average)	Current population (June 2022)	Total population growth required
Northern Territory	300 000	250 219	49 781
Greater Darwin	189 390	149 127	40 263
Rest of NT	110 610	101 092	9 518
<i>Major townships</i>			
Darwin	92 456	86 165	6 291
Palmerston	58 186	40 320	17 866
Litchfield	38 739	22 642	16 097
Alice Springs	30 242	28 855	1 387
Katherine	12 204	10 850	1 354
Nhulunbuy	3 867	3 642	225
Tennant Creek	3 859	3 504	355

Actual population growth will reflect economic growth. As new businesses and major projects are established, more people will be required to fill new construction and ongoing jobs. Population growth will be specific to each region, and will depend on project timing, job profiles and the direct and indirect economic impact for the major townships and regions.

Investment Territory has analysed the investment portfolio to understand where the jobs, and subsequently population growth is likely to occur.

### Investment Territory 2022–2023 Progress and Outlook May 2023

2023	Darwin, Palmerston and Litchfield	Top End	Big Rivers	Central Australia	Barkly	East Arnhem
Portfolio project count	14	2	6	7	6	4
Anticipated Capital Investment	\$12B	\$7.55B	\$1.775B	\$4.05B	\$8.5B	\$0.57B
Anticipated Operational Investment	\$637.5M	\$180M	\$1 190M	\$841M	\$247M	\$39M
Anticipated Construction Jobs	9 500	650	1 110	4 500	2 000	170
Anticipated Operational Jobs	960	960	1 050	1 800	950	960

It is imperative that we connect, analyse and understand the links between the economic growth and population growth to ensure that Territory infrastructure ecosystems keep pace with both economic and population growth.



Above: Dad takes kids to school. Credit: Northern Territory Government.

## Closing the Gap

Aboriginal people represent 30% of the Northern Territory's population and a much higher proportion of the population in remote towns, communities and outstations/homelands.

Closing the gap between Aboriginal and non-Aboriginal Australians is one of the Northern Territory Government's most important priorities. Land use and development planning must respect Aboriginal Territorian's connection to country and needs to support broader reforms that increase economic opportunities and improve the lives of Aboriginal communities throughout urban, remote and regional centres.

The objective of the National Agreement on Closing the Gap (the National Agreement) is to enable Aboriginal and Torres Strait Islander people and governments to work together to overcome the inequality experienced by Aboriginal and Torres Strait Islander people, and achieve life outcomes equal to all Australians.

The Territory Government, in partnership with the Coalition of Aboriginal and Torres Strait Islander Peak Organisations and the Local Government Association of the Northern Territory, have developed the Closing the Gap, Northern Territory Implementation Plan and committed to address the 4 priority reform areas, including:

- Priority Reform One – Strengthen and establish formal partnerships and shared decision-making
- Priority Reform Two – Build the Aboriginal and Torres Strait Islander community-controlled sector
- Priority Reform Three – Transform government organisations so they work better for Aboriginal and Torres Strait Islander people
- Priority Reform Four – Improve and share access to data and information to enable Aboriginal and Torres Strait Islander communities make informed decisions.

National Partnership Agreements have been developed between Australian governments and the Coalition of Aboriginal and Torres Strait Islander Peak Organisations (the Coalition of Peaks). Agreements include:

- Closing the Gap in the Northern Territory National Partnership Agreement
- National Partnership on Closing the Gap in Indigenous Health Outcomes
- National Partnership on Remote Indigenous Housing
- Closing the Gap: National Partnership Agreement on Indigenous Early Childhood Development
- National Partnership on Indigenous Economic Participation
- National Partnership Agreement on Remote Service Delivery
- Closing the Gap: National Partnership Agreement on Remote Indigenous Public Internet Access.

The Northern Territory has a Central Australian Regional Controller who will develop and implement a medium to long term plan for the region that will detail how to progress economic development and improve liveability in the region.

The Northern Territory and Australian Governments are improving Aboriginal housing across the Northern Territory in remote communities from 2017–18 to 2026–27 as part of the \$2.2 billion remote housing investment package **Our Community. Our Future. Our Homes.**

This housing investment is focused on:

- reducing overcrowding and improving living conditions
- local decision making and engagement with communities
- developing Aboriginal Business Enterprises
- sustainable local employment
- economic development.

One of the key principles of the investment program includes the premise of Local Decision Making which means community residents make decisions, on how remote houses are designed, built and delivered for their community.

Residents are consulted on all aspects of design including built form (blockwork or modular) and number of bedrooms, right down to the colour of their homes.

With community involvement at the core of the remote housing program, local people are

not only consulted and involved in the process, they are employed on the housing projects. With contracts running several years, Aboriginal Territorians have the opportunity to complete formal training including certificates and apprenticeships, supporting sustainable local employment and economic development.

The number of new homes built since 2016 reached 1200 in October 2023. Overall since 2016, the Territory Government has built and upgraded almost 3000 homes across all remote housing programs.

Regardless of construction method, it is critical that all houses are built in accordance with the National Construction Code and designed to be robust, maintainable and adaptable in the future and meet health, safety and security requirements.

All homes are required to achieve the silver standard of the Liveable Housing Design Guidelines with the program exceeding energy efficiency targets, averaging a 6.4 star energy rating, with some homes achieving ratings in excess of 7 stars.

All new homes are designed to maximise local climatic conditions, which can include extreme heat and extreme cold depending on location. This is achieved by incorporating passive energy design principles making for comfortable and energy efficient homes with features like large verandahs.

## Regional Development

Each region in the Northern Territory is diverse and unique and contributes to the economic growth of the Territory. Coordinating with the regions and collaborating with local industries and stakeholders is critical to winning new private investment that is central to growing the Territory's economy.

The Northern Territory Government has a Regional Development Framework that guides how we can work together with a common purpose and deliver improved prosperity and liveability for all Territorians. It is about more jobs for regional people, building on new and existing opportunities, and defining and leveraging the strengths and aspirations of our regions as great places to live, raise a family, work, visit and invest.

The leadership and participation of Aboriginal Territorians is crucial, as their voices, aspirations and ideas are central to regional development leading to job creation.

Aboriginal economic participation is vital to build a stronger foundation for economic, social and cultural prosperity. Commitment to Local Decision Making and Closing the Gap targets will support community aspirations for self-determination, economic growth and service reform.

Regional Economic Growth Committees (REGCs) in each region include regional leaders across business, local government, service providers and Aboriginal organisations. The REGCs work collaboratively with stakeholders to champion the region, create economic opportunity, attract new investment and have a direct voice to the Northern Territory Government.

## Supporting economic growth

The NT Infrastructure Plan and Pipeline 2022 articulated several implementation pathways for growing both our population and economy, including:

- undertake ongoing monitoring and detailed analysis of economic and population growth to inform infrastructure needs
- invest in regional infrastructure to support growth
- investigate rapid regional growth learnings from other jurisdictions to gain insights to apply to the Northern Territory's rapid growth challenges and opportunities
- adopt place-based approaches to planning for growth
- look at opportunities for co-investment in common user infrastructure.

A number of these pathways will be ongoing work. However, in 2022, Infrastructure NT commissioned an Infrastructure Audit to find out what needs to be done to make sure our existing and future infrastructure needs can be met to achieve the Northern Territory Government's target of a \$40 billion economy by 2030.

To achieve this target, we need infrastructure that can meet economic and social needs and help attract and retain people and major projects in the Territory. We need to unlock private sector investment through the delivery of considered and targeted enabling infrastructure.

Investing in the right infrastructure, in the right place, at the right time delivers productivity improvements in an economy. Infrastructure solutions can boost growth through productivity, whether it is reducing traffic congestion, expanding the capacity of rail or ports, or enabling digital connectivity.

Investing in public infrastructure can help attract private sector investment. Infrastructure can be an important lever for governments to enable growth, whether it is initiatives such as servicing land for housing developments or new roads to support the delivery or operations of major projects.



Above: Kubota mower training in Yirrkala. Credit: East Arnhem Regional Council.

# Economic Enabling Infrastructure Program

The Northern Territory Government is focused on delivering a number of key enabling programs of work that are interdependent and are integral to reaching its 2030 target. Delivering this enabling infrastructure will require working in close partnership with the private sector, local and Australian governments.

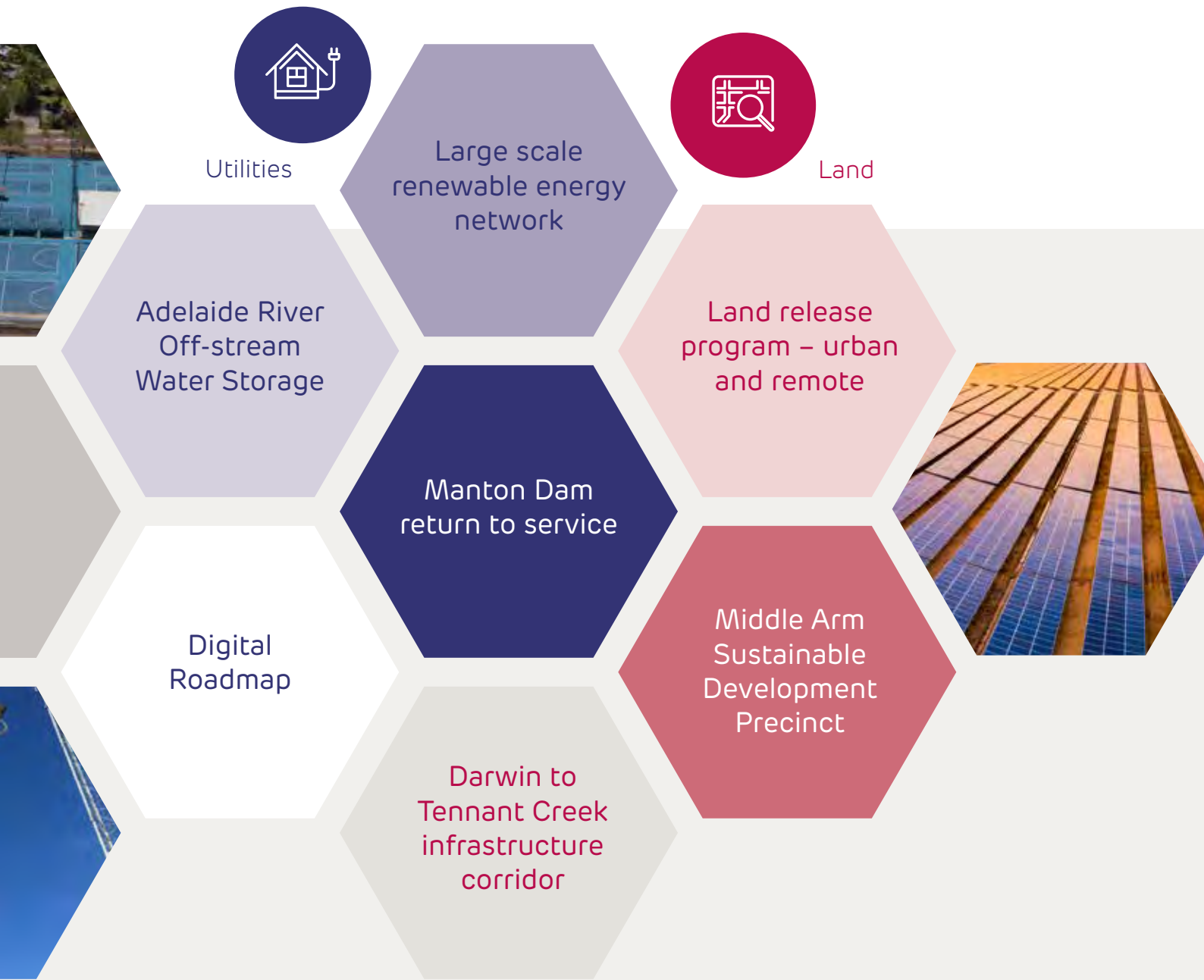
The infrastructure that will enable the Territory's progress towards a net zero economy includes land development, roads, rail and port, supply chain,

natural gas resources with a network of pipelines, world-class solar irradiation supporting renewable energy generation and carbon capture, utilisation and storage.

In parallel, to support our population growth, housing is key as is water security, digital and physical connectivity. Social infrastructure is also important to provide the health, education and safety needs of Territorians.



*Unlocking private sector investment through the delivery of targeted enabling infrastructure*



The Northern Territory is positioned to be a global leader in low-emissions energy export and critical minerals processing, taking advantage of our world-class solar and energy resources, meeting strong international market demand to facilitate energy transition globally.

















In addition to the development of the Infrastructure Audit 2023, Infrastructure NT is also mapping the investment portfolio projects to understand the consolidated demand, including:

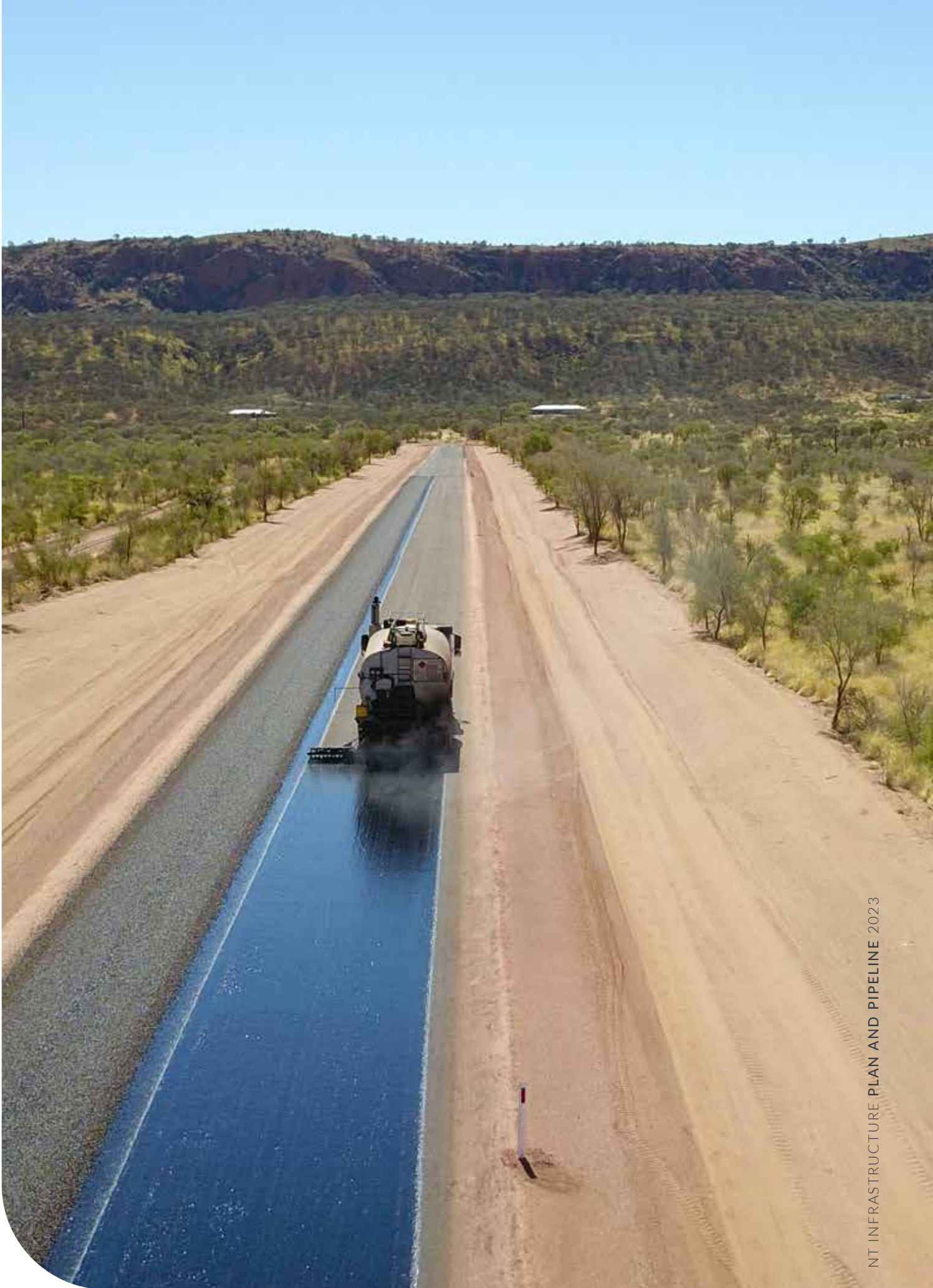
- understanding **land** requirements for projects and **infrastructure corridors**
- developing a **supply chain database** to forecast consolidated freight and industrial requirements and impacts of known future developments across agribusiness, minerals and energy,

manufacturing, defence, digital and social sectors. This has become the evidence base to analyse gaps in supply chain capacity and enabling infrastructure to support private sector investment

- understanding population growth and impacts to **housing and social infrastructure** needs
- developing circular economy principles to manage **waste** streams as commodities into the future so that growth can occur sustainably.

This work takes a collaborative consolidated approach to identifying project requirements and impacts. The outcomes of this mapping work informs and will continue to inform the annual updates of the Infrastructure Plan and Pipeline.

Implementation pathway	Prioritisation action	Progress
<b>Growing the Territory</b>		
Undertake ongoing monitoring and detailed analysis of economic growth in parallel with population growth to inform infrastructure needs	 Reform	 Ongoing System reform achieved
Annually monitor economic growth to match appropriate supporting infrastructure investment	 Reform	 Ongoing System reform achieved
Invest in regional infrastructure to support growth	 New	 In progress
Investigate rapid regional growth learnings from other jurisdictions to gain insights to apply to the Northern Territory's rapid growth challenges and opportunities	 Reform	 In progress
Adopt place-based approaches to planning for growth	 Reform	 Achieved
Investigate how much renewable energy the Territory could reasonably produce	 Reform	 New 2023 in progress
Look at opportunities for co-investment in common user infrastructure	 New	 In progress
Unlock private sector investment by delivering well considered and targeted enabling infrastructure	 New	 Audit 2023



Above: Amoonguna Access Road. Credit: Department of Infrastructure, Planning and Logistics.

## National market capacity context

Australia is currently experiencing record levels of investment in infrastructure with an unprecedented wave of infrastructure investment in transport, utilities and social infrastructure expected over the next 5 years.

It is critical to understand how industry will plan for and manage its workforce capacity to cope with this unprecedented investment in infrastructure.

In October 2021, Infrastructure Australia published its first Infrastructure Market Capacity Report, which provides evidence to understand the supply and demand of the skills and materials critical to delivering Australia's major infrastructure pipeline, and the associated risks in planning and delivery.

The report responded to a request from the Council of Australian Governments in March 2020 for Infrastructure Australia to regularly report on the capacity of the market to deliver the record investment pipeline. At that time, investment in major Australian public infrastructure in the next 5 years was forecast to exceed \$218 billion. The scale or demand for skills and resources was highly likely to exceed the normal capacity increases expected in the market.

The report found:

- skilled labour shortages in 50 occupations that are most commonly engaged in infrastructure including project management professionals, engineers, architects, structural and civil trades and labour as well as finishing trades and labour
- a shortage in plant, materials and equipment
- an average annual growth rate of 33% that exceeds industry's confidence in their capacity to deliver on-time and on-budget
- industry has a high confidence in delivering 10-15% annual growth but low confidence in delivering growth over 18%.

The inaugural report focused on the major public infrastructure pipeline (transport, utilities and building infrastructure) for investments over \$50 million for Tasmania, Northern Territory and the Australian Capital Territory, and over \$100 million for all other states.

In December 2022, Infrastructure Australia published its second Infrastructure Market Capacity Report on Australia's infrastructure pipeline and the market's ability to deliver the forecasted investment pipeline. Key findings of the 2022 report include:

- labour scarcity is the biggest issue faced by construction companies
- demand for plant, equipment and materials to service the 5 year major public infrastructure pipeline is expected to more than double between 2020-21 and 2023-24
- the 5 year pipeline of major public infrastructure projects (excluding defence) is valued at \$237 billion representing an increase of \$15 billion compared to the previous 12 months equivalent to 6.7% growth
- as of October 2022, public infrastructure projects, including small capital projects, face a shortage of 214 000 skilled workers
- in 2023, labour demand is projected to increase by 42 000 to peak at 442 000, which is more than double the projected available supply
- supply pressures continue to challenge the industry's capacity to meet demand resulting in an increased risk to on-time and on-budget project delivery
- the market is arguably at capacity and project slippage is now expected.

With major public infrastructure playing a key role in Australia's economic ambitions, the 2022 report explains that improving risk management and proactively sequencing the major infrastructure pipeline are crucial to controlling impacts such as growing constructor insolvencies and cost increases.

The 2022 report:

- enhanced its commentary on market capacity, capability and potential risks, by importing significantly more project level data including small capital public infrastructure, privately funded public infrastructure, private construction e.g. residential and non-residential buildings and road infrastructure maintenance
- investigated the potential to unlock new supply chains of recycled materials for infrastructure construction and had a greater focus on post-completion reviews that would improve sector productivity.

Given every project is competing for the same set of limited resources, obtaining this wider view has been critical in ensuring:

- ✓ improved accuracy of demand quantifications
- ✓ better visibility of potential supply pinch points
- ✓ a clearer view of predicted demand and supply in relation to capacity and costs
- ✓ providing recommendations for infrastructure policy, further research and improvements.

## RELATED NT INITIATIVES AND REPORTS

- > *Skills Agreement – 1500 Fee Free TAFE places to develop the Territory's workforce*
- > *Aboriginal Responsive Skilling Grant*
- > *Aboriginal Economic Participation Framework 2022–2032*
- > *Economics and Planning on behalf of the Australian Local Government Association 2022 Local Government Workforce Skills and Capability Survey (Northern Territory Report) SGS Economics & Planning*
- > *Territory Workforce Program*
- > *Northern Territory Onshore Gas Support Industry – Statement of Capacity (ICNNT)*
- > *Marine Services in the Northern Territory – Statement of Capacity (ICNNT)*

## RELATED NATIONAL INITIATIVES AND REPORTS

- > *Infrastructure Market Capacity program*
- > *2021 Infrastructure Market Capacity report*
- > *2022 Infrastructure Market Capacity report*
- > *Future Made in Australia Skills Plan*
- > *Australian Industry Energy Transitions Initiative*



Above: Worker. Credit: Department of Infrastructure, Planning and Logistics.

## Northern Territory market capacity context

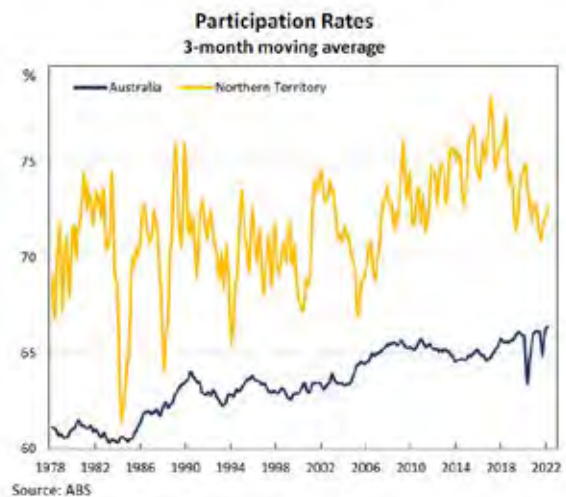
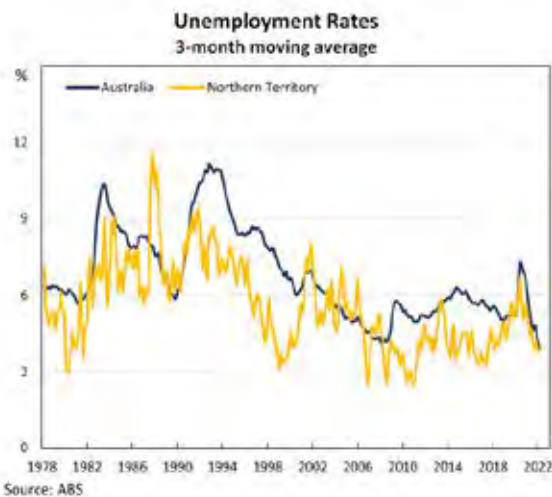
It is critical for the Northern Territory Government to work with industry, particularly in the resources sector, to manage workforce capacity to achieve a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs by 2030.

Business confidence is high in the Northern Territory with the 2022 business confidence index averaging its highest level on record with a net positive of 70.5%, up from 67.2% in 2021 and 51% in 2019. Furthermore, in the 2022 financial year more new businesses entered the Territory economy than ever before.

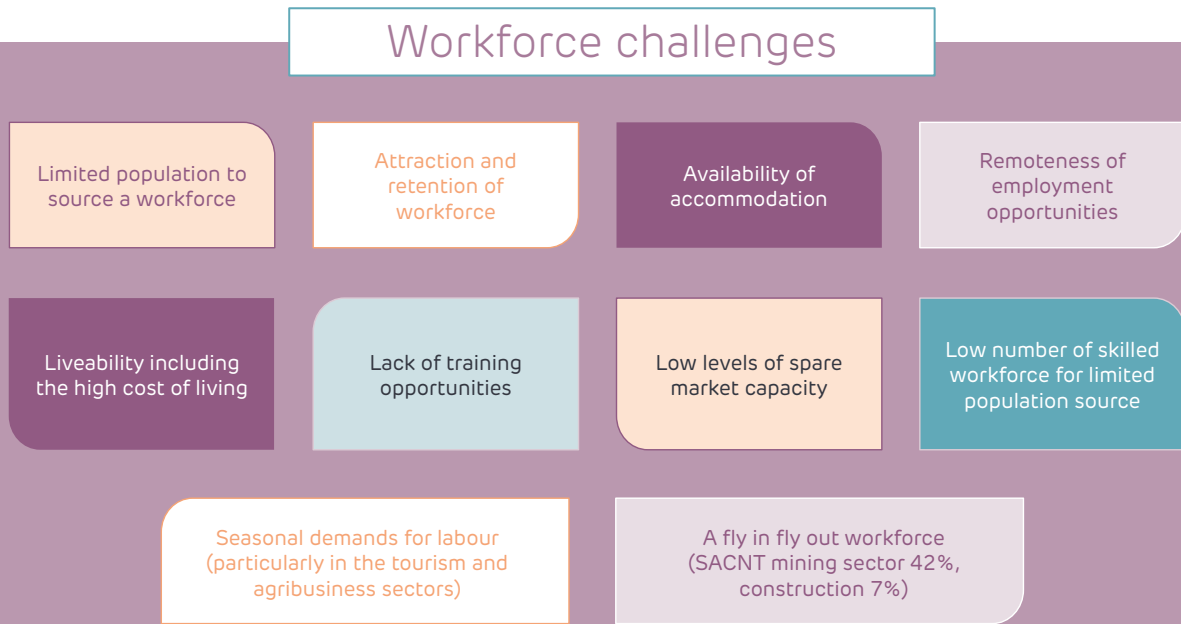
The Northern Territory has a small population base and as of June 2023, an unemployment rate of 3.7%. The Northern Territory also has a higher participation rate and a lower unemployment rate than the rest of Australia, and historically a lower underemployment rate and a lower unemployed to job vacancies ratio as well.

The Northern Territory operates with lower levels of spare labour market capacity, making it difficult for businesses to quickly adjust. As a result, resources, including labour, must be sourced from outside the Territory. This reflects the Territory's demography. People who leave the Territory are more likely to be unemployed than those who stay, and those who come to the Territory have higher participation and employment rates than those who are already living in the Territory.

The range of employment opportunities in the Northern Territory and the unique working and social environment of the Territory, can exacerbate the impacts of workforce availability. In addition, the significant increase in infrastructure spend on nationally significant projects following the COVID-19 pandemic has increased competition for the same workforce, across Australia. A fall out from COVID-19 is an extremely tight labour market worldwide.



## Key workforce challenges facing the Northern Territory



The \$4.07 billion 2023–24 infrastructure program represents a record level of government investment in the Northern Territory, with a focus on improving core government service delivery and realising the Territory’s economic potential.

Workforce capacity constraint is felt across all industries as well as government in the Northern Territory. For example, 7 of 8 Northern Territory local governments that participated in the 2022 Local Government Workforce Skills and Capability (Northern Territory Report) stated that they experienced skills shortages in 2021–22. The top 3 areas were community development and engagement officers, governance and risk managers and work, health and safety professionals.

The construction and mining sectors are experiencing workforce shortages in a number of roles.

To achieve the Northern Territory Government’s goal of a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs, it is critical for Government to work with industry to plan and manage workforce capacity and resources.

The Territory invests about \$90 million per year into developing the Territory workforce through apprenticeships and traineeships, targeted and

responsive programs, incentives, travel subsidies and industry engagement. The Northern Territory’s 2 public education providers are Charles Darwin University (CDU) and Batchelor Institute. They receive the majority of funding to provide training, education and research.

More than \$28 million is provided to support apprenticeships and traineeships. Apprentices and traineeships combine training and employment that leads to nationally recognised qualifications for employees and provide employers with access to a skills base. There has been a spike in apprentices and trainees with more than 4 000 apprentices and trainees in the Northern Territory, numbers that have not been seen since the peak construction of the INPEX-led Ichthys LNG Project.

In February 2022, the Northern Territory Government announced a \$12.8 million package aimed at boosting the workforce and addressing critical skills shortages. The Government’s Global Worker Attraction Program aims to connect job seekers from outside the Territory to jobs in the Territory, and to elevate the profile of the Territory as a desirable place to work and live. Additionally, the program encompasses worker attraction activities in other parts of Australia and the world.

Migration is an important source of skilled labour and contributes to ongoing economic growth, requiring a holistic approach for long term population expansion. Key migration programs introduced to assist in growing skilled workforce and supplement labour shortages include:

- ✓ 2022–23 General Skilled Migration Program – the Northern Territory Government nominated 2000 new skilled migrants and their dependants to the Territory, marking the highest number of nominations in a program year
- ✓ Northern Territory Designated Area Migration Agreement (DAMA) – a tailored visa program negotiated between the Territory and the Australian Government, which allows Territory employers to sponsor overseas workers for in-demand occupations in the Territory. The effectiveness of the DAMA is demonstrated by a 96% increase in applications on a year-on-year basis.

To better facilitate the connection between job seekers interested in working in the Territory and the employers in the region, the new WorkerConnect platform has been introduced. More than 7400 job seekers have registered with over 4 000 job opportunities listed in the Territory. This platform enables skilled migrants to easily present themselves to Territory employers facing skills shortages.

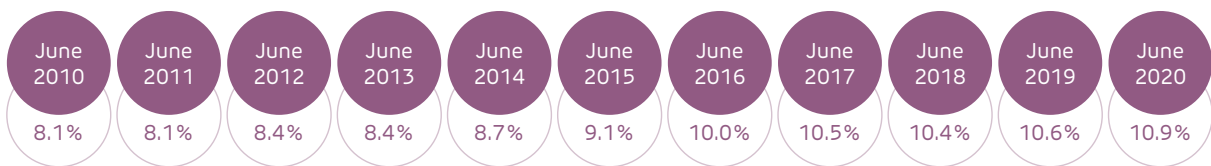
Aboriginal Territorians are key drivers and partners in the Territory’s economic future and continued support for Aboriginal participation in the workforce is crucial. As at 30 June 2021, 30.8% of the Northern Territory population identified as Aboriginal.

The unemployment rate for Aboriginal Territorians is 20.8% compared to 3.2% for non-Aboriginal (6.5 times higher). In Central Australia, the Aboriginal unemployment rate is 9.5 times higher than for non-Aboriginal Territorians. This is generally due to a range of systemic and social barriers leading to lower levels of educational, training and skill levels, poorer health and living conditions, lower levels of job retention as well as living in remote areas that provide limited job opportunities.

The Northern Territory Government is actively working to increase Aboriginal participation in the workforce. In 2021, the Government released the Aboriginal Employment and Career Development Strategy 2021–2025 that built on work undertaken as part of the Northern Territory Public Service Aboriginal Employment and Career Development Strategy 2015–2020.

The figure below shows the increase in Aboriginal employment in the Northern Territory Public Sector over a 10 year period of time.

**Increase in Aboriginal employment in the Northern Territory Public Sector over a 10 year period of time**



The strategy identified 6 key focus areas to attract and retain Aboriginal people in the public service with a strong focus on leadership, career development and creating culturally safe workplaces.



In 2022, the Northern Territory Government released the Aboriginal Economic Participation Framework 2022–2032 to increase Aboriginal employment and business opportunities. The Framework was developed using a co-design approach that involved considerable stakeholder consultation and participation from across the Territory. This included Traditional Owners, Aboriginal and non-Aboriginal enterprises, industry and non-government organisations.

The framework recognises that Aboriginal economic inclusion requires a more holistic approach, encompassing a wide range of actions

across key areas. It also recognises and links to actions detailed in the:

- National Agreement on Closing the Gap
- Closing the Gap Northern Territory Implementation Plan
- Northern Territory Land and Sea Action Plan
- Local Decision Making Framework
- Territory Economic Reconstruction Committee's Final Report.

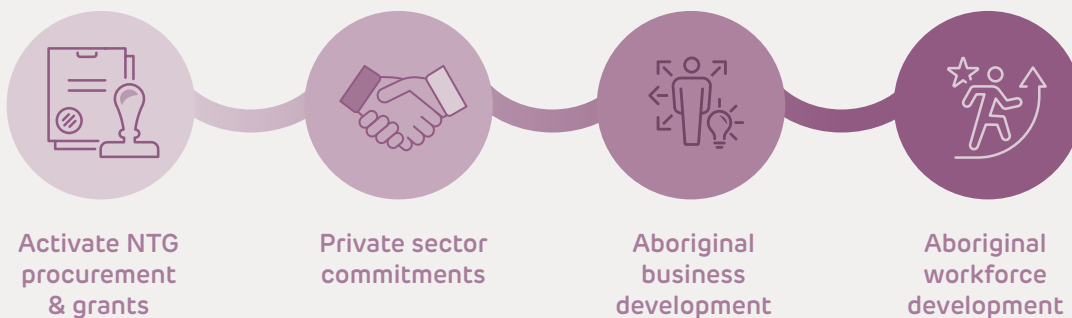
The figure below outlines the 4 objectives identified in the framework.

# Aboriginal Economic Participation Framework

## The Vision

Opportunities for participation of Aboriginal Territorians in the Northern Territory economy are maximised.

### Four linked objectives



The Aboriginal Economic Participation framework does not specify targets, however each of the 4 objectives identifies a number of mechanisms that will be used. For example, mechanisms used by the Northern Territory Government to achieve objective one include the aim for:

- a minimum of 42% Aboriginal employment from contractors (as identified in the Our Community. Our Future. Our Homes program)

- 5% of the total number of Northern Territory Government contracts awarded going to Aboriginal Business Enterprise's (ABEs) and a 5% target of the annual total contract value going to ABEs.

Progress under the framework will be reported annually and incorporated into the Northern Territory's Closing the Gap and Aboriginal Affairs Strategy annual reporting.

The Northern Territory Government also funds the Aboriginal Responsive Skilling Grant to facilitate vocational education and training activities that:







- ✔ lead to employment opportunities for Aboriginal Territorians
- ✔ support up-skilling of Aboriginal Territorians to enhance their career pathway and/or job options
- ✔ support community based businesses and enterprises to provide employment and economic development opportunities.

The Grant contributes to projects run by Territory businesses, which provide mentoring or workforce development initiatives to support job starts, career advancement and retention strategies for Aboriginal employees.

Building and construction, primary industry, engineering and mining are in the top industry groups for Aboriginal students training in regional and remote areas.

## Implementation pathway

The suggested implementation pathway outlines action that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>Market capacity</b>		
Improve industry capacity and capability by prioritising procurement and portfolio management and increasing pipeline transparency, certainty and confidence	 Reform	 New 2023 in progress
Improve value for money and reduce risk by consistently adopting appropriate best-practice front-end due diligence for projects	 Reform	 New 2023
Deliver skills training in communities aligned with the local employment pipeline through partnerships with private investors	 Reform	 Audit 2023



Above: Nuwul Nursery AGI in Yirrkala. Credit: Arnhem Land Progress Aboriginal Corporation (ALPA).

# 6

## Northern Territory key industry sectors

The NT Infrastructure Strategy 2022–2030 categorised industry sectors key to achieving a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs by 2030 and subsequent population growth.

Each industry sector is explored in more depth in the subsequent sections of this chapter.

### Northern Territory key industry sectors



#### Resources

- Exploration
- Mining
- Critical Minerals
- Rare Earth Metals
- On and Off Shore Gas
- Carbon Capture, Use and Storage



#### Renewable Energy

- Solar
- Hydrogen
- Biomass
- Wind
- Geothermal



#### Advanced Manufacturing

- Manufacturing
- Data Industries
- Gas Industries
- Food Processing
- Aviation Technology
- Electric Vehicles
- Batteries
- Fertilisers
- Decarbonisation



#### Agribusiness

- Pastoral – live cattle, boxed beef
- Aquaculture – wild catch, crustaceans, crocodile
- Horticulture – mangoes, melons, vegetables
- Food Processing
- Cotton
- Forestry



#### Tourism

- National Parks
- Festivals and Major Events
- Arts and Heritage Trails
- Aboriginal Tourism
- Drive Market
- Eco-tourism
- Cruise Industry
- Superyacht Industry
- Short Stay Accommodation



#### Lifestyle

- Youth Facilities
- Sports and Recreation
- Retail and Business
- International Education
- Creative Industries
- Parks, Reserves, Waterways
- Fishing
- Community and Cultural Events
- Meeting Places



#### Defence & National Security

- National Critical Care and Trauma Response
- Training Areas
- Development and Maintenance of Facilities
- Fuel Storage



Above: Aerial of Earth Sanctuary. Credit: Tourism NT.

# Resources

The Northern Territory has enviable access to world-class energy and mineral resources with strong reserves in critical minerals.

A strong resources industry is a significant contributor to our economy, generates employment and assists the reliable and affordable transition to a cleaner low and zero emissions energy future.

The Northern Territory is well placed to become an important new player in critical minerals global supply chains required for new technologies and the energy transition.

Geoscience Australia defines critical minerals as metals, non-metals and minerals that are considered vital for the economic wellbeing of the world's major and emerging economies, yet whose supply may be at risk due to geological scarcity, geopolitical issues, trade policy or other factors.



Resources is the Territory's largest industry contributor to the economy contributing more than \$5.7 billion in 2021-22



Mining contributed to 31.7% of the Territory's Gross State Product in 2021-22



As of June 2023, there were 17 mines in approvals processes. These projects represent a combined capital expenditure of \$8.35 billion



The Territory has Australia's largest deposit of manganese resources. In 2021-2022 6.06 million tonnes were mined at a value of \$1.78 billion



There are 30 trillion cubic feet of proven gas reserves offshore awaiting development



The Territory has highly prospective shale gas resources onshore, including over 500 trillion cubic feet of gas-in-place in just one layer of the Beetaloo Sub-basin



The Northern Territory's current list of 15 critical minerals includes aluminium (as bauxite), cobalt, copper, lithium, magnesium, manganese, molybdenum, nickel, phosphate, rare earth elements, titanium (as ilmenite), tungsten, vanadium, and zirconium (as zircon). There is geological potential for a further 13 emerging critical minerals

## RELATED NT STRATEGIES AND PLANS

- > *Critical Minerals in the Northern Territory 2023*
- > *Northern Territory Renewable Hydrogen Master Plan*
- > *Northern Territory Gas Strategy*

## RELATED NATIONAL STRATEGIES

- > *Australia's National Hydrogen Strategy*
- > *Future Fuels Strategy discussion paper*
- > *Australia's Global Resources Strategy*
- > *Geoscience Australia Strategy 2028*



*The Territory's 17 mineral projects currently in approvals processes have the potential to create up to 5 900 construction jobs and up to 4 000 operational jobs*

*The Northern Territory is emerging as a major player in the area of critical minerals exploration and future production across lithium, rare earth elements, cobalt, tungsten, molybdenum, vanadium, nickel, titanium, magnesium and phosphate*

*80% of the Territory remains under-explored for minerals*

*The Territory contributes approximately 15% of Australia's total LNG production despite being less than 1% of the national population*

Metals and semi-metals are important commodities used to manufacture wind turbines, electric vehicles, solar panels, rechargeable batteries, mobile phones and computers, flat screen monitors, fibre-optic cables, semi-conductors, defence industry technology and products, as well as aerospace, medical and high-tech applications.

Criticality is a subjective concept and individual countries develop their own lists of critical minerals based on the relative importance of particular minerals to their industrial and strategic requirements.

The Territory's list of critical minerals are minerals defined as critical by Australia or key trading partners that the Territory has economically demonstrated resources with potential for future production.

The table alongside lists the Northern Territory's 15 critical minerals. Of these, 9 are on Australia's critical minerals list and 5 are on critical minerals lists published by key trading partners (USA, UK, EU, Japan and India).

The Territory's 15 critical minerals	Current production	Near term production
	●●●●●	●●○○○
Aluminium	✓	
Cobalt		✓
Copper		✓
Lithium	✓	
Magnesium		✓
Manganese	✓	
Molybdenum	✓	
Nickel		
Phosphate		✓
Rare earth elements		✓
Titanium	✓	
Tungsten		✓
Vanadium		✓
Zinc	✓	
Zirconium		

Emerging critical minerals in the Territory	
➤ Antimony	➤ Niobium
➤ Bismuth	➤ Platinum-group elements
➤ Gallium	➤ Scandium
➤ Germanium	➤ Silicon
➤ Graphite	➤ Tantalum
➤ Helium	➤ Tin
➤ High purity alumina	



Above: Zinc McArthur River. Credit: Department of Chief Minister and Cabinet.

The Northern Territory's rich deposits of critical and rare minerals present significant economic opportunities for the region. The Australian Government has identified the Northern Territory as a priority region to develop critical minerals, and is actively working with the industry to promote exploring and developing these resources.

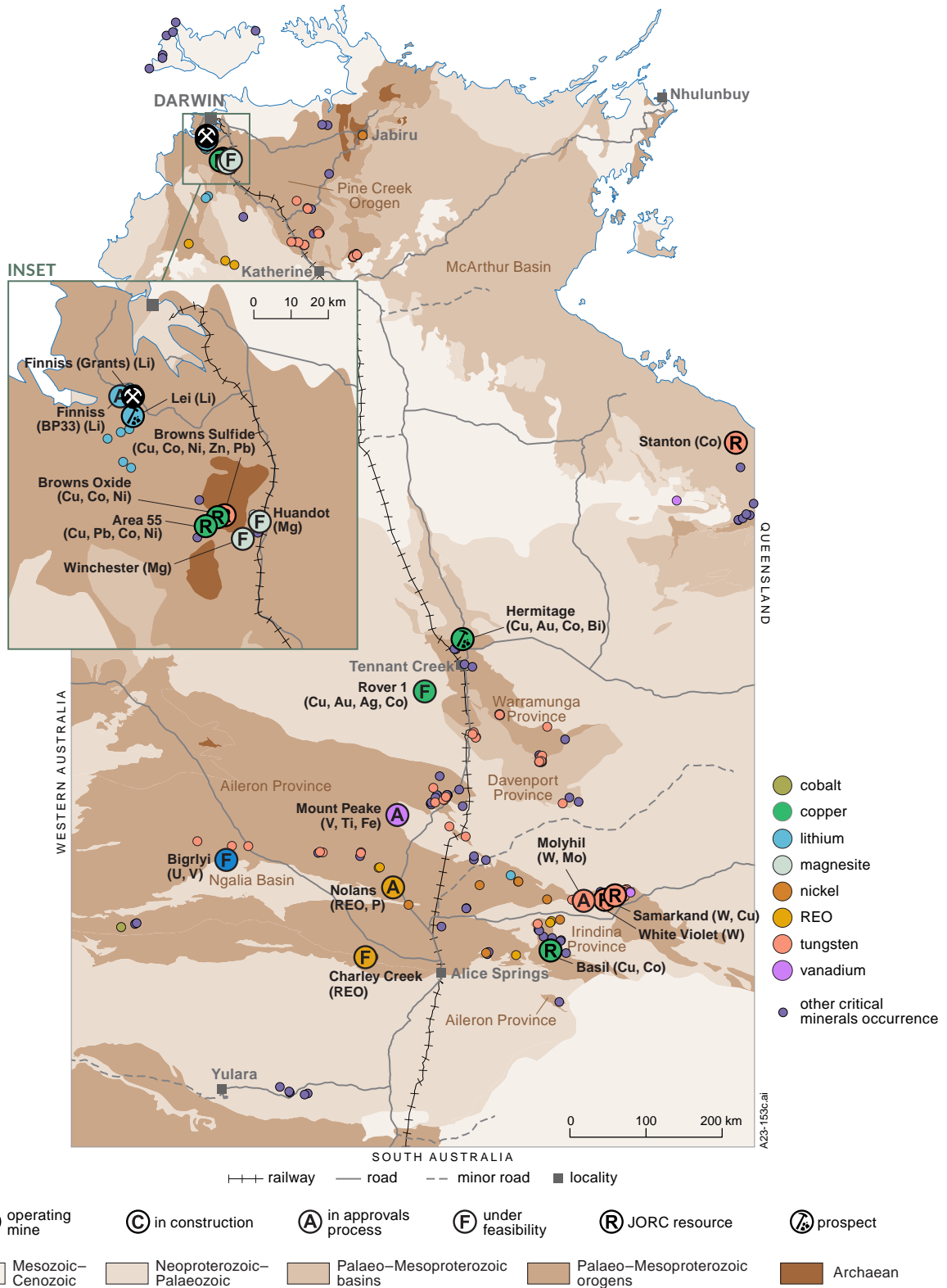
To support exploration, the Northern Territory Government provides \$9.5 million each year towards the Resourcing the Territory program through exploration grants and innovative geoscience programs to de-risk and accelerate critical minerals exploration in the Territory.

Core Lithium, the Territory's first lithium mine and second in Australia, commenced construction on the Finnis Lithium Project in 2021 and in March 2022, signed a contract with Tesla to provide lithium spodumene concentrate to manufacture batteries for electric vehicles.

Arafura Rare Earths Ltd (Arafura) is developing the first rare earth mine in the Northern Territory. Construction of the Nolans project commenced in 2023, with the first production scheduled for late 2025.

The Territory also has 3 developing mining projects that will have a significant impact on the fertiliser industry and fertiliser production in the Northern Territory – Arafura, Avenir Limited and Verdant Minerals.

# Critical Minerals in Australia's Northern Territory



Source: [Resourcing the Territory commodity factsheet - Critical Minerals \(nt.gov.au\)](https://www.nt.gov.au/minerals-and-energy/resources/critical-minerals)

The Territory is a globally significant liquefied natural gas (LNG) producer that supplies more than 10% of Japan's annual imports from the Darwin and Ichthys LNG projects.

Darwin is home to a globally significant LNG export hub with current production capacity of 12.6 million tonnes per annum (Mtpa) through 3 trains at the Darwin and Ichthys LNG projects. These projects have land available for 5 additional brownfield LNG trains.

In March 2021, Santos announced its final investment decision to proceed with the US\$3.6 billion Barossa gas and condensate project and is working to obtain environmental approvals for this project. Santos also committed US\$600 million to extend the life of Darwin LNG for a further 20 years using Barossa gas.

The Middle Arm Sustainable Development Precinct (the Precinct) has been developed to attract industries that reflect the Territory's future economy, including hydrogen, carbon capture, advanced manufacturing, natural gas and minerals processing.

The Precinct is attracting significant interest from the private sector. In June 2023, the Northern Territory Government issued a commitment 'not to deal' to 5 projects for specific parcels of land to provide certainty as they develop projects at the Precinct. Two of these projects, Tivan Limited and Avenira, are critical minerals facilities.



Above: Tarryn Singh, Mine worker. Credit: Northern Territory Government.

The Territory is progressing a globally significant carbon capture, use and storage (CCUS) hub. CCUS is internationally recognised as an important way to store carbon dioxide (CO<sub>2</sub>) emissions and combat climate change. The Northern Territory is well-suited for CCUS due to its abundant natural resources, and potential for offshore geological formations suitable for CO<sub>2</sub> storage.

INPEX and Santos, located on the Middle Arm peninsula, are progressing world scale CCUS projects to reduce their carbon dioxide emissions and investigating storing CO<sub>2</sub> from other industries and jurisdictions.

## A business case for a low-emissions Carbon Capture, Utilisation and Storage hub in the Northern Territory

CSIRO is leading a collaboration that will develop a business case to assess the viability of a large-scale Low-Emission Carbon Capture Utilisation and Storage (CCUS) Hub, based on Darwin's Middle Arm peninsula in the Northern Territory. CSIRO has partnered with the Northern Territory Government, and brought together an initial group of key industry and engineering companies, including INPEX, Santos, Woodside, Eni, Origin Energy and Xodus.

The aim of the Hub will be to reduce existing emissions significantly, by acting as a catalyst to new net-zero industries to continue beyond the energy

transition. It will also enable the development of an interconnected hydrogen industry, and the use of captured carbon in other industrial processes, such as the production of non-fossil-fuel alternatives for transportation.

If realised, the Northern Territory Low Emission CCUS Hub will be one of the largest multi-user, multi-access hubs globally. It will involve close collaboration between the Northern Territory and Australian governments, a diverse range of industry research agencies like CSIRO, engineering and technology companies, and foreign governments.



In August 2022, Santos announced its US\$622 million final investment decision to proceed with a new pipeline from Barossa to Darwin to allow for the existing Bayu-Undan to Darwin pipeline to be repurposed for CCUS.

To build on our role as an LNG and renewable energy export hub, the Northern Territory Government is developing the Precinct with \$1.5 billion of planned equity investment from the Australian Government. The precinct is master planned on circular economy principles to enable evolving and complementary industries as we transition to a lower and zero emissions future.

The Precinct is of global significance given its proximity to a range of energy inputs including renewables and gas, critical minerals and enablers such as strategic environmental assessments, development of common user infrastructure, the Territory's track record in delivering major projects, development of a world class CCUS hub and our proximity to major markets. The Precinct has access to the transcontinental rail service, national highway system, an international airport, high-capacity optical fibre and the deep-water Darwin Port.

Building partnerships with Traditional Owners is key to expanding the resources sector on Aboriginal owned land granted under the *Aboriginal Land Rights Act* currently at 47% of the Northern Territory.

The Gulkula Mine Project mining bauxite in north-east Arnhem Land and the Winchelsea Mining manganese project on Winchelsea Island in the Groote Eylandt archipelago are pioneering examples of Aboriginal-owned or joint venture mining projects with Traditional Owners that are being scoped and developed.

The Northern Territory Government is working with the Australian Government to develop key infrastructure to support existing and new critical industries, and to develop Territory-wide supply chain resilience for industries and regional communities. The development of infrastructure is allowing interstate industries within the minerals sector to look at the Territory as a viable option for entry and exit to markets.

The Territory is focusing on a number of strategic opportunities within the circular economy and in particular management of waste and offshore oil and gas asset decommissioning. The Australian Government is developing an oil and gas roadmap, which is expected to result in \$60 billion of activity over the next 30 to 50 years.

It is essential that supply chain infrastructure is in place to support the development of projects in resources, oil and gas, decommissioning and the circular economy.

## Mineral Development Taskforce Final Report

In April 2023, the Northern Territory Government released the Mineral Development Taskforce Final Report that details how the Territory can accelerate mining development to unlock a pipeline of projects.

The taskforce's final report, outlines a series of recommendations and actions to drive and increase private investment in mining and downstream value-add projects.

These include:

- introducing targeted initiatives to encourage increased exploration and mining activity
- securing coordinated, transparent and efficient land access processes that respect landowners and recognise co-existing uses

- targeted regulations focused on outcomes to deliver improved project economics
- updating the Territory's royalties regime to make it more competitive and not a deterrent to investment
- capitalising on economically sustainable downstream mineral value-add opportunities.

The Northern Territory Government accepted the recommendations in principle and will engage with key stakeholders and industry about the identified opportunities to increase and enhance the competitiveness of the Territory as an investment destination.

## Scientific Inquiry into Hydraulic Fracturing in the Northern Territory

The Scientific Inquiry into Hydraulic Fracturing in the Northern Territory released its final report in March 2018. Engagement to inform the inquiry was extensive with public hearings in urban centres and talking to Territorians at community meetings in urban, regional and remote areas and taking over 1200 submissions.

In April 2018, the Northern Territory Government accepted the inquiry's recommendations, lifted the moratorium on unconventional shale gas developments in the Northern Territory and developed the Scientific Inquiry into Hydraulic Fracturing Implementation Plan.

In May 2023, the Northern Territory Government handed down the Scientific Inquiry into Hydraulic Fracturing Final Implementation Report. The inquiry was informed by the Strategic Regional Environmental and Baseline Assessment (SREBA) research.

The SREBA is used to gather baseline data and fill information gaps and provide information necessary for sound decision making about the development of any onshore shale gas industry. The SREBA is the most comprehensive series of scientific studies on a region conducted in the Northern Territory.

The baseline studies were undertaken within 6 domains:

- > **Water quality and quantity** (groundwater, surface water, water quality, aquifer recharge rates)
- > **Aquatic ecosystems** (fish, plants and other animals that live in regional water bodies)
- > **Terrestrial ecosystems** (plants, animals)
- > **Methane and greenhouse gas** (existing natural and man-made sources)
- > **Environmental health** (air quality, soil, water, food sources, background radiation)
- > **Social, cultural and economic** (people and communities, cultural identity, local economy, infrastructure and services, healthy country, strong voice, living environment).

The Northern Territory Government will carefully manage the onshore gas industry through a strengthened regulatory framework, ensuring greater transparency and accountability and with Aboriginal people having a seat at the table.

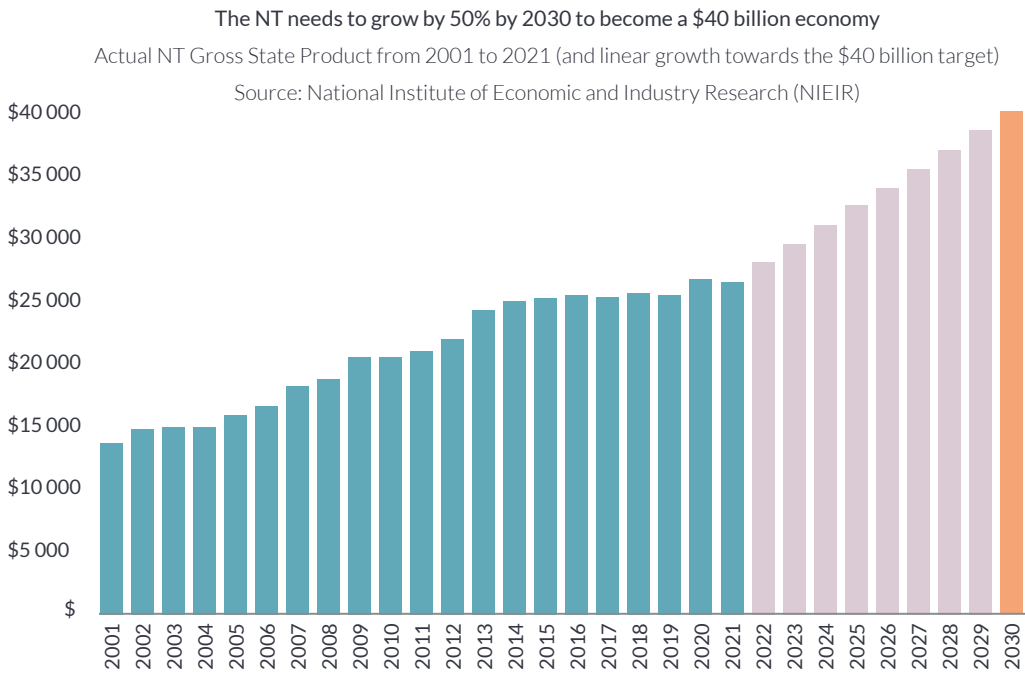
The new industry standards set the bar high with clear expectations and transparency for industry compliance.

## Mining and the Territory's population growth

Demographics can help us to think through how the Northern Territory could be turned into a \$40 billion economy by 2030. Infrastructure NT partnered with the co-founder of The Demographic Group, Simon Kuestenmacher, who writes columns, provides media commentary and conducts public speaking focused on current socio-demographic trends and how they impact Australia. Simon Kuestenmacher provided the following insights on the future growth of the Northern Territory and Government's 2030 target.

*This is doubtless an ambitious goal but government on all levels should always be ambitious when imagining the future for its residents. As of June 2022, the Northern Territory's gross state product (GSP) sat at just over \$26 billion. Growing an economy by 50% in 8 years is a tall order but it can be done if the Territory focuses on its strength and global commodity prices remain favourable.*

### Northern Territory GSP over time – maybe up to 2030



*Two factors more than anything else will determine whether the \$40 billion economy will be reached by 2030. Mining being the first, population growth the second.*

*Mining is an incredibly productive industry. No other industry in Australia comes even close to creating such a high economic output per worker. As of November 2022, only 3 500 of the 139 000 jobs in the Territory were in the mining industry. Mining contributed \$5.7 billion to the Territory economy – this translates to a massive \$1.6 million contribution to GSP per mining worker. Put differently the 2.5% of the workforce operating in mining contributed 22% of the total GSP. Of course, the mining*

*industry is forever victim to global price fluctuations and technically the economic productivity of a mine worker can easily halve or double without individual workers changing their effort.*

*The takeaway message here is simple. To turn the Territory into a \$40 billion economy, more mining projects need to come online. The pipeline of new mines is strong at the moment. The global demand for mining products will only grow considering the transition towards electric vehicles, demands will increase the global production of anything from lithium to cobalt by orders of magnitude.*

Assuming most of the current pipeline gets developed on time, the local economy should see a huge boom.

Mining of course doesn't come without its problems. No industry is facing a higher risk of losing its social licence to operate. Environmental concerns and ignorance towards Indigenous land management are the 2 biggest pitfalls. Any mining project must engage Traditional Owners to ensure enough wealth is captured locally. Lasting investment into local communities must be made. Each individual mining project will have an immediate negative impact on the local environment as smaller ecosystems are disrupted and landscapes are altered. Denying such impacts is naïve and creates the risk of large scale opposition to projects. It might sound counterintuitive but mining projects can be used to the advantage of the larger local ecosystems by measuring the negative local environmental impact and demanding compensation. The transition towards renewable energy wherever feasible, requires more mining projects to come on line.

From a population perspective, the Territory wants to house as many of the new mining workers locally. After mining the single best bet to grow the economy to \$40 billion is to simply grow the population base. Each permanently settled new mining worker will bring along around 2 new residents to the Northern Territory. Many mining workers will be single, but most will already have families or start families soon enough. These workers add 1.0 partners and 1.7 kids each – a further boost to the economy.

So how can we ensure that these workers are not just fly-in fly-out (FIFO) workers residing in other states? That's where housing enters the picture. If the goal is for mining workers to only live on site temporarily and to settle their families permanently in the Territory, we need to reimagine Darwin. A growing Territory economy will always translate into a larger and more prosperous Darwin. The city has the capacity for massive growth. The infrastructure skeleton can easily carry a larger population. It can be the local FIFO hub.

To prepare for population growth, Darwin needs to increase its dwelling stock and adjust its urban layout. The walkable inner-city area must grow and include more medium density living options to cope with the eventual ageing of the population. A safe and liveable CBD will be an important asset in retaining population. Affordable medium density housing will also dictate if Darwin can continue to attract adventurous young students and workers who haven't reached the family-formation stage of the lifecycle yet.

More than anything, Darwin will need to offer enough 3-4-bedroom homes. The nation's biggest generation, the Millennials, continues to start families for another 10-15 years at scale. This wave of people is leaving their small rental homes behind in the search for family-sized homes. They are willing to go wherever such homes are available and affordable. As Millennials across the country are looking for a home to raise their kids in, the Northern Territory (especially Darwin) could make a decent bid for such cohorts as long as affordable homes were available. Combine this with a reimagined urban culture in Darwin and the Territory might be able to increase its interstate migration to new heights. Improving housing affordability to become a more attractive destination for young families isn't easy but the Northern Territory has several levers to pull. Land can be made available in faster, more efficient ways. Making the Territory the most predictable jurisdiction for developers will go a long way in increasing housing stock too.

It's important to get the entire community onboard to embrace a pro-growth narrative. A larger Territory can improve access to services, can improve the urban landscape and provide more local opportunities for Territorians. Once residents trust that strategies to capture wealth locally will be put in place resistance to growth tends to fade away.

Simply growing the population base will help to inch the Territory towards a \$40 billion economy. Every single resident consumes goods and services. The working population (approximately half of the total population) drives up GSP through their job too. Many industries just grow alongside the population. More people need more

homes and more infrastructure – then the construction industry booms. More people also buy more stuff – retail sales go up while warehousing and transport jobs bloom. More kids? More teachers! More people? More spare time hours that need to be filled – demand for jobs in the arts goes up.

### Age profile Northern Territory vs Australia

**A youthful population to drive economic growth in the NT**  
 Age profile of Australia and the Northern Territory as of August 2021  
 Source: ABS Census 2021



A place for adventure is a place for young people. Consequently, the Northern Territory is exceptionally young. It's as millennial (born 1982–1999) as a region can be. It is home to more kids than Australia on average. As long as these young people, Aboriginal and non-Aboriginal alike, are educated adequately and are presented with local employment opportunities the NT stands a chance to retain them as they enter their 40s

in the coming decade. The 40s are the highest spending phase of the lifecycle. Ensuring the Northern Territory retains its millennial families permanently ensures they spend their money locally. Retaining the current population in their 30s for another decade or 2 will lead to an unprecedented boom in retail spending.

There are 3 ways to increase the population in the Territory.

The first one is called natural increase (NI, more births than deaths) and on average contributed 2800 net new persons each year to the Northern Territory since 1999. Public policy doesn't change the birth rate much at all. Continued improvements in the life expectancy of Territorians continues to push the NI figure up.

While this won't look all that impressive on a spreadsheet, it makes a huge difference to the quality of life for older residents. While the Northern Territory is much younger than other states, the rate of ageing is higher here.

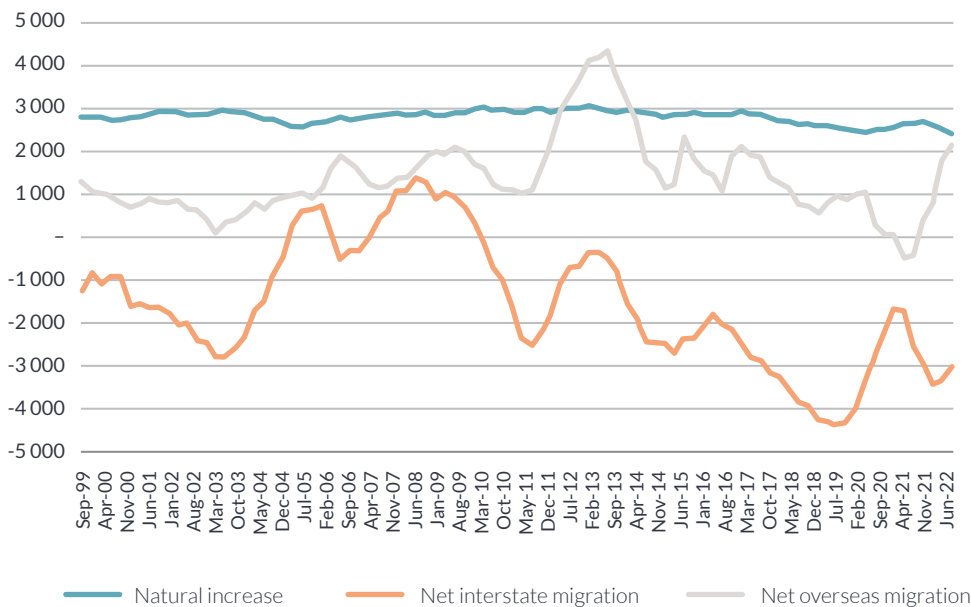
The local population base can only be grown at scale by interstate migration (NIM, net interstate migration) or from abroad (NOM, net overseas migration).

### Components of growth

#### Overseas migration is the most effective lever to grow the NT's population base

Components of population growth in the NT (moving annual total)

Source: Department of Treasury and Finance; ABS, *Australian Demographic Statistics*



The last 2 decades have seen 1 550 people each year move interstate. Young Territorians saw better education and employment opportunities elsewhere, retirees looked for adequate care interstate, and a general lack of services or amenities pushed some people down south. The bigger the population base in the NT becomes and the more services are added, the less impact these negative drivers will have.

In times of a local mining boom, the Northern Territory has always gained population from the rest of Australia. A new mining boom as described above would certainly attract more Australians to the Territory yet again. If the Territory was bold enough and successfully pulled off a pilot project regarding affordable housing or key workers accommodation, the improved brand positioning might convince even more low- to middle-income Australians to settle up north. Such a project wouldn't be all that risky – a few tens of millions of dollars at best.

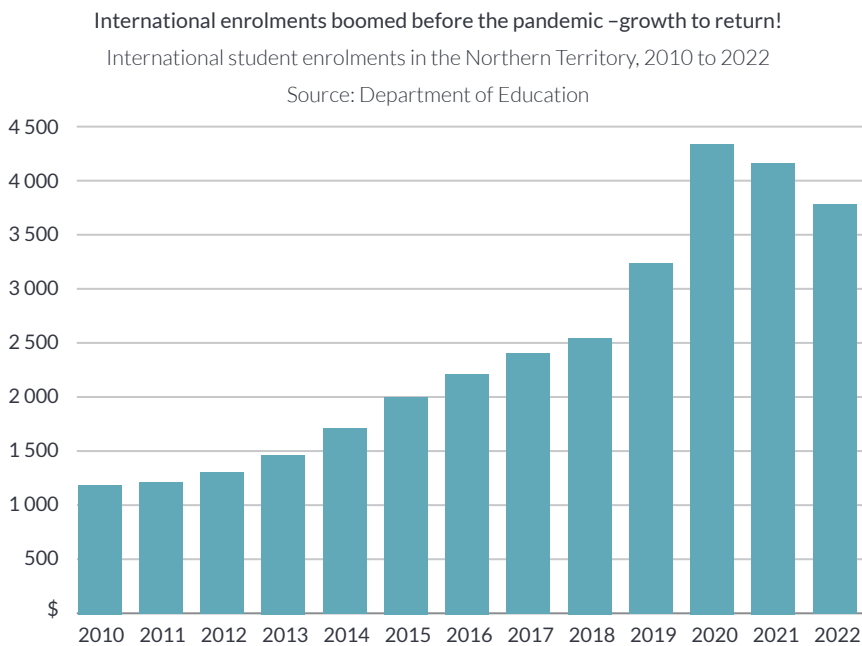
For example the Territory could finance a carbon-neutral medium density development for key workers in a central location (maybe on publicly owned land) constructed in record time using modern prefabricated elements shipped in from an Asian partner nation. Such a development could have massive branding benefits. This would send a message to workers across the nation that the Northern Territory is serious about quality of life for lower income workers.

What population the Territory lost to the rest of the country it tended to import back in from overseas. Since 1999 an annual average of 1 370 people moved to the Northern Territory from abroad. This number could easily be higher considering the current number of job vacancies. The most lucrative way of growing the population via overseas migration is through international students. Remember just how lucrative international students are as residents.

They pay high fees to receive education in Australia. Upon graduation they are educated to our national standards and already learned about local customs and integrated into society. About one in 6 international students stays on to become a permanent resident. Growing the population by importing students is much cheaper than making babies. The first 22 years or so of a human's life are costly for a

nation: kids go to school, receive medical attention, and use other public services without paying tax. Another nation pays for these expensive 22 first years of our international students. If they stay on to work in Australia, they pay tax immediately. It is therefore prudent to invest heavily in local universities and make plenty of space available for international students.

### International student enrolments over time



The official goal of hosting 10 000 international students in the Northern Territory might seem overly ambitious but is well within reach considering the continued expansion of the Asian middle class. The top 10 source nations for international students in the Northern Territory are all Asian nations. Demand for an English-speaking university experience won't slow down and being closer to the Asian market than other Australian cities doesn't hurt the NT either. Almost all additional 6 000 international students would live centrally in Darwin and few would own a car. Adjusting the urban landscape for these new international students means better infrastructure for active and public transport and more apartments. This is an opportunity to reinvent what the city looks and feels like: modern tropical urban environment meets the Territory's frontier spirit. This is an ideal and exciting location for young people seeking an education or an adventure – this will also make the city more attractive for older residents and ultimately businesses.

Mining and population are undoubtedly the biggest levers in transforming the Northern Territory into a \$40 billion economy by 2030.

Growth in all other industries, especially defence spending, obviously also contribute towards the growth target. If the goal is to grow the economy by 50% in 8 years, a focus on the 2 biggest drivers is necessary.

Ultimately it doesn't matter much when exactly the \$40 billion dollar will be reached. Will it be 2030, 2032, or only in 2040? The goal must be to capture more of the wealth creation locally, to ensure a socially just exploitation of resources, an environmentally responsible approach to mining, to improve housing affordability, and reshape the Northern Territory's major cities into highly liveable destinations attractive to locals, people from interstate and new overseas migrants.

The road ahead does look promising for the Territory. This is a time to invest and experiment along the way with a general sense of optimism.

**Simon Kuestenmacher**

*Simon is a Director and Co-founder of The Demographics Group, Australia.*

# Renewable Energy

The global shift towards decarbonisation is driving significant demand for renewable energy. The Territory is well placed to contribute to this global demand with world-class renewable energy resources.

The global demand for renewable energy is to replace the existing fossil fuelled electricity generation fleet and meet new demand from the many industry sectors, such as data and transportation, which are actively transitioning to electrification as an 'easier-to-abate' decarbonisation opportunity.

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## RELATED NT STRATEGIES AND POLICIES

- > Northern Territory Renewable Hydrogen Master Plan
- > Northern Territory Circular Economy Strategy 2022–2027
- > Darwin Katherine Electricity System Plan
- > Electricity Market Reforms

## RELATED NATIONAL STRATEGIES AND STUDIES

- > Net Zero Australia Study
- > Net Zero Mobilisation Report – How to Make Net Zero Happen
- > Australia's National Hydrogen Strategy
- > Powering Australia Plan



Australian states and territories and the Australian Government have pledged to reach net zero by 2050



Australia has the highest average solar irradiation per square metre in the world with the strongest in the Territory averaging 22 to 24 megajoules per square metre



Bioenergy, renewable electricity, renewable hydrogen, geothermal and solar thermal are emerging net zero pathways for high process heat industrial sectors that will see enhanced competitiveness and accelerated deployment as technology is realised at scale



The Territory aims to capture 15% of the Australian hydrogen market by 2035

Renewable energy projects are being planned and constructed at an ever-increasing scale and pace to meet growing demand and is expected to significantly alter global supply chains, industries and economies.

In addition to this demand, there is an increasing expectation that these resources will be efficiently developed in a manner that meets the best practice environmental, social, cultural and governance management standards.

There is an opportunity for substantial economic development based on leveraging the Northern Territory's unique attributes to become a significant and responsible source of renewable energy for export.

Renewable energy sources accounted for 8% of Australian energy consumption in 2020–21 and renewable electricity generation has more than doubled over the past decade. Key renewables are:

- biofuels
- biogas
- hydrogen
- hydropower
- solar PV
- wind.

The Territory is positioned to achieve net zero emissions by 2050 through significant investment in renewables.

The world needs solar, wind, pumped hydro, industrial scale batteries, LNG and green hydrogen and ammonia to decarbonise and achieve net zero.

A rapid electrification scenario from Net Zero Australia indicates a potential renewable generation capacity in 2050 that could be 40 times the capacity of the 2022 National Electricity Market (NEM). The bulk of this capacity is expected to be met through low-cost solar intended for export.

This opportunity is already underway in the Territory with proposed projects for hyper-scale solar generation, plans to export renewable energy via offshore cable, hydrogen, ammonia, and the manufacture of reduced-carbon products and materials for export.

Major project proponent SunCable is pursuing using solar resources in the Territory to help decarbonise Singapore. The SunCable project will build 12 000 hectares of solar arrays near Tennant Creek to send 3.2 GW (gigawatt) of renewable electricity to a battery storage facility in Darwin and then export via an undersea cable to Singapore. With the addition of a further 13 000 hectares of solar arrays, SunCable has the potential to supply proponents in the Middle Arm Sustainable Development Precinct.

*Below: Docker River solar. Credit: Power and Water Corporation.*



Additionally, the Territory is leading innovation with solar technology at the Desert Knowledge Australia Solar Centre in Alice Springs, which operates as a demonstration facility to better understand the opportunities, different technologies and environmental factors for solar.

The Territory is positioning itself to be at the forefront of the developing hydrogen industry, aspiring to be an international scale renewable hydrogen technology research, production and downstream manufacturing centre. The Northern Territory Government has recognised the potential of the hydrogen industry and has adopted a Hydrogen Strategy to guide the development of the sector. The strategy aims to position the Northern Territory as a leader in the production, use and export of hydrogen, with a focus on sustainable and low-emissions production methods.

Hydrogen production, transport and storage infrastructure will need to be built large enough to fully capitalise on the benefits generated from scale economies. The development of large scale hydrogen hubs will be key to reducing hydrogen production costs.

While the Territory already has significant enabling infrastructure, hydrogen-specific infrastructure requirements and potential expansions of current capacity to meet production needs may be required.

Landfill gas (biogas) from City of Darwin's Shoal Bay Waste Management Facility is currently generating enough renewable energy to power the equivalent of approximately 1 400 average-sized homes a year. The biogas plant reduces the release of greenhouse gas emissions from waste at Shoal Bay by collecting landfill gas to generate renewable energy.

The Middle Arm Sustainable Development Precinct is attracting significant interest from private sector proponents. In June 2023, The Northern Territory Government provided 5 projects a commitment 'not to deal' for specific parcels of land to provide certainty as they develop projects at Middle Arm. Two of these projects are hydrogen facilities, Total Eren and Fortescue.

Additionally, the Northern Territory Government has signed a memorandum of understanding with Larrakia Energy, Progressive Green Solutions and Komipo. Larrakia Energy is a Northern Territory company majority owned and managed by Larrakia Development Corporation with minority ownership and technology advice from Western Australia based renewable energy company, Progressive Green Solutions Pty Ltd (PGS).

Early planning is critical for the Territory to position itself to meet the opportunities of a thriving renewable energy industry while mitigating the risks and challenges of delayed development. In particular, access to land for infrastructure to generate renewable energy, transport energy and for industrial production and/or energy export facilities is paramount.

The Territory is identifying potential planning activities for a renewable energy future. It is acknowledged and expected that as further planning progresses in economic, environmental, social, cultural and governance technical areas, as the renewable industries mature, and as constraints are better understood, the details within this vision will be refined, and re-defined as necessary.

Connecting renewable generation to hydrogen production via power transmission corridors could enable a large scale hydrogen industry in the Northern Territory.



Above: Warruwi solar array. Credit: Power and Water Corporation.

# Advanced Manufacturing

Advanced Manufacturing is embedded across our priority sectors – being ‘advanced’ is not what a manufacturer makes, but how they make it!

Manufacturing is undergoing a historic transformation across the industrialised world. Instead of mass-producing identical factory lines of finished goods, firms are contributing specific components that are then assembled by others in complex and global supply chains. It has become increasingly interdependent with services, design and digital technologies.

The Territory recognises the importance of embedding advanced manufacturing, including to build and support infrastructure and supply chain capabilities. From rapid prototyping to robotic industry to aerospace industry to name a few, advanced manufacturing can be found in just about every industry.

## RELATED NT STRATEGIES AND POLICIES

- > *Advanced Manufacturing Ecosystem Fund NT*
- > *Northern Territory Renewable Hydrogen Master Plan*
- > *Northern Territory Circular Economy Strategy 2022–2027*
- > *Electricity Market Reforms*

## RELATED NATIONAL STRATEGIES AND POLICIES

- > *Australian Government’s Modern Manufacturing Strategy*
- > *National Reconstruction Fund*
- > *Powering Australia Plan*
- > *Industry Growth Program*
- > *Advanced Manufacturing Growth Centre*
- > *Modern Manufacturing Initiative*



*Manufacturing is currently at 3.6% of the Territory’s output presenting a prime opportunity for economic transformation with a number of manufacturing projects being considered in the Territory*



*Manufacturing employed 3 406 and 3 445 people in 2021 and 2022 respectively*



*In 2021–22 manufacturing contributed more than \$1.1 billion to the Territory gross state product*

In 2021, the Territory commenced its partnership with the Advanced Manufacturing Growth Centre (AMGC), which has a strong focus on capability development, both through the AMGC delivered tailored training in the Territory and in the guidelines developed for the Advanced Manufacturing Ecosystem Fund (AMEF), which requires capability development as a key outcome.

Local Darwin company Steelline GRP proposes to develop a world-class industry 4.0 standard advanced manufacturing facility in Darwin. The facility will house state-of-the-art automated metal manufacturing technology, supported by skilled staff possessing STEM capabilities that do not currently exist in the Northern Territory.

This enhanced capability will alleviate the supply challenges faced by the construction, maritime, defence, aerospace, mining technology, oil and gas, renewables and infrastructure sectors and enhance the delivery capability of the Northern Territory.

Existing manufacturing businesses will benefit from local development and delivery of production inputs, with the associated cost, time and risk benefits enabling them to increase productivity and access new markets.

Steeline GRP will introduce new cutting-edge machinery technologies and skilled labour at industry 4.0 standards to commission an advanced manufacturing facility unparalleled in the southern hemisphere.

The AMEF continues to invest in advanced manufacturing in the Northern Territory. Over the past 12 months, over \$2 million of AMEF funds have been invested into 6 projects across the Territory. This investment is supporting more than \$11 million in new advanced manufacturing capability in the Territory. As a collaborative endeavour, these projects include new businesses coming to the Territory and the expansion of local capability.

Existing metal fabrication and industrial processing provides a base for moving traditional manufacturing to advanced manufacturing opportunities. Over the past 18 months, there has been a strong focus on investigating the areas of advantage for the Territory, including refining next step priorities. There has also been a strong emphasis on identifying and growing locally based capability. Increasing the capability of Territory businesses to manufacture creates more demand for diverse and high skilled jobs and increases the value of the Territory's raw products.

There is also a strong ambition to realise manufacturing potential with the development of the Middle Arm Sustainable Development Precinct, other precincts currently being investigated and developed (such as the aerospace aviation and digital precincts), through regular and ongoing discussions with existing major and significant project proponents and investment attraction efforts (through the focused work of both the Major Projects and Investment Commissioners).

The Territory will become home to a new Aviation Advanced Manufacturing Precinct, where Amphibian Aircraft Industries will build Albatross flying boats in Darwin. The project will create a range of jobs in fabrication, avionics, engineering, 3D printing, automation, robotics and pilot and crew training.

The Territory is strategically located at the gateway to Asia, providing an ideal location for companies to export products to markets in Asia and beyond. The proximity to strategic markets helps to reduce transport costs and improve supply chain efficiencies, making the Territory an attractive location for businesses looking to expand into international markets.

There are many exciting opportunities for businesses and investors in the Northern Territory and it is strategically positioned to play a role in meeting future demand across key sectors such as aerospace, renewable hydrogen, minerals and agribusiness.

## National Reconstruction Fund

The Australian Government is working to establish a \$15 billion financing fund to support Australia's manufacturing industry. The National Reconstruction Fund will drive investments into priority areas of the Australian economy focused on value adding and capability development to leverage Australia's natural and competitive strengths. The Australian Government has announced target investment levels for several areas, including:

- \$1 billion targeted to help grow advanced manufacturing and support businesses to innovate and move up the technological ladder

- \$1.5 billion allocated for medical manufacturing
- \$1 billion for value-adding in resources
- up to \$3 billion for renewables and low emissions technologies
- \$1 billion allocated for investment for critical technologies. This could include technologies that underpin advanced manufacturing such as artificial intelligence (AI) and robotics.

It will provide a range of financing options including loans, equity investment and guarantees.

# Agribusiness

The Territory's distinct range in climate with different rainfall, temperatures and humidity gives us an advantage in the type and timing of our agricultural products.

The Northern Territory's agribusiness industry includes cattle (live export, interstate movements and processing), other livestock (buffalo, crocodile), horticulture (fruits, vegetables, nursery, cut flowers and turf), mixed farming (hay, fodder, cotton and forestry), fisheries (wild catch harvest including Northern Prawn Fishery), and aquaculture.

In 2021–22, the agriculture, forestry and fishing industries contributed \$805 million to the NT's economy (GVA [gross value add]), up by 5.4% from the previous year. This represents \$1.3 billion in gross value of production to the Territory.

The NT covers one sixth of the Australian continental land mass, with 43% of the Territory's land mass used for agricultural initiatives. There are opportunities to grow and diversify agriculture, fisheries and horticulture sectors across our vast landscape. The Territory is 5 times the size of the United Kingdom and twice as big as Texas.

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## RELATED NT STRATEGIES

> *Northern Territory Agribusiness 2030 Strategy*

> *NT Biosecurity Strategy 2016–2026*

## RELATED NATIONAL STRATEGIES

> *National Biosecurity Strategy*



*Northern Territory agriculture and fisheries industries are worth \$1.3 billion (GVP)*



*The Territory's \$128 million (GVP) mango industry supplies more than 50% of Australia's mangoes*



*Pastoral leases cover almost 45% of the Northern Territory with a diversity of soils, climate and pasture type in each region*



*The Territory cattle industry is worth \$692 million (GVP) and drove much of the Territory's early infrastructure development*

The climate ranges from tropical savannah in the Top End to semi-arid in the Barkly and Central Australia regions. The potential to grow and produce food sustainably throughout the Territory is supported by managed water source allocations and significant areas of suitable soils. Our remote location provides a distinct advantage for strict biosecurity management with natural protection against pests and disease.

This size, range and diversity gives the Territory a market advantage, with crops often harvested out of season or earlier than those grown in southern states. Fresh iconic Territory-farmed produce includes mangoes, melons, oysters, barramundi, organic certified beef and Kakadu plum.

Cattle, tropical fruit and fibre, seafood, Asian vegetables and protein crops including cotton, sorghum and soybean are exported to domestic and international markets. Darwin Port is one of the busiest livestock ports in the world for cattle, enabling the Territory to supply high quality cattle and buffalo to our near neighbours in Asia. The cold chain handling and vapour heat treatment facility at Darwin International Airport supports the export of premium agricultural products by sea and air freight to international markets including Southeast Asia, China, Japan, South Korea and the United States. The aim is to grow the economic contribution of the agribusiness sector in the Territory to \$2 billion (GVP) by 2030.

Opening land for agriculture with the support of appropriately managed water sources will see the Territory's agribusiness sector expand to reach this goal. The Territory is focusing on developing Agribusiness Precincts and Regional Agricultural Development areas. Agricultural Precinct and Development Areas are being developed in Weaber Plains and Larrimah in the Big Rivers region, and in Wildman in the Greater Darwin region.

About 47% of the Territory's land mass and 85% of its coastline is Aboriginal owned and there are significant economic and social opportunities for Aboriginal Territorians. Supporting partnerships with Aboriginal-led or owned groups and enterprises is key to creating new sustainable industries and jobs on country.

## Gunn Point Emerging Agribusiness Precinct

The Gunn Point Emerging Agribusiness Precinct is a pilot project of 260 hectares of land with opportunities for horticulture production.

The precinct is being built to test new and innovative ways of growing crops, farming and using irrigation.

It will be used to see if these new methods can be successful and profitable at a commercial scale, and if they can be used in other farming areas in the Territory.

This project is funded under a \$6.3 million partnership between the Northern Territory and Australian Government's National Water Grid Authority.

*Below: Lambells Lagoon aerial. Credit: Department of Industry, Tourism and Trade.*



Opportunities to add value to the Territory's agribusiness sector includes processing and manufacturing, as well as prioritising biosecurity. Investment in biosecurity preparedness and prevention provides the greatest returns on investment to producers and the economy.

The NT Government continues to support the NT Seafood Council (NTSC) in growing the industry's capacity and capability for value-add processing.

Over the past year, the NTSC adopted a 'start small, think big' approach to develop seafood processing capability and capacity in the Territory. The 'start small' approach involved working with industry to map the challenges and opportunities to increase the value of NT seafood produce, including the co-design of industry and government initiatives for industry development.

Support has also been provided to existing seafood businesses to establish small-scale processing facilities. In July 2023, Territory business, Wild Barra Fisheries opened a new processing facility in Darwin providing a boost to the local industry and Territory economy. The facility located at East Arm fillets, weighs and packages fish including Barramundi, King threadfin, Jewfish, Queen fish, Javelin fish, Blue salmon and Triple tail snapper. The facility has the capacity to store 35 tonnes of frozen product and 15 tonnes of fresh product.

This work lays the foundation to enhance value-add and export opportunities for the industry in the long term. The NTSC is currently engaged in early consultations with the seafood industry and the NT Government on the potential for establishing



*Above: Farmer Muy picks a starfruit, Lambells Lagoon. Credit: Department of Industry, Tourism and Trade.*

cold-storage and processing facilities as part of the planned Marine Industry Park, with a development horizon of 10 years or more.

The Northern Territory is Australia's frontline for biosecurity, which is key to supporting the growth of agriculture and security supply chain integrity. The NT Government is investing \$44 million in new infrastructure at the Berrimah Farm Science Precinct to provide state of the art diagnostic laboratories to quickly detect and respond to new pests and diseases.

This includes a biosecurity containment level 3 facility in the new Molecular Laboratory. Investment by industry in strong on-farm biosecurity systems will enable early detection and prevention of new pests and diseases.

Protecting supply chains and building biosecurity capacity within the industry is critical to its growth. It also enables value-adding opportunities for meat, fruit, vegetable and seafood processing to diversify the economy, increase shelf stable offerings and food security, and maximise supply chain benefits in the Territory.

Machinery, technology, research and development, education, transport and logistics, environmental and land management services and climate change management all underpin value-adding activities in the agribusiness sector.

The Territory's reputation as a disease free, safe, ethical and sustainable producer, with strong animal welfare credentials, will continue to enhance our credibility and expand our markets.



*Above: Mango farming. Credit: Northern Territory Government.*

## Northern Territory Agribusiness 2030 Strategy

The Territory has its sights set to achieve a \$2 billion (GVP) agribusiness sector by 2030.

The launch of the Agribusiness 2030 Strategy supports and guides this goal and provides a clear strategic direction and shared vision with government and industry to increase sustainable agribusiness in the NT.

Aligning with the goal to reach a \$40 billion economy by 2030, the strategy was developed to increase the agriculture and aquaculture industries' net worth from \$1.3 billion in 2021 to \$2 billion (GVP) by 2030, while protecting and enriching our unique Territory environment, lifestyle and culture.

The strategy's 4 key priorities include:

- engaging with our broad community of stakeholders to maintain their respect and support
- protecting what we have worked hard for in terms of our reputation as a supplier of choice for high-quality produce
- continually adapting and innovating to capitalise on opportunities and to respond to biosecurity and climate change threats
- focusing our efforts on actions that activate the key drivers of growth if we are to succeed in realising our vision.

The launch of the Agribusiness 2030 Strategy highlights the NT Government's commitment to growing the livestock, horticulture, broadacre cropping, fisheries and aquaculture sectors in a sustainable and responsible manner, underpinned by research and strong regulation.



### Blacklip Rock Oysters

A 4-year trial has demonstrated the potential for Blacklip Rock Oyster farming at South Goulburn Island and Groote Eylandt.

Over the next 3 years, the project's focus will be on expanding training and mentoring services to support the transition from trials into community-operated commercial oyster farms.

The project is jointly funded by the Northern Territory Government's Department of Industry, Tourism and Trade, the Australian Government's Cooperative Research Centre for Developing Northern Australia, Yagbani Aboriginal Corporation and the Anindilyakwa Land Council.

Above: Blacklip Rock Oysters. Credit: Blacklip Rock Oyster Farm, South Goulburn Island.

# Tourism

Connection to culture and nature are powerful drawcards to the Territory – our ancient Aboriginal cultures and vast and diverse landscapes provide unrivalled tourism experiences that attract international, national and local visitors to our shores.

Tourism is a fundamental pillar of the Territory's economy and contributes to a range of industries, directly employing 5.1% of the Territory workforce. Tourists arrive in the Northern Territory and spend money on attractions, meals and accommodation.

The promise of an ethereal and authentic experience is what pulls people to the Territory – our 65 000 year old Aboriginal cultures, breathtaking nature, and the harsh pioneering and war history that helped create our melting pot of cultures today.

## RELATED NT STRATEGIES AND PLANS

- > Northern Territory Tourism Industry Strategy 2030
- > Northern Territory Drive Tourism Strategy 2021-2023
- > Northern Territory Destination Management Plans
- > Northern Territory Cruise Tourism Strategy 2022-25
- > Recreation Fishing Development Plan
- > NT Parks Masterplan 2023-2053

## RELATED NATIONAL STRATEGIES

- > THRIVE 2030 Strategy



\$3.0 billion visitor expenditure from a total 1.645 million visitors by the end of June 2023



1.495 million visitors came to the Territory in the year ending June 2023 compared to 1.651 million in the year ending June 2019, a decrease of 9.5%



150 000 international visitors came to the Territory in the year ending June 2023 compared to 294 000 in year ending June 2019, a decrease of 49%



By 2030, total visitation to the Northern Territory could reach a target of 2.8 million, with an anticipated visitor spend of \$5.3 billion, supported by the implementation of the Territory's Tourism Industry Strategy 2030



Domestic (inter-Territory and interstate) visitors to the Northern Territory could reach 2.3 million by 2030 under the Tourism Industry Strategy target, with an anticipated total spend of \$4.2 billion



By 2030, the Northern Territory could welcome 413 000 international visitors under the Tourism Industry Strategy target, with an anticipated total spend of \$1.1 billion



The self-drive market in the Territory is a large part of domestic tourism, with 26% of interstate visitors arriving in the Territory by vehicle

World class nature and wildlife are growing in importance as factors in travel decisions, and the Territory is home to rare species of flora, native wildlife and birds that distinguish it from many destinations around the world.

The Northern Territory is one of the most linguistically diverse areas of the world, rich in art and culture. 85% of people surveyed believed the NT is the best place to experience Aboriginal cultures. Aboriginal Territorians are the custodians of the world's oldest living culture – they and their families have lived, hunted, held ceremonies and practised culture on country for over 65 000 years. About 48% of land and 80% of the coastline in the NT is Aboriginal owned. Over one quarter of our population are Aboriginal Australians compared to 3% nationally and the Territory is uniquely positioned to provide visitors with exceptional cultural tourism experiences.

To celebrate our culture and history, the Northern Territory Government has invested significantly in a trail of cultural assets to position the Territory as a world-class tourist and multicultural destination.

This investment includes upgrades to seven Aboriginal owned art and culture centres in Arnhem Land, Katherine, and Tennant Creek. The National Aboriginal Art Gallery in Alice Springs will be the pinnacle of this trail.

Projects linked to the trail include revitalising Darwin city, including constructing a new art gallery, under the Darwin City Deal, a master plan to transition Jabiru from a mining town to a vibrant and sustainable tourism hub with infrastructure to support Kakadu National Park, and a master plan for Uluru-Kata Tjuta National Park and Yulara. The Territory Art Trails will make it easy to discover the best of the NT's art, culture, events and much more.

In addition, the Larrakia Development Corporation is developing the Larrakia Cultural Centre, which will be built at the foot of a Larrakia sacred site at Stokes Hill overlooking Darwin Harbour. The Centre will allow visitors to explore Larrakia history, enjoy Larrakia art exhibits, and try authentic Larrakia crafts such as spear making, weaving or painting.

*Below: Baruwei Lookout, Nitmiluk National Park. Credit: Tourism NT/Tourism Australia.*



The Territory has world class heritage and national parks, and one of a kind, dramatic landscapes combined with inspiring wide open spaces. There are more than 80 national parks and reserves, covering over 50 000 square kilometres of land in the Northern Territory. National parks in the NT cover a diverse range of habitats and are a place for a range of visitor experiences like bushwalking or swimming under waterfalls. This includes the World Heritage-listed parks Kakadu National Park – a vast expanse of exceptional natural beauty, unique biodiversity and Aboriginal rock art sites – and Uluru-Kata Tjuta National Park, home to the iconic landmark Uluru and the 32 weathered rock domes known as Kata Tjuta.

The wide open spaces of the Northern Territory make it ideal as a road trip destination for the self-drive holiday market. The Territory's vast landscapes present the perfect opportunity for holiday visitors to fly to one of the Northern Territory's popular destinations and hire a car or campervan to explore surrounding areas. The drive market is crucial to enable dispersed regional access to the Territory's unique visitor experiences.

The Mereenie Loop, also known as the Mereenie Loop Tourist Drive, is an unsealed section of Red Centre Way, which links Alice Springs and Kings Canyon. One of the ways in which the Northern Territory Government is promoting drive tourism is by investing in upgrading the Red Centre Way (Outer Mereenie Loop) to a sealed standard to create an iconic drive that connects the icons end to end and subsequently the communities from remote towns back to the inland capital of Alice Springs.

Tourism NT has developed Destination Management Plans that identify the key strengths and assets of each region. The plans consider visitation demand insights, existing planning and priorities for destinations in the regions, and stakeholder input. The plans identify actions to activate opportunities, address gaps and prioritise product development to meet visitor demand, while encouraging the development of a sustainable tourism sector for the regions.



The plans also include references to the 85 parks and reserves managed by the Northern Territory Government. The NT Parks Masterplan 2023–2053 and the NT Parks 10-Year Activation Plan provide strategic direction across 9 themes to improve park amenity, tourism opportunities and partnerships.

Darwin is the first point of entry to Australia for cruise ships and more than 100 000 visitors are expected to arrive across the 2023–24 and 2024–25 seasons. The cruise sector generated up to \$60 million in total expenditure within the Northern Territory in 2018–19. Given the majority of cruise ship activity occurs between October and April, this provides a much needed boost to the economy during our low season.

Up to 103 cruise ship visits are expected in the 2023–24 season including 13 maiden voyages (ships visiting Darwin for the first time). *Resilient Lady*, a new build from Virgin Voyages and *Celebrity Edge* operated by Celebrity Cruises, will visit for the first time and are set to deliver over 5 500 passengers within a 6-day period.

The superyacht industry is a growing sector in Australia. Darwin's strategically central location makes it an ideal gateway for superyacht logistics, maintenance and reprovisioning. A 2019 scoping study indicated that the superyacht industry has the potential to contribute up to \$146 million to the Territory economy by 2028.



*Left: Nyinkka Nyunyu Cultural Centre. Credit Tourism NT – Elise Derwin.*

Demand for superyacht services in our region is expected to increase significantly over the coming decade, especially in the lead up to the 2032 Brisbane Olympics. To ensure the Territory can capitalise on this opportunity, marine infrastructure investment is being progressed.

This investment will not only benefit the superyacht industry but also enable and support the resources, manufacturing and defence sectors.

## Connecting Kakadu

Better mobile coverage is coming to key Kakadu National Park sites under the jointly funded Connecting Kakadu project between the Australian Government, Northern Territory Government and Telstra.

Connecting Kakadu is a \$7.5 million upgrade to expand mobile coverage across Kakadu National Park.

Mobile connectivity in the national park, including new coverage around Jim Jim Falls and along the highways, and improved coverage at popular campgrounds, will benefit tourists, local businesses and residents.

Connecting Kakadu will deliver new connectivity using a mix of mobile satellite small cells and 4G macro-cells to significantly improve the mobile service coverage right across the national park.

The mobile base station at Coinda will also be upgraded.

More mobile sites will boost the capacity of the existing Telstra network in the park, help deliver higher data speeds and allow more network calls at one time to support normal network use.

It will have a significant impact on safety with the ability to contact emergency services from more areas within the park.

An assessment of sites is currently underway to determine the locations and technology mix to maximise benefits for the local community and tourists. This will include necessary land access agreements and protecting sacred sites.

The co-investment partnership between the Northern Territory and Australian governments and Telstra will help bring better connectivity to the Kakadu region for tourists, residents and the local park rangers.

# Lifestyle

A laidback, outdoor lifestyle is what draws people to the Territory and keeps them here.

Whether its fishing our favourite spot, camping beneath a sunset, swimming at a waterfall or visiting one of our many regional local markets – Territorians love to relax in nature.

Our open air events and locations attract tourists and locals alike, whether they are enjoying the Territory’s art and culture at the more than 70 art centres across the Northern Territory or the Garma and Barunga Festivals, or at Darwin’s food and cultural celebrations. The Darwin Waterfront Precinct hosts many lively events and festivals on weekends and is also a popular spot for exercise.

In addition to annual events, local markets are enjoyed across the Territory. One of note is the famous Mindil Beach Markets, which not only draws every element of the Territory lifestyle together—international cuisine, unique crafts and local entertainment—but also boasts the most applauded sunsets in the country.

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## RELATED NT STRATEGIES AND PLANS

- > *NT Sport and Active Recreation Strategic Plan 2021-2025*
- > *Creative Industries Strategy 2020-2024*
- > *10 year Museums Master Plan*
- > *Northern Territory Destination Management Plans*
- > *Aboriginal Tourism Strategy*
- > *NT Parks Masterplan 2023-2053*
- > *Northern Territory Drive Tourism Strategy 2021-2023*
- > *Recreational Fishing Development Plan*



The Territory has 303 heritage sites



30 000 recreational fishers enjoy catching fish in our waterways from 34 public boat ramps



85 parks and reserves offer a multitude of outdoor experiences to Territorians and visitors alike with 3.5 million visitors a year



91 tagged fish caught since 2015 with \$925 000 in winnings (Million Dollar Fish)



80% of Territorians visit at least one cultural venue or event each year



The Northern Territory is considered the preferred destination for Aboriginal cultural tourism experiences in Australia, 85% believe the NT is the best place to experience Aboriginal cultures

Open air events are also revved up in the Territory. These include the high octane entertainment of the Darwin Supercars, Finke Desert Race and Red Centre Nats.

Our natural environment is rich in culture, and we are spoilt for choice with our breathtaking landscapes at Nitmiluk, Uluru-Kata Tjuta, Litchfield, Judburra (Gregory) Limmen, Watarrka and Kakadu National Parks. The George Brown Darwin Botanic Gardens are walking distance of the Darwin CBD. The gardens cover 42 hectares, which supports children's activities, dog walking, outdoor education, weddings, parties and special events. The gardens are noted for their collections of northern Australian and other tropical species.

Most of the natural swimming opportunities available to Territorians occur in our parks and reserves and many favourite fishing spots such as Shady Camp on the Mary River and the Victoria River at Timber Creek can only be accessed through a national park or reserve.

While they are valuable tourism assets, our parks and reserves are intrinsically linked to our Territorian lifestyle, health and wellbeing, retaining people and attracting visitors and people to live and work in the Territory.

Sport is a strong unifier and popular activity for Territorians. There are 40 sport peak bodies supported by the Northern Territory Government along with active recreation organisations delivering quality programs and services for the community. High participation rates and growth in sports like basketball, netball, football and AFL support approximately 170 423 Territorians who participate at least once a year in community sport. Basketball and AFL are the two most popular sports in the NT. These sports are allowing a pathway for young Territory boys and girls who want to pursue a career as professional athletes.

AFL is a very popular sport in the Territory for both participants and spectators. AFL unifies many communities, offering opportunities for both young and older players. Work is underway on the Territory's bid for its own AFL club.

Bush walking is the most popular active recreation activity in the Territory, but mountain biking is increasing in popularity with a network of trails in Alice Springs, Darwin and Katherine. For those who prefer less of a challenge the Territory also has a wide network of cycle paths.

*Below: Family fun. Credit: Northern Territory Government.*



The Territory hosts many year-round running events and athletics, with the dry season and desert winter attracting many seasoned and amateur runners to the City to Surf, half marathons and the Larapinta Trail, which also hosts the West Macs Monster Trail Running Festival. West Macs Monster has 5 distance events, all finishing at the historic Alice Springs Telegraph Station.

The Alice Springs Masters Games will return in 2024 after being impacted by the COVID-19 pandemic and will once again place itself as a major sport participation event in Central Australia.

Our rivers and oceans are magnets for water activities such as canoeing or kayaking in Nitmiluk Gorge and jet skiing, diving or sailing in Darwin Harbour. The Territory's vast waterways also provide locals with a variety of fishing options, accessible via natural rock, boat, wharf or jetty. The annual Million Dollar Fish competition is in its ninth year and attracts passionate Territorians and tourists to catch the Territory's elusive Barramundi. 100 prize-tagged barramundi are released into 5 fishing regions, Darwin, Kakadu, Arnhem Land, Katherine and the Tiwi Islands, each season.

The Territory is home to more than 100 arts and cultural facilities, including performing art centres, theatres, and artist studios, Aboriginal owned art and culture centres, and a network of private and public galleries, museums, and libraries providing incredibly rich and diverse arts and cultural offerings and experiences across the regions. These facilities support our artists to create new works of art and develop their careers as well as opportunities for audiences and communities to enjoy and participate in a range of art forms such as music, theatre, dance, writing and visual arts and crafts. More than 8 000 Aboriginal artists and 59 Aboriginal art centres and groups across the Territory create stunning Aboriginal art and offer unique opportunities for the ethical purchase of authentic Aboriginal art and learning experiences on Aboriginal lands.

The National Aboriginal and Torres Strait Islander Art Awards (Telstra NATSIAA) is the longest running and richest Aboriginal and Torres Strait Islander art awards in the country.



Above: Gove Skate Park. Credit: Northern Territory Government.

In recognition of the value and importance of our arts and culture and to grow visitation to our world class arts and cultural experiences, the Northern Territory is progressing significant investment in First Nations led arts and cultural infrastructure as part of the Arts Trail initiative. This includes the National Aboriginal Art Gallery and a \$30 million investment in capital upgrades to 7 Aboriginal and community owned art and culture centres in Arnhem Land, Katherine and Tennant Creek.

To celebrate the Territory's significant collection of art, the Northern Territory Art Gallery is being constructed as part of the revitalisation of Darwin's Civic and State Square Precinct. The gallery, scheduled to open in 2025, will host Australian and international exhibitions, and provide more space for learning and community participation in art programs, special events and festivals.

The Museum and Art Galley Northern Territory manages 7 iconic and historic sites across the Territory that embodies our story. The National Aboriginal Art Gallery, currently in planning and design, will become a touchstone experience for Australian and international visitors seeking to better understand Aboriginal and Torres Strait Islander culture.

The Darwin Symphony Orchestra performs in all corners of the Northern Territory from floating on pontoons on a sunlit Nitmiluk Gorge to making beautiful music on a working barge on Darwin Harbour.



It was also the first symphony orchestra to perform at our iconic Uluru. Other prominent music events include BASSINTEGRASS, held at Darwin's iconic Mindil Beach, and the Desert Song Festival in Alice Springs, which sees artists, musicians and choirs from across Australia, India, Africa, the Pacific and Europe, showcase intercultural music amongst the ancient landscape of the ranges and gorges of Central Australia.

The Territory is one of Australia's most culturally diverse places. There are over 100 nationalities and around 140 social, cultural and religious organisations. Our festivals bring our different cultures, ages and experience together for everyone to enjoy, locals and visitors alike.

Parrtjima, A Festival in Light, is a 10 night festival in the stunning Red Centre featuring light installations on ancient landscapes, artworks and performance. The Big Day Out in Harmony is Alice Springs's largest multicultural community event of the year, celebrating multiculturalism, harmony and inclusion with a day of dance, music, food and cultural activities.

The Barunga Festival is an iconic music, culture, sport, art and dance festival in the Big Rivers Region.

These events, among many others across the Territory, provide opportunities for us to learn about the history and culture of the Northern Territory's Traditional Owners.

In the Top End, multiculturalism is celebrated through the Darwin Waterfront Harmony Soiree, Greek Glenti, Italian Festival, Nepal Festival, Thailand Grand Festival, Darwin International Laksa Festival and the Dragon Boat Festival.

The Darwin Festival is Australia's most northern and only tropical festival. It was created to celebrate the town's revival after it was almost destroyed by Cyclone Tracy in 1974. The 3-week festival is not only an integral part of dry season Darwin life but importantly attracts arts lovers from around the country for a total festival attendance of 100 000 to 150 000 each year.

*Below: Darwin International Laksa Festival. Credit Department of Chief Minister and Cabinet.*



# Defence and National Security

The Northern Territory is centred in Australia's region of military focus, positioning the Territory as a priority for Defence force posture and investment.

Due to its strategic location, the Northern Territory plays an important role in the Indo-Pacific region from an economic and regional stability standpoint. With a significant Army, Navy, Air Force and Border Force presence, defence is a significant contributor to the Territory economy, with defence spending in the Territory reaching \$2.2 billion in 2021-22. The Northern Territory has a vast Defence Estate supporting major tri-service platforms, programs and training initiatives, including:

- RAAF Base Darwin
- Larrakeyah Defence Precinct
- Defence Establishment Berrimah
- Robertson Barracks
- HMAS Coonawarra
- RAAF Base Tindal
- Joint Defence Facility Pine Gap.

## RELATED NT STRATEGIES

- > *The Northern Territory Defence and National Security Strategy 2018*
- > *Northern Territory Defence Veterans Strategy*

## RELATED NATIONAL STRATEGIES

- > *Defence Strategic Review*
- > *Strengthening Australia's Northern Bases*



Above: A night view of the new aircraft hangar at RAAF Base Darwin, Northern Territory. The new hangar along with maintenance and operational facilities was delivered by the Capital Facilities and Infrastructure branch to support the P-8A Poseidon aircraft. Credit: Department of Defence. © Commonwealth of Australia, Department of Defence.



Significant investment in Australia's north has seen the Northern Territory become a key training destination, sustainment hub and forward operating base for the Australian Defence Force and our allies



Defence Housing Australia manages almost 1750 properties in the Northern Territory to accommodate personnel with two new housing projects in Darwin underway



The NT is a national defence asset critical to Australia's force posture in the Indo-Pacific Region



Defence spending in the Northern Territory reached \$2.7 billion in 2021-22, 11.1% of Gross State Product, equivalent to 5.0% of the national defence expenditure



During World War II Darwin was bombed more times than Pearl Harbour

The Northern Territory is home to the Indo-Pacific region's most advanced military training areas and ranges including:

- Kangaroo Flats Training Area
- Mount Bunday Training Area
- Delamere Air Weapons Range
- Bradshaw Field Training Area
- Robertson Close Training Area
- North Australia Exercise Area.

The training area and ranges in the Territory are unparalleled in terms of size, empty airspace, open waters (in the case of the North Australia Exercise Area north-east of Darwin), limited restrictions

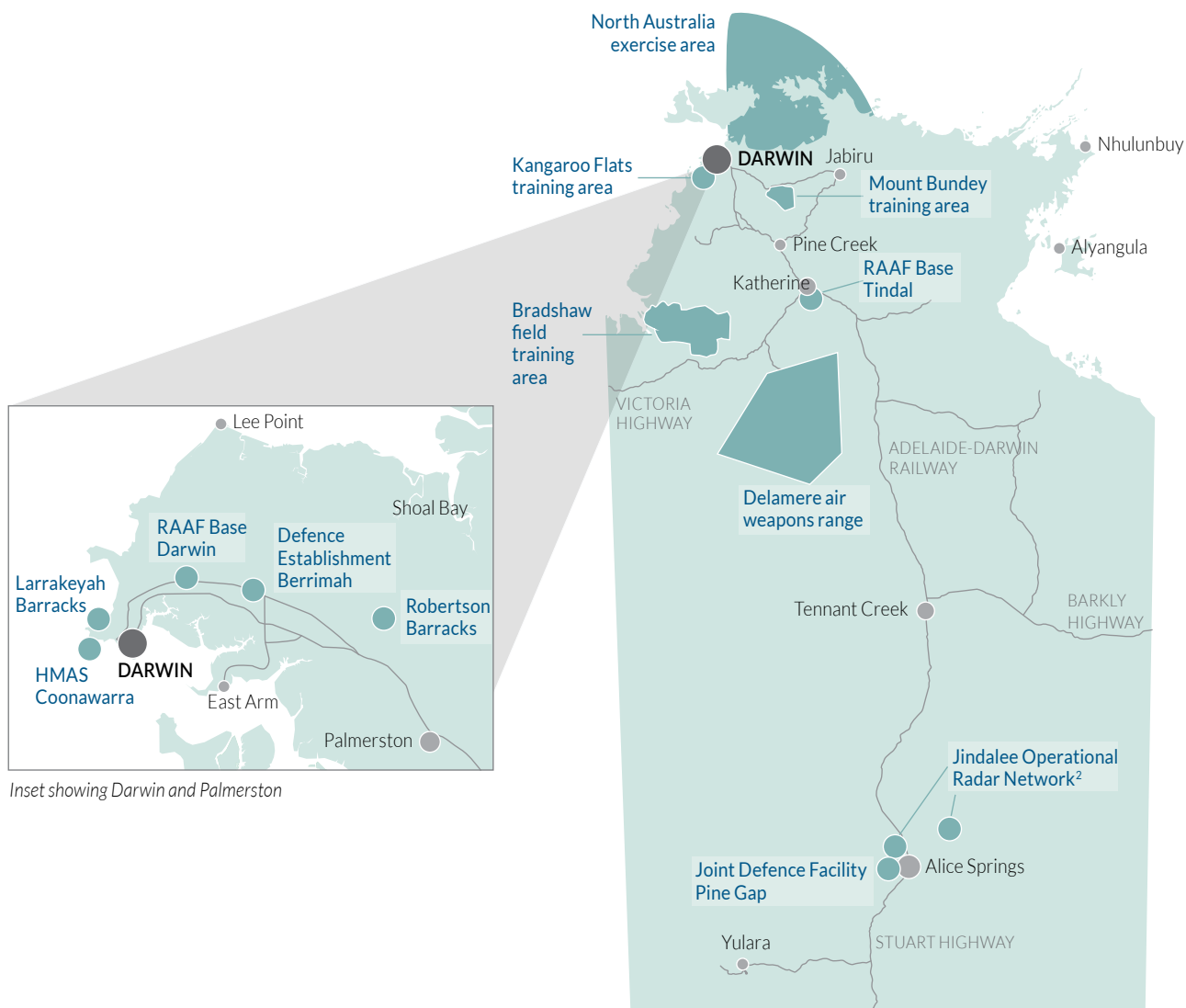
from urban development and lack of signals and electronic interference.

Furthermore, these training areas and ranges are undergoing a \$747 million redevelopment under the United States Force Posture Initiative.

Works are expected to be completed in mid-2026 and include:

- modernise facilities that are at or beyond life of type
- support training requirements of the future ready force
- ensure reliable access to suitable training areas and ranges.

## Major defence sites in the NT



*Inset showing Darwin and Palmerston*

The Northern Territory hosts significant multi-lateral training exercises involving the United States and allied nations. These include Exercise Pitch Black and Exercise Kakadu, two biennial exercises in the air and sea respectively, and various smaller regional exercises such as Exercise Koolendong.

The relationship with allied partners is a focus for Defence. In particular, the Northern Territory has a significant United States (US) military presence. Since 2012, the NT has hosted the annual Marine Rotation Force Darwin (MRF-D) and Enhanced Air Cooperation contingents. At its peak, 2 500 US Marine Corps and US Army personnel rotated through Darwin on nine-month deployments, along with a suite of aircraft, weapons and vehicles.

In addition, the US and Australian Governments have committed to invest in upgrading of military assets across the Top End, including constructing the US Bulk Fuel Storage Facility to support US Defence operations in the Indo-Pacific region. The East Arm facility will have a holding capacity of 300 million litres of ship aviation grade JP-5 turbine fuel and commercial grade Jet A-1 fuel.

National security extends beyond defence. It includes the capacity to protect and control fuel and energy resources, critical mineral supplies, supply chains, border control, biosecurity, economic trade, immigration, humanitarian and disaster response, cyber security and data.

In terms of data, investment into highly secure, high speed terabit network plus sub-sea cables connecting the Territory to Singapore, Indonesia, Timor-Leste, Japan and the United States sets the Territory ahead of other jurisdictions.



Above: Cargo is loaded onto the C-17A Globemaster at RAAF Base Darwin during Exercise Pitch Black 2022. Credit: Department of Defence. © Commonwealth of Australia, Department of Defence.



The Territory hosts a capable and resilient defence industry which is evolving to support platforms, programs and projects coming to the region. With major infrastructure spend planned, there are significant opportunities for private sector investment to support the infrastructure, supply and service needs in the defence sector. An example is the Darwin Ship Lift Facility which is being designed to meet the needs of the general maritime sector and the current and long term needs of the Department of Defence and the Australian Border Force.

Local Industry Capability Plans and Indigenous procurement targets set by the Department of Defence have increased the number of Territory businesses winning work across defence programs and projects since 2016. The local participation rate across NT defence projects continues to increase.

Since 2016–2017, there has been a positive year-on-year growth in Gross Value Added from the defence industry. In 2021–2022 Financial Year, Defence spent \$2.2 billion in the Northern Territory, or 11% of Gross State Profit. This same period accounted for \$133 million Gross Value Added by the defence industry, compared to \$98.7 million contributed by the construction sector.

The Territory is expected to benefit further from increased defence spending over the coming years, as the Australian Government looks to maintain Australia's strategic presence in the Indo-Pacific region. Increases in personnel numbers and defence spending will support Territory industries through local employment opportunities and greater economic and population growth.

Master Builders NT Economic Impacts on Defence Infrastructure in the Northern Territory 2023 Report estimates that there would be up to \$6.2 billion in expenditure on defence infrastructure projects in the Northern Territory over the period from 2022–23 to 2026–27.

The Report estimates that the incremental impact of defence infrastructure expenditure in the Territory will generate an additional 7600 jobs at peak construction in 2024-25 (4300 directly and another 3300 across the economy).



Above: An Air Force F-35A Lightning II aircraft, operated by No 81 Wing, in the hangar at sunset during Exercise Arnhem Thunder held at RAAF Base Tindal in the Northern Territory. Credit: Department of Defence. © Commonwealth of Australia, Department of Defence.

## National Defence: Defence Strategic Review 2023

In May 2023, the Australian Government released the National Defence: Defence Strategic Review 2023 (DSR). The independent review was initiated to optimise defence capability and force posture to meet the nation's security challenges to 2032–33 and beyond. It has considered priority investment in defence capability and assesses the structure and preparedness of the Australian Defence Force.

New NT capabilities and opportunities identified in the DSR include;

- an accelerated and expanded approach to acquiring Army watercraft, including future basing and maintenance of the fleet in Darwin
- enhancing storage and distribution networks to support the Guided Weapons and Explosive Ordnance Enterprise
- developing the Australian Defence Force's ability to precisely strike targets at longer range and manufacture munitions in Australia
- improving the Australian Defence Force's ability to operate from Australia's northern network of air bases, ports and barracks, stretching across Australian territories from Cocos (Keeling) Islands in the north-west, through RAAF bases in Learmonth, Curtin, Darwin, Tindal, Scherger and Townsville.
- lifting capacity to rapidly translate disruptive new technologies into Australian Defence Force capability, in close partnership with Australian industry
- investing in the growth and retention of a highly skilled defence workforce
- deepening our diplomatic and defence partnership with key partners in the Indo-Pacific region.



Above: Australian Defence Vessel (ADV) Cape Otway sails into the HMAS Coonawarra Basin, Darwin in Northern Territory. Credit: Department of Defence. © Commonwealth of Australia, Department of Defence.



*Above: Above: A RAAF Hawk 127 from No. 79 Squadron taxis towards the runway at RAAF Base Darwin in support of Exercise Kakadu 2022 (KA22). Credit: Department of Defence. © Commonwealth of Australia, Department of Defence.*

Humanitarian and disaster response has become a significant part of national security. As climate change and pandemics significantly impact the Indo-Pacific region, humanitarian and disaster response will continue to be an increasingly important element of national security policy in Australia.

The Northern Territory is home to the Australian Medical Assistance Team (AUSMAT), hosted at the National Critical Care and Trauma Response Centre, which is a key component of the Australian Government's disaster emergency and medical response capability for local, national and international incidents. The AUSMAT also focuses on enhancing the capacity of clinicians in the Northern Territory to manage local emergencies.

The centre's other roles include managing natural and man-made disasters impacting Australia's neighbours, such as volcano eruptions in New Zealand, a measles outbreak in Samoa, an oil spill in Solomon Islands and an earthquake in Indonesia. The centre was created in 2004, in response to the Bali bombing in 2002, to establish a centre of excellence in trauma management and surgery in northern Australia, so doctors and medical equipment could be deployed within the region, when needed.

A 60-bed deployable air-conditioned field hospital is available in the Territory to respond to a medical emergency through the National Critical Care and Trauma Response Centre, in addition to the Centre for National Resilience, which will likely be used in the future.

# 7

## Enabling infrastructure ecosystems

Enabling infrastructure ecosystems are the backbone to supporting economic and population growth.

Infrastructure is usually defined as all elements of an interrelated system that provides goods and services essential to enable, sustain or enhance societal living conditions. Thinking about our infrastructure as an ecosystem is helping us to plan a more integrated and sustainable approach.

Understanding the Northern Territory's infrastructure ecosystems and how they support the investment portfolio of major projects will improve project planning and delivery and assist the Territory on its growth journey.

Strategically looking at the entire ecosystem, rather than individual parts, and taking a place-based approach to infrastructure planning allows us to observe synergies and maximises our investment in infrastructure.

Investment ready land is key to driving economic growth and support subsequent population growth.

Utilities are essential services that support basic human needs and play a vital role in economic growth and social development. Utilities, electricity, energy, water and digital and telecommunications infrastructure are fast becoming our economic powerhouse and are key to securing investment and supporting population growth. Waste management

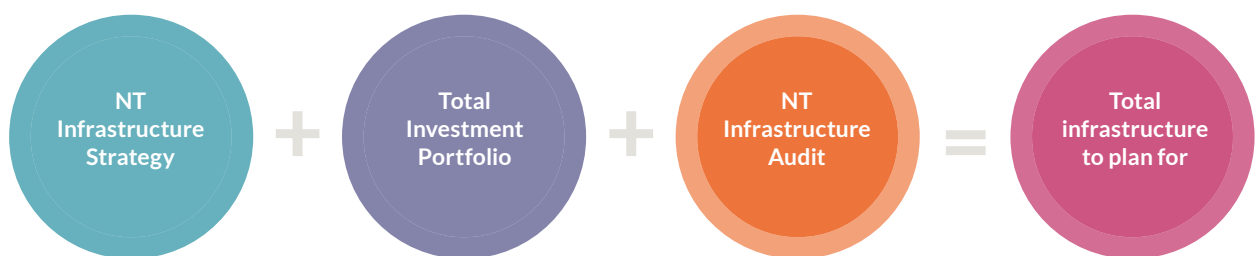
is not only about managing our own waste, but also about capturing the value of waste material and leveraging that to encourage innovation and investment to create new local jobs and business opportunities.

Transport and logistics support both economic and social outcomes, connecting Territorians to services, supplies, jobs and social opportunities. Supply chains are of vital importance in moving the goods we use, consume and produce, connecting us to markets both domestically and internationally.

Social infrastructure plays an important role in the economic development of the Territory, providing services and facilities that contribute to quality of life and wellbeing. Social infrastructure also plays a part in attracting and retaining our population.

Using an integrated infrastructure ecosystem approach is a new way of thinking about our infrastructure needs and how to address them.

The NT is facing unprecedented opportunities across the economy in mining and resources, renewable energy, gas, agriculture and more. To convert these opportunities into tangible improvements in standards of living requires enabling infrastructure.



## Enabling infrastructure ecosystem

### Transport and Logistics

- Land Transport – Rail, Roads and Bridges
- Marine Infrastructure
- Air Transport
- Intermodal Hubs



### Utilities

- Digital and Telecommunications
- Water
- Electricity and Energy
- Waste Management and Materials Recovery



### Social Infrastructure

- Housing and Accommodation
- Health
- Education and Training
- Justice and Public Safety
- Sporting, Recreation, Lifestyle
- Civic Services



### Land

- Infrastructure Corridors
- Residential Subdivisions
- Industrial Subdivisions
- Environmental Zones
- Parks
- Waterways



Below: Zuccoli. Credit: Land Development Corporation.





## Transport and Logistics

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Enhanced logistics in the Territory will not only grow local business and employment but also the Territory's contribution to the national economy and supply chain resilience. This will provide surety in times of national and international uncertainty.

Transport is a key enabler of access and connectivity. Using a sustainable approach to delivering transport and logistics infrastructure investment will contribute to social inclusion for Territorians while supporting a broad range of industries that contribute to the Northern Territory's economic sustainability and growth.

The Northern Territory comprises over 1.3 million square kilometres, or one-sixth of Australia's total land mass, yet is home to only 1% of Australia's population.

This sparse population gives rise to challenges in funding and delivering transport and logistics infrastructure.

Over 50% (\$2.24 billion) of the Northern Territory infrastructure program was allocated to transport in the 2023-24 budget, reflecting significant allocations from both the Territory and Australian governments. Despite this investment and ongoing collaboration with the Australian Government, a huge deficit remains, with 72% of the road network unsealed. There is also a need to upgrade and improve resilience of ageing road infrastructure.



Left/above: Stuart Highway bridge and railway crossing. Credit: Territory Families, Housing and Communities Central Australia.

Given the Northern Territory's strong economic growth agenda, a Logistics Advisory Council has been established to ensure collaboration between industry, government and business to ensure an enhanced and cohesive understanding of supply chain opportunities and impediments. A supply chain database has been developed to forecast consolidated freight and industrial requirements and impacts of known future developments across agribusiness, minerals and energy, manufacturing, defence, digital and social sectors. This has provided an evidence base to analyse gaps in supply chain capacity.

There is a lack of infrastructure within the Northern Territory to support multi-modal supply chain connectivity. This results in bottlenecks and inefficiencies along the supply chain. As a result of these inefficiencies, the cost of transporting commodities is significant. Developing an efficient freight and logistics network through the delivery of Regional Logistics Hubs will support future investment and growth in the Northern Territory.

#### RELATED NT STRATEGIES

- > *Darwin Regional Transport Plan*
- > *Marine Industry Development Plan (draft)*
- > *Northern Territory Electric Vehicles Strategy and Implementation Plan 2021-2026*
- > *Territory-wide Logistics Master Plan 2020*

#### RELATED NATIONAL STRATEGIES

- > *Future Fuels Strategy discussion paper*
- > *National Electric Vehicle Strategy*
- > *National Freight and Supply Chain Strategy*
- > *National Remote and Regional Transport Strategy*
- > *National Road Safety Strategy 2021-30*

## NT Infrastructure Audit

The Infrastructure Audit recognised issues around physical connectivity across the Territory, such as capacity and quality of road infrastructure, supply chain efficiency and access to remote communities. With the considerable distances separating our population centres from each other, and from the rest of Australia, there is a significant reliance on our road, rail, air and sea supply chains.

Investment in road infrastructure throughout the Territory is critical to unlock the economic potential of the region by reducing transit times, improving reliability of supply chains and improving accessibility.

With planned and prioritised investment, the Territory can respond to the findings in the Infrastructure Audit and achieve:

- an integrated regional transport system which is safe, reliable and sustainable, that connects people and places and supports the continued economic growth of the region
- a strategic road and freight network that supports a dynamic economy and the regions' pivotal role in developing the north.

Implementation pathways proposed in response to the findings of the Infrastructure Audit are listed throughout this document.

## Land transport – Rail, roads and bridges

The Northern Territory is connected by the national rail network to South Australia and by the national road network to Western Australia, South Australia and Queensland. The Territory's national highway network is fully sealed, providing one sealed link to Queensland, Western Australia and South Australia.

A total of 72% of the road network in the Territory is unsealed and vulnerable to closure and restrictions in wet weather. A sealed and flood mitigated road will not only enable a Territorian to access business, recreational, cultural and employment opportunities, but it will enable a 'drive market tourist' to follow the Territory Arts Trail, and a livestock transport operator and a gold mine prospector to undertake their commercial business activities.

To date freight has leaned towards road rather than rail because of limited access and capacity of the rail freight network.

The current ratio of road to rail freight infrastructure is considered sub-optimal and exacerbates poor outcomes such as excessive wear and tear on road infrastructure, relatively high carbon emissions and risks to community safety.

The rail provides freight train and passenger train services between Adelaide and Darwin.

There is opportunity to fully use this infrastructure to support the range of major project developments in resources and agribusiness that are expected to develop in coming years.

A Mount Isa to Tennant Creek railway is proposed to connect the Great Northern Line in Queensland to the Alice Springs-Darwin railway in the Northern Territory. If constructed, the proposal would provide rail connectivity between the Port of Townsville and the Port of Darwin and potentially encourage the development of mineral exports along the rail corridor.

## Air transport

The Northern Territory relies on air services to provide connection between the Territory's major regional centres and remote isolated communities, as well as links to other Australian cities and international destinations.

The Northern Territory airport network includes an international gateway airport located in Darwin, supported by major regional domestic airports in Alice Springs, Gove, Groote Eylandt, Katherine, Tennant Creek and Uluru. A state-of-the-art logistics export hub, which includes cold storage facilities, opened at the Darwin International Airport in 2021, expanding the Territory's air freight capability and ability to export quality produce to international markets.

In addition to the regional airports, the Northern Territory has numerous aerodromes located in remote Aboriginal communities, parks and cattle stations. The Northern Territory Government assists with maintaining 69 of these aerodromes, to support access for aeromedical and emergency service delivery.

While many of the Northern Territory's major towns receive scheduled air transport services, most communities rely on charter flights for air access. The Australian Government's Remote Air Services Subsidy Scheme subsidises air transport services for the carriage of essential freight to over 90 remote and isolated Territory locations, and passenger transport services for residents from major centres to approximately 9 communities.



Above: Variable message board. Credit: Department of Infrastructure, Planning and Logistics



Above: Gove Port. Credit: Rio Tinto.

## Marine infrastructure

Darwin is Australia’s northern maritime trade gateway to international markets, closest by distance and shipping time of any Australian port to markets in Indonesia, Singapore, Japan, India, China and much of the global economy. Connecting rail and port infrastructure will mean a more direct link and shorter sail times from Asia with faster rail linehaul driving an estimated time saving of 7 days (journey from Shanghai to Melbourne).

Much of the growth that will occur in Territory industries including mineral resources, agribusiness, gas, fuel and defence will impact on shipping and the Darwin Harbour.

Marine infrastructure in Darwin Harbour is extensive and includes commercial shipping facilities, the Marine Supply Base, an intermodal freight facility for storage and freight consolidation at East Arm, and infrastructure that supports cruise ships at Fort Hill Wharf.

Darwin Harbour is the stage for several significant projects including the Middle Arm Sustainable Development Precinct, the Darwin Ship Lift and the Marine Industry Park.

The Middle Arm Sustainable Development Precinct will provide a strategic, sustainable and high-tech blueprint for the future of Australian industrial hubs. The Precinct will help the Territory achieve its economic goals while supporting Australia’s pathway to decarbonisation and safeguarding the

cultural, social, and environmental values of Darwin Harbour for generations to come. Proposed marine infrastructure to enable the Precinct includes a module offloading facility and product jetties.

The proposed future expansion of the Marine Industry Park will provide a unique opportunity to capitalise on Darwin’s expanding gas, marine services and defence industries, as well as an opportunity to expand on existing assets to create northern Australia’s largest and most efficient marine servicing hub. The introduction of a Ship Lift with 5500 tonne lifting capability, marine service and training facilities, workshops and other amenities mean it will have the capacity to cater for all vessels. The defence industry is a key stakeholder and potential future user of the Ship Lift facility to support naval operations in northern Australia.

HMAS Coonawarra and the Multi User Barge Facility supports defence and Frances Bay Mooring Basin and Fisherman’s Wharf supports commercial fishing. The Darwin Waterfront development,

Stokes Hill Wharf and marinas and ferry terminals at Mandorah, Cullen Bay and Tipperary Waters also support liveability for the community in and around the Darwin Harbour.

Less visible than these assets are the enabling infrastructure that makes them usable, including shipping channels and dredging, landside connections such as loading facilities, and roads and utilities such as energy and waste management.

The infrastructure and commercial arrangements that guide operation of this infrastructure will need to grow and adapt.

There are operating ports at Nhulunbuy (Gove), Alyangula (Groote Eylandt), the Tiwi Islands (Port Melville) and Bing Bong, and a network

of 14 barge landings that service remote coastal and island communities.

These barge landings are on Aboriginal land, maintained by the Department of Infrastructure, Planning and Logistics and the majority are on island communities with no alternative means of land transport. The roads that service coastal communities are often closed for part or all of the wet season, so communities completely or largely rely on barge landings for transporting commodities, equipment and materials as well as food and medical supplies.

Importantly, there is an extensive network of boat ramps throughout the Northern Territory for public recreational use to support recreational fishing.

## Gove Port Development Plan

As Rio Tinto progresses towards closure of bauxite operations in Gove after more than 40 years, a unique opportunity exists to support a transition of the region to meet the Traditional Owner's vision for the future – one where Yolŋu and Nāpaki will live and work together in harmony as a leading example for the rest of Australia.

The existing port infrastructure and facilities and how these are adapted will be key to the success of this transition. This is the focus of a Gove Port Development Plan which will be developed.

The priorities for decisions around adapting existing port infrastructure and facilities will be to support a diverse economy, employment and business opportunities in a sustainable, exciting and well-managed region.

Existing port infrastructure and facilities will be retained and/or adapted where there is a

demonstrable business case and operational model to ensure the asset will be maintained to a safe and reasonable standard for an appropriate usable life, and where:

- Traditional Owners want the asset to remain
- future users have a need for the asset
- Rio Tinto is comfortable for the asset to remain
- there is an appropriate regulatory and approval framework to support the transition and ongoing viable operations of the asset.

The scope of the Gove Port Development Plan will extend to identifying, facilitating and assessing potential opportunities that may be underpinned by appropriate and efficient utilisation of existing port infrastructure and facilities.

The Gove Port Development Plan will sit as one component within a broader framework essential to the successful future of the region.

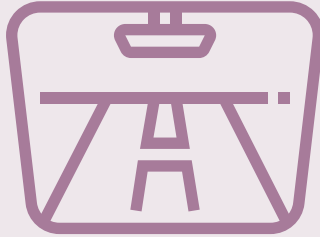
## Maritime Industry Development Plan

35 538 kilometres (km)  
of roads



28%

of the entire 35 538 km  
road network sealed



The maritime sector encompasses a wide range of diverse industries including defence, services and supply for the oil and gas industry, shipping and logistics, commercial fishing, tourism and recreation.

Future development and growth of the maritime industry is a key part of growing a diverse and sustainable economy. The Maritime Industry Development Plan will reference the following themes:

- key opportunities to grow the Territory's maritime industry (locally, nationally and internationally)
- the challenges currently impeding growth of the industry
- potential for collaboration with other states and territories in relation to service and supply arrangements for key maritime users such as defence, tourism operators and the super yacht industry
- strengths and limitations of current maritime infrastructure and the improvements needed to enhance productivity and efficiency
- current and future workforce requirements, and key skills shortages
- strengths and limitations of current Northern Territory legislation and regulatory barriers impacting the maritime sector.

1 major  
port  
(Darwin)



14 barge  
landings

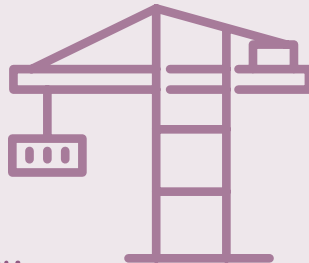
servicing coastal and  
island communities

4 significant  
industry ports

(Gove, Port Melville,  
Bing Bong and Alyangula)

4 major  
freight hubs

(Darwin, Alice Springs,  
Katherine and  
Tennant Creek)



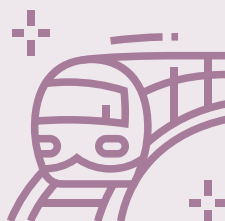
1 international  
airport

350+ remote  
airplane landing  
areas or  
aerodromes



25 certified or  
registered airports  
(regional and mining)

1737 km  
of standard gauge rail line from the  
South Australian border to Darwin



## Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities. These pathways include those in response to the findings in the Infrastructure Audit 2023.

Implementation pathway	Prioritisation action	Progress
<b>Transport and logistics</b>		
Protect strategic transport infrastructure (corridors and nodes) from encroachment by incompatible land use and development that may impact their operation or expansion	Reform	Audit 2023 in progress
Continue to work with the NT Logistics Advisory Council and stakeholders to ensure an enhanced and cohesive understanding of supply chain opportunities and impediments	Reform	New 2023 in progress
Develop transport corridors to prepare for future growth and facilitate private sector project development through efficient supply chains	Better or different use	Audit 2023
Support resilience and economic development through increased capacity of the rail network and port infrastructure	Improve	Audit 2023
Identify and protect strategic transport infrastructure (corridors and nodes) for passenger and freight movements to allow for logical upgrades, network extensions and intensification	Improve	Audit 2023 in progress
Unlock private sector investment through the delivery of well-considered and targeted enabling infrastructure	New	Audit 2023
Establish a network of regional logistics hubs	New	New 2023 in progress
Continue to prioritise Northern Territory and Australian Government investment to improve the reliability of the road network and resilience of the supply chains	New	New 2023 in progress
Develop a Darwin Harbour Development Plan to inform decision making, industry development and opportunities for further action by both government and non-government stakeholders	Reform	New 2023



## Utilities

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Common utilities including power, water, digital connectivity and waste management support basic human needs, are essential to sustaining healthy communities and are key enablers for economic development. Without any one of these infrastructure essentials, sustainable and resilient population and economic growth is not possible.

Power and Water Corporation, owned by the NT Government, is the essential service provider in the Northern Territory. It connects homes and businesses with electricity, gas, water and sewerage, and operates some of Australia's most isolated utility networks, supplying power and water to people in some of the most rugged, remote, yet spectacular places imaginable.

Jacana Energy is the biggest electricity retailer in the Northern Territory and is the principal interface between the electricity industry and customers.

Telecommunications is essential to underpin digital initiatives. The Australian Government has responsibility for telecommunications services and carriers have responsibility for service delivery. The NT Government Department of Corporate and Digital Development plays a critical strategic role to advocate for telecommunications services across the Territory.

Co-investment programs provide support to remote areas to ensure Territorians can access necessary telecommunications and infrastructure.

Left: Katherine wastewater treatment plant, Credit: Power and Water Corporation.

## NT Infrastructure Audit

The Infrastructure Audit found that utilities and land servicing challenges are creating a backlog of critical remote works, uncertainty around timing of works, and significant costs, and are a barrier to development. With the Territory's far-reaching network of essential services and utilities including stormwater, water, waste, energy and telecommunications across rural and remote settings, economies of scale are not always achievable in delivering these services.

The Infrastructure Audit recognised;

- while digital transformation is changing society and the economy, many areas of the Territory remain without affordable and reliable internet access, creating a digital divide. Digital connectivity issues are particularly prevalent outside of the major urban centres of Darwin and Alice Springs
- water is a key enabler in driving economic growth and prosperity and significant investment will be required to ensure the required infrastructure is constructed to meet both community and economic demands. Water security was a key concern to stakeholders with water services across the Territory not available equitably
- that electricity demand will outpace current forecasts as the Territory's economy rebounds. It is critical that power infrastructure investments and policy are adaptable and support the delivery of competitively priced electricity, as the foundation for industry growth

- waste management is a key concern of stakeholders across industries and the considerable pipeline of infrastructure development in the Territory is likely to significantly increase the volumes of construction and industrial waste produced, especially as major project proponents commence operation.

With planned and prioritised investment, the Territory can respond to the findings in the Infrastructure Audit and achieve:

- business and industry growth by digitally connecting Territory communities
- efficiently provided and productive water to support growth and productivity, particularly in regional and remote areas
- transition to smarter, cleaner and more reliable energy
- industry development and infrastructure to facilitate the growth of the waste sector.

Implementation pathways proposed in response to the findings in the Infrastructure Audit are listed throughout this document.

## Digital and telecommunications

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Leveraging the opportunities of the digital age is critical to growing jobs and business, connecting Territory communities, building digital skills, enabling smarter communities, improving government services and supporting tourism.

### RELATED NT STRATEGIES AND POLICIES

- > *Digital Territory Strategy*
- > *Regional Broadband scheme*
- > *Telecommunications Reform Package*

### RELATED NATIONAL STRATEGIES AND POLICIES

- > *Better Connectivity Plan for Regional and Rural Australia*
- > *Closing the Gap: National Partnership Agreement on Remote Indigenous Public Internet Access*
- > *Digital Economy Strategy 2022*
- > *Digital Government Strategy*

The Northern Territory Government, Australian Government and industry are working together to connect the Territory. Digital technology will provide jobs for the future, enabling businesses to transform and unlock new economic opportunities for the Territory. It is crucial for Territorians to establish strong digital foundations, to enrich our business and social interactions, and to pursue success through digital excellence.

The Northern Territory Government's Digital Territory Strategy maps out a plan to enable Territorians to get the most out of digital opportunities and has a strong focus on helping local business to grow. It will connect, create and support safe, sustainable and vibrant communities, and strengthen the delivery and reliability of services in the bush, supporting children to thrive, be safe and have strong foundations for a bright future.

Leveraging the opportunities of the digital age is critical to delivering better government services, connecting communities and remaining competitive in the global economy. Since 2009, the NT Government has co-invested \$66 million to leverage a total of \$168 million in new telecommunications infrastructure.

These co-investment projects have provided connectivity to 48 remote communities and almost 30 000 Territorians.

*Below: Wutunugurra communications tower. Credit: Telstra.*



Digital infrastructure is being developed in the Northern Territory, which has enabling effects in the defence and national security domains. The Northern Territory Government has developed a digital twin of Darwin Harbour, with plans to expand to the Gove Peninsula. This digital twin will cost effectively accelerate strategic infrastructure planning for defence, Australian allies, partners and industry. The Northern Territory Government has funded the foundation of the digital twin, which will grow as more data layers are incorporated, with increased use of the technology.

The Northern Territory Government is establishing the Northern Territory as a data hub, with connections to global data cables across the Indo-Pacific region that will further enable strategic infrastructure in the defence and national security domains.

Darwin's proximity to Asia will deliver unparalleled opportunity to close the gap between the booming Australian and Asian digital economies, providing a bilateral gateway that will deliver more jobs and growth in Australia's Top End, as well as more efficient delivery of digital services to enterprise and the Territory Government.

## The National Broadband Network (NBN)

Digital connectivity is critical to support economic diversification opportunities to build strong, vibrant regional and remote communities. NBN is currently working on two key projects to improve remote connectivity:

- Yirrkala Technology Change through the Australian Government's Regional Connectivity Program NBN will deliver a \$3.7 million project to transition Yirrkala from NBN Satellite to fibre to the premises. This will improve access to telehealth and education services as well as provide increased opportunities in cultural tourism and the creative industries.
- As part of NBN's fibre rollout, the fibre to the premise network will be expanded in Alice Springs to upgrade connections in Araluen, Braitling, Ciccone, East Side, Gillen, Larapinta, Mount Johns, Sadadeen and The Gap.

## Regional Connectivity Program

The Regional Connectivity Program (RCP) is an Australian Government grants program funding the delivery of 'place-based' telecommunications infrastructure projects to improve digital connectivity across regional, rural and remote Australia.

Round 2 of the RCP is providing \$137.2 million (GST inclusive) from 2022 to 2024 to improve telecommunications infrastructure in regional and remote Australia. This funding will leverage a total investment of \$226 million for the delivery of projects across Australia.

Projects in the Northern Territory include:

- new and improved Telstra mobile infrastructure for Douglas Daly, Middle Point, Acacia Hills, Edith River, Alyangula, Angurugu, Milyakburra Island and Gemtree
- fibre broadband network to the suburb of White Gums in Alice Springs by BizCom NT to improve connectivity to the area.

Under round 3 of the RCP, there is \$110 million (GST exclusive) for place-based solutions across Australia including \$15 million dedicated for Aboriginal communities and a further \$10 million for solutions aimed at improving digital connectivity for Aboriginal communities in Central Australia. Applications for this round are currently being assessed.

## Water

Access to safe and secure water supplies and sanitation is critical for human health and wellbeing of present and future generations. Water is also a key enabler for economic growth and prosperity for the Territory.

Currently, Power and Water Corporation (PowerWater) provides water and wastewater services to 18 major and minor urban centres as well as 72 remote communities and 17 homelands through its fully owned subsidiary Indigenous Essential Services. It plans, constructs, operates and maintains water and sewerage infrastructure assets and services to 5 major centres and 5 of the 13 minor centres, with the remaining 8 minor centres provided with water services only. Water is supplied to 72 remote communities, with 57 of these communities also receiving sewerage services. The 17 homelands are provided with water services only.

In Darwin and surrounds, most of the water comes from the Darwin River Dam, with groundwater making up the remainder of supply. In Katherine, water supply comes from the Katherine River supplemented with treated groundwater. However, for the remainder of the Territory, 90% of potable water for remote communities comes from groundwater through more than 260 production bores, 170 water storage tanks and 650 kilometres of reticulation.

Although water appears to be abundant in the Territory, it is not always reliable or available. It has a significant reliance on rainfall that varies from year to year. The arid centre has stores of water with limited reliable surface water, sporadic recharge and extreme temperatures.

The economic prosperity of the Territory and the wellbeing of its residents are dependent on the long term sustainability of water sources, storage, treatment and delivery infrastructure. Access to water as a key enabler is critical for the Territory in facilitating ongoing economic opportunities, improving livelihoods, and securing employment while contributing to the ongoing economic prosperity of our region.

A prime focus for PowerWater and Indigenous Essential Services remains the assurance of safe drinking water now and into the future. Water supply and demand strategies are being developed for all urban and remote centres.

The Territory Government has committed \$28 million between 2021 and 2025 targeting a number of remote Aboriginal communities experiencing water stress and water quality concerns.

This investment will support short term options to help with immediate problems, and long-term strategies to support sustainable water quality and security. Projects are aimed at overcoming high priority issues to improve living conditions and support new housing.

These strategies will address water source security based on a level of service, potential water source capacity, network complexities and possible supply and demand options.

PowerWater is continuing plans to develop options to ensure water reliability and sustainability for Darwin and its surrounds. As part of the Darwin Region Water Supply Infrastructure Program, PowerWater is working to return Manton Dam to service by 2025–26 as an operational drinking water supply source. The project has been fully funded (\$189 million) by a grant received through the National Water Grid Authority. This will provide an additional 7.3 billion litres to the Darwin water supply system.

### RELATED NT STRATEGIES

- > *Darwin Region Future Water Supply Strategy*
- > *Northern Territory Circular Economy Strategy*
- > *Northern Territory Strategic Water Plan*

### RELATED NATIONAL STRATEGIES AND POLICIES

- > *National Water Initiative*
- > *National Water Quality Management Strategy*



Above: Roe Creek 8 Mega Litre Water Tank. Credit: The Power and Water Corporation.

Additional funding of \$18 million has been provided by the National Water Grid Authority for planning and developing the Adelaide River Off-stream Water Storage. This 7 to 10 year project will provide an additional 60 billion litres of water to the Darwin system.

AROWS is an innovative project that will operate differently to a traditional in-stream dam, leveraging a natural basin adjacent to the Adelaide River to store water, pumped in during our wettest months when there are significant water flows.

Dam infrastructure blocking natural flow is not part of this project. AROWS will deliver complementary outcomes of water availability and reliability while minimising social, cultural and environmental impacts.

A further \$93.5 million has been provided by the National Water Grid Authority to deliver connecting infrastructure into the Middle Arm Sustainable Development Precinct to ensure water is not a constraint for this transformative project.

## Strategic Water Plan

Water security for the Northern Territory is an important issue. The Northern Territory Government recently released the Territory's first whole of government Strategic Water Plan, a strategic framework to guide all water management functions and activities across government, including water resource management, water services and utilities, policy, legislation, regulation and water use. The Plan provides a reform pathway in increasing water security for all Territorians.

It will set the agenda on water management to 2050 to address water security across the Territory.

The plan will:

- prioritise safe drinking water for all Territorians
- support sustainable development that underpins a \$40 billion Territory economy by 2030
- drive efficiency and productivity in water use
- deliver good governance, transparency and accountability across government in water management
- protect key environmental and cultural values and support the Territory's resilience to climate change and its impacts on water security.

## Electricity and energy

Energy underpins the modern way of life. It powers homes, helps people and goods to move around and keeps essential social services running. It also contributes significantly to the economy and fuels every Australian business.

### RELATED NT STRATEGIES

- > *Darwin-Katherine Electricity System Plan*
- > *Northern Territory Circular Economy Strategy*
- > *Northern Territory Gas Strategy*
- > *Northern Territory Renewable Hydrogen Master Plan*
- > *Electricity Systems Plans and Strategies*
- > *Remote Power Systems Strategy*

### RELATED NATIONAL STRATEGIES AND POLICIES

- > *2022–23 to 2024–25 ARENA general funding strategy*
- > *Australia’s National Hydrogen Strategy*
- > *Investment priorities – Australian Renewable Energy Agency (ARENA)*

Natural gas is the primary electricity fuel source in Darwin, Katherine, Tennant Creek and Alice Springs. Conversely, diesel remains the primary electricity generation source for 72 remote communities and 79 homelands serviced across the Northern Territory.

Looking forward, the Northern Territory Government is embracing new innovations in renewable energy. It has committed to achieving a 50% renewable energy target by 2030 and is embracing an aspirational target of net-zero emissions by 2050.

To achieve these targets, investment is needed in assets that provide cost competitive renewable energy and enabling technologies.

Government is supporting the Territory’s transition to renewables to meet its own needs, and to assist other communities to achieve their decarbonisation goals.



*Left: Solar farms on Defence establishments in the Northern Territory, RAAF Base Darwin and Robertson Barracks as part of the Power Purchase Agreement for Renewable (Solar) Energy – Northern Territory. Credit: Department of Defence. © Commonwealth of Australia, Department of Defence.*

Interest in large-scale renewable projects in the Territory is being driven by our globally competitive solar irradiance levels, space to locate solar generation facilities, and master planning for infrastructure corridors and industrial facilities. While the Territory's solar resources are well understood, the potential of other renewable energy resources, such as wind and geothermal, are less well known. The Northern Territory Government is currently seeking to identify the prospectivity of these additional renewable resources.

It is expected that with its natural competitive advantages, the Territory can play an out-sized role in meeting the world's renewable energy needs through export by transmission lines and renewable hydrogen.

The Northern Territory Renewable Hydrogen Master Plan provides the framework for the development of a renewable hydrogen industry in the Northern Territory.

## Darwin-Katherine Electricity System Plan

The Darwin-Katherine electricity system energises the homes of about 150 000 people in the region and is the backbone of our economy.

The Northern Territory Government's 50% Renewable Energy Target by 2030 recognises that renewable technologies can offer clean, affordable and secure energy.

The Darwin-Katherine electricity system is poised for transformation, with a rare opportunity to pivot to a lower cost, cleaner and secure energy system.

The batteries will be used to store excess renewable energy generated from solar panels during the day, which can then be used to meet the demand for electricity during the evening peak.

This will help to reduce the reliance on fossil fuels, decrease greenhouse gas emissions and provide a more stable and reliable source of energy for the local communities.

The Darwin-Katherine Electricity System Plan charts the Northern Territory Government's path to achieving a 50% Renewable Energy Target by 2030.

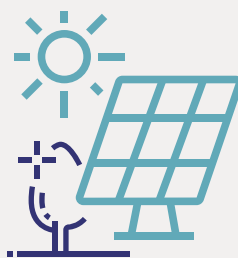
Focus areas:

- install 320MW of new Solar by 2030 (large scale and behind the meter)
- install 110 MW (600MWh) of storage batteries
- refresh thermal generation
- install 105MW of high spec security batteries
- virtual power plants
- demand management initiatives.

The goal

**50%**

of electricity is renewable



Low cost



Secure



Future-proof

## Northern Territory Renewable Hydrogen Master Plan

The Territory has everything needed to play its part in making a global hydrogen economy a reality. The Master Plan focuses on foundation activities to enable private sector investment and support the establishment of a local and export renewable hydrogen industry.

These activities are centred on the 5 key themes identified in the Northern Territory Renewable Hydrogen Strategy that collectively deliver the critical foundation for a vibrant and sustainable renewable hydrogen industry supply and value chain:

1. local industry development
2. resource management
3. grow and harness demand
4. support innovation
5. responsive regulation.

The Territory is well placed to achieve its hydrogen vision:

- with significant areas of land with high solar irradiance, the Territory is highly suited to large scale solar renewable hydrogen developments
- the Territory's proximity to Asia, with the closest Australian capital city port to key potential export markets in China, Japan and Korea and a deep sea port at Darwin, offers timely delivery and lower transportation costs
- an established world scale energy production and export industry underscores the Territory's credentials as a competitive location for private investment with demonstrated capacity to deliver large scale energy export projects
- commitment to facilitating and supporting investment that delivers the Territory's net-zero cost competitive emissions vision.

## Waste management and materials recovery

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Waste can have a significant impact on human health and the environment. The Northern Territory currently generates about 1% by weight (approximately 0.44 million tonnes) of Australia's waste (74 million tonnes).

### RELATED NT STRATEGIES AND POLICIES

- > Northern Territory Circular Economy strategy
- > Northern Territory Climate Change Response

### RELATED NATIONAL STRATEGIES

- > National Waste Policy Action Plan

Waste management across the Northern Territory largely relies on a waste to landfill approach, particularly in regional and remote areas.

In 2018, the Northern Territory adopted the National Waste Policy: Less Waste, More Resources, along with all other states and territories. The Policy is based on circular economy principles to reduce water and increase the use of waste as a resource, minimising its impact on the environment.

The National Waste Policy and Action Plan is currently being reviewed with a view to replacing it with a National Circular Economy Policy, focused on the 'front end' of the linear economic model. The Australian Government will lead development of a national framework to direct Australia's transition to a circular economy, informed by the work of the Circular Economy Advisory Group.

The National Waste Policy Action Plan will be expanded over the coming year to strengthen Australia's efforts towards our 2030 targets.

**1%** of Australia's waste is generated in the NT



**NT waste made up of:**

**32%**  
construction and  
demolition

**30%**  
commercial and  
industrial

**38%**  
municipal solid waste



In April 2022, the Northern Territory Government released the Circular Economy Strategy 2022–2027, a whole-of-government plan with over 30 action items for all agencies to transition the Territory to a circular economy.

A Territory-wide material flow analysis was undertaken following the release of the Northern Territory Circular Economy Strategy 2022–2027. Understanding the material flow in the Territory helps identify opportunities within the waste hierarchy.

























In the Territory, the 2 industries with the greatest material (waste) generation are construction/demolition and production (mining). More than half the waste generated across the Territory is from these 2 industries.

To support waste minimisation, the Australian Government, with state and territory governments, have committed to implement product stewardship to recover end-of-life solar panels for critical mineral reprocessing, landfill diversion and capturing the value of materials in the economy for longer.

To make the greatest impact in the Territory, excess waste should be avoided by retaining infrastructure where safe and practicable. Better planning throughout the procurement process can also support the reduction or avoidance of waste. In addition, re-manufacturing should be considered for metal and construction waste. These waste streams not only create emerging industries but reduce greenhouse gasses by reducing or avoiding trucking waste long distances for interstate solutions.

## Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities. These pathways include those in response to the findings in the Infrastructure Audit 2023.

Implementation pathway	Prioritisation action	Progress
<b>Utilities</b>		
Plan for new sustainable development precincts, including associated infrastructure and transmission corridors designed with key sustainability principles, specifically including: <ul style="list-style-type: none"> <li>• contribution to net zero emissions</li> <li>• efficient water use</li> <li>• circular economy principles</li> </ul>	 Reform	 Audit 2023
Develop and implement an infrastructure plan to improve digital connectivity across the Northern Territory, including a clear infrastructure roll out roadmap	 Reform	 Audit 2023 in progress
Transition to smarter, cleaner and more reliable energy by implementing Electricity Systems Plans and Strategies	 Reform	 In progress
Recognise water has significant value to communities, supporting prosperity, amenity, liveability, health, spirituality and customary values	 Reform	 Audit 2023
Promote the most efficient, effective and flexible use of existing and planned utilities infrastructure	 Better or different use	 Audit 2023
Prioritise strategic actions to reduce the digital divide between urban and remote areas	 Better or different use	 Audit 2023
Undertake continued water exploration and targeted water resource investigation	 Better or different use	 Audit 2023
Rethink how water and wastewater services are delivered and use technology to improve efficiency and levels of service when renewing ageing assets	 Better or different use	 Audit 2023
Establish the circular economy industry as a contributor to the Territory's goal of a \$40 billion economy by 2030	 Better or different use	 Audit 2023 in progress
Ensure that waste management approaches and infrastructure consider industry needs and integrate existing circular economy and renewable energy strategies	 Better or different use	 Audit 2023
Investigate opportunities to utilise reverse logistics models integrated with future logistics hubs	 Better or different use	 Audit 2023
Leverage new local energy supply solutions that either replace or complement diesel generation in remote and regional areas	 Improve	 Audit 2023 in progress

continued on next page...

Implementation pathway	Prioritisation action	Progress
<b>Utilities (continued)</b>		
Continue to support coverage improvements beyond urban centres by investing in digital infrastructure and leveraging Australian Government initiatives and private sector investment	New	Audit 2023 in progress
Unlock private sector investment by delivering well considered and targeted enabling infrastructure	New	Audit 2023
Enable new industries based on economical and abundant new sources of energy, including large-scale solar and wind	New	Audit 2023
Accelerate work to deliver infrastructure solutions for future water demand	New	Audit 2023 in progress



Above: Owen Springs switchyard, Alice Springs. Credit: Power and Water Corporation.



98 387  
NT premises

have **NBN** enabled  
connection available



90 797

electricity  
connections

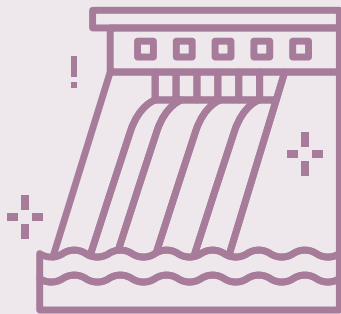


50% renewable  
energy target by 2030

Zero  
net emissions  
by 2050

9000  
megawatts

of renewable energy  
is created per annum  
from Shoal Bay  
landfill site



85% of  
Darwin's  
water needs

are provided by the  
Darwin River Dam



50 251

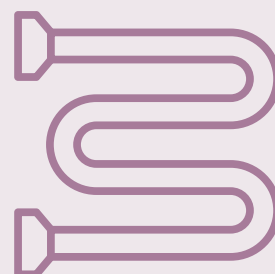
water connections



More than

100 000  
containers

were returned under  
the Territory's Container  
Deposit Scheme, which  
is 75% of containers  
sold in the NT



60 371

waste water  
connections



## Social Infrastructure

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Social infrastructure plays a critical role in supporting Territorians' wellbeing, quality of life and sense of place.

Social infrastructure enables liveability of a city, town or region that in turn helps attract and retain its population. A high level of liveability is linked to sustainable economic growth.

Liveability can have many definitions. More often than not, a city, town or region's liveability is based on the safety, comfort, work and amenities it can provide its citizens. A well-functioning place is one where people

feel safe, comfortable and can access the services they need.

Social infrastructure assets include both government and privately owned infrastructure that supports delivery of social services such as health care, education and training, justice and public safety as well as housing, sport, recreation and lifestyle, which each contribute to the liveability of a place.

## NT Infrastructure Audit

The Infrastructure Audit identifies liveability as a key element in influencing the Northern Territory's ability to meet its 2030 growth targets.

The Infrastructure Audit recognised that much of the Northern Territory's social infrastructure has not been well maintained or updated to meet current needs as it is very difficult to refurbish or retrofit.

Models of health care have changed significantly, meaning existing ageing infrastructure does not always meet the functional needs of contemporary and culturally appropriate service delivery.

The Territory's education infrastructure is ageing, with about 62% of education assets over 30 years old. The Audit noted that the availability of high quality government and non-government education options is a critical factor in attracting families to settle and to stay in the NT.

Models of policing have changed significantly, meaning existing ageing infrastructure does not always meet the functional needs of contemporary and culturally appropriate service delivery. Around 48% of police assets are over 30 years old and are not fit for purpose.

Housing was one of the key themes identified in the Infrastructure Audit with housing and accommodation shortages constraining population growth, workforce attraction and retention, infrastructure development and economic growth.

This strongly correlates with the findings in the Infrastructure Australia 2022 Regional Strengths and Infrastructure Gaps Report that identified availability, affordability and diversity of housing as a gap.

With planned and prioritised investment, the Territory can respond to the findings in the Infrastructure Audit and achieve:

- housing that enables social and economic wellbeing and strong communities
- increased social and affordable housing, private rental and home ownership across urban, regional and remote communities
- a connected health system utilising technology and innovation to improve services
- harnessed benefits of school infrastructure for community use outside of school hours to improve the efficient use of education infrastructure assets and improve health and social wellbeing outcomes for people
- ageing justice infrastructure assets that are fit for purpose for changing user demographics and needs
- police, fire and emergency infrastructure that is fit for purpose for the changing demographic and nature of emergencies to ensure access to life-saving services, particularly in rural communities and remote areas
- vibrant places that encourage engagement and participation and promote civic engagement while building resilience in communities and the environment.

Implementation pathways proposed in response to the findings in the Infrastructure Audit are listed throughout this document.

## Housing and accommodation

Housing is fundamental to attracting and keeping people in the Territory and is a pillar of human wellbeing. Having a home that is safe, secure and affordable is vital for dignity, privacy and creating a sense of stability. It also provides the foundation for people to connect with and participate in the community.

### RELATED NT STRATEGIES AND POLICIES

- > *A Home for all Territorians – Northern Territory Housing Strategy 2020–2025*
- > *First home owner grant*
- > *Northern Territory Community Housing Growth Strategy 2022–32*

### EXISTING NATIONAL STRATEGIES AND POLICIES

- > *Developing the National Housing and Homelessness Plan*
- > *Housing Australia Future Fund*
- > *National Partnership on Remote Indigenous Housing*
- > *Regional First Home Buyer Guarantee*

Housing availability and affordability is central to the security and wellbeing of all Territorians. It is also a significant challenge impacting the Territory's growth. The Northern Territory Government, in partnership with the Australian Government and Community Housing Providers (CHPs) are delivering on several strategies to address overcrowding, affordability and supply.

There are 3 separate housing initiatives aimed at increasing affordable housing supply. These initiatives will contribute to the construction of an aspirational target of 1.2 million new and well located homes across Australia over 5 years.

The Territory will be required to facilitate construction of up to 1 500 new social and affordable dwellings over the next 5 years should all initiatives be formalised.



Above: Remote houses delivered in Yirrkala. Credit: Department of Infrastructure, Planning and Logistics.



Above: John Stokes Square. Credit: Greenspace Group.

In 2022, the Australian Government announced the National Housing Accord, which has an aspirational target of 1.2 million houses being built across Australia in 5 years, and will directly incentivise the delivery of 20 000 affordable housing outcomes in that timeframe. The Accord commits \$350 million over 5 years from 2024, funded by the Australian Government with an equal co-contribution provided by states and territories. This will result in the Northern Territory receiving 192 new dwellings (96 funded by the Australian Government, matched with 96 delivered by the Territory) delivered through the community housing sector.

The Australian Government has also established legislation to establish the \$10 billion Housing Australia Future Fund (HAFF), Housing Australia and the National Housing Supply and Affordability Council. The HAFF will finance 30 000 new social and affordable rental homes in its first 5 years. The Northern Territory is expected to receive a minimum of 1 200 dwellings from HAFF funding, delivered predominantly through the community housing sector.

In June 2023, the Australian Government announced a new, one-off \$2 billion Social Housing Accelerator payment to support investment for new social rental homes across Australia. The Northern Territory has

received \$50 million, which must be committed within 2 years with all construction completed within 5 years.

The Territory could see construction of up to 100 new social housing dwellings in regional centres where there is an existing supply of Territory owned serviced lots.

The \$2.1 billion joint funded 10-year program to 2026–27 between the Australian and Northern Territory governments is improving housing in remote communities. This program aims to reduce overcrowding and improve living conditions for Aboriginal people living in remote communities. This includes building new and replacement homes, increasing living spaces in existing homes, expanding the Government Employee Housing program to include options for locally recruited NT Government employees in remote areas, repairs and maintenance upgrades, land servicing to deliver serviced land, and essential services infrastructure to support new housing.

The Territory Government has been proactively releasing land for residential development aligned with population projections to ensure that housing is available ahead of the demand curve. Importantly the speed of the land release can be adjusted to meet market demand.

## Health

Health services delivery in the Northern Territory focuses on preventative and primary health care. The use of appropriate technology, infrastructure, environment and workforce approaches can provide personalised care that is culturally safe, responsive and closer to home.

Access to quality health and care services is important not only for Territorians but also to attract investors and the skilled workforce that comes with sustainable development. As we strive to attract and retain a diverse population, we also need the ability to provide specialised facilities for all demographics.

Improving the health of Aboriginal people is a key performance indicator for Closing the Gap. With many of the Territory's Aboriginal people living in remote and regional areas, health infrastructure is a key enabler to achieving better outcomes. A key challenge to address is ageing infrastructure in regional hospitals.

This includes planning to replace and rehabilitate ageing assets at Royal Darwin Hospital, Alice Springs Hospital and Katherine Hospital, with ongoing upgrades and maintenance for the Nhulunbuy and Tennant Creek hospitals to meet operational standards.

The delivery of health services across the sparsely populated and sprawling geography of the Northern Territory imposes challenges and is compounded by a high burden of disease. The post-COVID era brings new challenges to the delivery of high quality health care across the NT. While we expect moderate population growth over the next 5 years, our collective challenges of workforce capacity and capability, ageing population, growing burden of chronic disease and cost of travel is resulting in increasingly disconnected care through a system not designed to manage these challenges.

The NT Health Strategic Plan 2023–2028 recognises health services need to be accessible to all and culturally safe.

The underpinning principles of the NT Health Strategic Plan 2023–2028 are:

- patients and communities are active participants in the design, decision-making and delivery of health care services
- clinical and cultural governance is embedded in all we do
- evidence and analysis inform clinical service design and delivery
- we are an environmentally and fiscally responsible organisation
- equity underpins our decision making and investment.

### RELATED NT STRATEGIES

- > *Northern Territory Mental Health Strategic Plan 2019–2025*
- > *NT Health Strategic Plan 2023–2028*
- > *NT Health Virtual Care Strategy*
- > *The Best Opportunities in Life – Northern Territory Child and Adolescent Health and Wellbeing Strategic Plan 2018–2028*
- > *Strengthening our Health System Strategy 2020–2025*

### RELATED NATIONAL STRATEGIES

- > *Australia's National Digital Health Strategy*
- > *Children's Mental Health and Wellbeing Strategy – National Mental Health Commission*
- > *National Drug Strategy 2017–2026*
- > *National Partnership on Closing the Gap in Indigenous Health Outcomes*

To inform decision making into the future, the Clinical Services Plan (CSP) is being refreshed. The CSP will identify how services will be designed to meet people's needs.

A critical element of the CSP, from an infrastructure perspective, is developing the Infrastructure Master Plan and Investment and Project Prioritisation process coupled with regional service actions plans.

Implementation of the CPS will also need to complement the 6 actions in the National Safety and Quality Health Service Standards that focus specifically on meeting the health care needs of Aboriginal people.

*Below: Royal Darwin Hospital – Mental Health Inpatient courtyard upgrades. Credit: C & R Constructions.*



## Education and training

Providing quality education and training services, from the early years through to higher education, is reliant upon sufficient educational environments that meet the needs of delivery and the population. Preparing our students for the jobs of the future will require investment in education and training infrastructure that best enables students to develop skills and abilities. These include problem solving, technology literacy, creativity and empathy as well as being able to adapt and collaborate.

A key driver for future investment will be population growth, with the potential for an additional 10 000 primary and secondary students when the 2030 population target is reached. Having the right learning environments in the right place in line with population growth is a key challenge at the forefront of social infrastructure planning.

Our educational infrastructure needs to support students to enter a technology rich, creative and innovative society. Education and training build our capacity and capability, our workforce skills and enhances liveability drivers to attract and retain people in the Territory.

The Northern Territory Government uses population projections to understand future service need. Twinned with service delivery planning, this approach helps identify the most appropriate infrastructure responses for different places. A place-based approach to infrastructure planning across the Northern Territory responds to a wide range of environments, from remote Homeland Learning Centres to large urban schools in new land releases and residential estates.

Investment in high quality learning environments is tailored to suit the location and the student cohort. A place-based approach integrates elements like resilience and flexibility into planning. The aim is to support communities to be resilient through infrastructure that provides multiple benefits for communities. This can be through multi-purpose use, including in response to emergency events, and wellbeing, sport and recreation purposes.

### RELATED NT STRATEGIES

- > *Charles Darwin University Strategic Plan 2021-2026*
- > *Education NT Strategy 2021-2025*
- > *Indigenous Education Strategy*
- > *Skilling the Territory Investment Plan 2021-22*

### RELATED NATIONAL STRATEGIES

- > *Australian Strategy for International Education 2021-2030*
- > *Closing the Gap: National Partnership Agreement on Indigenous Early Childhood Development*
- > *Early Years Strategy*



Right: Maningrida Family Centre. Credit: Territory Families, Housing and Communities

Infrastructure should be underpinned by sustainability and adapt to future needs with school facilities designed as the heart of a community.

A total of 71% of Northern Territory Government schools are in remote or very remote areas. Studies into the design of learning environments has shown that buildings designed to support creativity and collaborative problem solving improve outcomes for students and staff retention.

A continuous renewal program is needed for the high percentage of ageing school assets in remote and regional areas, This will ensure that families have access to contemporised learning environments that provide best possible outcomes for students. This is a challenge for older schools and small remote schools that were not built with high technical and specialist learning environments. While there has been significant investment to date to improve and diversify specialist classrooms and training centres, there is still more to be undertaken to continually improve the quality of learning environments.

## Education NT Strategy 2021–2025

The Territory is on a journey to become the most improving education system in Australia and is committed to a strong and equitable public education system where every child has the opportunity to engage, grow and achieve.

The Northern Territory Government is committed to a strong public education system that promotes excellence and equity and supports every child to become confident and creative individuals, successful lifelong learners, and informed members of the community. Education and training infrastructure is a key element to achieving this.

The Education NT Strategy 2021-25 identifies 25 strategic actions across 7 system priorities that collectively aim to deliver on these 2 goals. The Strategy's 7 system priorities are based on global research into education improvement and are:

- strengthen instruction for young Territorians
- improve cultural responsiveness
- engage every child and student in learning
- build the foundations for learning
- support successful transitions beyond schooling
- build an expert education workforce
- differentiated support for Early Childhood Education and Care services, schools and communities.

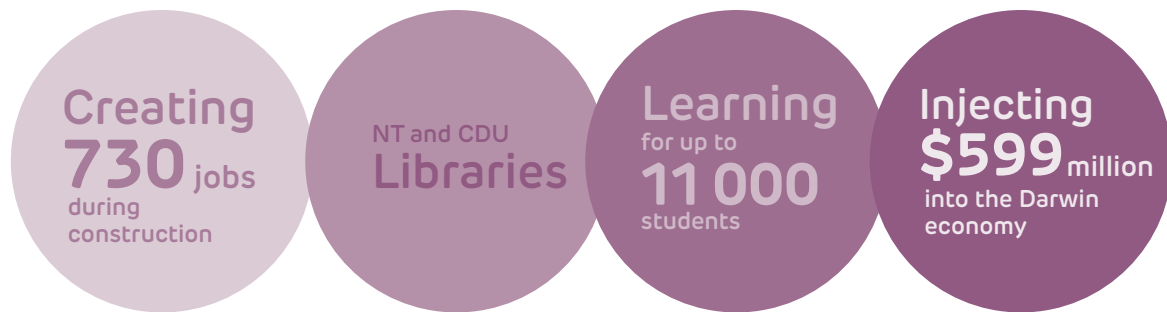
Over its 5-year lifespan, the Strategy will deliver a range of key initiatives and reforms to improve education and early childhood outcomes for Territory children and students from birth to Year 12.

International education will also be a key growth sector for the Northern Territory. International education, in particular higher education and vocational education and training, will significantly add to our economy. It will do this by contributing to a vibrant Darwin city and attracting skilled migrants and potential further migration through family connections. These outcomes will be greatly enhanced through the delivery of support infrastructure such as student accommodation in the Darwin CBD.

Other City Deals related projects such as the Civic and State Square Precinct redevelopment will be designed with youth and students in mind. It will feature cool, tropical and urban design to provide recreation, cultural and well being opportunities, complementing the university campus and CBD accommodation. The new Northern Territory Art Gallery includes a program space for engagement and learning, while the gallery will become a new must do excursion for Territory students and contribute to a growing creative society.



Above: Charles Darwin University Darwin CBD Campus concepts. Credit: Charles Darwin University and Mode Design.



## Charles Darwin University Darwin CBD Campus

The new Charles Darwin University city campus is transforming the Darwin CBD and will be the catalyst for establishing the Darwin CBD as a 'university town' – a great place for students to study, live and work.

The Territory's reputation will grow as a knowledge and research leader, multiplying the benefits of being a 'university town', supported by social infrastructure delivered through the Darwin City Deal.

Already well positioned as the gateway to Asia, this project will turn Darwin into an educational and economic powerhouse on the international stage.

It is estimated that the new campus will increase economic output in the NT by more than \$599 million over the next 15 years, with significant flow-on effects for the whole region.

The new campus is set to open in 2024.

## Justice and public safety

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Building resilient Territory communities means feeling safe, stable and secure, which is fundamental to our wellbeing. Efficient justice and safety services help keep the community safe and ensure that people are treated fairly.

Justice and emergency services infrastructure comprises the buildings and facilities that protect and support the safety of our communities. Together, these services uphold civil rights, prevent and respond to crime, resolve disputes, respond to emergencies and natural disasters, and often engage with the most vulnerable Territorians.

This infrastructure also relates to design of the urban environment and adoption of crime prevention through environmental design principles of natural surveillance, access control, territorial reinforcement and space management.

The dispersed population and vast geographic distances that policing services cover in the Territory has resulted in a significant network of facilities.

Appropriate justice, correctional, rehabilitation and training facilities help those Territorians who are on a journey to re-engage in the community. Modern facilities equip people with the skills to contribute to community life and participate in the economy.

The social infrastructure needs are diverse and while some are owned by government, there is an important role to partner with the not-for-profit sector. The right infrastructure can support access to justice, social initiatives, policies and programs, and support rehabilitation and services to victims as part of ensuring a safe, fair and just Territory for all, regardless of location.

In response to the Territory's climatic conditions, resilient and fit for purpose infrastructure can ensure public safety during extreme weather events of cyclones, floods and droughts. Northern Territory Government departments working with communities strive to build resilience in emergency facilities and supply chains, along with community trust and confidence, to manage a range of emergency situations.

The Northern Territory Government takes a lead role in providing multi-purpose cyclone shelters and will continue to build more regional multi-purpose facilities that can act as emergency evacuation centres to foster resilience and enable better community recovery.



Above: CCTV. Credit Northern Territory Police, Fire and Emergency Services.

## Northern Territory Police, Fire and Emergency Services Ten Year Strategy – Project 2030

A safe and resilient Northern Territory is the vision of the Northern Territory Police, Fire and Emergency Services Ten Year Strategy.

Northern Territory Police, Fire and Emergency Services employ 2 200 people and have a further 600 volunteers trained to provide a fire, rescue and/or emergency service capability across all regions of the Territory.

The infrastructure needs are diverse and varied, with:

- 49 permanent police stations
- 15 police posts
- 6 fire stations

- 5 regional trace fire stations
- 7 volunteer fire brigades
- 20 emergency service volunteer units.

Secure and fit for purpose infrastructure is required to meet obligations under work health and safety legislation as well as support the care and protection of the community required under relevant legislative provisions.

The right infrastructure can support social initiatives, policies and programs as part of the shared commitment to provide safe and resilient communities through prevention and community education.

### EXISTING NT STRATEGIES

- > *Department of Attorney-General and Justice Strategic Plan 2021-2025*
- > *Northern Territory Aboriginal Justice Agreement*
- > *Northern Territory Police, Fire and Emergency Services Ten Year Strategy*
- > *Territory Emergency Management Council Strategic Plan 2020-2023*
- > *Territory Emergency Plan*

### EXISTING NATIONAL STRATEGIES

- > *Australian Work Health and Safety Strategy 2023-2033*
- > *Justice Policy Partnership*
- > *National Indigenous Law and Justice Framework*

## The Department of the Attorney-General and Justice Strategic Plan 2021–2025

A safe, fair and just Territory for all is the vision for the Department of the Attorney-General and Justice (AGD) Strategic Plan. AGD seeks to:

- enhance access to justice
- administer and enable justice outcomes
- deliver purposeful services to reduce offending
- provide high quality legal advice and representation
- support and empower the most vulnerable Territorians
- promote and protect the rights and interests of Territorians.

The AGD employ 1 440 people and have operations across all regions in the NT to support the needs of many. This includes victims, court proceedings in urban and remote settings, offenders and prisoners, the judiciary and legal services, individuals accessing rehabilitation and support through diversionary programs, and administrative and other support services.

Secure and fit for purpose infrastructure is required to meet obligations under work health and safety legislation and international treaties for human rights to support the care and protection of the community.



Above: Charles Darwin University sports hall. Credit: M+J Builders.

## Sporting, recreation, lifestyle

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Sport and Active Recreation has always been an integral part of Territory life. The Territory's diverse population and unique natural environment provides a real opportunity to maximise participation.

Sporting, recreation and lifestyle infrastructure are natural and built spaces which people use for active transport, to play sports and exercise, to relax, and to learn and connect with their communities, culture, heritage and place. They can provide a wide range of social and economic benefits, build resilience and increase the health and wellbeing of communities.

This infrastructure contributes significantly to the liveability and resilience of places and the wellbeing of people – whether it be a local park or walking track along a river, a public swimming pool in a remote town, or the local basketball or netball courts. These spaces and facilities are essential services that, alongside transport, energy, telecommunications and water, help to create economically productive, socially cohesive and sustainable places. Improving access to and the quality of this infrastructure can therefore deliver significant benefits to the community, government and industry.

Sports and recreation facilities not only improve physical and mental health and wellbeing, but they also provide a lifestyle that attracts people to live, work and stay in the Territory. While the cost to build these facilities can be high, the beneficial outcomes are substantial.

Creative industries cut across economic and social domains. The sector is diverse, spanning visual arts, digital design, screen production, broadcasting festivals, design/architecture and more.

The sector has broad economic and social impacts, enriching the culture of communities, improving liveability and supporting population retention, while providing visitor attractions and experiences. There are several significant infrastructure projects, such as the Northern Territory Art Gallery, Larrakia Cultural Centre and the National Aboriginal Art Gallery, planned or underway, as well as project expansions of existing centres to support diverse cultural activities.

Significant economic and social benefits flow to Aboriginal businesses and communities from creative industries, cultural events and art sales. There is significant potential for sustained growth in the future through Aboriginal led business development and workforce participation delivering cultural infrastructure, leading operations and providing content.

The Territory boasts 87 national parks and reserves, including two of Australia's heritage listed and world class destinations, Kakadu and Uluru-Kata Tjuta national parks. It is home to the world's oldest living culture and the Territory's existing substantial visitor and tourism footprint is an important focus to target investment. This also enhances the liveability of locals who embrace our authentic and preserved natural environment and heritage.

## Northern Territory Sport and Active Recreation Infrastructure Plan: Future Design Projects 2022–32

The Northern Territory Sport and Active Recreation Infrastructure Plan: Future Design Projects 2022–32 captures the sectors' infrastructure priorities and assists government to identify and prioritise sport infrastructure investment across the Territory, with contributions from local and regional government, and industry where possible.

The Plan, which is aligned to this Infrastructure Plan and Pipeline, outlines a new approach to planning for Territory sport and active recreation infrastructure. It means government's investment in this important area is maximised and shifts from bespoke and individualised facilities and programs to partnership models, building an affordable, prioritised and fit-for purpose network of sport facilities, programs and services for all Territorians to enjoy.

### RELATED NT STRATEGIES

- > *Creative Industries Strategy 2020-2024*
- > *10 year Museums Master Plan Darwin and Palmerston*
- > *NT Parks Master Plan 2023-2053*
- > *NT Sport and Active Recreation Strategic Plan*
- > *Recreational Fishing Development Plan*

### RELATED NATIONAL STRATEGIES

- > *Indigenous Advancement Strategy*
- > *National Sport Participation Strategy*
- > *Sport 2030 – National Sport Plan*

*Below: Udara Weerasinghe, cricketer. Credit: Northern Territory Government.*



## Northern Territory Parks Master Plan 2023–53

The NT Parks Master Plan 2023–53 sets out a plan for the next 30 years to ensure the diversity and integrity of the Territory's natural and cultural heritage remain intact.

The Master Plan outlines the strategic direction for the Northern Territory Government's 87 parks and reserves, providing long term certainty and purpose to park management, Traditional Owners, Territorians and potential investors.

The Master Plan is accompanied by the Northern Territory Parks 10 Year Activation Plan, which maps out infrastructure development for the first decade of the Master Plan.

Projects in the 10 Year Activation Plan have been prioritised and fit within one of the 4 objective themes below:

- intensive tourism development in high visitation nodes and parks
- improving access to parks
- improving diversity of recreational opportunities
- refreshing existing facilities to enhance visitor experiences and products in identified parks.

Parks and reserves contribute enormously to the social, cultural and economic fabric of the Territory and are vital to its future.

The Master Plan provides a strategic framework to guide future programs, projects and partnerships that will conserve the natural environment, maintain cultural values and provide opportunities for new and enhanced visitor experiences.

It's no secret the Territory is home to some of the best fishing in Australia. Recreational fishing generates significant economic contributions through employment, direct expenditure and flow-on economic benefits. In Australia in 2018–19, the industry contributed an estimated \$11.5 billion to Australia's gross domestic product and supported over 100 000 full-time equivalent jobs in Australia. This included economic contributions of about \$270 million in the Northern Territory.

Recreational fishing in the Territory over the past decade has been guided by the 2012–2022 Recreational Fishing Development Plan. To guide the sector and its government partners over the next decade, a consultation draft of the Recreational Fishing Development Plan 2023–2033 has been developed. The final Recreational Fishing Development Plan 2023–2033 framework will be released late in 2023.

Recreational fishing provides opportunities for challenge, adventure, knowledge-sharing, and catching fresh food. It is a means for escape and relaxation, and enables connection with self, family, friends and the natural environment. It fulfils the basic social, cultural, health and wellbeing needs of thousands of Territorians, and sustains a unique and diverse industry. For many, fishing provides a sense of identity and purpose.

Recreational fishing presents a wealth of opportunities for the future of the Territory.

## Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities. These pathways include those in response to the findings in the Infrastructure Audit 2023.

Implementation pathway	Prioritisation action	Progress
<b>Social infrastructure</b>		
Ensure that social infrastructure such as education, health, police and community facilities keep pace with a growing population and a diverse demographic to improve liveability, which plays a key role in attracting and retaining people in the Northern Territory	Reform	Audit 2023
Support workforce and population growth by planning and investing in projects that support liveability	Reform	Audit 2023
Recognise and measure the impact and value of investment in social infrastructure and support forward looking development of social infrastructure	Reform	Audit 2023
Ensure there is sufficient housing timed to support the predicted population growth associated with economic development across the Territory	Reform	Audit 2023 in progress
Deliver skills training in communities aligned with the local employment pipeline through partnerships with private investors	Reform	Audit 2023
Ensure justice and public safety facilities are fit for purpose, consider growth in service delivery and the functional needs of contemporary and culturally appropriate service delivery	Reform	Audit 2023
Investigate opportunities to support student accommodation in the Darwin CBD to support the new Charles Darwin CBD Campus	Reform	New 2023 in progress
Implement the NT Health Clinical Services Plan to address predicted future health service demands and projected requirements for new, upgraded and repurposed infrastructure	Improve New	Audit 2023
Deliver education and training facilities to meet the needs of the community	Improve	Audit 2023 in progress
Enhance Territorians liveability and social benefits through improving tourism, art and culture, sport and recreation infrastructure	Improve	Audit 2023
Unlock private sector investment through the delivery of well considered and targeted enabling infrastructure	New	Audit 2023
Continue to prioritise the roll out of the National Partnership for Remote Housing	New	Audit 2023 in progress
Prioritise actions to address shortfalls in accommodation for key workers, students and vulnerable people	New	Audit 2023 in progress

## 7 hospitals

Darwin (2), Palmerston, Gove, Katherine, Tennant Creek and Alice Springs



**71% of Northern Territory government schools** are located in remote and very remote areas

The Northern Territory Government has committed **\$1.1 billion across 10 years** to remote housing under the remote housing investment package – *Our Community. Our Future. Our Homes.*

**41% of Northern Territory students** are enrolled at these schools



## 87 Northern Territory parks and reserves

including two of Australia's heritage listed and world-class destinations, Kakadu and Uluru-Kata Tjuta national parks and cover 49 326 square kilometres



**49** permanent police stations

**1** police beat

**2** multi-jurisdictional facilities

**15** police posts

**273 crocodiles** removed from Top End waterways in 2021–22



**6** fire stations

**5** regional trace fire stations

**7** volunteer fire brigades

**20** emergency service volunteer units



The NT has **12 times** the national average rate of homelessness

**13 104** Territorians experiencing homelessness on Census night 2021 – a 4.5% decrease on Census 2016



**491** bushfire incidents managed



Above: Katherine East Neighbourhood Centre land development.  
Credit Department of Infrastructure, Planning and Logistics.



## Land

Effective and efficient land development is critical to delivering land at the right time and in the right place for residential, commercial and industrial purposes.

Land includes our natural assets. Our parks, landscapes, streetscapes, meeting places, waterways and iconic landmarks are valued by Territorians and attract visitors from across the globe as an Australian 'bucket list' destination.

Infrastructure that protects our natural environment and provides better access for all to enjoy is key to preserve and increase the enjoyment of these assets.

The Northern Territory Government is planning its largest residential land release program to support population growth across the Territory.

Other than freehold land, the other key land holdings are summarised in the table below.

#### Land tenure in the Northern Territory

Land tenure	Description
<b>Crown Land</b>	Owned by the Northern Territory Government and governed by the <i>Crown Lands Act 1992</i> . Crown land includes land on which public infrastructure may be situated. Administered by the Department of Infrastructure, Planning and Logistics
<b>Pastoral Land</b>	Governed by the <i>Pastoral Lands Act 1992</i> , pastoral land is leased to a private individual or company for pastoral purposes including cattle grazing, crop growing or pastoral based tourist activities. Pastoral land is typically subject to native title. The Pastoral Land Board is a statutory authority established under section 11 of the <i>Pastoral Land Act 1992</i> , charged with administering the Northern Territory pastoral leases in accordance with the Act.
<b>Aboriginal Freehold</b>	<p>Aboriginal freehold land is unique to the Northern Territory. It does not exist in any other state or territory in Australia. It came into being in 1976 when the <i>Aboriginal Land Rights (NT) Act 1976</i> (ALRA) was passed, converting former Aboriginal reserves into permanent Aboriginal freehold.</p> <p>Aboriginal freehold land is inalienable freehold title, meaning it cannot be sold. It is referred to as 'schedule one' land and is formally held by an Aboriginal land trust and administered by 4 land councils – Northern Land Council, Central Land Council, Tiwi Land Council and Anindilyakwa Land Council. Just under 50% of the Northern Territory is Aboriginal freehold tenure.</p>

Significant areas of land within the Northern Territory are subject to Native Title and the Territory is committed to working with Traditional Owners and land councils in delivering on the economic and social advancement of the Territory.

New greenfield residential estates are under construction at Kilgariff in Alice Springs, Zuccoli, Lee Point and Northcrest in greater Darwin, and Katherine East in the Big Rivers region.

Planning is also underway for new greenfield lots in Holtze, Tennant Creek and further lots in Katherine East and Kilgariff.

Development of land for other uses is also critical. The 1200-hectare Middle Arm Sustainable Development Precinct includes 3 industrial estates – Kittyhawk Estate (300 hectares), Spitfire Estate (300 hectares) and Wirraway Estate (500 hectares).

The Kittyhawk and Spitfire estates will support low emission hydrocarbons, green hydrogen, advanced manufacturing, carbon capture, use and storage and minerals processing.

In addition, the following parcels of land will be developed through the NT Land Corporation:

- an area of 67 500 hectares along the Northern Territory/Western Australia border, which includes the Weaber Plains Agricultural Development along the Keep River and adjoining Ord developments in WA. This was leased to AAM group for agricultural development
- the Wildman Agricultural Precinct, 26 000 hectares of land approximately 135 kilometres from Darwin.

#### RELATED NT STRATEGIES AND POLICIES

- > *Bringing Land to Market*
- > *Strategic Land Use Plans*
- > *Sustainable Development Precinct Strategy*

## Bringing land to market

In February 2022, the final *Bringing Land to Market: An Independent Review of the Land Development Processes, Land Under Development and Titled Land* report was released.

The Report was developed to simplify and streamline the land development process to keep pace with the needs of Territorians.

The Report identified 23 recommendations with the Territory Government providing in-principle support for all of the recommendations.

To provide oversight on the progress of the implementation of recommendations, the Land Development Committee (the Committee) was established.

Of the 23 recommendations:

### **8 recommendations have been completed:**

1: Standardised Terminology	11: Delegated Approval for Rezoning Compliant with Strategic Land Use Plans
6: Future Residential Land Supply	15: PWC energisation policy change
7: Land for Affordable Housing and Social Housing	22: Stamp Duty Exemption for House and Land Packages
10: Enhanced Development Assessment Forum	23: Implementation Plan

### **2 recommendations have been administratively completed**

9: Mandate the Subdivision Development Guidelines (SDG)	13: Authority Acceptance of Assets
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### **2 recommendations are partially completed**

17: Bonding Guide for Incomplete works	19: Place Names enhanced process
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### **6 recommendations have progressed significantly and are anticipated to be completed by Q4 2023:**

2 and 20: Future demand profiling	18: Early Lodgement of Survey Plans
3, 4 and 5: Strategic Documents	

### **5 recommendations are currently underway, with a number of these linked to other recommendations and as such are taking time to work through, including:**

8: Security of Titled Land	16: Standard Development Conditions
12: Fast-Track Planning Approval process	21: Alice Springs, South of the Gap Subregional Land-use Plan and infrastructure planning
14: Authority Approvals	

## NT Infrastructure Audit

The Infrastructure Audit recognised investment ready land as key to driving economic growth and supporting subsequent population growth. The Northern Territory has a significant land mass, predominantly untouched. There is an opportunity to provide sustainable, strategic, serviced land offerings to investors. Our land can also be used for a range of residential, commercial and industrial subdivisions and for enabling infrastructure.

With planned and prioritised investment, the Territory can respond to the findings in the Infrastructure Audit and achieve:

- sustainable provision of land at the right time and in the right place
- transparent and efficient processes to provide certainty for investors
- integrated and strategic land use planning for housing, commercial and industrial use.

Implementation pathways proposed in response to the findings in the Infrastructure Audit are listed throughout this document.

## Integrated strategic land use and infrastructure planning framework

Strategic land use planning and infrastructure planning must be integrated to ensure the most efficient and effective use of infrastructure, to ensure planned growth can be supported by social infrastructure.

The Northern Territory Strategic Planning framework is made up of plans and policies developed by the Northern Territory Planning Commission, in consultation with government agencies, industry and the community for inclusion in the NT Planning Scheme 2020.

During the past 4 years, 8 new and updated land use plans were introduced into the Northern Territory Planning Scheme, including the:

- Central Darwin Area Plan
- Central Palmerston Area Plan
- update to Litchfield Sub-regional Land Use Plan – Gunn Point Peninsula
- Holtze to Elizabeth River Sub-regional Land Use Plan
- Coolalinga and Freds Pass Rural Activity Centre Area Plan

- Katherine East Area Plan
- Tennant Creek Land Use Plan
- Central Alice Springs Area Plan.

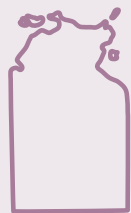
Integrated land use and infrastructure planning provides an opportunity to enhance the urban environment and to improve liveability.

The Northern Territory Area Plans now place a stronger focus on the impacts and challenges associated with climate change on our natural and built environments. Acknowledging these impacts and challenges for the built environment has provided greater opportunities to combine elements of green (trees, parks and gardens) and blue (water sensitive urban design – drainage areas and flood storage) infrastructure. These are effective tools in mitigating climatic conditions such as pollution, stormwater and the heat island effect – urbanised areas that experience higher temperatures than outlying areas.

## Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities. These pathways include those in response to the findings in the Infrastructure Audit 2023.

Implementation pathway	Prioritisation action	Progress
<b>Land</b>		
Support land development prioritisation by accurately forecasting demand for residential, industrial and commercial land	Reform	Audit 2023
Support communities to realise the potential economic development of Aboriginal owned land	Reform	Audit 2023
Continue to streamline regulatory processes and land tenure arrangements	Reform	Audit 2023 in progress
Unlock private sector investment by delivering well considered and targeted enabling infrastructure	New	Audit 2023
Support the delivery of serviced land and provide housing choice that enables population growth and responds to the needs and aspirations of our current and future communities, particularly considering the needs of: <ul style="list-style-type: none"> <li>• an ageing population</li> <li>• people living with a disability</li> <li>• people who require social and/or affordable housing</li> <li>• students</li> </ul>	New	Audit 2023 in progress
Accelerate planning and delivery of future sustainable development precincts to support emerging industries including the Middle Arm Sustainable Development Precinct	New	Audit 2023 in progress
Support planning and delivery of serviced industrial land in key regional centres such as Katherine and Alice Springs	New	Audit 2023 in progress



The Northern Territory is  
**1 347 791 km<sup>2</sup>**

55 000 square kilometres (km<sup>2</sup>)  
of vacant crown land



The Northern Territory's  
population is

**251 700 persons**



Above: Ngukurr residential subdivision. Credit: Department of Infrastructure, Planning and Logistics.



In 2022–23 there was an increase of

**43% titled residential lots (for detached dwellings)**

compared to 2021–22



**Average of 54 days**

to process development applications in 2022–23



**8 923 Building approvals**

were logged in 2022–23

# Nationally significant projects, programs and proposals

With private investment and partnership between the Australian and Northern Territory governments, industry and the community, the Territory has opportunities to grow its economy and contribute to the national agenda.

The number of nationally significant projects in the Territory is increasing with opportunities that will see future investment in renewable energy exports, critical minerals processing and export, agribusiness and tourism enterprises, and onshore and offshore gas developments.

## Australian Infrastructure Plan

In 2021, Infrastructure Australia released the Australian Infrastructure Plan with a vision for “*Infrastructure that improves the sustainability of the country’s economic, social, environmental and governance settings, builds quality of life for all Australians and is resilient to shocks and emerging stresses.*” As part of the Australian Infrastructure Plan 2021, Infrastructure Australia identified 9 areas of reform to achieve the vision:

Place-based outcomes for communities	Sustainability and resilience	Industry productivity and innovation
Transport – delivering an integrated network	Energy – enabling an affordable transition to net zero	Water – prioritising safety and security
Telecommunications and digital – ensuring equity in an era of accelerating digitisation	Social infrastructure – supporting economic prosperity and quality of life	Waste – accelerating Australia’s transition to a circular economy

The Northern Territory’s Infrastructure Framework aligns with these reform agendas, which streamlines business case development to include significant Territory projects on the Australian Infrastructure Priority List.



Above: NT rail line. Credit: Department of Infrastructure, Planning and Logistics.



Above: Carpentaria Highway. Credit: Department of Infrastructure, Planning and Logistics.

## Infrastructure Australia's Infrastructure Priority List Assessment Framework

Infrastructure proposals that require \$250 million or more of Australian Government funding are required to be submitted to Infrastructure Australia for assessment.

The Infrastructure Priority List Assessment Framework is designed to help proponents develop high quality infrastructure proposals to submit to Infrastructure Australia. It provides a national standard for best practice infrastructure development and explains Infrastructure Australia's requirements and process for assessing proposals.

While Infrastructure Australia uses a cost-benefit analysis, it also considers strategic, social and deliverability benefits that assists the Northern Territory where projects in regional and remote areas can be difficult to justify on economic merit alone due to population scale and a lack of data. Proposals can be assessed more holistically, which means that Infrastructure Australia can support proposals where the benefit cost ratio is less than one (subject to strength of other evidence). Consideration will be given to non-economic benefits including unquantified quality of life benefits and equity and distributional effects.

The assessment framework is divided into an overview and 4 main volumes, reflecting the 4 stages of project development and submission and is supported by detailed technical guidelines.

The 4 key stages for Northern Territory proposals are:

Stage 1 – Potential Investment Options – Clearly identify the problems seeking to be solved and the opportunities seeking to be realised

Stage 2 – Potential Investment Options – identify, analyse and filter options to respond to the problems and opportunities identified in Stage 1

Stage 3 – Investment Ready Proposal – undertake a detailed assessment of options that respond to problems and opportunities identified in Stage 1 and Stage 2, and document the business/economic case for an infrastructure proposal, demonstrating options have been assessed in detail to identify a preferred option based on merit. This includes a cost benefit analysis

Stage 4 – Post project delivery review.

The Australian Infrastructure Priority List is a list of prioritised nationally significant projects that are seeking investment. Every proposal on the priority list is expected to contribute to national productivity or to be otherwise socially beneficial within the next 15 years. The priority list provides decision makers with advice and guidance on specific infrastructure investments that will underpin Australia's continued prosperity.

The current Territory projects listed on the Priority List and their relative stages are shown in the next table. One new project was included in 2023.

Current Territory projects listed on the Infrastructure Priority List

NT Project	Submitted by	Stage 1 Early Stage Proposal	Stage 2 Investment Options	Stage 3 Investment Ready
Northern Territory freight rail and logistics capacity improvements	Territory Government	✓		
Darwin region water supply infrastructure upgrades (AROWS)	Territory Government			✓
Enabling infrastructure for developing the Beetaloo Sub-basin	Territory Government	✓		
Common user infrastructure at the Middle Arm Precinct	Territory Government		✓	
Northern Territory remote community power generation program	Territory Government	✓		
Australia-Asia Power Link	SunCable			✓

The aim of the nationally significant projects, programs and proposals section of the NT Infrastructure Plan and Pipeline is to identify and articulate the infrastructure investments that will impact the national economy or achieve national policy objectives and outcomes. Infrastructure Australia assesses all proposals against 3 criteria:

- ✓ Strategic Fit – is there a clear rationale for the proposal?
- ✓ Societal Impact – what is the value of the proposal to society and the economy?
- ✓ Deliverability – can the proposal be successfully delivered?

## 1 Central Arnhem Road upgrade

The Central Arnhem Road is a critical piece of infrastructure that enables social and economic development in the East Arnhem region and the Northern Territory.



Transport and Logistics



Tourism

The Central Arnhem Road is located predominantly on Aboriginal land, it spans 685 kilometres including the Central Arnhem (645 kilometres), Dhupuma Road (17.3 kilometres) and Melville Bay Road (23.2 kilometres).

The Central Arnhem Road links the Stuart Highway (national network) to Nhulunbuy and communities in East Arnhem Land, connecting over 12 000 residents and supporting multiple industries including agriculture, tourism and mining.

Nhulunbuy remains the only large regional centre in the Northern Territory not connected to the National Highway network via a sealed road. The road quality is poor, with over 568 kilometres (88%) of the road unsealed. Road users experience frequent restrictions or closures throughout the wet season from December to May each year. Although 77 kilometres (12%) is sealed, the majority of this seal is narrow and only 4 metres wide (old Beef Road standard).

Upgrading and sealing the Central Arnhem Road will further help unlock the economic potential of the region and open a range of new long term economic and social opportunities. This will be achieved through reduced transit times, improved reliability of supply chains, safer road conditions and overall improved accessibility to and in the region. It will contribute to Closing the Gap by improving access to health and educational services, facilitating social and cultural connections and reducing barriers to development, including operating costs for business.

Additional benefits to sealing the Central Arnhem Road include:

- increased liveability
- economic development
- increased tourism and trade
- land tenure
- access to gravel
- access to water
- Aboriginal employment.

Although not included on the National Infrastructure Priority List, the Australian Government committed \$180 million in its 2019-20 Budget to upgrade the Central Arnhem Road. This funding is matched by a 20% co-contribution of \$45 million from the Northern Territory Government. The Northern Territory Government also invested a further \$5 million to upgrade approximately 4 kilometres near Bulman, taking the initial funding to \$230 million to upgrade the Central Arnhem Road over 10 years.

The Australian Government committed a further \$100 million in its 2023-24 Budget, with the Territory co-contributing \$25 million. This brings the total current funding program to \$355 million.

To date, a total of 24.7 kilometres has been upgraded for sections near Beswick, Goyder and Bulman.



Above: Central Arnhem Road. Credit: Tourism NT and Aaron Avila.

## 2 Darwin region water supply infrastructure upgrades – Adelaide River Off-Stream Water Storage (AROWS)

As the Territory grows, having enough water for the future is critical for people, agriculture and industry. In the Darwin region we are facing challenges because our supply system is operating at its capacity.



Water

New water supply infrastructure is needed to help our population grow in the Territory and to meet our goal of becoming a \$40 billion economy by 2030. Having access to reliable water will help sustain our lifestyle, expand agribusiness and industry development and provide economic growth opportunities for the Territory.

The Adelaide River Off-stream Water Storage (AROWS) project is the Northern Territory Government's long term solution to supply more water to the Darwin region.

Located north of Lake Bennett, the project will take advantage of a naturally occurring basin next to the Adelaide River created by a ridge formation that can hold water. Two main containment barriers will be constructed at low points of the basin so that water can be stored within the basin.

As an off-stream storage, AROWS does not require infrastructure to be built across the Adelaide River, reducing its impacts compared to an in-stream dam. Adelaide River will supply AROWS with water via a controlled pump system during Darwin's wettest months. Water will then be pumped from the

AROWS basin, stored, and then piped to the new Strauss Water Treatment Plant. A new pipeline will be installed adjacent to Stuart Highway to transfer water to the Darwin region.

A rigorous 3 to 4 year planning and approvals phase is underway before a commitment can be made to construct and commission the AROWS project by 2031. The Australian Government, through the National Water Grid Fund, has committed \$18 million to support development activities for the AROWS project, such as environmental assessment and design and engineering.

The Northern Territory Government awarded a \$2.4 million tender to undertake the necessary scientific, stakeholder and regulatory processes required to deliver an Environmental Impact Statement for the project.

The Northern Territory Government is releasing a tender to market, seeking a lead engineering consultant to undertake engineering and design work, and produce a Concept Design report for the project.



### 3 Darwin Ship Lift Facility

The defence industry is a key stakeholder and potential future user of the ship lift facility to support naval operations in northern Australia.



Marine



Defence

The Territory Government is building the largest ship lift in Northern Australia. The Darwin Ship Lift Facility will enable the maintenance and servicing of Defence and Australian Border Force vessels, along with commercial and private vessels, including from the oil, gas and marine industries.

The Darwin Ship Lift Facility will be a common user facility that will enable vessel owners to choose and manage their own service and maintenance providers. This will enable multiple providers to operate concurrently at the facility. The common user ship lift facility will include:

- a ship lift 26 metres wide, 103 metres long
- lifting capability of 5500 tonnes
- wet berths (wharves)
- additional hardstand area for ship repair and maintenance works.

The ship lift will operate on a commercial basis. There will be a legislated open access regime to ensure fair and equal use for all customers. The independent Utilities Commission will oversee pricing and access.

The Darwin Ship Lift project has progressed early works, design and procurements. The head contract to build the ship lift has been awarded to Clough-BMD Joint Venture.

The ship lift is anticipated to be operational by early 2025 with the remaining works for the overall facility completed in 2025–26.

The Territory Government has awarded a design consultancy contract to progress the design and the construction of the ship lift, which will begin this year.

The ship lift will support more than 100 direct jobs during construction and 400 ongoing jobs as Darwin takes its place as a new maritime hub servicing Defence, Australian Border Force, and oil, gas and marine industries across the entire region.



Above: Darwin Ship Lift Facility concept. Credit: Department of Infrastructure, Planning and Logistics.

## 4 5 6 7 Digital industries

Connectivity in northern Australia will be faster and more reliable and resilient following the launch of Darwin's first ever direct connection to the global network of high-capacity subsea telecommunications cables.



Digital



Education



Health



Lifestyle

Vocus' Darwin-Jakarta-Singapore Cable (DJSC) system is a major leap forward in Australia's global connectivity, bridging the digital divide and unlocking new opportunities for growth, innovation and development in the Northern Territory.

The 7700 kilometres DJCS cable system was completed following deployment of a final 1000 kilometre cable, which linked Vocus' existing North-West Cable System, running from Port Hedland to Darwin, to its Perth-based Australia-Singapore Cable – resulting in the first international submarine cable connection into Darwin.

The cable was supported by a \$7.9 million investment from the Northern Territory Government as part of its Terabit Territory strategy.

The project is a significant milestone towards Darwin becoming a major digital hub for the region. It will provide substantial direct and indirect benefits for northern Australia by supporting the connectivity needs of local businesses and communities with more reliable communications. This will benefit a wide range of stakeholders from remote Indigenous communities through to resource operators in the Pilbara by providing low-latency connectivity directly into Asia and enable locals to connect on a global scale.

The cable will also enhance the resilience and security of Australia's international cable network, ensuring uninterrupted and reliable connectivity, including during natural disaster and faults on other cables. This will provide businesses, governments, and individuals with greater confidence and assurance that their communication needs will be met – even in challenging circumstances.

The launch of the Darwin-Jakarta-Singapore Cable will deliver 40 terabits per second of internet capacity between Australia and Asia and pave the way for new data centres in Darwin to put us on the map as a key digital hub.

Further large scale networks are in development.

HyperOne's \$1.5 billion data super highway will be Australia's first hyper scale national fibre network, currently proposed to incorporate 3 routes connecting Darwin to:

- Adelaide, stage 1, (through the spine of the Northern Territory)
- Brisbane (along the Barkly Highway via Townsville)
- Perth (via a subsea connection).

HyperOne's planned network, once complete, will comprise over 20 000 kilometres of new high speed fibre cable across Australia including approximately 2200 kilometres through the Territory, capable of carrying over 10 000 terabits per second.

Hawaiki Nui is a 26 000 kilometre submarine cable connecting New Zealand, Australia, Indonesia, Singapore and the United States.

With a design capacity of 240 terabits, the Spatial Division Multiplexing (SDM) cable system will include up to 20 fibre pairs and link Singapore, Jakarta, Darwin, eastern Australia, the South Island of New Zealand, Hawaii and Los Angeles. The cable is intended to be ready for service in 2027.



Inligo Network Asia Connect (ACC-1) Cable 1 is a privately funded international subsea cable connecting Darwin to South East Asia (Singapore, Medan, Jakarta, Makassar, Dili, Manado and Guam), Japan and the United States. The ACC-1 Cable has 16 fibre pairs with a combined capacity of circa 256 terabits per second. The network will support a minimum of 40x400 gigabit per second wavelengths per fibre pair. This new system will provide an alternate, low latency, high capacity transmission service path between customers in Sydney, Canberra, Melbourne, Adelaide and Darwin with connections into South East Asia and the north Pacific, all delivered on a unified optical platform across the terrestrial and subsea cable systems.

Inligo Network Unite Cable System (Unite) is a private terrestrial fibre network, which will provide additional links:

- Phase 1 is a new link between Darwin and Adelaide
- Phase 2 will extend links from Adelaide to Melbourne, Canberra and Sydney
- Possible subsequent phases are a branch connecting to Papua New Guinea (with potential opportunities to connect Nhulunbuy and Groote Eylandt).

Unite will connect directly into Inligo's ACC-1 Cable system.

The total integration between the international ACC-1 Cable system and the domestic Unite terrestrial system will provide customers seamless connectivity between Darwin, South East Asia, Japan and the United States while also enabling connectivity to the southern capitals, all on the one, fully integrated platform. This functionality will provide Darwin based data centre operators and their customers the shortest routes available into South East Asia and southern Australia, opening up new industries supported by the leading edge connectivity provided by ACC-1 and Unite.

NEXTDC will construct its \$80 million premium grade (D1) data centre in the Darwin CBD. This centre is the key enabler of the Territory Government's Digital Territory Strategy that is aimed at positioning Darwin as a highly competitive location to maximise growth and investment in the local digital economy.

DCI is developing a TIER-Ready III, secure cloud edge data centre, called DRW01, able to support an IT load of up to 10 megawatt with the initial development on a 2.7 hectare site in the Darwin, Palmerston and Litchfield region with an option to expand to 5 hectares. DCI recognises the Northern Territory's position as the digital gateway to Australia's forward-facing defence and space industries, as well as Asia to the north. Darwin is a strategic location in Australia and has already created a digital ecosystem with key elements such as a renewable energy, international and Australia-wide network connectivity.

“All digital highways lead into or through Darwin and that will equal jobs of the future, while growing our digital industry. Driving digital investment in the Territory will open the door to new opportunities for advanced manufacturing, data-centres and cloud-based computing services for Territorians and investors.”



Above: Wutunugurra communications tower. Credit: Telstra.

## 8 Enabling infrastructure for developing the Beetaloo Sub-basin

The Beetaloo Sub-basin is one of the most prospective areas for shale gas and liquids in Australia.



Resources



Transport and Logistics

Beetaloo onshore gas has the potential to be one of the lowest cost gas sources in the country. It could reduce Australia's dependency on petroleum product imports, facilitate downstream processing and manufacturing industries in the Northern Territory and potentially support energy security and provide gas to the east coast gas market.

Developing the Beetaloo basin will require public and private investment in new infrastructure to get gas to market. This will include pipelines and additional compression facilities to increase existing pipeline capacity, waste and waste-water treatment facilities, upgrades to roads and an aerodrome.

Supporting infrastructure will also include road, rail aviation and utility infrastructure that could also benefit other users in the region.

We have over 500 trillion cubic feet of gas in place in one layer of the Beetaloo Sub-basin, which is currently being appraised.

The Beetaloo Sub-basin is situated in a very remote and sparsely populated area of the Territory which has a very low standard of infrastructure, with little capacity to support new industry development and provide reliable supply chains to market.

Early infrastructure investment is required to capture the potential for the Beetaloo Sub-basin to be a new globally significant gas resource. This infrastructure investment will target supporting a multi-user environment, not only for the development of the basin but also for potential downstream manufacturing in northern Australia and other industries in the Territory.

The public road network within the Beetaloo Sub-basin consists of the Stuart Highway, Carpentaria Highway, Buchanan Highway, Western Creek Road and Gorrie Dry Creek Road.

The Australian and Northern Territory governments have jointly committed \$367 million to plan and deliver priority road upgrades throughout the Beetaloo Sub-basin. The road upgrade projects will provide crucial enabling infrastructure for the growing gas sector and support existing road users, industry and communities by providing more reliable transport and freight links. This in turn will improve safety and travel times, reduce vehicle operating costs and improve flood immunity to increase year round access.

The Northern Territory Government is currently upgrading the Carpentaria Highway, which will be a key road that services the Beetaloo Sub-basin as it moves through exploration, appraisal and development.

Investment in road upgrades will unlock significant job creation and economic potential for the Northern Territory.



Above: Workers camp for Carpentaria Highway.  
Credit: Exact Contracting.

## 9 Marine Industry Park

The Marine Industry Park is strategically located on premium waterfront land at East Arm with connections to road, rail and sea transport and other supporting infrastructure.



Land



Marine

The Marine Industry Park is 16 kilometres by road from Darwin CBD and adjoins East Arm Wharf. It provides opportunities to enhance support for the marine and offshore industries, complementing services already available within the region.

Centrally positioned on Australia's northern coastline, the Marine Industry Park is the only significant vessel servicing point between Cairns in Queensland and Perth in Western Australia. Located within Darwin's deep water harbour, the Marine Industry Park provides a new opportunity to effectively service vessels operating across northern Australia and the Indo-Pacific region.

The first stage of the Marine Industry Park included an all tide barge ramp that is an accredited first point of entry for the Darwin Port. This is supported by 9 hectares of secured hardstand with 24-hour access for storage and fabrication activities. The barge ramp and hardstand are available for use on a commercial basis. Stage 2 of the Marine Industry Park will comprise a further 4 hectares of land for marine maintenance workshops and supporting services.

Establishing vessel maintenance workshops on serviced lots within the Marine Industry Park is an essential component to fulfil the economic activity and job creation opportunities expected to be enabled by the Darwin Ship Lift Facility.

The Darwin Ship Lift Facility will provide the capability to undertake major maintenance of Defence, Australian Border Force and commercial vessels, including from the oil, gas and marine sectors.

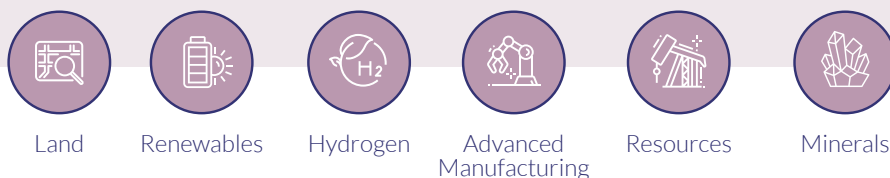
Once operational, the Darwin Ship Lift Facility will be a catalyst for developing a marine maintenance and servicing industry. It will create 100 direct jobs during construction and it is anticipated approximately 400 ongoing full time jobs will be created in the marine services industry during the operational phase.



Above: Stage 1 Marine Industry Park.

# 10 11 12 13 14 Middle Arm Sustainable Development Precinct

The Middle Arm Sustainable Development Precinct will provide a strategic, sustainable and high-tech blueprint for the future of Australian industrial hubs.



The Middle Arm Sustainable Development Precinct (the Precinct) is strategically located at the intersection of key existing enabling elements such as water, gas, power, rail and road infrastructure, with potential for deep water export port facilities.

It is home to a globally significant liquefied natural gas (LNG) export hub with the Darwin LNG and Ichthys LNG projects supplying over 10% of Japan’s annual global gas imports.

The Precinct represents an ambitious and transformative project aimed at establishing a globally competitive and sustainable industrial precinct. With a primary focus on low emission hydrocarbons, renewable hydrogen, carbon capture, use and storage, advanced manufacturing and minerals processing, this visionary endeavour is aligned with the Australian Government’s commitments to sustainability, decarbonisation and fostering economic growth.

Sustainable outcomes and protecting Darwin Harbour’s environmental values are at the core of planning for the Precinct.

The essential elements and opportunities of a sustainable development precinct as it relates to Middle Arm include:

- maximising renewable energy use
- maximising economic outcomes while minimising environmental and social impacts
- efficient water use including reuse where possible

- circular economy principles including reusing waste streams (such as using waste as a feedstock) and carbon capture
- efficient use of infrastructure.

The Northern Territory Government is committed to meaningful engagement, led by Traditional Owners and in consultation with all stakeholders, to inform the design, delivery and management of the Precinct, ensuring preservation of values associated with the site and providing the potential for economic opportunities into the future.

The Strategic Environmental Assessment of the Precinct is a first for the Northern Territory and is aimed to deliver certainty for both business and community, outlining the types of development activity approved to occur, and the conditions under which they may operate. The community has an opportunity to provide feedback to inform decisions on proposed activities throughout the life of the project, including the next formal feedback point, which is the public exhibition of the draft Environmental Impact Statement (EIS).

In 2023, the Common User Infrastructure at the Middle Arm Precinct Stage 2 Business Case was provided to and accepted by Infrastructure Australia. Work is underway to develop the Stage 3 Business Case.

The Precinct is a key economic enabler that leverages the Northern Territory’s significant endowment of natural resources and strategic minerals. Growth in the downstream gas processing industry in Darwin will bring broader and deeper benefits for the national economy and contribute to Australia’s energy security.



The Northern Territory can use these abundant resources to manufacture on an international scale, competing with other countries for both high volume and high value commodity markets.

The Precinct will also provide the opportunity to capitalise on the Northern Territory's proximity to large Asian markets.

The Precinct is attracting significant interest and will enable the development of an interconnected hydrogen industry and utilise carbon capture to accelerate low emission industry development. In June 2023, the Northern Territory Government took the next big step towards developing the Precinct as a new clean energy, investment and jobs powerhouse.

To give interested companies certainty as they develop projects at the Precinct the Territory Government provided 5 proponents a commitment 'not to deal' over specific parcels of land. These commitments mean that their preferred sites in the Precinct will be set aside for up to 12 months to provide each proponent confidence and certainty to continue developing their proposals.

These companies will now progress their facility designs, engineering work and pre-feasibility studies and environmental approvals. They will be required to comply with all conditions set by the NT Environment Protection Authority as part of the Strategic Environmental Assessment process for the Precinct which is currently underway.

## 10 Avenira Limited's Lithium Cathode Battery Manufacturing Project



Resources

Advanced  
Manufacturing

In September 2023, Avenira executed 2 agreements with its technology partner Advanced Lithium Electrochemistry Ltd ('ALEEES') granting Avenira the right to use ALEEES intellectual property for the manufacture and distribution of Lithium Ferro Phosphate (LFP) active cathode material.

These formal agreements follow the signing of a non-binding memorandum of understanding with the Northern Territory Government and ALEEES in September 2022 to work together to develop and operate the Territory's first battery cathode manufacturing project at the Middle Arm Sustainable Development Precinct.

ALEEES is a global leading supplier of high-end cathode materials and one of only 2 producers of battery-grade lithium iron-phosphate (LFP) cathode active material outside of mainland China. They have partnered with Avenira to develop a new facility to meet expected orders from electric vehicle and stationary storage battery suppliers.

In June 2023, Avenira received a commitment to a 9 hectare site at the Middle Arm Sustainable Development Precinct to develop and operate the Territory's first battery cathode manufacturing project. Avenira consider the precinct well suited

to LFP manufacturing with proximity to key logistics infrastructure for access to raw materials and to planned renewables for low emission energy.

The LFP plant will initially import all feedstock to produce an initial 10 000 tonnes, increasing to 30 000 tonnes per annum (tpa) of precursor battery cathode material exported to battery cell manufacturers in Japan, Korea and Malaysia. It is estimated the LFP plant will initially create 100 jobs, growing to 300 jobs and generating up to \$1.5 billion average annual revenue to the Territory economy.

The proposed second stage of the project will increase capacity to 100 000 tpa and include a plant to convert yellow phosphorous metal to thermal phosphoric acid. The yellow phosphorous metal will be sourced exclusively from Avenira's Wonarah phosphate project once upstream development is complete.

## 11 Fortescue Green Hydrogen Hub



Renewables



Hydrogen

Fortescue is a global metals and green energy company focused on developing a green hydrogen hub, comprised of green hydrogen and green ammonia production and export facilities at the Middle Arm Sustainable Development Precinct.

Green hydrogen is a zero-carbon fuel that, when used, produces primarily water. It is a practical and implementable solution that can help revolutionise the way we power our planet and help to decarbonise heavy industry and create jobs globally.

Fortescue is planning to use green hydrogen to power hydrogen fuel-cell electric vehicles and to decarbonise the company's mining fleet including light vehicles, trucks, trains and drill rigs.

Green hydrogen can also be used for a number of other purposes, including to create synthetic aviation fuels to replace aviation kerosene or as hydrogen in fuel-cells, replace fossil fuel based hydrogen in industrial processes, make it into green ammonia for use as fuel for shipping and rail and to create green fertilisers for the agriculture industry.



Tamboran is an ASX listed (TBN) natural gas company with a vision of supporting the energy transition in Australia and the Asia-Pacific region by developing low reservoir CO<sub>2</sub> unconventional gas resources in the Northern Territory.

Tamboran's pure focus is the Beetaloo/McArthur Basin in the Northern Territory. Tamboran is one of the largest acreage holders in the Territory with an estimated 1.9 million net prospective acres in the Beetaloo Sub-basin, held through 100% owned properties and two joint ventures – one with Santos and the other with Falcon Oil & Gas and Daly Waters Energy LP (Sheffield).

The Beetaloo Sub-basin is located approximately 600 kilometres south of Darwin, which has the potential to grow into a major industrial hub linked to the Beetaloo via key infrastructure such as roads, gas pipelines and rail.

Tamboran and its joint venture partners are proposing a staged development of the Beetaloo Sub-basin. Stage 1 will involve supplying natural gas into the NT gas market, with first gas expected in early 2026. Stage 2 will supply gas into Australia's east coast gas market, and Stage 3 will deliver LNG to our regional trading partners via a new LNG export facility located in Darwin.

In May 2023, the Northern Territory Government provided Tamboran 12 months exclusivity over 170 hectares (420 acres) of land within the Middle Arm Sustainable Development Precinct (Middle Arm) for a proposed LNG development, Northern Territory LNG (NTLNG).

Gas from Tamboran's proposed NTLNG facility will play an important role in the decarbonisation plans of our trading partners in Asia and beyond.

To support Tamboran's vision to developing the Beetaloo Basin, the company has entered into several strategic partnerships and agreements with major international energy corporations and infrastructure companies.

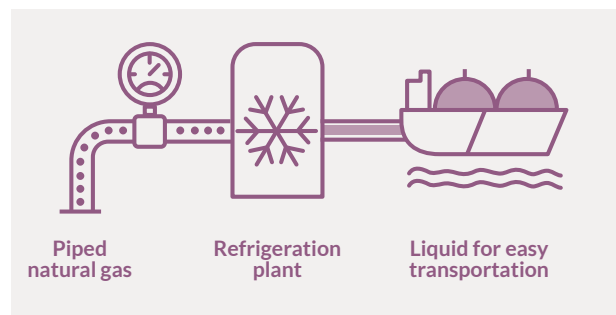
- In April 2023, Tamboran welcomed the arrival of Helmerich & Payne's super-spec FlexRig® Flex Rig 3 in Australia from the United States and the new rig has already delivered significant improvements in drilling efficiency. H&P has invested directly into Tamboran and is a significant shareholder. The rig allows Tamboran to drill longer horizontal sections within the

shale, which is expected to reduce Tamboran's environmental footprint in the basin.

- Tamboran has selected APA Group as its preferred transmission pipeline partner for its Beetaloo Sub-basin development, with the intent of connecting the Beetaloo to Australia's east coast gas market and the proposed NTLNG development.
- Tamboran has signed six non-binding Letters of Intent with Australia's largest gas and energy retailers for 220 – 320 petajoules per annum for up to 10 – 15 years into Australia's east coast gas market.
- Tamboran has entered into two non-binding memorandums of understanding with BP Singapore and Shell Eastern Trading regarding the potential purchase of 4.4 million tons of LNG from NTLNG. Tamboran is targeting formal execution of the LNG Sale and Purchase Agreements in 2025.

Important to the overall integrated development, Tamboran aspires to deliver a Net Zero Scope 1 and 2 project at the commencement of commercial production through the integration of renewable energy, carbon capture and storage, and carbon offsets.

#### Low Co<sub>2</sub> energy transition





Above: Middle Arm Sustainable Development Precinct concept. Credit: Department of Infrastructure, Planning and Logistics.

13 Tivan Limited



Resources



Minerals



Advanced  
Manufacturing



Renewables



Hydrogen

In January 2023, Tivan Limited changed its name from TNG Limited and has since announced it is relocating its corporate headquarters to Darwin.

In February 2023, Tivan acquired the Speewah Vanadium Titanium-Iron Project near Wyndham, WA, and announced its plans to construct the TIVAN Processing Facility at the Precinct. Tivan is proposing to produce vanadium oxides at Speewah in support of the development of a large-scale renewable value chain across northern Australia.

As part of its revised development pathway, Tivan is committed to 2 near term initiatives in Darwin, each involving advanced renewables technologies:

A large-scale Vanadium Electrolyte Facility, with phased-in capacity of 500 megawatt-hours per year (MWh/yr), to be located at the Middle Arm Sustainable Development Precinct. This initiative was announced on 31 October 2023, in conjunction with an agreement with Larrakia Energy to provide up to 30MW of solar energy to power the facility.

A Pilot Plant, developed in conjunction with CSIRO, for the TIVAN+ critical minerals processing technology, provisionally located at East Arm, in cooperation with Investment Territory and Land Development Corporation.

The TIVAN+ technology is capable of processing hard rock vanadium ore bodies to produce 3 commercial grade products: vanadium, titanium and iron.

In April 2023, Tivan entered into a letter of intent with SunCable for the potential provision of 200-300MW of dispatchable renewable energy to the planned TIVAN Processing Facility.

In May 2023, Tivan entered into a memorandum of understanding with Charles Darwin University to further collaborative pathways in critical minerals and renewable energy.

In October 2023, Tivan retained Hatch for an engineering review of its development pathway, in advance of an expected pre-feasibility study to be completed in 2024.

Tivan is also actively exploring the Sandover Project, located near Ti Tree in Central Australia. In October 2023 Tivan announced that targets had been identified in copper and lithium, confirming a next phase of exploration, ahead of a potential drilling program in 2024.

## 14 Total Eren Australia H2



Resources



Electricity



Renewables



Hydrogen

Total Eren Australia H2 (TEH2) is a joint venture between Total Energies and Eren Groupe focused on the development, investment and ownership of global renewable hydrogen (H2) projects. Total Energies is a leading multi-energy company with a presence across 130 countries and revenue exceeding USD \$263 billion in 2022.

Eren Groupe is dedicated to natural resources efficiency with a strong track record in renewable energy development and investment. Since 2020, TEH2 launched pioneering green hydrogen projects in North Africa, Latin America and Australia.

TEH2 is developing the Darwin H2 Hub, which is a proposed renewable green hydrogen production facility located at the Middle Arm Sustainable Development Precinct with an associated solar farm and transmission assets. The initiative will produce approximately 75 000 tonnes of green hydrogen a year and other decarbonised products such as green ammonia and e-methanol. Development commenced in 2021 and the Darwin H2 Hub will contribute to the Territory's energy transition and enable domestic and international companies to move towards sustainability and decarbonisation.

The Northern Territory Government signed a Memorandum of Understanding in August 2022 to fast-track the proposed Darwin H2 Hub. Significant environmental and technical studies are currently underway.

**TEH2 anticipates that the Darwin H2 Hub will deliver approximately 800 jobs during construction and 175 ongoing operational jobs.**

TEH2 identified early in the process that the Precinct is a suitable location for hydrogen processing and export with the company values aligning with the vision for the Precinct.

### Carbon capture, utilisation and storage at Middle Arm

Carbon capture, utilisation and storage (CCUS) is a proven process that captures carbon dioxide emissions, preventing entry into the atmosphere. CCUS is a critical emissions reduction technology that supports clean energy transitions.

Carbon captured and transported to the proposed hub at Middle Arm will either be stored or used. Storage at the Precinct would entail carbon being sent via a pipeline to geological storage outside of Darwin.

There will also be opportunity for industries to utilise carbon captured at Middle Arm to produce other valuable products. An example of carbon being utilised, or reused, is to make urea, a common fertiliser.

Another example is cement where manufacturers are developing technologies to inject carbon into their manufacturing process. This improves product performance and offsets emissions.

## 15 National Aboriginal Art Gallery

The National Aboriginal Art Gallery project is an exciting and transformative endeavour to create a world-class destination celebrating the artistic traditions and cultural expressions of Australia's Aboriginal and Torres Strait Islander peoples. It will be a space that honours the stories and truth-telling of First Nations people nationally.



Tourism



Lifestyle

The National Aboriginal Art Gallery continues to progress, with the Territory Government acquiring Anzac Oval and the design well advanced. The gallery is part of the Anzac Hill precinct, which includes a new Tourism Central Australia visitor information centre, realigning Schwarz Crescent and landscaping, featuring the Kwatye (water) play initiative.

The Northern Territory Government has committed approximately \$69 million to deliver the precinct, and the Australian Government has committed a further \$80 million to support the gallery.

The gallery will be First Nations led and governed, and include:

- expansive public spaces
- public amphitheatre green space
- healing gardens protecting sacred sites
- Kwatye (water) play

- cultural welcoming circle
- an event space and café
- a 4 level atrium.

The gallery is a project of national significance and will position Central Australia as a key destination for cultural tourism. Construction is expected to commence in 2024 and be completed in 2027.

The National Aboriginal Art Gallery will generate economic benefits for the community with up to 260 full time jobs created during construction and once operational, is expected to attract visitors from around Australia and the world.



Above: Concept of National Aboriginal Art Gallery. Credit: BVN Architectural and, Susan Dugdale & Associates.

## 16 Northern Territory freight rail and logistics capacity improvements (Regional logistics hubs)

Logistics and supply chains are fundamental to supporting the viability of projects key to the Northern Territory’s economic growth. They also have significant employment and investment impacts in local communities.



Community resilience and social benefits will result from improved local supply chains for consumer and essential goods. This will support the living standards in remote and regional towns needed to support growth and the delivery of private projects.

Improving rail efficiency and intermodal capacity in supply chains will support the NT Government’s objective to achieve a \$40 billion economy by 2030 by developing mining, agriculture and energy projects.

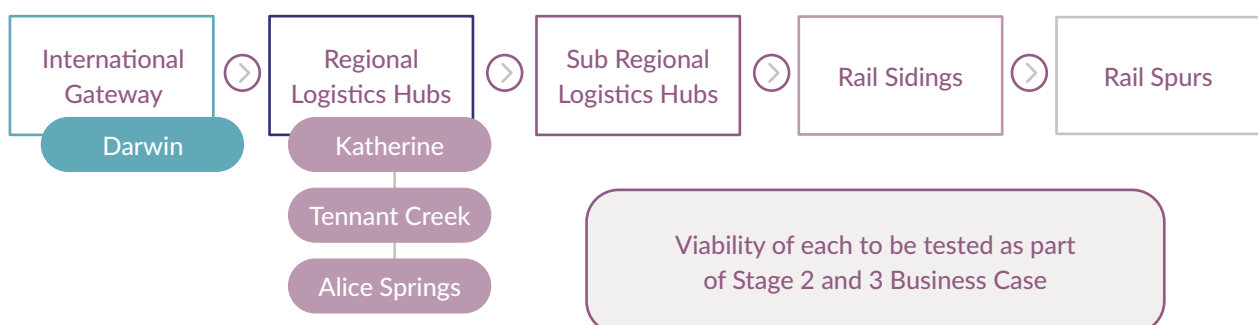
The Northern Territory Government is implementing actions to ensure logistics support rather than constrain industry and economic growth.

The Northern Territory Government has established a solid evidence base of demand for freight and supply chain capacity across agribusiness, minerals and energy, manufacturing, defence, digital and social sectors and is working with the Australian Government and the private sector to meet this demand.

Increases in capacity of port, rail, road, storage and warehousing will be needed to facilitate the growing freight task.

In the Northern Territory’s larger communities across the main freight corridor, regional logistics hubs will be developed to consolidate, store and transfer freight between road and rail networks between project and port. These regional logistics hubs will include:

- community distribution facilities to increase resilience in supply chains to distribute food and essential supplies across remote Northern Territory
- skills training facilities to provide real employment opportunities in these communities
- waste recycling facilities, which are essential to enabling a circular economy across the Northern Territory
- strategic staging facilities to enable laydown areas at strategic sites and more capacity and flexibility across the National Land Transport Network
- fuel facilities to enable hub and spoke logistics arrangements to reduce constraints on the road transport industry.



These regional logistics hubs will create the focal points for an increasingly efficient and resilient supply chain to foster a range of benefits.

- **Economy:** every project and development across the Northern Territory relies on transport of goods for construction, production and trade. The time and cost efficiency of this transport flows through to every sector of the economy.
- **Community:** a resilient transport network results in less frequent and less impactful disruption of supply chains. Increasing the proportion of freight that can travel by rail reduces the interface between private road users and heavy freight vehicles.
- **Environment:** reducing the distance freight travels and utilising the optimal freight mode contributes to reducing greenhouse gas emissions.

The Australian Government committed \$440 million in October 2022 in planned equity to support the delivery of the network of regional logistics hubs. The Northern Territory and Australian governments recognise the significant opportunity to grow the freight catchment area and increase the proportion of freight transported internationally via Darwin.

The Northern Territory freight rail and logistics capacity improvements Early Stage Proposal (Stage 1) Business Case was provided to and accepted by Infrastructure Australia in 2023 for inclusion on the Australian Infrastructure Priority List. Work is underway to develop the Potential Investment Options (Stage 2) Business Case.

The estimated total investment proposed from projects in mining, minerals and energy industries across the Northern Territory is over \$38 billion. This investment is estimated to support more than 6 000 construction jobs. Much of the investment and employment increase will occur in remote and very remote regions with higher proportions of First Nations people.



Above: Railway crossing. Credit: Department of Infrastructure, Planning and Logistics.

# NORTHERN TERRITORY REGIONAL LOGISTICS HUBS

**KEY**

- Regional Logistics Hubs
- Sub Regional Logistics Hubs
- Rail Sidings
- Rail Spurs
- Highways
- - - - - Rail Line
- · - · - Rail Spur being considered

Disclaimer: This map is to be used as a guide only.





The Northern Territory Government, through the Power and Water Corporation's not-for-profit subsidiary Indigenous Essential Services (IES), provides electricity to 72 remote communities and 66 outstations across the Northern Territory.



Renewables



Solar



Lifestyle

Power and Water delivers these services through the Department of Territory Families, Housing and Communities on behalf of the Northern Territory Government. This network includes 9093 customer connections across 51 power stations.

Diesel engines are the main technology used to generate electricity for regional and remote communities, with about 25 million litres of diesel used each year.

With the operating costs of transporting diesel to remote communities continuing to increase, the Office of Sustainable Energy is working on strategies to deliver 70% renewable energy penetration to all 72 remote communities.

As the largest isolated off-grid solar program in remote communities, the Solar Energy Transformation Program (SETuP) is a world-first.

Delivery of this strategy is also an action under the Territory Government's Climate Change Response and a recommendation of the Territory Economic Reconstruction Commission to transition Indigenous Essential Service communities to renewable-based systems by 2030.

The strategy builds on the success of the Solar Energy Transformation Program (SETuP). The \$60 million program is co-funded by the Territory Government and the Australian Renewable Energy Agency (ARENA) and delivered 10 megawatts of solar generation to 25 remote communities.

Planning activities are underway to facilitate external investment in renewable remote power systems in communities to maximise opportunities for local industries, create jobs for Territorians and strengthen local skills and expertise.

The Northern Territory Government is progressing detailed analysis of each community to map the optimal renewables development pathway, considering existing energy assets, community aspirations, electricity demand profiles and forecast growth.

In addition to the community focused detailed analysis, the project will identify available land for solar development in each community. It will also include pilot projects and studies to facilitate greater levels of distributed energy supplies and emerging technologies, such as hydrogen and microgrids.

## 18 SunCable – the Australia-Asia Power Link



SunCable is developing the Australia-Asia Power Link (AAPowerLink), a world-leading project harnessing Australia’s abundant land and solar energy. AAPowerLink will be one of the world’s largest solar farms and battery systems, which will harness solar energy from the Barkly region in the Northern Territory, for 24/7 dispatch to Darwin and Singapore via a 5000 kilometre high voltage direct current (HVDC) transmission system.



Renewables



Solar

SunCable’s energy projects will position the Northern Territory as a world leader in intercontinental transmission of renewable electricity. The AAPowerLink will stimulate the growth of a renewable infrastructure industry in the Northern Territory.

The AAPowerLink will initially provide 800 megawatts (MW) of electrical capacity to the Darwin region and will facilitate the electrification of new and existing industries, supporting large-scale economic development, while reducing greenhouse gas emissions.

The AAPowerLink is a \$35 billion project that will deliver significant strategic, economic and social benefits to the regions in which it will operate.

It has the potential to create thousands of jobs, opportunities for local businesses and suppliers, as well as innovation and investment in Australia, Singapore and Indonesia.

Benefits include an estimated \$8 billion in investment in Australia during the 4 year construction period, with most of that spent in the Northern Territory and an estimated 1750 direct construction jobs and approximately 350 long term operational jobs for the 70 year life of the project.

## 19 Tanami Road upgrade

Reliable road connections support the movement of freight for existing and emerging economic activities such as mining, agriculture, tourism and defence. For remote parts of the Northern Territory, reliable road connections also improve a range of social indicators such as employment, health and education outcomes.



Resources



Agribusiness



Lifestyle



Tourism



Defence

The Tanami Road is a 1014 kilometre direct link from Halls Creek, Western Australia to the north of Alice Springs in the Northern Territory. The road condition along the 703 kilometre Northern Territory section of Tanami Road, from the Stuart Highway turn off 19 kilometres north of Alice Springs to the Western Australia border, comprises 330 kilometres of sealed and 373 kilometres of unsealed road.

Under the current conditions, the Tanami Road is closed or restricted to all traffic for long periods during the wet season – up to 60 days per year in some sections. This limits mobility and access to communities along the Tanami Road and prevents inter-regional tourist and freight traffic from using the Tanami Road all year round.

Sections of the road are closed to heavy vehicle traffic for longer periods. During these seasonal events, there are safety issues for road users due to poor road geometry, excessive corrugations and poor visibility as a result of dust.




















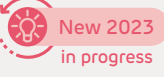
Although not included on the National Infrastructure Priority List, the Australian Government committed to upgrade the Tanami Road as it is strategically important to the Northern Territory and Western Australia. It is also recognised as being nationally significant, due to its importance to developing northern Australia. The Australian and Northern Territory governments have committed \$262.5 million on an 80:20 co-funding basis to upgrade the Tanami Road within the Northern Territory under the current Roads of Strategic Importance (Alice Springs to Halls Creek) program. The Western Australian Government has also received funding for its portion of the road.

The October 2022 Federal Budget committed \$350 million of additional Australian Government funding on the same 80:20 basis, to continue upgrading the Tanami Road and the Central Arnhem Road. The funding split allocates \$250 million to the Tanami Road and \$100 million to the Central Arnhem Road.



## Implementation pathway

The suggested implementation pathway are actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>Nationally significant projects, programs and proposals</b>		
Progress Stage 2 submission (Potential Investment Options) to Infrastructure Australia for enabling infrastructure to develop the Beetaloo Sub-basin (as all road upgrades are now funded, this will be for the remaining infrastructure required)	 Reform	 In progress
Progress Stage 2 submission (Potential Investment Options) to Infrastructure Australia for common user infrastructure at the Middle Arm Sustainable Development Precinct	 Reform	 Achieved
Progress Stage 3 submission (Investment Ready Proposal) to Infrastructure Australia for common user infrastructure at the Middle Arm Sustainable Development Precinct	 Reform	 In progress
Submit Stage 1 submission (Early Stage Proposal) to Infrastructure Australia for Northern Territory freight rail and logistics capacity improvements	 Reform	 Achieved
Progress Stage 2 submission (Potential Investment Options) and Stage 3 submission (Investment Ready Proposal) to Infrastructure Australia for Northern Territory freight rail and logistics capacity improvements	 Reform	 In progress
Submit Stage 1 submission (Early Stage Proposal) to Infrastructure Australia for the Marine Industry Park	 Reform	 In progress
Submit Stage 1 submission (Early Stage Proposal) to Infrastructure Australia for Central Arnhem Road	 Reform	 In progress
Remove and strengthen the Infrastructure Australia Priority List proposal "Enabling infrastructure and essential services for remote Northern Territory communities in Wadeye, Tiwi Islands, Jabiru"	 Reform	 Achieved
Accelerate planning for and delivery of residential, commercial and industrial land	 Reform	 In progress
Support job creation and business growth across the economy through developing waste recycling facilities in the network of regional logistics hubs, reducing the reliance on interstate waste processing and waste going to landfill	 New	 New 2023 in progress

# Territory-wide significant projects, programs and proposals

The Northern Territory holds the heart of the nation and is linked by a central spine to our northern capital of Darwin at the top of Australia. With a view to our Asian neighbours and bordered by 6 states, the Territory is in an enviable economic and environmental position.

The Territory's location and natural assets are our biggest opportunities as well as our biggest challenges.

The Territory is seen as one region but its size, physical remoteness, small population and 2 starkly different climates create a variety of challenges and opportunities.

Its natural landscapes are formed from tropical wet and dry seasons in the north and from winter through to summer in its desert centre.

The Stuart Highway and Adelaide to Darwin Railway link our centres from Alice Springs in the south to Tennant Creek, Pine Creek and Katherine in the north. Darwin sits on the edge of the Arafura Sea while our other coastal centre Nhulunbuy lies on the East Arnhem coast.

The Territory is one of the most linguistically diverse areas of the world with more than 100 different Aboriginal languages and dialects spoken, including Arrernte in Central Australia, Yolngu in Arnhem Land and Tiwi in Tiwi Islands near the Timor Sea, to name a few.

Each of the Territory's regions are distinct, including connection to travel and transport routes, local industry opportunities, infrastructure challenges, climate and environment, the people and areas they service, their natural landscape and man-made attractions.

Sustainable workforces, biosecurity, digital connectivity, water security, land tenure, housing availability and transport infrastructure gaps are common challenges across our regions.

Our opportunities include the history and culture embedded in our remote areas and regions. It is in the regions where population growth, improved lifestyle and culture and economic opportunity will spread as major projects create jobs and local business growth.

Our regions are the Territory's growth hubs and include:

- Darwin, Palmerston and Litchfield
- Top End
- Big Rivers
- Central Australia
- Barkly
- East Arnhem

This Plan and Pipeline explores the strengths, gaps and growth opportunities for our regions including major industries and growth sectors, challenges and opportunities and key infrastructure priorities.

## Investment portfolio

The Territory-wide total investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the Territory-wide region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022–2023 Progress and Outlook: May 2023



Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.

Aurizon – Railway service expansion 20

Aurizon, an Australian company with more than 150 years of rail experience, is the nation's largest rail freight business and transports about 250 million tonnes for customers each year. Aurizon brings its scale and capability to the Northern Territory and looks forward to contributing to the NT Government's goal of building a \$40 billion economy by 2030.

In mid-2022, Aurizon invested \$1.4 billion to acquire the One Rail business in the Northern Territory and South Australia, including the Tarcoola to Darwin rail corridor. This investment recognises the strategic value and potential of the business in serving rapidly growing markets for resources, agribusiness, renewable energy and general freight.

The 2240-kilometre Tarcoola to Darwin railway is a nationally significant corridor with direct connection to the Port of Darwin, the closest port to Australia's largest trading partners in Asia. Aurizon is committed to improving the efficiency and capacity of this corridor, with targeted investment to benefit existing customers and to boost the viability of adjacent agricultural, mineral and energy projects under development.

In the first 12 months of operation, Aurizon has committed investment of more than \$50 million in new assets for the region, as well as preparing plans to increase the number of services along the railway as we respond to increasing customer demand. This also includes the potential opportunity to construct additional passing loops on the rail corridor and to build additional capacity in the Darwin/Berrimah rail terminal at the port.

As well as supporting customer growth and development of regional projects, these investments have the flow-on benefits of increasing local employment and supporting local communities and business. More than 80% of Aurizon's nationwide workforce of 5800 employees live and work in regional communities.









Above: NT railway near Alice Springs. Credit: Department of Infrastructure, Planning and Logistics.

## Enabling infrastructure plan

The enabling infrastructure plan for across the Territory lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Access road upgrades to barge landings and all-weather aerodromes	50	Improve all weather air and sea access to support accessibility, visitor growth and community safety	0-15
Across the Territory upgrade and new bores	•	Support improved water management	0-10
Aerodrome and airstrip upgrades	30	Support connectivity and improve all weather access to improve community safety, accessibility and support future growth	0-15
AFLNT facilities upgrade to support growth in girls and womens football	1	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Barge landing upgrades	150	Support economic development by improving all weather access and goods handling facilities	0-15
Football ovals install lighting	4	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Logistics Network continued expansion	•	Enable economic development by improving supply chains and transport	0-10
Mobile and/or broadband services	33	Enable connectivity and create digital opportunities	0-10
National highways bridge upgrades	40	Improve flood resilience and support accessibility, connectivity and amenity	0-10
Network of fast charging points for electric vehicles at key tourist and rural locations	5	Enable economic development and population growth through tourism led economy	0-10
Park facilities to enhance experience and access for visitors with limited mobility	•	Support accessibility, connectivity and amenity for all visitors	0-10
Public Transport upgrade bus stops	20	Support accessibility, connectivity and amenity for public transport passengers	0-15

Timeframe	
 0-5 Years	 0-10 Years
 5-10 Years	 10-15 Years
	 0-15 Years
	 15+ Years

• indicates value is either commercial in confidence or to be confirmed.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Rail passing loops		<ul style="list-style-type: none"> <li>Enable economic development by improving supply chains, processing and transport</li> </ul>	0-10
Remote Infrastructure Fund upgrade 40+ community facilities to support AFL	200	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-10
Tennant Creek to Darwin common user infrastructure corridor		<ul style="list-style-type: none"> <li>Support the continued development of our regions by providing an infrastructure corridor to enable future services including gas, water, communications and other utilities</li> </ul>	0-5
Territory Parks develop new visitor hubs in the Top End, Savannah Gulf, Barkly and Central Australia regions		<ul style="list-style-type: none"> <li>Value, preserve and expand access to parks, increase visitation opportunities and visitor experience</li> </ul>	0-15
Territory Parks two-wheel drive access improvements		<ul style="list-style-type: none"> <li>Value, preserve and expand access to parks, increase visitation opportunities and visitor experience</li> </ul>	0-15
Territory Parks water security projects		<ul style="list-style-type: none"> <li>Ensure water security to enable commercial opportunities</li> </ul>	0-10
Territory Schools air-conditioning mechanical and electrical upgrades	50	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Upgrade roads to communities		<ul style="list-style-type: none"> <li>Improve all weather access to support accessibility, growth and community safety</li> </ul>	0-15

## Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>Territory-wide</b>		
Plan for regional waste facilities	Reform	In progress
Develop options to ensure that entry level and affordable housing are in the market, including options to accelerate market participation by community housing providers	Reform	In progress
Complete Infrastructure Audit	Reform	Achieved

## Infrastructure pipeline

The following is a list of committed Territory-wide projects, funded by either government or the private sector.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across all regions upgrade critical water tanks	15.2	1.5	6.0	•	Support population growth by improving access to quality water
Across all regions water main replacement	14.4	2.9	4.5	•	Support population growth by improving access to quality water
Across all regions water services minor works	33.0	26.4	32.4	•	Support population growth by improving access to quality water
Alice Springs to Darwin corridor (Stuart Highway) road safety improvements	62.3		50.0	•	Increase road capacity, safety, support accessibility, connectivity and amenity
Community Housing Provider housing projects	7.0	•			Provide safe, secure and affordable housing for people on low incomes
Community Housing Provider redevelopment projects	4.4	4.4			Provide safe, secure and affordable housing for people on low incomes
Darwin-Katherine Transmission Line (DKTL) secondary systems upgrade	9.0	6.0			Asset renewal to support growth, compliance and improve service efficiency
Digital Connectivity Program	7.5	•	•	•	Enabling connectivity and creating digital equality
Government Employee Housing Build Program	186.0	48.0	30.0	•	Provide Government employees with safe, secure and appropriate housing while performing duties in remote locations
Government managed Remote Women's Safe House upgrades and remote play equipment	1.4	1.0			Support vulnerable people by improving community service facilities
Homeland housing and infrastructure upgrade program	77.0	•	•	•	Capital grant to upgrade ageing infrastructure to support communities
Homeland Learning Centres infrastructure upgrades	1.0		1.0		Upgrade ageing infrastructure to support the continued delivery of quality education
Indigenous Essential Services asset replacement	84.0	21.0	21.0	•	Support remote communities by improving essential services efficiency

A lesser figure in the 2023-24 and 2024-25 columns than in the Total column indicates either previous year expenditure or expenditure in outer years.

• indicates value is either commercial in confidence or to be confirmed.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Indigenous Essential Services capital improvements	21.0	7.0	7.0		Support remote communities by improving essential services efficiency
Indigenous Essential Services headworks to support development	70.0			•	Support population growth by increasing land availability
Information communications technology (ICT) cabling upgrades in schools	8.0	1.0			Enable connectivity and create digital opportunity
Infrastructure to support Territory Families, Housing and Communities remote services expansion	11.3	11.2			Improve outcomes for children and families
Mobile oral health dental unit replacement	0.7	0.7			Strengthen liveability by improving infrastructure to support oral health services
Planning works to support the development of land infrastructure planning, concept development and detailed design	41.0	4.0	4.0	•	Enable economic development and population growth by increasing land availability
Power Networks augmentation and capital projects	164.0	43.0	36.0	•	Asset renewal to support growth, compliance and improve service efficiency
Public Housing new builds	8.5	•			Provide safe, secure and affordable housing for people on low incomes
RAAF Base Darwin and Mt Bunday Training Area – National Airfields Works	351.0			•	Maintenance to maximise existing infrastructure
Rail upgrades to support growth	•	25.0	25.0	•	Maintenance to maximise existing supply chain and transport infrastructure
Regional Logistics Hubs	440.0	10.0	50.0	•	Enable economic development by improving supply chains and transport
Remote Women's Safe House upgrades managed by Non-Government Organisation (NGO)	1.6	•			Capital grants to support vulnerable people by improving community service facilities
Replace critical asset elements in various hospitals, remote health clinics, schools and police stations	20.0	•	•	•	Ensure a safe and healthy work environment and best practice in the delivery of government services
Road Safety Program, including intersection upgrades, improvements for pedestrian safety, street lighting, truck parking bays, rest areas	267.0	15.0	80.0	•	Support connectivity, regional development and safety by improving key arterial and secondary roads

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Roads to Recovery Program targeted local road upgrades	24.7	•	•		Enhance road infrastructure to support accessibility, connectivity, safety and amenity
Security enhancements to police facilities	9.0	2.0	2.0	•	Support the continued delivery of quality police services
Targeted road safety projects, local roads and community infrastructure shovel ready projects	67.5	20.0	7.6		Australian and Northern Territory governments supporting infrastructure construction jobs across the Territory
Territory Schools air-conditioning mechanical and electrical upgrades	4.0	2.0			Upgrade ageing infrastructure to support the continued delivery of quality education
Training areas and ranges – United States Force Posture Initiative	711.0	•	•	•	Upgrade infrastructure to enhance defence capability and operations

## NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining and improving our quality of life. It provides us with the essential services we rely on, such as transport, energy, water and telecommunications, as well as social infrastructure such as hospitals and health centres, schools, policing and parks, and access to goods and services.

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.

The audit, as discussed in chapter 3, revealed several potential infrastructure needs. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in the regional sections of this document. The remaining Territory-wide audit items are listed below. These potential infrastructure needs could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of their ideas and proposals.



### Transport and Logistics

- 1600 kilometre rail corridor east to west through Ti Tree (total Australian corridor 3700 kilometres)



### Utilities

- Remote telecommunications and digital co-investment program
- Remote communities essential services infrastructure to support remote Aboriginal community development



### Social Infrastructure

- Aged care facilities
- Asbestos management of unidentified asbestos prior to Northern Territory Government infrastructure development
- Child care centre upgrade program
- Education facilities to support Learning on Country
- Government and industry housing
- New and improved (shaded) recreational facilities



Above: Sunset over Darwin Waterfront. Credit: Tourism NT.



## Darwin, Palmerston and Litchfield

The Larrakia people are the Traditional Owners and custodians of the region. Darwin, Palmerston and Litchfield have significant and fascinating histories from its dream time to European settlement, the region's involvement in World War II and the devastation and rebuilding of the city after Cyclone Tracy in 1974.

### The Darwin, Palmerston and Litchfield region:

- > is the fastest growing region in the Northern Territory with a growing population of nearly 150 000
- > has a naturally deep-water port covering a total of 3230 square kilometres and strategically positioned as Australia's closest port to Asia
- > has the potential to be Australia's digital gateway to Asia
- > Palmerston, a place for people, is the fastest growing Local Government Area in the Northern Territory
- > is central to the port, rail and international airport logistics infrastructure.

## Major industries and growth sectors in Darwin



Construction



Defence

The Traditional Owners of the region are the Larrakia (saltwater) people. Darwin, located in the tropical north of Australia, is a coastal city overlooking the picturesque Arafura Sea. Darwin is the Territory’s capital city and is the main population and administrative centre. It is the closest Australian capital city to Asia and is known as Australia’s gateway to Asia.

Darwin is home to a population of approximately 86 000 people who live in the city and its surrounding suburbs. Darwin has a young population with a median age of 34.7 and is known for being home to a young, diverse and multicultural population.

Major industries include defence, tourism, education and training, public administration and safety and health care. Darwin is the main service and supply centre for industries including mining, offshore oil and gas, tourism, pastoral and horticultural industries.

Darwin is a key gateway to the Territory’s regional centres and tourist attractions. Tourists have an array of options for travel to and from Darwin including the Ghan tourist passenger service, domestic or international flights via Darwin International Airport, cruise ships from Australian or international ports and several key highways linking Darwin to the rest of Australia.

Domestic and international tourists are attracted to the region to enjoy the city’s offerings, diverse multicultural experiences, markets and festivals, and to embark on adventures to world-renowned tourist attractions including Kakadu and Litchfield National Parks.

The Northern Territory is a critical defence and national security hub for the Australian Defence Force. Defence facilities located near Darwin city include the Larrakeyah Defence Precinct and HMAS Coonawarra and Defence Establishment Berrimah. The tri-service Defence facilities directly support Australian Defence Force operations and training. HMAS Coonawarra is the home port and support establishment for most of the Royal Australian Navy’s patrol boats and 2 army landing craft.

Darwin hosts several Defence exercises including Exercise Pitch Black – a biennial multinational air warfare exercise hosted by the Royal Australian Air Force (RAAF). Making use of RAAF Base Darwin and RAAF Base Tindal, Exercise Pitch Black takes place in the Territory’s vast northern airspace.

The Northern Territory Government supports and facilitates projects that enhance Defence capabilities in the north, including developing the Darwin Ship Lift Facility and Marine Industry Park.

Darwin’s position between Asia and Australia’s southern cities makes it an attractive export hub. Darwin Port – a natural deep water port with a multi-cargo handling facility – together with Aurizon’s rail connection provides a multimodal freight facility to service the mining, resources and agribusiness sectors.

The Northern Territory Government is working to bring new life and vibrancy to Darwin. The Darwin City Deal is a 10-year plan to grow Darwin as a vibrant and liveable tropical capital city, supported by a growing population and diverse economy.

The revitalisation of Civic and State Square is included within the City Deal to transform the precinct into a gateway for visitors with a centrally located gathering place, tropical gardens and expansive lawns. Civic and State Square will physically connect Darwin Harbour and the city.



Retail



Tourism



Health



Digital

The Northern Territory Art Gallery, which is currently under construction, will enable the Northern Territory to showcase its extensive art collection and host prestigious Australian and international exhibitions.

The new Charles Darwin University city campus is the cornerstone of the Education and Community Precinct and will offer public spaces for use and learning and education opportunities. The precinct, which is currently under construction, will improve Darwin's international competitiveness in the tertiary education sector.

### Challenges and opportunities

- Positioning Darwin as the capital of northern Australia and as a vibrant and liveable tropical capital city.
- Growing Darwin's population and diversifying the economy through key development projects and enabling infrastructure.
- Capitalising on Darwin's strategic geographic location for tourism, trade and defence.
- Ensuring social infrastructure aligns with community expectations and population demands are considered such as increasing housing supply to meet current and future industry demands.
- Ensuring major projects have investigated and considered cultural protocols and sites of significance during initial stages of project development to avoid risks and delays.
- Developing the workforce skills to capitalise on the region's economic development opportunities.



Above: Friends at the Deckchair cinema. Credit: Tourism NT.

## Major industries and growth sectors in Palmerston and Litchfield



Construction



Defence



Retail

The Palmerston and Litchfield region combines the Territory's youngest city with the engine room of future population growth within the Greater Darwin area.

Both Palmerston and Litchfield are growing vibrant regional hubs. Located 20 kilometres from Darwin, Palmerston is the second largest city in the Territory and acts as a regional centre for residents of Litchfield.

Palmerston and Litchfield are home to a population of approximately 63 000 people. Palmerston has a young population of families with a median age of 31.1 years and families nurturing children make up 58% of all households.

The Larrakia people are the Traditional Owners and custodians of the Darwin region.

Bordered by two light industrial areas, Palmerston is central to key transport infrastructure including Darwin Port, Adelaide to Darwin Railway and the Stuart Highway – the spine of the Northern Territory.

Major industries in Palmerston and the Litchfield region include construction, aquaculture, horticulture, cattle and crocodile farming, defence, and liquefied natural gas and helium production.

Palmerston has a significant defence presence with Robertson Barracks, a major Australian Army base located 15 kilometres east of Darwin in Holtze. The Base supports the bulk of the US Marine Rotational Force Darwin during their annual 6 month deployments as part of the United States Force Posture Initiative.

Developing East Arm will further support Defence. The Darwin Ship Lift Facility will have the capacity to lift vessels such as the Australian Defence Force's new fleet of offshore patrol vessels. The ship lift will be the only marine servicing point between Cairns in Queensland and Perth in Western Australia.

The Darwin Ship Lift Facility and Marine Industry Park will not only support Defence, it will also support the logistics and freight sectors and aid future oil and gas activity in the Territory.

Tourism plays an important role in the region's economy. Bounded by Van Diemen Gulf and the Timor Sea in the north, the Adelaide River in the east and Coomalie area in the south, Litchfield is a broad rural area known for its parks, rivers and wildlife. Berry Springs is the northern gateway to the spectacular waterfalls of Litchfield National Park and the eastern gateway to Dundee Beach, Wagait Beach and Mandorah.

Agribusiness is also a key sector in the region. With its lush landscape, expansive rivers, access to fresh water and wide, open spaces, the Litchfield region is a natural location for expanding aquaculture industries.

The Northern Territory Government is working with industry and the Australian Government to transform Middle Arm into a sustainable 'development ready' industrial precinct. Preserving the environment, including Darwin Harbour, for generations to come is an important part of meeting the sustainability objectives of the Middle Arm Sustainable Development Precinct (the Precinct).

The Precinct is proposed across approximately 1500 hectares of industrial land and will:

- capitalise on the Northern Territory's strategic location and excellent solar resources
- play a pivotal role in growing the Northern Territory's economy
- be designed to attract industries reflective of the Northern Territory's future economy including hydrogen, carbon capture, advanced manufacturing and minerals processing
- drive industry diversification, exports, job creation and population growth.

Palmerston and Litchfield are the engine room of future population growth for the greater Darwin region. With room to grow, the region is becoming one of the fastest growing areas in the Northern Territory.



This growth provides enormous opportunities to boost population but also poses a challenge to protect the region’s lifestyle, resources and precious natural environment. Infrastructure and land use planning are being fast tracked in major urban development zones, particularly in the areas of Holtze and Kowandi. The Territory Government is fast tracking the development of 5000 new residential lots at Holtze and Kowandi as part of its economic recovery plan and to accommodate future population growth. Holtze and Kowandi will be developed in stages with the first titles to be issued in 2024.

## Challenges and opportunities

- Balancing urban population growth and industrial development with rural lifestyle, cultural heritage and natural environment.
- Increase housing supply to meet current and future industry demands. Availability of housing is critical in growing new industry and supporting existing private sector employers to grow or diversify.
- Facilitating land use for strategic importance such as defence, major industry, utilities and environmental significance.
- Developing new and growth industry sectors including agribusiness such as crocodile farming and resources such as natural gas and solar.
- Developing the workforce skills to capitalise on the region’s economic development opportunities.



Above: Zuccoli Community Dog Park. Credit: City of Palmerston.

## Investment portfolio

The total Darwin, Palmerston and Litchfield investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the Darwin, Palmerston and Litchfield region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022-2023 Progress and Outlook: May 2023

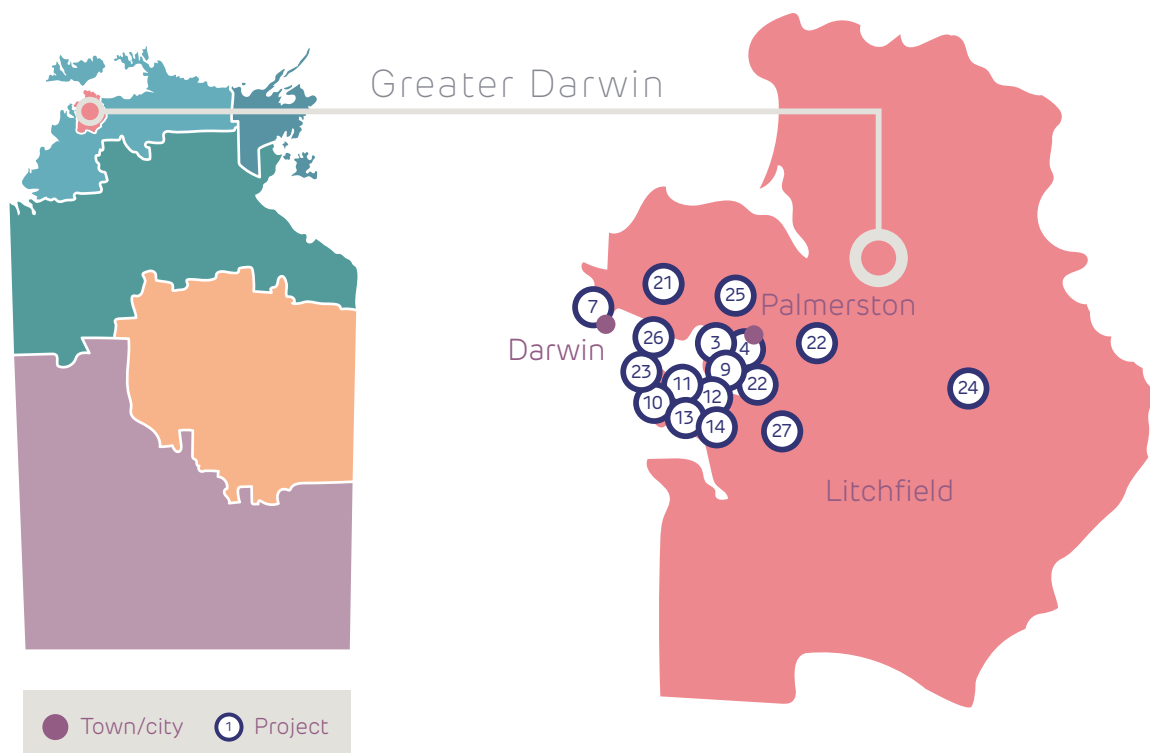


Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.



## Key projects, programs and proposals

The following nationally significant projects, programs and proposals located in the Darwin, Palmerston and Litchfield region are detailed in Chapter 8.

- Middle Arm Sustainable Development Precinct
  - Avenira Limited’s Lithium Cathode Battery Manufacturing Project
  - Fortescue Green Hydrogen Hub
  - Tamboran Resources Limited
  - Tivan Limited Vanadium Electrolyte Facility
  - Total Eren Australia H2
- Darwin Ship Lift Facility
- Marine Industry Park
- Data Centres
  - DCI data centres
  - NEXTDC

Advanced Manufacturing    Transport and Logistics



Amphibian ALBATROSS G-111T Aircraft Manufacturing 21

Amphibian Aerospace Industries (AAI) intends to set up an Amphibian ALBATROSS G-111T aircraft manufacturing facility in Darwin. Amphibian Aerospace Industries will become Australia's first manufacturer and exporter of the aircraft, which can take off and touch down from land, snow, ice and water.

Whether it is connecting communities on islands, rivers or lakes to major transport hubs, delivering people or important supplies to shipping, responding to emergencies at sea, or delivering aid following natural disasters where other infrastructure has been damaged, the aircraft will provide valuable capacity and speed in a cost effective manner.

Tourism

Lifestyle



Civic and State Square Precinct Revitalisation 7

Revitalising the Civic and State Square precinct in the Darwin CBD will activate a welcoming green central gathering place of the city, befitting of northern Australia's capital.

short-stay car park for the Supreme Court. Liberty Square is being redeveloped as a reflective, open green space to complement the prominent civic buildings in the area.

This will integrate public parkland with the Territory's state buildings including Parliament and Government House and Supreme Court, as well as Darwin's CBD, the Darwin Waterfront (a premier lifestyle precinct), and heritage features and buildings within Darwin city.

The precinct will include sheltered pedestrian walkways connecting the precinct and surrounding areas, Aboriginal artwork to celebrate the city's rich cultural history, lush shading and landscaping and water features.

The next stages include constructing the Northern Territory Art Gallery, an iconic and contemporary art gallery, along with completing a detailed critique of the master plan and detailed design for the remainder of the precinct. Liberty Square is under construction in 2023 to beautify the forecourts of Parliament House and the Supreme Court and will include an 8 bay,

The vision for the redeveloped Civic and State Square precinct is to become an interconnected tropical public space within the city with promenades and walkways. It will include spaces for events, festivals, gatherings and displays.

The Civic and State Square precinct revitalisation will highlight the important links to the harbour and foreshore, with the diverse culture and history of the Territory.





Above: Concept of Darwin Waterfront development. Credit: Darwin Waterfront Corporation.

## Darwin Waterfront Development 7

Tourism Lifestyle Housing

The Darwin Waterfront precinct is located on approximately 25 hectares of harbour-side land adjacent to the Darwin CBD. The precinct includes the Darwin Convention Centre, hotels, residential buildings, restaurants, cafés, bars, retail outlets, open public space parklands, a wharf, cruise ship terminal, a wave lagoon, and a number of car parking areas including a multi-storey car park.

The Darwin Waterfront directly employs hundreds of Territorians and supports the creation of jobs throughout the Territory by providing accommodation and attractions for tourists, business conferences and residents.

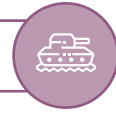
The Waterfront is a very popular precinct in Darwin, attracting an average of 1.1 million visitors each year over the past 5 years. Given proximity to the Darwin CBD, and a spectacular natural

environment including the Darwin Harbour and tropical vegetation, the Waterfront is an inviting precinct for residents and visitors alike.

By refreshing and expanding the existing infrastructure delivered through the precinct, a proposed redevelopment will incorporate a lagoon pool, surf park and integrated hotel development, will significantly enhance liveability, attract private sector investment and contribute to the Northern Territory's economy.

The project will support direct job creation, including 414 jobs during construction, increased employment outcomes during operation and business opportunities for retailers, tour operators and hospitality providers operating in the precinct.

## Defence strategic capital works 7



Defence is undertaking a significant infrastructure investment program across the Northern Territory, which is seeing much of the estate being modernised to support new platforms, programs and training initiatives in the region. The majority of these major projects are delivered by Defence's Capital Facilities and Infrastructure Division, the Estate Works Program and the United States Force Posture Initiative (USFPI) Infrastructure Program. Some projects are also delivered through the US Department of Defence procurement system.

The following Defence projects are taking place across the region:

- Larrakeyah Defence Precinct redevelopment
- Facilities to Support Naval Operations in the North
- Robertson Barracks Base Improvements
- National Airfields Capital Works
- AIR7000 Phase 2B Maritime Patrol Aircraft Replacement Facilities (Darwin)
- US Bulk Fuel Storage Facility, East Arm
- USFPI Robertson Close Training Area (in the Top End region there are also Mt Bunday and Kangaroo Flats Training Areas).

The Larrakeyah Defence Precinct, comprising Larrakeyah Barracks and HMAS Coonawarra, is located approximately 2 kilometres west of Darwin central business district.

The Larrakeyah Barracks Redevelopment project and Facilities to Support Naval Operations in the North project are being jointly delivered under the Larrakeyah Defence Precinct Redevelopment Program. Construction commenced mid-2018 and works are expected to be completed in early 2024. This project addresses significant condition, capacity and compliance issues, and provides for future growth, as well as providing a new 250 metre wharf and additional fuel storage to support naval operations in the north.

Robertson Barracks base is a major Australian Army base located at Holtze, 15 kilometres east of Darwin. The base is home to the Army's 1st Brigade, hosting a significant number of living, working and training facilities. The Robertson Barracks Base improvements project aims to provide essential upgrades to facilities and infrastructure at Robertson Barracks to meet the projected demands of the Australian Defence Force and partners. Construction work is expected to commence at the end of 2023.

The National Airfield capital works will provide major maintenance of aircraft pavements, airfield lighting and related airfield drainage at RAAF Base Darwin. A mid-term refresh program for RAAF Base Darwin will be delivered between 2024 and 2027.

Land

Lifestyle

Housing

## Holtze and Kowandi Residential Land Release 22



Planning is underway for new greenfield lots in Holtze. The site, zoned FD (future development), is approximately 46.5 hectares of Crown land within the Litchfield municipality. It is located adjacent to the Palmerston Regional Hospital and within proximity to existing social and commercial infrastructure, including the Palmerston CBD, Yarrowonga commercial precinct and Howard Springs community facilities.

The Northern Territory Government provided \$44 million over 2 years in Budget 2022–23 for the design and construction of enabling infrastructure to support the release of land at Holtze. This includes sewer and water networks,

power augmentation, extension of Linco Road and stormwater management.

The Department continues to progress joint planning for the development of Kowandi in conjunction with the Australian Government Department of Defence. Further land investigations and infrastructure planning is underway to support future development in Greater Holtze including the Australian Government’s Kowandi site. Infrastructure will be designed to include capacity to support the development of the Kowandi site in accordance with the draft Greater Holtze Area Plan.

Resources

Advance  
Manufacturing

Marine

## INPEX – Ichthys LNG onshore processing facility 23



Ichthys Liquefied Natural Gas (LNG) onshore processing facilities at Bladin Point near Darwin cools gas from the Ichthys Field and transforms it into liquid for transport. The gas arrives in Darwin via an 890 kilometre gas export pipeline – the longest subsea pipeline in the southern hemisphere and the fifth longest on the planet.

Ichthys LNG’s onshore processing facilities include two LNG processing trains, liquefied petroleum gas (LPG) and condensate plants, product storage tanks, a combined cycle power plant, administration facilities, utilities and 2 product load out jetties.

INPEX has committed to long term LNG expansion plans in the Territory. The company aims to further increase the current LNG production capacity by 2024 with a view to expand the Ichthys onshore production plant in about 2030.

INPEX has confirmed plans for a carbon capture storage facility and a plan to build a 10 000 cubic metre scale methanation plant in Australia.

Lambells Lagoon Agricultural Precinct 24



The proposed Lambells Lagoon Agribusiness Precinct was identified as part of the Adelaide River Off-stream Water Storage (AROWS) detailed business case.

AROWS has the potential to expand agribusiness development in the greater Darwin region, which is currently water-constrained. Water supplied from AROWS could unlock about 2 000 hectares of agricultural land for development.

Given its proximity to the future AROWS infrastructure, Lambells Lagoon was identified as an ideal location for an agribusiness precinct, including greenfield development and brownfield expansion in the region.

Lambells Lagoon is a rural suburban area located about 30 kilometres south of Palmerston and

50 kilometres south of Darwin in the Litchfield Municipality. There is land identified as suitable for high-value agricultural and horticultural activity. Existing horticulture in the area includes mangoes, melons, bananas, pineapples, pumpkins and plant nurseries.

A preliminary business case assessment of the proposed Lambells Lagoon Agribusiness Precinct has been completed and a detailed business case process, including stakeholder consultation, will be completed in the second half of 2023. This process will ensure there is detailed understanding of the commercial and economic viability of the opportunity and confirm the suitable arrangements for facilitating its development.

Larrakia Cultural Centre 7



The Larrakia Cultural Centre will be a place for Larrakia people to share, celebrate and showcase Larrakia country, language, culture and knowledge with the world.

This is a project led by the Larrakia Development Corporation and will be built at the feet of the Larrakia sacred site at Stokes Hill, overlooking Darwin Harbour.

The site is freehold and will be held in trust for all Larrakia. Demolition works have now been completed and construction is anticipated to begin by late 2023.

The development of the Larrakia Cultural Centre is made possible by the Aboriginals Benefit Account, Australian Government and the Northern Territory Government.



Land

Lifestyle

Housing

## QRZ – Bowerlee Village Development 25



QRZ is planning a mixed-use development that will include an educational precinct, residential precinct, community precinct and a retail precinct on a 46-acre lot in Berrimah. The Bowerlee Village Development is strategically located just 8 minutes from the Darwin International Airport, 12 minutes from the Darwin CBD and 9 minutes from Casuarina and Palmerston.

The educational precinct will consist of a primary and secondary school, childcare centre, swimming school, sports facilities, international student accommodation and a vocational educational institute. The Australian International Islamic College is already established within the precinct with its primary school campus and is now in the process of establishing its secondary school campus. The College will promote Darwin as a choice destination among Indonesian, Malaysian and Indian students for primary, secondary and tertiary education. Stage 2 expansion of the educational precinct, including the international education program, is expected to occur once the Berrimah North infrastructure headworks are complete.

The Bowerlee Estates residential precinct will consist of 76 residential lots.

QRZ is at the final stage of lodging the development application with the Development Consent Authority. Construction is expected to commence following Consent Authority approval and after the construction of the Berrimah North infrastructure headworks.

The community precinct will include a community hall and public park. The park will be constructed at the same time as the residential lots. The retail precinct will include a medical centre, office suites and opportunity for independent and big box retail stores. The project is currently at the conceptual and investigation phase and will be finalised once the Berrimah North sewer servicing strategy is developed.

This mixed use development has an estimated value of \$150 million.

Defence

## Strategic Oil Reserve Darwin – Crowley 26



Work is nearing completion on a \$270 million bulk fuel storage facility (BFSF) at East Arm in support of the United States Defence Force. The facility is adjacent to the Darwin Port and next to the existing 174 million litre Vopak commercial fuel storage facility.

The East Arm BFSF will be able to store 300 million litres of aviation grade JP-5 turbine fuel and commercial grade Jet A-1 fuel to support American defence activities in the Territory and Indo-Pacific region.

The facility will be a forward-deployed strategic storage facility with a pipeline and marine loading arms. Fuel will be moved in and out to vessels at the port and transported to RAAF Base Darwin and RAAF Base Tindal near Katherine.

Approximately 400 jobs have been created during construction of the facility.

The facility will provide about 10 ongoing jobs when operational in early 2024.

Renewables

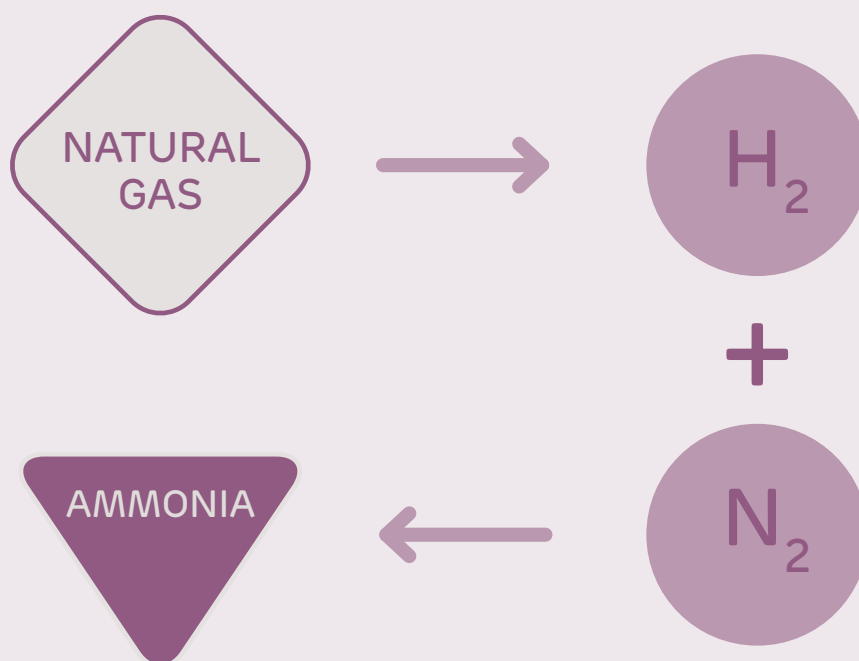
Solar



The Green Energy Project (Larrakia Energy and Korea Midland Power Co.) <sup>27</sup>

Larrakia Energy is a Territory company majority owned and managed by the Larrakia Development Corporation (LDC) with minority ownership and technology advice from Western Australia based renewable energy company, Progressive Green Solutions Pty Ltd (PGS). Larrakia Energy and Korea Midland Power Co. announced a Memorandum of Understanding with the Northern Territory Government in August 2023. The 2 year agreement strengthens local and international ties and formalises the relationship with the Northern Territory to complement the proponent’s own expertise in renewable energy, project development and financing.

The Green Energy Project includes the scoping, construction and operation of a solar farm and a battery energy storage system (BESS) in the Greater Darwin Area in close proximity to the Middle Arm Sustainable Development Precinct. The facility is to be developed over 2 stages, generating significant employment for the Territory during its construction and operational phases and contributing to the Territory’s decarbonisation objectives.



## Enabling infrastructure plan

The enabling infrastructure plan for the Darwin, Palmerston and Litchfield region lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Abala Road revitalisation	10	Enhance liveability by improving access to sports facilities	10-15
Across the region increase local court capacity	5	Strengthen equitable access by improving infrastructure to support judicial services	0-10
Across the region public housing new builds	5	Provide safe, secure and affordable housing for people on low incomes	0-15
Across the region stormwater upgrades and reconstruction	6	Improve community safety and reduce the damage, disruption and costs associated with major flood events	0-5
Amy Johnson Avenue begin progressive duplication	28	Provide commuters with an alternative connector from the northern suburbs to Darwin CBD	5-10
Arnhem Highway duplication Stuart Highway to Kostka Road	60	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Avenira Lithium iron-phosphate (LFP) manufacturing plant Stage 1a	•	Meet global demand for critical minerals used for new and emerging technologies	0-5
Avenira Lithium iron-phosphate (LFP) manufacturing plant Stage 1b	•	Meet global demand for critical minerals used for new and emerging technologies	0-5
Avenira Lithium iron-phosphate (LFP) manufacturing plant Stage 2	•	Meet global demand for critical minerals used for new and emerging technologies	5-10
Avenira Thermal Phosphoric Acid Plant	•	Meet global demand for critical minerals used for new and emerging technologies	5-10
Bagot Road capacity improvements and upgrades	26	Increase road capacity, safety, support accessibility, connectivity and amenity	5-10
Berrimah Business Park showroom developments	60	Increase availability of quality commercial premises	0-5
Berrimah Defence Establishment redevelopment*	380	Enhance infrastructure to support defence operations	0-10

Timeframe	
0-5	0-5 Years
0-10	0-10 Years
0-15	0-15 Years
5-10	5-10 Years
10-15	10-15 Years
15+	15+ Years

• indicates value is either commercial in confidence or to be confirmed.

\* subject to parliamentary approvals.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Berrimah Industrial Estate warehouse developments	100	Increase availability of quality light industrial premises	0-10
Berrimah Road duplication Export Drive to Darwin Port	80	Improve network capacity and safety for increased traffic into the port	0-10
Berrimah Road duplication Stuart Highway to Marlow Road	70	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Berry Springs Nature Park upgrade and refresh swimming entry, including limited mobility access	1	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Bushfires NT headquarters final stage	4	Provide for effective emergency response and improve community safety	0-15
Casuarina Education and Training Unit refit Cascom 2B	1	Improve Territory Families, Housing and community services	0-5
Channel Island Power Station de-mineralised water system	1	Asset renewal to support growth, compliance and improve service efficiency	0-5
Chin Quan Avenue upgrades	2	Enhance infrastructure to support accessibility, connectivity, safety and amenity	10-15
Chung Wah Terrace duplicate Lambrick Avenue to Elrundie Avenue	51	Increase road capacity, safety, support accessibility, connectivity and amenity	10-15
City of Darwin Movement Strategy wayfinding, pedestrian, cycling and micro-mobility infrastructure, upgrade local intersections	2	Make it easier for people to move around the city and suburbs, reducing the impact of transport on the environment	0-5
Collection storage expansion for Northern Territory Government collecting institutions (museums, galleries and archives)	55	Preservation, protection and accessibility of collections	10-15
Commercial data centre park, including electrical network upgrades and communications network upgrades	•	Enabling digital Territory and creating digital opportunity	0-5
Communications network upgrades to provide terabit transmission to southern states	18	Enabling connectivity and creating digital equality	0-5
Connected pathways	6	Strengthen a healthy, active lifestyle by improving connectivity and walkability	0-10
Coolalinga sewer	17	Support population growth by improving access to water treatment systems	0-5
Cox Peninsula Road future upgrades	15	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Darwin and Palmerston renal services expansion Home Therapies Unit	7	Strengthen liveability by improving infrastructure to support renal health services	0-10
Darwin CBD high quality office development	50	Support contemporary work practices and environments to attract and retain people	0-5
Darwin CBD Sports Stadium and Entertainment Precinct	500	Develop state-of-the-art stadium facilities to grow AFL and entertainment opportunities	5-10
Darwin CBD student accommodation facilities	•	Support economic development through growth of the international education market and support international visitation	0-10
Darwin Civic Centre redevelopment	60	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-5
Darwin Correctional Centre expand facility and additional facilities for prisoners	•	Meet community expectation through additional correctional infrastructure	0-5
Darwin Cruise Terminal and wharf upgrades	•	Support growth in tourism, visitor and corporate travel markets	5-10
Darwin H2 Hub	5000	Support the Territory's Energy Transition while enabling domestic and international companies to move towards decarbonisation and sustainable industry	5-10
Darwin High School refurbish Block A (classrooms)	11	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-15
Darwin High School refurbish Block B (music and arts)	11	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-10
Darwin International Airport 2017 Master Plan Darwin Airport Central warehousing/logistics precinct	•	Respond to growth in the aviation export sector	5-10
Darwin International Airport 2017 Master Plan future growth of Darwin Airport Central light industrial complex	•	Respond to growth in the aviation export sector	5-10
Darwin International Airport 2017 Master Plan multi-level car park	•	Improve airport services to support accessibility, visitor growth and tourism	15+
Darwin International Airport 2017 Master Plan taxiway system enhancements	•	Respond to growth in the aviation sector	5-10
Darwin International Airport 2017 Master Plan terminal expansion	•	Improve airport services to support accessibility, visitor growth and tourism	15+
Darwin International Airport aerobridge major refurbishment/replacement (bays 1 and 5)	•	Improve airport infrastructure to support aviation safety and growth	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Darwin International Airport baggage system design and upgrades, including back of house storage area	•	Improve airport infrastructure to support aviation safety and growth	0-5
Darwin International Airport battery energy storage systems	•	Support net zero strategy and improve airport infrastructure to support aviation safety and growth	0-5
Darwin International Airport chiller replacement project	•	Improve airport infrastructure to support aviation safety and growth	0-5
Darwin International Airport duplication of eastern escalator	•	Improve airport infrastructure to support aviation safety and growth	0-5
Darwin International Airport HV program	•	Improve airport infrastructure to support aviation safety and growth	0-5
Darwin International Airport main switch room replacement	•	Improve airport infrastructure to support aviation safety and growth	0-5
Darwin International Airport new access for international terminal (new canopy, central escalator, travelators and international departure processing)	•	Improve airport infrastructure to support aviation safety and growth	0-5
Darwin International Airport new baggage reclaim replace/re-orientate existing carousel 3	•	Improve airport infrastructure to support aviation safety and growth	0-5
Darwin International Airport water infrastructure upgrades	•	Improve airport infrastructure to support aviation safety and growth	0-5
Darwin new vertical school in CBD	45	Contemporary educational infrastructure to support growth in population and student enrolments	15+
Darwin rural area agribusiness development	•	Enable agribusiness economic growth and opportunities	0-10
Darwin Seafood Processing Facility	10	Enable economic development and diversification of the seafood industry	0-10
Darwin Supreme Court refresh	10	Strengthen equitable access by improving infrastructure to support judicial services	5-10
Darwin Visitor Information Centre upgrade	•	Enhance the visitor experience, support new and existing tourism businesses, provide visitor information and increase visitor spend and dispersal	0-10
Darwin Waterfront central precinct development – commercial surf park – tropical lagoon – waterfront pools	267	Master planned vision for Darwin's central water attraction catering to both residents and visitors	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Darwin Waterfront northern precinct development – residential hub – connect foreshore walk	250	Unlock future expansion towards Frances Bay and beyond the Waterfront	0-10
Darwin Waterfront southern precinct development – superyacht facility – mixed use development – tourism development	•	Improve the economic diversity of the Waterfront precinct	0-5
Darwin/Palmerston Passenger Rail Terminal	•	Enable economic development by improving passenger rail transport	0-5
Darwin-Katherine electricity grid generation augmentation (phase 4)	102	Asset renewal to support growth, compliance and improve service efficiency	0-10
Dinah Beach Road upgrade to urban cross section	6	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Driver community hub (Family Resource Centre) reconstruction	3	Strengthen a healthy, active lifestyle by improving recreation opportunities and engage communities	0-5
Driver Primary School administration building additions	2	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-15
Durack Primary School administration building additions	1	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	5-10
Elizabeth Valley Road bridging Elizabeth River	1	Improve all weather access to support accessibility, growth and community safety	5-10
Export Drive improve flood immunity	5	Improve safety and access associated with flooding	5-10
Fannie Bay Gaol visitor centre and arts hub	10	Grow a creative and innovative community, expand tourism opportunities to develop the economy and increase liveability	10-15
Farrar West residential subdivision	50	Enable economic development and population growth by increasing land availability	0-5
Farrar West residential subdivision headworks	12	Enable economic development and population growth by increasing land availability	0-5
Fortescue Middle Arm Green Hydrogen Hub	•	Decarbonise heavy industry and create jobs	0-10
Frances Bay Marine Precinct development	•	Support economic development within the precinct and support the commercial fishing and boating industries	0-15
Freds Pass Sports and Recreation Reserve	•	Enhance liveability by improving recreation facilities	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Gardens Oval multi-sport precinct upgrades	5	Common user facilities to maximise a healthy, active lifestyle by improving recreation opportunities	0-5
Girraween Primary School new 4-classroom block	3	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-10
Girraween Road duplication from Stuart Highway to Anglesey Road	30	Increase road capacity, safety, support accessibility, connectivity and amenity	15+
Greater Darwin new 60 bed residential aged care facility	•	Provide a variety of contemporary, affordable and sustainable housing options for older Territorians	0-5
Greater Darwin Regional Waste Management Facility	•	Support improved waste management and recycling processes	5-10
Greater Holtze Area Plan educational facilities	•	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Hicks Road extension both ends, including bridging of wet areas	25	Increase road capacity, safety, support accessibility, connectivity and amenity	10-15
Hidden Valley disability access at turn 6	•	Enhance community engagement by improving facilities	0-5
Hidden Valley implement Master Plan	•	Enhance community engagement by improving access to facilities	0-10
Hockey NT upgrade to surface	2	Enhance liveability by improving sports facilities	5-10
Howard Springs Volunteer Fire Brigade construct new station	3	Strengthen emergency support services in rural communities	0-15
Humpty Doo Volunteer Fire Brigade construct station and sheds	5	Strengthen emergency support services in rural communities	0-15
Koolpinya Volunteer Fire Brigade construct station and sheds	5	Strengthen emergency support services in rural communities	0-15
Kowandi infrastructure headworks to support residential land release	240	Enable economic development and population growth by increasing land availability	5-10
Lake Alexander upgrade road pavements, playgrounds, lighting and facilities	7	Enhance infrastructure to support accessibility, connectivity, safety and amenity	5-10
Lambrick Avenue Duplication Stuart Highway to Zuccoli Parade	30	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Lambrick Avenue duplication Zuccoli Parade to Roystonea Avenue	40	Increase road capacity, safety, support accessibility, connectivity and amenity	5-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Lameroo Beach Precinct	140	Enhance lifestyle options, provide employment opportunities, and enhanced visitor experience	5-10
Larrakeyah multi dwelling development	•	Provide innovative medium density housing options and create a safe and vibrant place for people to enjoy	0-10
Larrakeyah Primary School 4 new classrooms	5	Contemporary educational infrastructure to support growth in population and student enrolments	5-10
Larrakeyah Primary School preschool redevelopment	5	Master planned infrastructure to provide contemporary educational facilities to support growth in early years learning enrolments	0-5
Larrakia Nation headquarters, with Larrakia Community Centre	•	Provide headquarters and community centre for Larrakia Nation and its people	0-5
Letchford Road floodway upgrade	1	Support connectivity and improve all weather access to improve community safety, accessibility and support future growth	0-5
Litchfield 'Gateway to Kakadu' tourist information centre	•	Strengthening a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	5-10
Litchfield Aquatic Centre 50 metre swimming pool and associated facilities (children's pool, hydro-therapy area)	•	Enhance liveability by improving recreation facilities	5-10
Litchfield community building with room for classes (arts, yoga, kids' karate)	•	Enhance liveability by improving recreation facilities	5-10
Litchfield dumping station for recreational vehicles and caravans	•	Enhance liveability by improving council facilities	5-10
Litchfield exhibition pavillion	6	Enhance liveability by improving recreation facilities	0-5
Litchfield municipality drainage and erosion mitigation	•	Improve community safety and reduce the damage, disruption and costs associated with major flood events	0-15
Litchfield municipality soccer change rooms	1	Enhance liveability by improving recreation facilities	0-5
Madsen Road construction between Hicks Road and Howard Springs Road	20	Increase road capacity, safety, support accessibility, connectivity and amenity	10-15
Manunda Terrace School basketball court upgrades	1	Contemporary educational infrastructure to support student engagement	0-5
Marine Industry Park	27	Support the development of local industry and create a sustainable economy	0-5
Marlow Lagoon Recreation Reserve Master Plan/recreation precinct	•	Strengthen a healthy, active lifestyle by improving recreation opportunities and engage communities	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Marrara Sporting Precinct implement Master Plan	•	Enhance liveability by improving sports facilities	0-10
McMillans Road duplication Vanderlin Drive to Stuart Highway	•	Increase road capacity, safety, support accessibility, connectivity and amenity	5-10
McMinn Street duplication from Daly Street to Bennett Street	70	Provide capacity improvements for Darwin CBD circulation and relieve congestion	5-10
Mickett Creek implement Master Plan	10	Enhance liveability by improving recreation facilities	0-5
Middle Arm fire response and training facility	20	Support the continued delivery of quality fire and emergency services	0-10
Middle Arm Sustainable Development Precinct industrial land	300	Support the establishment of large strategic industries for downstream gas processing, mineral processing, renewable energy and related developments	0-5
Middle Arm Sustainable Development Precinct roads and rail	200	Support the establishment of large strategic industries for downstream gas processing, mineral processing, renewable energy and related developments	0-5
Mimik-Ga (Henbury Avenue) early intervention hub upgrades	5	Master planned infrastructure to provide contemporary early years educational facilities to support students with additional needs	0-10
Mindil Beach upgrade and redevelopment	8	Enhance the amenity of the area and recognise the cultural significance of the area	0-10
Mitchell Creek tourist trail/conservation reserve	•	Strengthen a healthy, active lifestyle by improving recreation opportunities and engage communities	0-10
Moil Primary School relocate preschool and refurbish administration building	6	Master planned infrastructure to provide contemporary early years educational facilities to support growth in population and student enrolments	0-10
Moulden community hub	4	Strengthen a healthy, active lifestyle by improving recreation opportunities and engage communities	0-10
Moulden Davoren Circuit and Bonson Terrace housing redevelopments	•	Improve the sustainability of the social and affordable housing system	0-5
Muirhead North new preschool and primary school for 450 enrolments	50	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Museum and Art Gallery of the Northern Territory (MAGNT) air-conditioning upgrade	•	Value, preserve and expand historic, cultural meeting places, increase visitation opportunities and user experience	0-10
Museum and Art Gallery of the Northern Territory (MAGNT) Bullocky Point Master Plan infrastructure outcomes	•	Master planned infrastructure to support visitor and tourism growth	0-15

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
New local and international joint Asia Pacific Emergency Response Training Complex	25	Support the continued delivery of quality emergency response services	10-15
New Water Police Complex	40	Support the continued delivery of quality emergency response services	10-15
Nightcliff Beach redevelopment	8	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	5-10
Nightcliff Jetty replacement	25	Replace ageing infrastructure to improve recreational opportunities and enhance visitor experience	0-10
Nightcliff Middle School upgrade home economics and canteen, traffic calming and grounds	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Nightcliff Middle School upgrade science lab	2	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Nightcliff Oval Master Plan full playing surface refurbishment and facilities upgrades	3	Master planned infrastructure to support growth in sport involvement	0-5
Nightcliff Oval Master Plan new car parking and seating with shade	2	Master planned infrastructure to support growth in sport involvement	0-5
Northcrest new preschool and primary school for 500 enrolments	50	Contemporary educational infrastructure to support growth in population and student enrolments	15+
Northern suburbs additional classrooms	5	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Old Bynoe Road bridging Darwin River	4	Improve all weather access to support accessibility, growth and community safety	10-15
Old Bynoe Road bridging Fly Creek	4	Improve all weather access to support accessibility, growth and community safety	10-15
Palmerston and the rural area school infrastructure to support students with additional needs	21	Contemporary educational infrastructure to support students with additional needs	0-5
Palmerston College Rosebery campus staff development centre	2	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-15
Palmerston expand oral health services	2	Strengthen liveability by improving infrastructure to support oral health services	0-10
Palmerston Health Precinct refurbish Super Clinic	4	Strengthen liveability by improving infrastructure to support health services	0-5
Palmerston mixed use hub	•	Increase access to a variety of housing options	5-10







Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Palmerston new ambulance complex	7	Strengthen liveability by improving infrastructure for health support services	5-10
Palmerston new ferry pontoon boarding point	23	Support economic development by improving all weather access and goods handling facilities	15+
Palmerston renal services 30 bed renal patient accommodation unit	18	Strengthen liveability by improving infrastructure to support renal health services	5-10
Parap Village implement Master Plan	14	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-10
Peter McAulay Centre new exhibits/ property storage facility	7	Support the continued delivery of quality police services	10-15
Pinelands Industrial Precinct access stage 2	27	Provide better heavy vehicle access into Pinelands Industrial Precinct	0-10
Progress Drive/Nightcliff Road upgrade to dual lane roundabout	2	Increase road capacity, safety, support accessibility, connectivity and amenity	10-15
Public places activation and creative industries 5 year plan implementation	5	Strengthen a healthy, active lifestyle by improving connectivity and walkability	0-10
Regional creative industries hub	•	Grow businesses and develop supply chains in the creative industries	10-15
Regional indoor basketball facility	40	Enhance community engagement by improving facilities	0-5
Rockland Drive and Florey Avenue intersection upgrade	•	Improve access and increase safety	0-5
Royal Darwin Hospital upgrades	•	Strengthen liveability by improving infrastructure to support health services	0-15
Roystonea Avenue complete road to Elrundie Avenue	25	Provide increased north-south capacity to cater for residential development	10-15
Roystonea Avenue duplication Lambrick Avenue to Owston Avenue	25	Increase road capacity, safety, support accessibility, connectivity and amenity	10-15
Roystonea Avenue duplication Terry Drive to Lambrick Avenue	25	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Shoal Bay Waste Management Facility stage 2 phase 1 south western expansion	6	Support improved waste management and recycling processes	0-5
Shoal Bay Waste Management Facility stage 2 phase 2 north eastern expansion	6	Support improved waste management and recycling processes	10-15

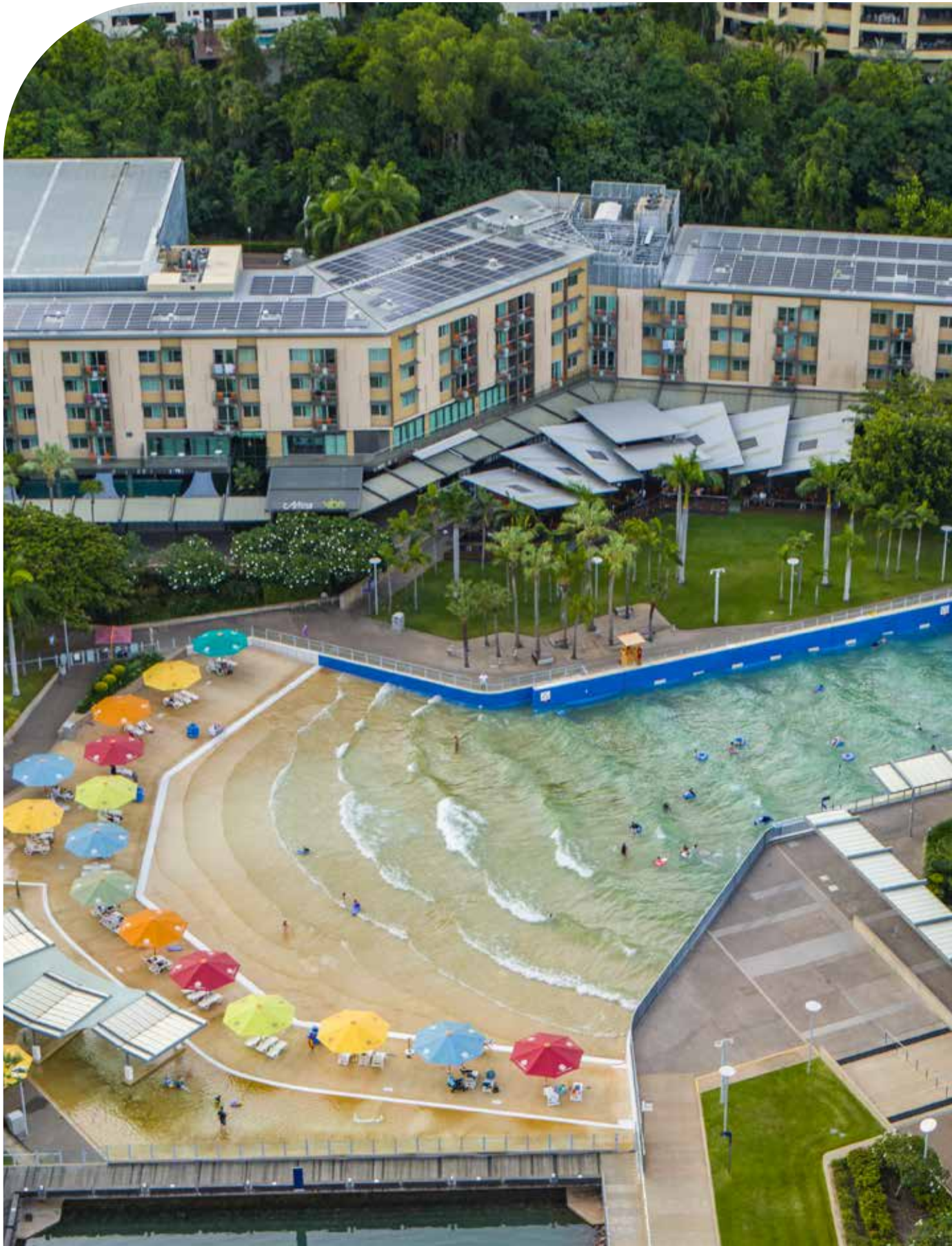
Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Snell Street extension to Tiger Brennan Drive	200	Increase road capacity, safety, support accessibility, connectivity and amenity	15+
Southport Mira Square meeting and play areas	1	Strengthen a healthy, active lifestyle by improving recreation and community facilities	0-10
Spencer Road floodway upgrade	1	Support connectivity and improve all weather access to improve community safety, accessibility and support future growth	5-10
Stokes Hill Wharf new retail infrastructure and rectification works	5	Improve the economic viability of the Waterfront precinct	0-10
Superyacht berthing facilities	•	Enable significant economic contribution by growing Darwin's maritime service and supply for the superyacht industry, with a view to expanding capability in time for the 2032 Olympics in Brisbane	0-5
The Narrows Shiers Street housing redevelopment	•	Improve the sustainability of the social and affordable housing system	0-5
Thorngate Road pavement upgrade	2	Road improvement to increase safety, support accessibility, connectivity and amenity	5-10
Tiger Brennan Drive intersection grade separations	•	Increase road capacity, safety, support accessibility, connectivity and amenity	10-15
Tivan Limited processing facility	•	Meet global demand for critical minerals	5-10
Tivan Limited Vanadium Electrolyte Facility	•	Produce electrolyte products to meet the specifications of major global vanadium battery manufacturers	0-5
Tivan+ critical mineral pilot plant	•	Process hard rock vanadium ore bodies to produce three commercial grade products: vanadium, titanium and iron	0-5
Trower Road capacity improvements and upgrades	20	Increase road capacity, safety, support accessibility, connectivity and amenity	5-10
Undergrounding power to schools and suburbs	•	Continue to build a resilient power network, against cyclones and monsoons, for businesses, schools and homes	0-10
Vanderlin Drive duplication McMillans Road to Stuart Highway	70	Provide north-south capacity improvement for access from the northern suburbs	0-5
Virginia Road bridge over Wells Creek	1	Increase road capacity, safety, support accessibility, connectivity and amenity	5-10
Virginia/Bees Creek Volunteer Fire Brigade construct new station	3	Strengthen emergency support services in rural communities	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Weddell Freeway	•	Improve access from the Darwin CBD to Noonamah, Berry Springs and Weddell, and connect to future strategic commercial and industrial land including Middle Arm Sustainable Development Precinct	0-15
Weddell Renewable Energy Hub stage 2	•	Enable economic development and population growth	5-10
Woodroffe community hub	4	Strengthen a healthy, active lifestyle by improving recreation opportunities and engage communities	0-10
Woodroffe oval upgrade to suit AFL	5	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Zuccoli and Surrounds Community Hub stage 3 playground, basketball court and walking trails	3	Strengthen a healthy, active lifestyle by improving recreation opportunities and engage communities	0-5
Zuccoli and Surrounds Community Hub stage 4 community centre and library	12	Strengthen a healthy, active lifestyle by improving recreation opportunities and engage communities	0-5
Zuccoli Primary School 4 additional classrooms	3	Contemporary educational infrastructure to support growth in population and student enrolments	0-10

### Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>Darwin, Palmerston and Litchfield</b>		
Accelerate planning for land release in Holtze and Kowandi	 Reform	 In progress
Progress the business/economic case for Darwin Waterfront development	 Reform	 In progress
Progress the business/economic case for Darwin City Stadium	 Reform	 In progress



Above: Wave Pool at Darwin Waterfront. Credit: Tourism NT.

## Infrastructure pipeline

The following is a list of committed projects, funded by either government or the private sector, for the Darwin, Palmerston and Litchfield region.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Acacia Hills Regional Connectivity Program Round 2 – deploy one new Telstra macro cell mobile base station	0.9	•	•	•	Enabling connectivity and creating digital equality
Across the region power network and substation upgrades	84.0	1.6	3.5	•	Asset renewal to support growth, compliance and improve service efficiency
Across the region upgrade bus stops, install bus stop shelters, upgrade bus interchanges, Disability Discrimination Act (DDA) compliance upgrades	2.7	1.0	1.7		Increase road capacity, safety, support accessibility, connectivity and amenity
Airport Development Group diesel storage facility	•	•	•	•	Expanding Australia's diesel storage to boost long term fuel security
Archer Waste Management Facility refurbishment	1.8	1.8			Support improved waste management and recycling processes
Bagot Road capacity improvements at intersection	6.0			•	Increase road capacity, safety, support accessibility, connectivity and amenity
Bees Creek National Critical Care and Trauma Response Centre emergency training facility	3.7	2.3			Ensure the Territory has expertise to respond to a crisis
Berrimah Farm Northern Territory Government Research Precinct new Science Services Laboratory Building	21.3	16.1			Increase research capacity and capability in the Territory
Berrimah North infrastructure headworks to support development	43.0		8.8	•	Enable economic development and population growth by increasing land availability
Berry Springs child care centre	3.0		3.0		Contemporary educational infrastructure to support growth in early years learning enrolments
Bundilla Beach revitalisation	3.5		3.5	•	Reactivate Bundilla Beach reserve to enhance liveability and attract locals and tourists
Casuarina Coastal Reserve creek to creek trail surface upgrades	0.4	0.3			Improve facilities and visitor experience on hiking track
Casuarina Pool redevelopment	25.0	20.0			Enhance liveability by improving community facilities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Channel Island Power Station administration building airconditioning repair	0.5	0.5			Asset renewal to support growth, compliance and improve service efficiency
Channel Island Power Station ammonia storage	0.2	0.2			Asset renewal to support growth, compliance and improve service efficiency
Channel Island Power Station Darwin to Katherine battery energy storage system C3 protection system upgrade	2.6	1.2			Asset renewal to support growth, compliance and improve service efficiency
Channel Island Power Station Darwin to Katherine battery energy storage system communications and SCADA upgrade	1.9	1.2			Asset renewal to support growth, compliance and improve service efficiency
Channel Island Power Station replace C1-C6 132kV cable	1.9	1.2			Asset renewal to support growth, compliance and improve service efficiency
Channel Island Power Station road works	0.3	0.3			Asset renewal to support growth, compliance and improve service efficiency
Channel Island Power Station TM2500 turbines (phase 2)	32.3	15.0	•	•	Asset renewal to support growth, compliance and improve service efficiency
Charles Darwin University Casuarina campus Better Health Futures building	25.8		25.8	•	Contemporary educational infrastructure to support growth in health education
Charles Darwin University Casuarina campus new trade training facility	10.0	10.0	•		Contemporary educational infrastructure to support growth in adult and vocational training
Charles Darwin University Casuarina campus optimisation	25.0	25.0	•		Enhance education services and facilities
Charles Darwin University Education and Community Precinct new city campus (City Deals)	225.0	100.0	•		Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
City of Darwin driveway program	0.7	0.2	0.2	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity
City of Darwin irrigation infrastructure upgrades	2.0	0.2	0.2	•	Improve public open space amenity and maximise irrigation efficiency
City of Darwin pathway program	2.7	1.3	1.3	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity
City of Darwin road resurfacing and renewal	6.0	2.2	2.2	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
City of Darwin street and public lighting	2.2	1.3	1.3	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity
Civic and State Square Revitalisation stage 2 (includes City Deals) CBD Art Gallery, sheltered walkways, central shade structure and public art	159.5	33.0	55.0	•	Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
Coolalinga commercial precinct traffic management	27.0		10.0	•	Improve safety and connectivity in and around the Coolalinga commercial precinct
Darwin Aboriginal and Islander Women's Shelter upgrades	1.5	1.5			Support vulnerable people by improving community service facilities
Darwin Correctional Centre fencing	4.0	4.0			Meet community expectation and needs through additional correctional infrastructure
Darwin Correctional Centre increase capacity	8.5	•			Meet community expectation and needs through additional correctional infrastructure
Darwin groundwater disinfection	10.0	0.7		•	Support population growth by improving access to quality water
Darwin International Airport Darwin Airport Central Osgood South "West Village" stage 3	•			•	Improve liveability through the provision of a variety of contemporary retail and commercial precinct options
Darwin International Airport HV cable replacement program	•	•			Improve airport infrastructure to support aviation safety and growth
Darwin International Airport Regular Public Transport (RPT) apron expansion	20.0	•	•		Improve airport infrastructure to support aviation safety and growth
Darwin International Airport upgrade of short stay car park to include shade structures	•	•			Improve airport services to support accessibility, visitor growth and tourism
Darwin Local Area Traffic Management program	0.8	0.8			Support improved waste management and recycling processes
Darwin Local Court fit out Northern Territory Civil and Administrative Tribunal (NTCAT)	2.6	2.5			Strengthen equitable access by improving infrastructure to support judicial services
Darwin Ship Lift Facility including ship lift, wet berths and additional hardstand area for ship repair and maintenance works	515.0	200.0	200.0	•	Provide a common user facility for the general maritime sector and Department of Defence

Project	Estimated \$m			Outer Years	Challenges/opportunities
	Total	2023-24	2024-25		
Darwin Visitor Park	10.0		10.0	•	Provide safe, affordable and sustainable temporary housing options for Territorians
Darwin Waterfront hotel adjacent to the Darwin Convention Centre	85.0			•	Enable growth in high yield convention and corporate markets
Darwin Waterfront infrastructure upgrades	7.0	3.9			Master planned vision for Darwin's central water attraction catering to both residents and visitors
Darwin Youth Justice Centre development and fit out	•	•	•		Improve outcomes for young people in detention, their families and the community
Darwin-Katherine battery energy storage system 2 (phase 3)	35.0	•			Reduce the use of gas generators for the Darwin-Katherine system to meet Northern Territory renewables target of 50% by 2030
Darwin-Katherine energy storage system (phase 1)	45.0	•			Reduce the use of gas generators for the Darwin-Katherine system to meet Northern Territory renewables target of 50% by 2030
Dawn House women's shelter upgrades	6.1	6.1			Support vulnerable people by improving community service facilities
Dudley Point fishing platform	6.0	•	•		Enhance access to recreational fishing
East Arm Bulk Liquids Area Crowley Project Caymus – construct US bulk fuel storage facility	270.0	•			Strategic bilateral defence facility for fuel reserve storage
East Arm construct Wishart Zone Substation	6.4			•	Additional assets to support growth, compliance and improve service efficiency
East Arm storage and quarantine inspection shed	•	•			Increase capacity of exports
East Arm utilities upgrade	15.0	7.6	7.0		Increase capacity of the East Arm precinct
East Point new land based fishing platforms	4.6		4.6		Enhance liveability by improving access to recreation facilities
Fannie Bay, 7 Waratah Crescent residential redevelopment	3.8			•	Provide innovative medium density housing options and create a safe and vibrant place for people to enjoy
Fort Hill Wharf electrical infrastructure upgrades	•	•			Replace ageing infrastructure to improve visitor experience
Frances Bay Marine Facilities lock replacement and upgrade	20.8	13.1			Support economic growth and improve safety for the commercial boating and fishing industry
Gunn Point Emerging Agribusiness Precinct	6.3	6.1			Economic growth through the development of emerging industries in the agricultural sector

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Holtze infrastructure headworks to support residential land release	44.0	23.0	21.0	•	Enable economic development and population growth by increasing land availability
Hudson Creek trunk sewer	0.3			•	Support population growth by improving access to water treatment systems
Hughes Airfield maintain and seal airstrip	1.2	1.1			Provide effective emergency aerial response and improve community safety
Humpty Doo Barramundi farm expansion	60.0			•	Further develop and expand the fisheries export industry supported by the Northern Australia Infrastructure Facility (NAIF)
Jingili Primary School replace roof	3.0	3.0	•		Replace ageing infrastructure to support the continued delivery of quality education
Kowandi infrastructure planning to support residential land release	1.0	1.0			Enable economic development and population growth by increasing land availability
Kulaluk (Coconut Grove) flood mitigation	13.2	13.0	•		Improve safety and reduce the damage, disruption and costs associated with major flood events
Larrakeyah Defence Precinct Redevelopment Program infrastructure enhancements including NORFORCE redevelopment, a new wharf and in-ground services	601.0	150.0	150.0		Enhance infrastructure to support defence operations
Larrakia Cultural Centre	56.0	•	•		Value, preserve and celebrate Larrakia culture, improving tourism opportunities and experience
Leanyer Sanderson Waste Stabilisation Ponds long term augmentation	20.0		20.0	•	Support population growth by improving access to water treatment systems
Lee Point new Defence housing	•		•	•	Provide supportive housing for defence personnel and their families
Lee Point Defence Housing Australia (DHA) master-planned community	•	•	•	•	Defence Housing Australia commitment to enable economic development and population growth by increasing land availability
Lee Point Road duplication	3.0	•			Enhance infrastructure to support accessibility, connectivity, safety and amenity
Litchfield municipality road re-sealing	8.0	0.9	0.9	•	Increase road capacity, safety, support accessibility, connectivity and amenity
Marrara fire station grass fire unit storage	0.2	0.1			Strengthen emergency support services in remote communities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Middle Arm Sustainable Development Precinct marine infrastructure	1,500.0	14.0	200.0	•	Support the establishment of large strategic industries for downstream gas processing, mineral processing, renewable energy and related developments
Middle Point Regional Connectivity Program Round 2 – deploy one new Telstra macro cell base station	1.0	•	•	•	Enabling connectivity and creating digital equality
Millner child care centre	5.0	5.0	•		Contemporary early educational infrastructure to support growth in population and child care enrolments
Moil Primary School replace roof	3.0	3.0	•		Replace ageing infrastructure to support the continued delivery of quality education
Nakara Primary School refurbish ablutions	0.9	•			Upgrade ageing infrastructure to support the continued delivery of quality education
Navy Capability Infrastructure Sub-program - Offshore Patrol Vessel (OPV) Facilities (SEA 1180 Phase 1)	270.0	•	•	•	Enhance defence capability to handle larger vessels
Northcrest Berrimah – headworks – new residential subdivision – neighbourhood centre	•	•	•	•	Enable economic development and population growth
Northcrest – Northern Land Council (NLC) office precinct – in stages	24.5		•	•	Support NLC to consult with Traditional Owners and other Aboriginal and Torres Strait Islander peoples
NT Archives Centre refit work areas	0.7	0.5			Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
NT Archives Centre upgrade to compactus shelving	1.0		•		Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
NT Library move to the Education and Community Precinct	7.0	•			Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
Palmerston convert old fire station into a training centre	2.3		2.3		Support the continued delivery of quality police, fire and emergency services
Palmerston SWELL (Swimming, Wellness, Events, Leisure, Lifestyle) Master Plan – refurbish swimming pool, aquatic adventure play area, basketball half court and shaded areas	19.4	15.0			Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience
Parap Primary School preschool	9.6		9.6		Replace ageing infrastructure to support the continued delivery of quality education

Project	Estimated \$m			Outer Years	Challenges/opportunities
	Total	2023-24	2024-25		
Pinelands Industrial Precinct heavy vehicle access	6.0			•	Provide better heavy vehicle access into Pinelands Industrial Precinct
Public Housing new builds	•	•			Provide safe, secure and affordable housing for people on low incomes
RAAF Base Darwin and Darwin International Airport main runway resurfacing project	200.0	•	•		Support military and civilian air traffic into the Northern Territory to at least 2040
RAAF Base Darwin bulk fuel storage, pump houses, filtering and control room as part of the United States Force Posture Initiative	114.0	•	•		Enhance facilities for US Air Force operations at RAAF Base Darwin
RAAF Base Darwin US Defence Force operations facility	38.0			•	Enhance facilities for US Air Force operations at RAAF Base Darwin
RAAF Base Darwin mid-term refresh	203.0		100.0	•	Upgrade infrastructure to enhance defence capability and operations
Richardson Park Redevelopment access road extension, community recreation facility	12.3	6.4			Strengthen a healthy, active lifestyle by improving recreation opportunities and enhancing visitor experience
Royal Darwin Hospital 32 bed modular multi-purpose facility	25.0		25.0	•	Strengthen liveability by improving infrastructure to support health services
Royal Darwin Hospital entrance road upgrade	0.5	0.5			Strengthen liveability by improving access to health services
Royal Darwin Hospital main ward block concrete spalling repairs	4.7	3.0			Strengthen liveability by improving infrastructure to support health services
Royal Darwin Hospital new forensic mortuary, pathology and bereavement facility	23.7		23.7	•	Strengthen liveability with culturally appropriate infrastructure to support health services
Royal Darwin Hospital new mental health inpatient unit	60.0	30.0	30.0		Improve mental health services and increase number of beds available
Shoal Bay Waste Management Facility new leachate pond	8.0	8.0			Support improved waste management and recycling processes
Shoal Bay Waste Management Facility stage 7 cell	9.0		9.0	•	Support improved waste management and recycling processes
Smith Street greening and cooling	3.0	3.0			Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
Stokes Hill Wharf upgrades	1.0	1.0			Improve the economic viability of the Waterfront precinct

Project	Estimated \$m			Outer Years	Challenges/opportunities
	Total	2023-24	2024-25		
Territory Wildlife Park green energy solutions	2.0	0.9			Increase renewable energy to meet Northern Territory renewables target of 50% by 2030
The Heights Durack staged subdivision	160.0	•	•	•	Enable economic development and population growth
The Narrows Shiers Street demolition of public housing complex	14.0	14.0	•		Provide a variety of safe, secure and appropriate housing options
Tiger Brennan Drive overpass at Berrimah Road	169.0	80.0	46.2		Increase road capacity, safety, support accessibility, connectivity and amenity
Trevor Horman Zone Substation	41.0	19.0	2.0		Asset renewal to support growth, compliance and improve service efficiency
Undergrounding power to schools and suburbs	60.0	10.0	10.0	•	Continue to build a resilient power network, against cyclones and monsoons, for businesses, schools and homes
Weddell Industrial Hub infrastructure planning to support development	1.0		1.0	•	Enable economic development and population growth by increasing land availability
Weddell Renewable Energy Hub stage 1 infrastructure headworks	10.0	5.0	5.0		Enable economic development and population growth
Zuccoli and Surrounds Community Hub stage 2 pump track and skate park	0.8		0.8		Strengthen a healthy, active lifestyle by improving recreation opportunities and engaged communities
Zuccoli Aspire stage 3, 4 and 5 residential subdivision with 1180 lots and neighbourhood centre	150.0	20.0	•		Enable economic development and population growth by increasing land availability
Zuccoli Mitchell Creek Green stage 2 residential subdivision	•	•			Enable economic development and population growth by increasing land availability
Zuccoli Village stage 1 residential subdivision with 800 lots	•	8.0	8.0	•	Enable economic development and population growth by increasing land availability

## NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining and improving our quality of life. It provides us with essential services we rely on like transport, energy, water and telecommunications, as well as social infrastructure such as hospitals and health centres, schools, policing and parks and access to goods and services.

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.

The audit, as discussed in chapter 3, revealed several potential infrastructure needs. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in the regional sections of this document. The remaining Darwin, Palmerston and Litchfield region audit items are listed below. These potential infrastructure needs could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of those needs and proposals.



### Transport and Logistics

- Anzac Parade seal remaining 3 kilometres of road
- Darwin Aquaculture Centre expansion
- East Arm bulk materials storage shed
- Litchfield area bike paths to schools
- Marine Supply Base construct alternate access road



### Utilities

- East Arm duplicate water supply
- East Arm sewer system upgrade
- Hidden Valley Sustainable Water centralised water treatment and recycling plant
- Holtze/Kowandi zone substation
- Humpty Doo 22kV power line upgrade
- NBN expansion
- Palmerston solar farm
- Waste to fertiliser infrastructure
- Wishart construct pump station



### Social Infrastructure

- Affordable housing options
- Campervan facilities to support self-drive market
- Cullen Bay multi-storey car park
- Cultural Park of Relevance
- Darwin's Sunset Boulevard Ocean Boardwalk
- Fisherman's Wharf covered unload area
- Holtze early learning to senior education facilities
- Holtze recreation facilities
- Marine Training Centre
- Palmerston regional recreation lake
- Tracy Village sporting hub redevelopment
- Waterfront to Waterfront connections between the City CBD, Cullen Bay and Darwin's Waterfront
- Youth infrastructure upgrades



### Land

- Redevelop aged infrastructure sites inner suburbs



Above: Barramundi Adventures, Berry Springs. Credit: Tourism Australia.



Above: Exploring Nawurlandja Lookout. Credit: Tourism NT / Helen Orr.



## Top End

The Top End region is steeped in culture and natural beauty boasting tropical islands, untouched coastlines and one of the world's heritage listed national parks, Kakadu.

### The Top End region:

- > has Aboriginal cultures that date back 65 000 years
- > boasts strong and distinctive cultural heritage values with many diverse Aboriginal cultural groups present
- > has a diverse natural environment and provides resources and raw material of economic benefit like timber, minerals, water and solar
- > is home to Kakadu National Park, one of only a few dozen sites in the world listed on the UNESCO World Heritage List for its outstanding natural and cultural values.

## Major industries and growth sectors in the Top End



Tourism



Agribusiness

Located in the northern most section of the Territory, the Top End Region is made up of over 112 295 square kilometres. It encompasses the West Daly and West Arnhem regional councils and the Tiwi Islands (made up of two main islands – Bathurst Island and Melville Island, which is the second largest Australian island after Tasmania). Extending from Wadeye in the west to Maningrida in the east, the region includes the town of Jabiru inside Kakadu National Park.

The sparsely populated area is home to approximately 18 000 people, of which approximately 69% of residents are Aboriginal or Torres Strait Islander people. The Top End has the highest portion of Aboriginal people living in the Territory.

Approximately 67% of the region's land mass is classified as Aboriginal land. There are 12 major and 5 minor communities, and 135 homelands across the Top End.

The region benefits from a range of key industries including resources, agribusiness and tourism.

The Top End region's economic output comes largely through the mining sector, with its unique geology making it abundant with natural minerals including lithium and gold. The Finnis Lithium Project, located 30 kilometres west of Berry Springs, is the first new Territory mine in more than 10 years and the first lithium mine to open in the Territory. Gold production will also recommence with the Mt Bundy Gold Project at its 3 mines – Tom's Gully, Rustlers Roost and Quest 29 – located about 100 kilometres south-east of Darwin via the Arnhem Highway.

The rehabilitation of mines within the region is a growing opportunity that supports improvements to the natural environment, contributes to the economy and provides long term job opportunities. Works commenced on the rehabilitation of the Ranger mine site in 2021, and stage 3 works on the Rum Jungle uranium mine site commenced in late 2022.

The Territory and Australian governments are investing \$411.5 million to transform Jabiru from a mining town into a vibrant and sustainable tourism hub and service centre for Kakadu National Park and the West Arnhem region.

Tourism is a significant contributor to economic activity in the region which boasts spectacular natural wonders and world renowned attractions such as Litchfield and Kakadu national parks, the Daly River for recreational fishing and camping, and Tiwi Islands, Gunbalanya and Maningrida for arts and textiles.

There is significant, untapped tourism potential and numerous Indigenous economic, social and cultural development opportunities in the Top End including agribusiness, bush foods and traditional medicines, fishing and aquaculture, and caring for country. For example, there is an opportunity to expand the scale of production of the Kakadu plum, which is a native bush food harvested within Kakadu National Park. In 2019, approximately 50 tonnes of Kakadu plum was produced for commercial supply chains in Australia, and an estimated 80% came from the Northern Territory.

The Top End climate, land and aquatic resources makes it ideal for supporting agribusiness. The region currently contributes \$204 million to the economy and provides employment for 489 people. There is an opportunity to grow a number of subsectors within agribusiness including the pastoral industry, including beef and buffalo, horticulture, fisheries and aquaculture and forestry.



Aquaculture



Hydrogen



Minerals

Aquaculture is an emerging industry with the Top End delivering significant commercial fishing operations that contributed \$53 million to the Territory economy in 2021. The region can contribute to future growth of the fisheries industry, with commercial production trials of Blacklip rock oysters, black jewfish, prawns and sea cucumber underway from West Arnhem to the Tiwi Islands.

## Challenges and opportunities

- Addressing the lack of enabling infrastructure in the region could potentially transform life in the Top End.
- Provide access to reliable, safe and affordable water, energy and telecommunications services that are vital to the economic development of the region.
- Improve physical access and connectivity between communities and regional centres to enable essential economic and social development in the region year-round.
- Increase housing supply to attract and grow new industry and supporting existing private sector employers to grow or diversify.
- Increase staff accommodation to allow organisations to offer existing housing to local Aboriginal employees to reduce the reliance on and overcrowding in social housing.
- Increase bandwidth and redundancy in the network, which are essential to ensure sufficient regional digital connectivity to support economic growth across a broad range of industries.
- Improve social infrastructure in the communities to attract workers and visitors to the communities.
- Continue refurbishing and replacing outdated service buildings that are not fit for purpose.



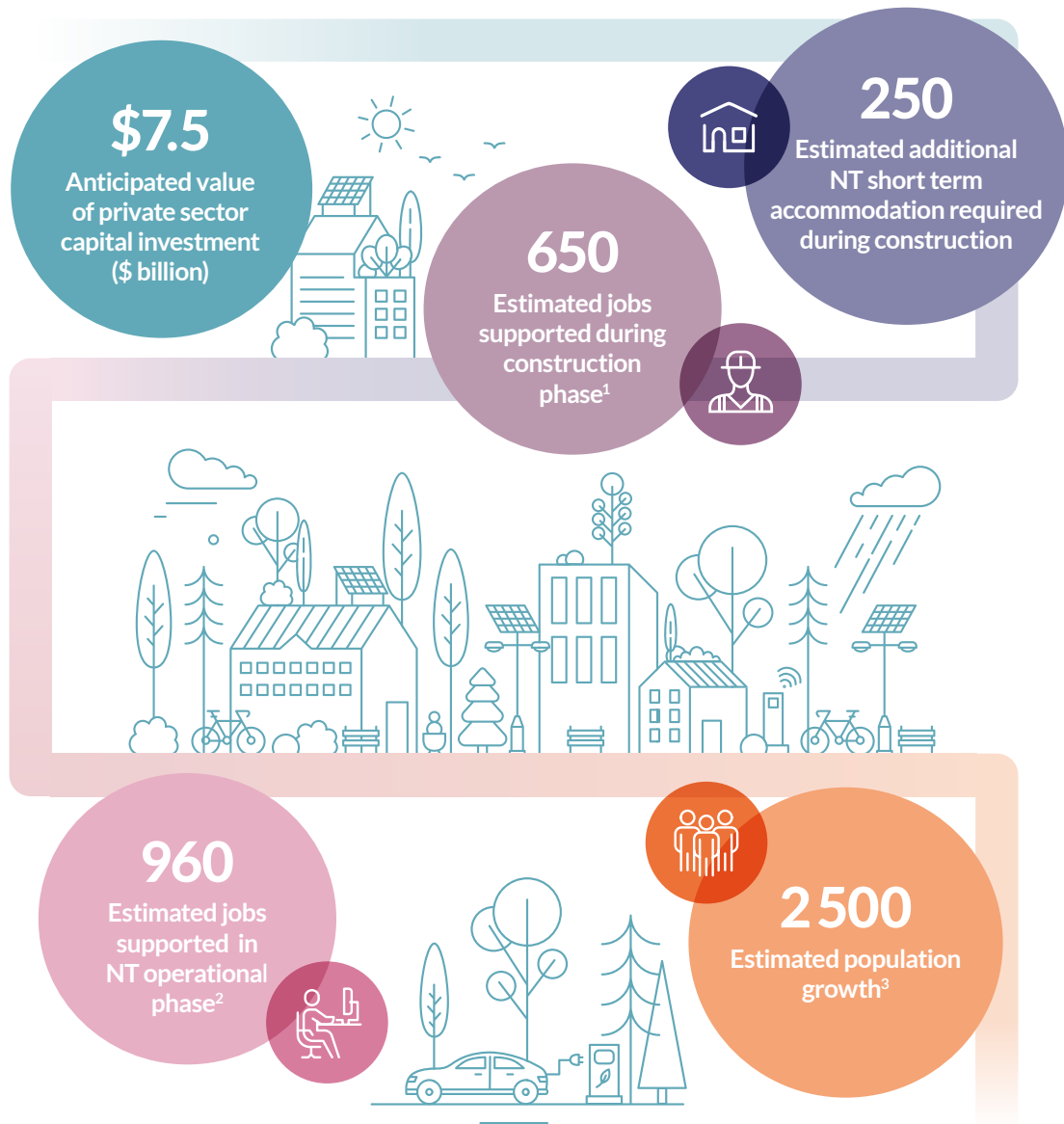
Above: Pontoon at Bathurst Island. Credit: Department of Chief Minister and Cabinet.

## Investment portfolio

The total Top End investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the Top End region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022-2023 Progress and Outlook: May 2023

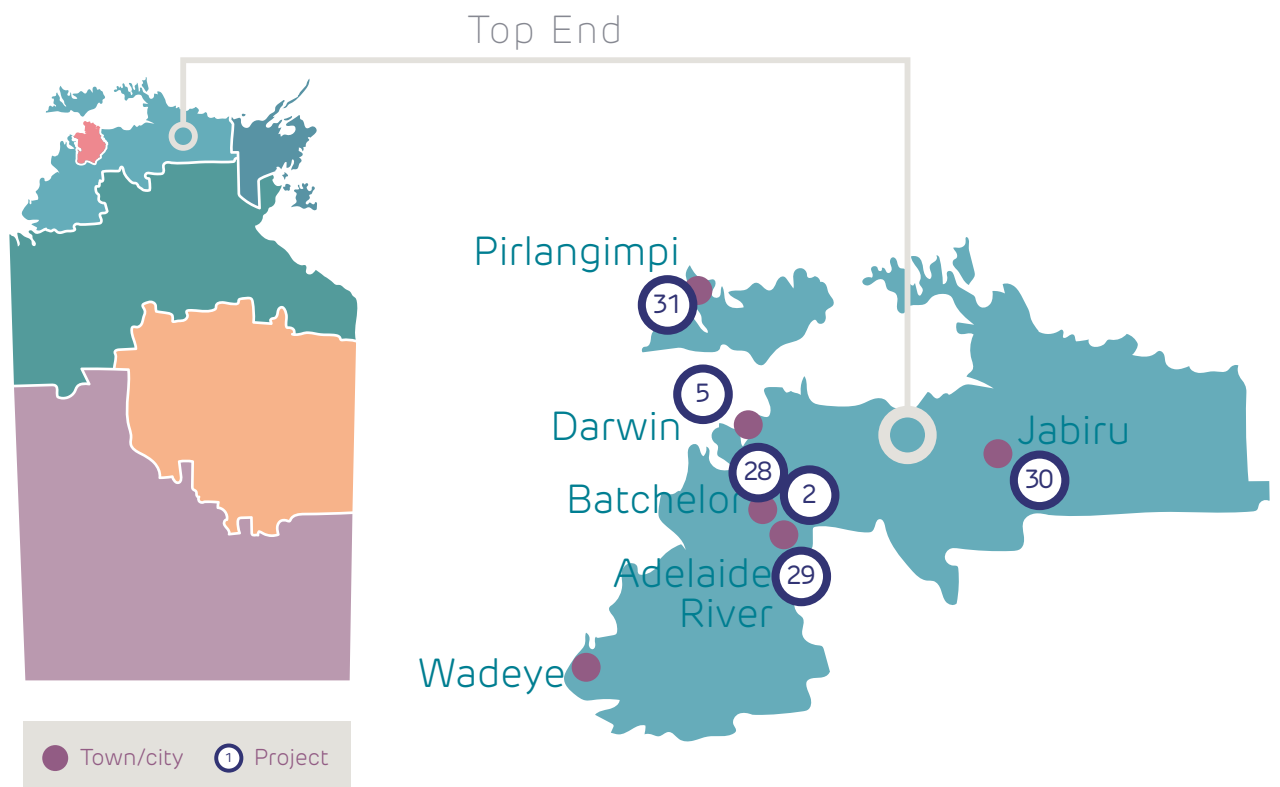


Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

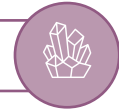
Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.



## Key projects, programs and proposals

The following nationally significant project located in the Top End region is detailed in Chapter 8.

- Darwin region water supply infrastructure upgrades – Adelaide River Off-Stream Water Storage (AROWS)

Core Lithium – Finniss Lithium Project 28

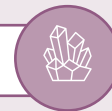
Core Lithium owns 100% of the Finniss Lithium Project, located 88 kilometres' trucking distance by sealed road to Darwin Port.

The flagship Finniss Project lies within one of the most prospective areas for lithium in the Territory – the Bynoe Pegmatite Field – and covers over 500 square kilometres of granted tenements.

Core Lithium made the Final Investment Decision on Thursday 30 September 2021 to proceed with the Finniss Lithium Project on the Cox Peninsula. First production is anticipated at the Grants Lithium open cut mine and processing plant before the end of 2022.

The BP33 Project, which also forms part of the overall Finniss Lithium Project, is currently undergoing its environmental impact assessment process. If approved, this stage of the Finniss Lithium Project will start once mining at the Grants site finishes.

This is the first new significant mine in the Northern Territory in more than a decade and will create 250 jobs during construction and operation.

Mt Bundy (Toms Gully, Rustlers Roost and Q29) 29

Mt Bundy Gold Project proposes to restart 3 mines – Tom's Gully, Rustlers Roost and Quest 29 – and construct a 4.5 million tonnes per annum processing plant at Rustlers Roost (proposed largest new gold processing plant in

the region). Rustlers Roost and Q29 are both open pits and Tom's Gully is an underground mine. The proposed plant and mining operation will produce gold doré ingots.

Lifestyle

Tourism

Health

Education

Solar

## Sustainable future of Jabiru and Kakadu 30



The Territory and Australian governments are committed to a strong and sustainable future for Jabiru and are investing \$411.5 million to support its transition from a mining town to a vibrant and sustainable tourism hub and service centre for Kakadu National Park and the West Arnhem region.

The Territory Government continues to work towards delivering priority projects identified in its \$135.5 million commitment to the Future of Jabiru.

- Work has commenced with assessment and upgrades to essential services infrastructure, including power, water, sewerage and waste management.

- A contract has been awarded and work has commenced to design the Bininj Resource Centre. This is scheduled to be completed in 2023 with construction to commence in 2024.
- A new solar hybrid power station has been completed and has been powering Jabiru since January 2022.
- Construction of the new Jabiru medical centre is well underway with completion expected in late 2023.

The Northern Territory Government has continued to maintain government service levels in Jabiru and is into its fourth year of commitment.

Renewables

Solar

Hydrogen

Major Project

## Tiwi H2 Project 31



Provaris Energy Ltd (Provaris) proposes to develop the Tiwi H2 Project, which is a green hydrogen production and export facility located on Melville Island within a 30 kilometre radius of Port Melville. Project works include construction of a solar precinct, overhead electricity transmission infrastructure, electrolyser facility, desalination plant, battery storage facilities, hydrogen compression and loading facilities, high pressure pipelines (for hydrogen ship loading) and expanded accommodation facilities at Port Melville.

Provaris will use its innovative compressed hydrogen ships to transport hydrogen to the South East Asia region and is targeting first production in late 2027 with operations expected to continue for approximately 30 years.

The project will scale up to 2.6 gigawatt solar generation to produce up to 90 000 tonnes per annum of green hydrogen for export to the South East Asia region.

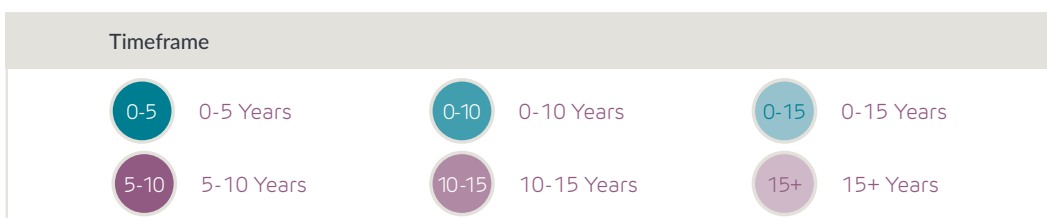
## Enabling infrastructure plan

The enabling infrastructure plan for the Top End region lists the infrastructure proposals that are not yet funded, are in the planning phase or have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Across the region accommodation cabins	1	Support council operations, community services, generate local jobs and skills training	0-5
Across the region new or refurbished health clinics	•	Strengthen liveability by improving infrastructure to support health services	0-15
Across the region Remote School Renewal Program	•	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Across the region upgrade access road network to Homelands	2	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-5
Adelaide River Off-Stream Water Storage (AROWS)	2000	Support economic and population growth through a secure, reliable and cost-effective water supply	0-10
Adelaide River Showground develop Equestrian Centre of Excellence	4	Develop Adelaide River as the equestrian centre for the Top End	15+
Adelaide River tri-services hub	24	Support the continued delivery of quality police, fire and emergency services in communities	0-10
Adelaide River War Cemetery construct car park and upgrade Memorial Terrace	2	Improve recreation opportunities and enhance visitor experience	0-10
Adelaide River waste transfer station	1	Support council operations and community services	5-10
Arnhem Highway upgrades (other than Adelaide River Floodplain and road duplication)	20	Support economic development of the tourism, defence, mining, extractive and livestock industries	5-10
Arnhem Link Road improve road standard	•	Improve regional and remote community connectivity	0-15
Batchelor aged care accommodation facility independent and assisted living	2	Provide a variety of contemporary, affordable and sustainable housing options for older Territorians	15+

• indicates value is either commercial in confidence or to be confirmed.



Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Batchelor Airport upgrade	•	Support connectivity and improve all weather access to improve community safety and to support future growth	0-5
Batchelor Area School upgrade camp dormitories	2	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Batchelor to Darwin River construct sealed arterial roads	5	Enable economic development through improved road infrastructure	5-10
Batchelor Township Resilience and Adaptation Master Plan support and recreational infrastructure and night lighting	10	Support council operations, community services, generate local jobs and skills training	0-10
Batchelor waste minimisation and recycling facility	1	Support improved waste management and recycling processes	5-10
Cox Peninsula bike path/boardwalk from Mandorah Jetty along beachfront and Wagait Tower Road	4	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Cox Peninsula new extension and upgrades to council Office, Chambers and Library buildings	1	Enhance infrastructure to support development	0-5
Cox Peninsula new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in rural communities	0-15
Cox Peninsula re-seal all sealed roads in the estate	3	Road improvement to increase safety, support accessibility, connectivity and amenity	0-5
Cox Peninsula upgrade beach access points at end of Erickson Crescent, Baluria Road and Wagait Tower Road	2	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Dundee Beach multi-purpose sporting complex/cyclone shelter	8	New recreational infrastructure to support liveability and resilience	0-15
Finniss Valley new roads within Chin Estate	2	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-10
Future of Jabiru and Kakadu Jabiru luxury lodge precinct 90 rooms	50	Support growth in luxury tourism, visitor and corporate travel markets	0-10
Gapuwiyak (Lake Evella) multi-purpose sporting complex/cyclone shelter	10	New recreational infrastructure to support liveability and resilience	0-10
Gunbalanya asbestos removal in council buildings	1	Support council operations, community services, generate local jobs and skills training	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Gunbalanya council plant shed workshop	2	Support council operations, community services, generate local jobs and skills training	0-5
Gunbalanya council sporting oval facilities	4	Strengthen a healthy, active lifestyle by improving recreation and youth facilities	0-5
Gunbalanya council staff accommodation and asbestos remediation	10	Support council operations, community services, generate local jobs and skills training	0-10
Gunbalanya multi-purpose hall/cyclone shelter	10	New recreational infrastructure to support liveability and resilience	5-10
Gunbalanya new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Gunbalanya new police complex	15	Support the continued delivery of quality police services in remote communities	10-15
Gunbalanya police housing	5	Support the continued delivery of quality police services in remote communities	0-10
Gunbalanya reseal internal roads	3	Road improvement to increase safety, support accessibility, connectivity and amenity	0-10
Gunbalanya School replace administration building and upgrade ageing infrastructure	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Gunbalanya waste transfer station	8	Support council operations, community services, generate local jobs and skills training	0-5
Haynes Road realignment and seal	1	Develop and support the cattle industry	0-15
Heathers Lagoon Road upgrades	1	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-15
Jabiru multi-purpose sporting complex/ cyclone shelter	10	New recreational infrastructure to support liveability and resilience	0-10
Jabiru new grandstand at Brockman Football Oval	2	Strengthen a healthy, active lifestyle by improving recreation and youth facilities	0-5
Jabiru upgrade pool/gym facilities	1	Strengthen a healthy, active lifestyle by improving recreation and youth facilities	0-5
Jabiru waste transfer station	7	Support council operations, community services, generate local jobs and skills training	0-5
Kakadu Road upgrades stage 2	70	Improve year round accessibility, supporting the tourism industry	5-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Litchfield National Park upgrades improve access, camping facilities and amenity	2	Value, preserve and expand historic, cultural meeting places, increase visitation opportunities and visitor experience	0-10
Maningrida additional police housing (stage 2)	13	Support the continued delivery of quality police services in remote communities	0-10
Maningrida asbestos removal in council buildings	4	Support Council operations and generate local jobs and skills training	0-5
Maningrida council staff accommodation	2	Strengthen liveability through improved infrastructure to support council services	0-5
Maningrida council visitor accommodation	2	Strengthen liveability through improved infrastructure to support council services	0-5
Maningrida council workshop	2	Strengthen liveability through improved infrastructure to support council services	0-5
Maningrida cyclone shelter	15	Build resilient communities and enhanced liveability by improving community facilities	0-10
Maningrida Football Oval new grandstand	4	Strengthen a healthy, active lifestyle by improving recreation and youth facilities	0-5
Maningrida new NT Emergency Services (NTES) volunteer and storage facilities	3	Strengthen emergency support services in remote communities	0-10
Maningrida reseal internal roads	4	Road improvement to increase safety, support accessibility, connectivity and amenity	0-10
Maningrida School new early years classrooms and play areas and upgrade and extend middle years buildings	4	Master planned infrastructure to provide contemporary educational facilities to support growth in early years learning enrolments	0-10
Maningrida School refurbish upper primary buildings	2	Upgrade ageing infrastructure to support the continued delivery of quality education	5-10
Maningrida swimming splash pool shade	1	Strengthen a healthy, active lifestyle by improving recreation and youth facilities	0-5
Maningrida Top Camp Road storm water drainage	3	Road improvement to increase safety, support accessibility, connectivity and amenity	0-5
Maningrida waste transfer station	9	Support council operations, community services, generate local jobs and skills training	0-5
Milikapiti (Snake Bay) multi-purpose sporting complex/cyclone shelter	10	New recreational infrastructure to support liveability and resilience	0-10
Milikapiti council workshop renovations	1	Support council operations, community services, generate local jobs and skills training	5-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Milikapiti police housing	3	Support the continued delivery of quality police services in remote communities	0-15
Minjilang (Mamaruni) School replace preschool	2	Contemporary educational infrastructure to support growth in early years learning enrolments	0-10
Minjilang council staff accommodation	1	Strengthen liveability through improved infrastructure to support council services	0-10
Minjilang council visitors accommodation	2	Strengthen liveability through improved infrastructure to support construction in the community	0-5
Minjilang reseal internal roads	3	Road improvement to increase safety, support accessibility, connectivity and amenity	5-10
Minjilang waste transfer station	9	Support council operations, community services, generate local jobs and skills training	5-10
Murganella Road upgrade including drainage upgrade	9	Generate local jobs and skills training to enhance liveability, health and community outcomes	0-5
Naiyu (Daly River) multi-purpose sporting complex/cyclone shelter	10	New recreational infrastructure to support liveability and resilience	0-10
Naiyu (Daly River) regional town development residential and commercial/ industrial land release	3	Enable economic development and population growth by increasing land availability	5-10
Naiyu (Daly River) tri-services hub	18	Support the continued delivery of quality police, fire and emergency services in remote communities	5-10
Peppimenarti community hub	6	Support council operations, community services, generate local jobs and skills training	0-5
Peppimenarti multi-purpose sporting complex/cyclone shelter	8	New recreational infrastructure to support liveability and resilience	0-10
Pirlangimpi council workshop renovations	1	Support council operations, community services, generate local jobs and skills training	5-10
Pirlangimpi new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Pirlangimpi pontoon ferry service between Wurrumiyanga and Pirlangimpi	1	Support connectivity and improve all weather access to improve community safety and to support future growth	0-5
Pirlangimpi replace police housing	4	Support the continued delivery of quality police services in remote communities	0-5
Port Keats Road upgrade complete unsealed sections of Port Keats Road and widen Daly River Bridge	150	Economic enabler for the extractive industry and key national freight route between the Territory and the rest of Australia	0-15

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Robin Falls Recreation Area day visit eco-infrastructure	3	Develop tourism product while protecting the local environment	5-10
Strickland Road upgrades	1	Enhance infrastructure to support accessibility, connectivity, safety and amenity	5-10
Tiwi Islands develop greenfield sites for aquaculture, agriculture, tourism and industrial purposes	•	Support the development of local industry and create a sustainable economy	0-10
Tiwi Islands reseal all community and outbound roads in Wurrumiyanga, Milikapiti and Pirlangimpi	2	Support economic development of the region, improving safety and connectivity	0-10
Tiwi Islands road upgrades stage 2	100	Support economic and social development of the region, improving connectivity	5-10
Tiwi Islands visitor accommodation and supporting hospitality facilities	•	Enable economic development and population growth through tourism	0-10
Top End Parks upgrade and new gauging stations	•	Support improved water management	0-10
Wadeye multi-purpose sporting complex/ cyclone shelter	20	New recreational infrastructure to support liveability and resilience	0-10
Wadeye new NT Emergency Services (NTES) volunteer and storage facilities	3	Strengthen emergency support services in remote communities	0-10
Wagait Beach Cloppenburg Park Master Plan new skatepark, rebuild pump-track, resurface tennis courts and new shade roof	2	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Wagait Beach multi-purpose sporting complex/cyclone shelter	10	New recreational infrastructure to support liveability and resilience	0-10
Wagait replace Centre Yard Zone Substation	•	Asset renewal to support growth, compliance and improve service efficiency	10-15
Warruwi asbestos removal in council buildings	1	Ensure a safe and healthy work environment and best practice in managing asbestos containing materials for council controlled buildings	0-5
Warruwi construct council office	4	Support council operations, community services, generate local jobs and skills training	0-5
Warruwi construct council visitors accommodation	2	Support council operations, community services, generate local jobs and skills training	0-5
Warruwi council amenities	1	Strengthen liveability through improved infrastructure to support council services	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Waruwi reseal internal roads	2	Road improvement to increase safety, support accessibility, connectivity and amenity	0-10
Waruwi waste transfer station	9	Support council operations, community services, generate local jobs and skills training	0-5
Wildman River Agricultural Precinct	20	Develop production area to take advantage of good quality agricultural land and available water resources	0-5
Woodycupaldiya Road upgrade	8	Improve all weather access to support accessibility, growth and community safety	0-5
Wooliana Road realign, upgrade and seal local fishing and tourist roads	2	Enable all weather access to improve recreation opportunities and enhance visitor experience	10-15
Wurrumiyanga additional housing for council staff	5	Support continued delivery of council services in remote communities	0-5
Wurrumiyanga airstrip terminal welcome and meeting place	1	Support economic development of the region, improving connectivity and tourism opportunities	0-5
Wurrumiyanga council workshop renovations	1	Support council operations, community services, generate local jobs and skills training	0-10
Wurrumiyanga police complex	16	Support the continued delivery of quality police services in remote communities	0-15

## Implementation pathway

The suggested implementation pathway outlines action that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>Top End</b>		
Progress Kakadu road upgrades	 New	 In progress

## Infrastructure pipeline

The following is a list of committed projects, funded by either government or the private sector, for the Top End region.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across the region culvert repairs at Peppimenarti, Emu Point and Namarluk access roads	0.3	•			Enhance infrastructure to support accessibility, connectivity, safety and amenity
Across the region HomeBuild new homes	•	•	•	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region land servicing headworks scoping, design and construction	7.0	•			Enable economic development and population growth through expanded utilities networks for new land development
Across the region residential infill lots, design and construct power and water infrastructure, upgrades and network extensions to service nominated infill lots	5.9	•			Enable economic development and population growth through expanded utilities networks for new land development
Across the region residential subdivision planning, design and construction	42.3	7.7			Enable economic development and population growth through expanded utilities networks for new land development
Across the region Room to Breathe home extensions	41.4	16.1	12.0	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region upgrade internal road network	2.0			•	Enhance infrastructure to support accessibility, connectivity, safety and amenity
Adelaide River water source augmentation and treatment	2.3	•			Support population growth by improving access to quality water
Archer waste transfer facility cardboard compactor	0.2	0.2			Support improved waste management and recycling processes
Arnhem Highway Adelaide River Floodplain stage 2 (Beatrice Hill)	31.6	9.3			Improve flood immunity at the Adelaide River crossing
Arnhem Link Road improve road standard	16.0	9.5		•	Improve regional and remote community connectivity
Bathurst Island mortuary upgrade	0.3	•			Improve infrastructure for essential services
Cocos (Keeling) Islands airfield upgrade	567.0	•	•	•	Enhance defence capability and operations

A lesser figure in the 2023-24 and 2024-25 columns than in the Total column indicates either previous year expenditure or expenditure in outer years.

• indicates value is either commercial in confidence or to be confirmed.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Coomalie Community Government council solar installations	1.0	•			Improve liveability and improve energy efficiency by increasing renewable energy
Darwin River Dam new pump station	36.3	15.3	0.1		Support population growth by improving access to quality water and providing resilience to Darwin's water supply
Dundee Beach recreational fishing infrastructure	7.0	0.5	6.5		Enhance recreational fishing and the Territory's reputation as a world class fishing destination
Finniss Lithium Project Core Lithium Ltd stage 2 – BP33 early works package – underground mine	45.0	45.0	•		Part of Core Lithium's Finniss Lithium project developing lithium and diversified metals used for new and emerging technologies
Future of Jabiru and Kakadu health, education, roads, government, NBN and tourism facilities	411.5	50.0	50.0	•	Position Jabiru, post-mining, as a tourism and regional services hub
Gunbalanya football oval lights	1.6		1.5		Capital grant to strengthen liveability through improved sporting infrastructure
Gunbalanya health centre and morgue	20.0	10.0	10.0		Strengthen liveability by improving infrastructure for health support services
Holtze glass reprocessing plant	0.7	0.7			Support improved waste management and recycling processes
Jabiru distribution network upgrade	•	•			Asset renewal to support growth, compliance and improve service efficiency
Kakadu Mobiles Co-investment Program	7.5	•	•	•	Enabling connectivity and creating digital opportunity
Kakadu National Park various road upgrades	68.6	5.0	30.0	•	Improve access to iconic tourism product to grow visitation, the economy and increase liveability
Mandorah new marine facilities	85.5	40.0	40.0	•	Enhance infrastructure to support connectivity and development
Maningrida Arts and Culture and Djomi Museum upgrades	5.0	5.0			Value, preserve and expand art and cultural places, through the Arts Trail Gallery Extension Program
Maningrida new police station, housing, visiting officer quarters, multifunction room/ court house, associated boat and storage sheds, communications tower and backup generator	17.1	16.7	•		Support the continued delivery of quality police services in remote communities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Maningrida School undercover walkways	0.6	•			Contemporary educational infrastructure to support growth in population and student enrolments
Maningrida Top Camp Road reconstructions	0.9		0.9		Road improvement to increase safety, support accessibility, connectivity and amenity
Manton Dam return to service including Strauss to Middle Arm pipeline project to support industry development and provide water security to the Darwin region	189.0		46.2	•	Support economic and population growth by improving access to quality water
Manton Solar Photovoltaic Station connection	•	•			Expand and diversify the Territory's power grid to improve efficiency and to meet Northern Territory renewables target of 50% by 2030
Marindja Road flood immunity improvements lift pavement through floodplain and upgrade to 2 lane seal for priority sections	6.2		5.0	•	Support economic development of the cattle industry and improve community connectivity
Marrakai Road seal between Stephen Road and Arnhem Highway	7.5		7.5		Enhanced liveability through improved roads
Milikapiti water park	0.8	•			Strengthen a healthy, active lifestyle by improving recreation and youth facilities
NT Bullion Frances Creek operations reopen the iron ore mine to extract remnant ore from existing open cut pits	7.0	•			Meet global demand for minerals
Palumpa School refurbish canteen and staff ablution facility	0.6	•			Contemporary educational infrastructure to support growth
Peppimenarti library and community space	0.4	•			Support community services
Peppimenarti multi-purpose police complex, including associated housing, multifunction room/court house and supporting site infrastructure	19.0		19.0	•	Support the continued delivery of quality police services in remote communities
Peppimenarti upgrade waste management facilities	0.2	•			Support improved waste management and recycling processes
Port Keats Road upgrade between Wadeye and Palumpa	75.0		30.0	•	Economic enabler for the extractive industry and key national freight route between the Territory and the rest of Australia

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Primary Gold Mt Bundy Gold Project to develop Toms Gully, Rustlers Roost and Quest 29 sites	412.0	100.0	100.0	•	Meet global demand for minerals
Ranger mine rehabilitation remove infrastructure	1600.0	•	•	•	Rehabilitate the Ranger mine in consultation with stakeholders
Rum Jungle rehabilitation	500.0	100.0	100.0	•	Rehabilitate the area in consultation with stakeholders
Tiwi Islands road upgrades	75.0	15.0	12.0	•	Support economic and social development of the region, improving connectivity
Wadeye aerodrome airstrip pavement and seal widening	2.0			•	Support connectivity and improve all weather access to improve community safety and to support future growth
Wadeye Airport Road upgrade and seal	0.8	•			Enhance infrastructure to support accessibility, connectivity, safety and amenity
Wadeye Government Business Centre fitout	1.0	1.0			Enhance services and liveability, health and community outcomes in regional towns and remote communities
Wadeye pedestrian bridge and walkway	1.3	•			Enhance infrastructure to support accessibility, connectivity, safety and amenity
Wadeye renal facility	1.4	1.4			Strengthen liveability by improving infrastructure for health support services
Wadeye upgrade barge landing and hardstand	2.5			•	Improve all weather access to support accessibility, growth and community safety
Wadeye upgrade waste management facilities	0.7	•			Support improved waste management and recycling processes
Wagait Beach Cloppenburg Park Master Plan repurpose existing compound for community recycle and re-use program	0.1	•			Support improved waste management and recycling processes
Wurrumiyanga child and family centre (Starting Early for a Better Future)	0.5	•			Strengthen early years learning and engagement of students and parents
Wurrumiyanga swimming pool redevelopment	0.8	0.8			Strengthen a healthy, active lifestyle by improving recreation and youth facilities
Wurrumiyanga waste management and recycling hub	2.0		2.0	•	Support improved waste management and recycling processes

## NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining and improving our quality of life. It provides us with essential services we rely on like transport, energy, water and telecommunications, as well as social infrastructure such as hospitals and health centres, schools, policing and parks and access to goods and services.

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.



### Transport and Logistics

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- Cold storage facilities
- Improve roads to industry
- Jabiru collection and packing hub for Kakadu plum
- Regional industry hubs
- Wadeye commercial infrastructure to develop new supermarkets and food businesses



### Utilities

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- Cox Peninsula waste transfer station

The audit, as discussed in chapter 3, revealed a number of potential infrastructure needs. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in the regional sections of this document. The remaining Top End region audit items are listed below. These potential infrastructure needs are for projects that could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of those needs and proposals.



### Social Infrastructure

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- Belyuen upgrade recreation centre
- Gunbalanya youth centre and basketball facility upgrades
- Milikapiti community sports facilities and oval upgrades
- Milingimbi new sporting lights
- Minjilang community basketball courts
- Nganmarriyanga improve recreation facilities
- Peppimenarti sport hub upgrades
- Pirlangimpi community sports facilities upgrades
- Regional Training and Employment Hub
- Tiwi Island sporting hub
- Wadeye facilities upgrades at hall and BMX track
- Wurrumiyanga community sports facilities and oval upgrades



### Land

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- Agriculture and pastoral developments
- Aquaculture developments
- Storm water drainage improvements



Above: Looking over Katherine Gorge. Credit: Tourism NT.



## Big Rivers

An abundance of natural resources, vast land mass and unique landscapes drive opportunities in agriculture, energy, resources and tourism.

### The Big Rivers region:

- > is a critical service hub to develop the Beetaloo Sub-basin and defence
- > is home to Katherine, the fourth largest township in the Northern Territory
- > has 25 national parks
- > has 105 pastoral properties equating to more than 56% of the total region land mass
- > has one of the highest average daily solar exposure rates in Australia, with up to 11 hours of sunshine per day.

## Major industries and growth sectors in Big Rivers



### Agribusiness



### Resources

The Big Rivers region is made up of over 340 000 square kilometres and includes 2360 kilometres of coastline. The region is approximately 200 kilometres south of Darwin and extends over 500 kilometres south, stretching across the full width of the Territory from the Western Australia border in the west and the Gulf of Carpentaria along the Queensland border to the east.

The region is home to approximately 21 000 people of which about 50% are Aboriginal or Torres Strait Islander people.

Over 33% of the region's land mass is Aboriginal-owned freehold land. There are 12 major and 11 minor communities, 9 town camps and 110 homelands.

The Big Rivers region includes the remote Roper Gulf and Victoria Daly regions based on 3 major rivers – Daly River, Victoria River and Roper River – as well as the pioneering gold town of Pine Creek, and Timber Creek, Borroloola and Mataranka.

The township of Katherine, the fourth largest town in the Territory, serves as the region's economic hub. Katherine is strategically located at the juncture of the Darwin to Adelaide north-south transcontinental rail route and the Stuart Highway – the Territory's main arterial highway connecting the regional road network to major trade routes from Australia's east, south and west coasts.

The region enjoys a large range of key industries including resources, agriculture, tourism and defence with some of the most significant economic activity in northern Australia.

Agribusiness in the region encompasses aquaculture, forestry, agriculture and pastoral. In 2020–21, the agribusiness sector contributed approximately \$270.5 million to the region's economy and employed 734 people.

With a rich abundance of minerals commodities and vast areas underexplored, the resources industry is a significant driver of economic growth in the region. The industry employs 854 people.

The region has one of the largest deposits of zinc-lead in the world at McArthur River Mine, near Borroloola, and a world-class shale gas resource in the Beetaloo Sub-basin.

The Beetaloo Sub-basin lies between Katherine in the Big Rivers region and Tennant Creek in the Barkly region and covers 28 000 square kilometres. It is estimated to contain 500 trillion cubic feet of gas. Resource estimations are equivalent to more than 1000 times the current annual domestic consumption in Australia.

The tourism sector is a significant contributor to the region's economy with approximately 340 000 visitors per annum visiting the region's 25 national parks and reserves (including the Judbarra/Gregory and Limmen national parks – the second and third largest national parks in the Territory) and 64 expansive river systems.

There is an opportunity to support the creative industries as an emerging industry in the region. Visitors to the region are often interested in a range of experiences providing them with a greater understanding of the unique connection Aboriginal people have to country. In 2020–21, the creative industries contributed over \$32 million to the Big Rivers regional economy.

Due to its strategic location, the defence sector has a long history in the region. RAAF Base Tindal provides the Royal Australian Air Force's major strategic base in northern Australia. The Delamere Air Weapons Range is 140 kilometres south west of Katherine and Bradshaw Field Training Area is 150 kilometres west of Katherine.



Tourism



Defence

The Katherine Logistics and Agribusiness Hub, a large-scale industrial land development, will include a 255 hectare industrial subdivision strategically located at the junction of the north– south transcontinental railway line and national highway links. The site location is intended to serve as an inland port for the Northern Territory’s logistical capability.

The development will provide opportunities for manufacturing, processing, multi-user warehousing and storage facilities, freight networks and logistical connectivity for industry.

## Challenges and opportunities

- Increase housing supply to meet current and future industry demands in the region. Scarcity of housing is a significant barrier to attracting and growing new industry and supporting existing private sector employers to grow or diversify.
- Increase short-stay accommodation options for community members visiting Katherine for medical and cultural reasons and also for worker’s accommodation.

- Improve the mobile network coverage, which is primarily through 4G and 3G networks and limited to population centres, and improve rural and remote satellite connectivity to access the national broadband network (NBN) services.
- Grow the population and workforce to service several major projects coming to fruition in the region, such as defence and Beetaloo Sub-basin.
- Increase the availability of titled general and light industrial land to meet future industry demands.

The Northern Territory Government undertook the Big Rivers Liveability Project in 2022 to gain an understanding of the perceptions and reality of living in the region, to identify what is desired in a regional lifestyle to attract and retain people in the region and to create a regional baseline to inform planning, monitoring and evaluation.

The liveability attributes identified as the highest priority for improvement included quality education, protection of the natural environment and quality of health care.



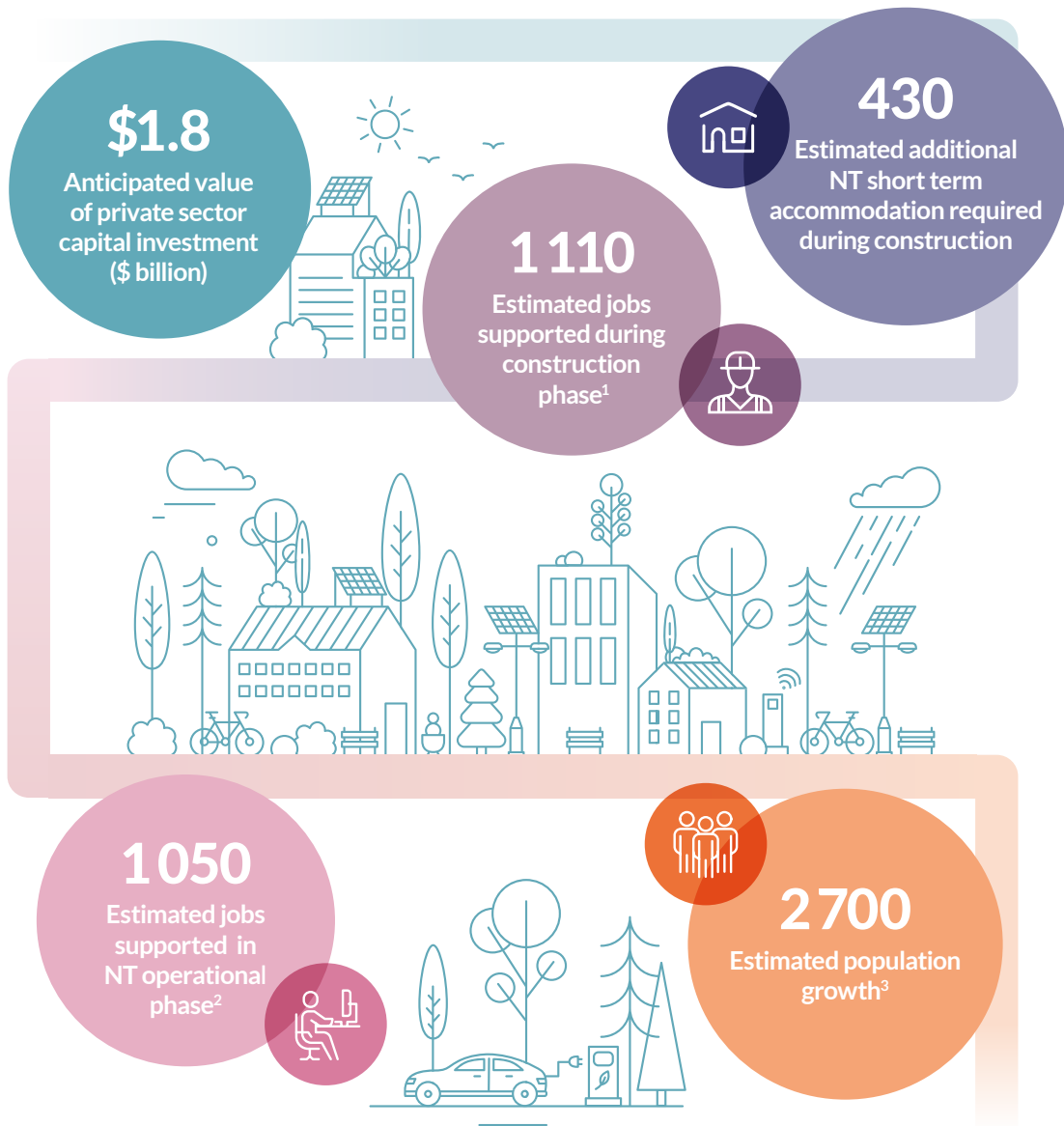
Above: Kentish Early Learning Centre, Big Rivers. Credit: Aspire Design Construct.

## Investment portfolio

The total Big Rivers investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the Big Rivers region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022–2023 Progress and Outlook: May 2023

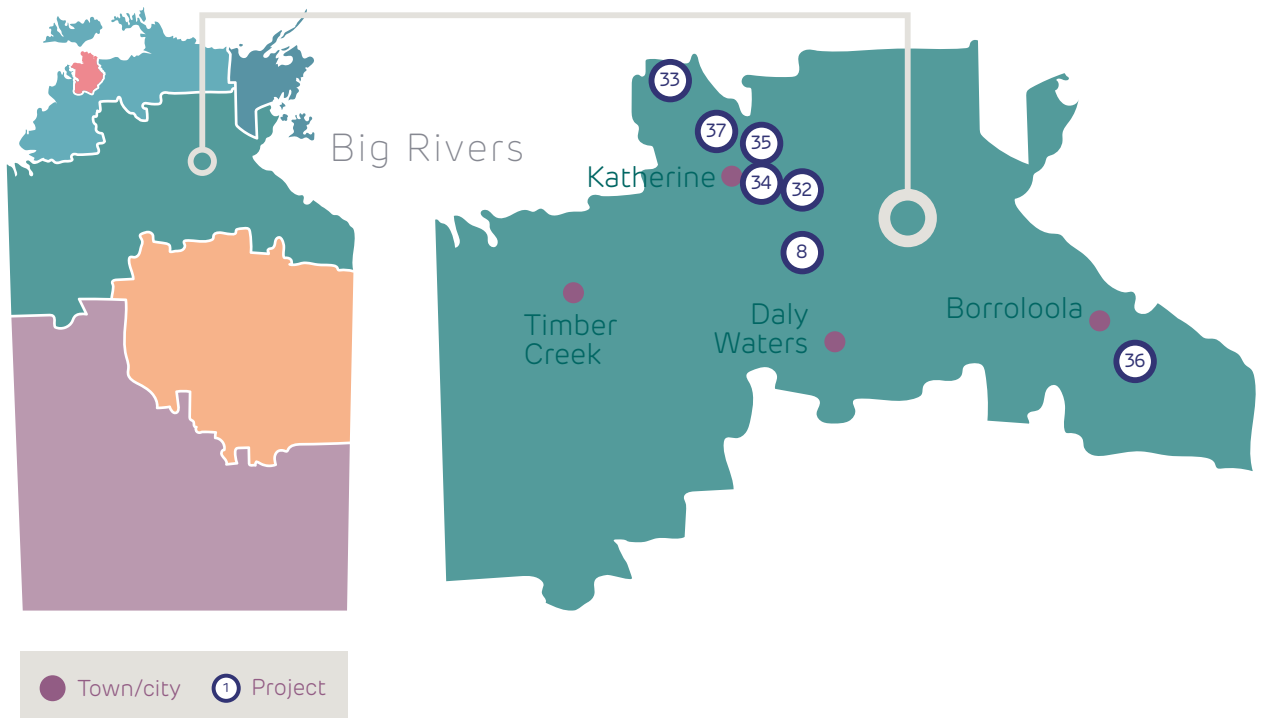


Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

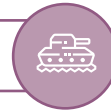
Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.



## Key projects, programs and proposals

The following nationally significant projects, programs and proposals located in the Big Rivers region are detailed in Chapter 8.

- Enabling infrastructure for developing the Beetaloo Sub-basin
- Tamboran Resources Limited.

Defence strategic capital works **32**

The following Defence projects are taking place in the Big Rivers region:

- RAAF Base Tindal Stage 6 Redevelopment
- United States Force Posture Initiatives Airfield Works
- AIR7000 Phase 1B Triton Hangar Facilities
- USFPI Training Areas and Ranges Project (Bradshaw Field Training Area).

The RAAF Base Tindal is located 15 kilometres outside Katherine and 320 kilometres south-east of Darwin.

The RAAF Base Tindal redevelopment will address functional deficiencies and capacity constraints in existing facilities and infrastructure. The project aims to address

risks associated with non-compliant facilities to reduce ongoing operating costs by replacing under-utilised or redundant facilities.

The United States Force Posture Initiative (USFPI) Airfield Works project will increase the capacity of RAAF Base Tindal to support KC-30A Multi Role Tanker Transport operations. This forms a key part of the core Air Power role of air mobility, including air-to-air refuelling and air logistics support missions. The project will support the USFPI by improving accessibility for United States Air Force aircraft.

Additional USFPI infrastructure projects being delivered at RAAF Base Tindal include the construction of Earth Covered Magazines and Jet Fuel Storage Tanks.

Fountain Head Gold and Hayes Creek projects – PNX Metals **33**

Fountain Head and Hayes Creek are located approximately 170 kilometres south of Darwin in the Pine Creek region of the Northern Territory. PNX Metals Limited (PNX) is proposing to re-open the historic Fountain Head gold mine 55 kilometres from Pine Creek, with environmental approval already granted for the 100% PNX Metals owned project areas.

PNX completed the pre-feasibility study in 2021, envisaging staged development of Fountain Head Gold Project as stage 1, followed by gold-silver-zinc development at Hayes Creek as stage 2.

Katherine Agribusiness and Logistics Hub 34



A network of regional logistics hubs will be part of an efficient supply chain across the Northern Territory to support community development and resilience, trade and industry growth. Each of these hubs will reflect the trade and opportunities specific to that region, and will support priorities such as community distribution facilities and waste consolidation facilities.

One of these hubs will be located at Katherine. The Katherine Agribusiness and Logistics Hub will support the supply chain by moving freight to and from Darwin Port for import and export, and will be designed specifically to cater to the

trade task in and around the Big Rivers region. This will include agribusiness projects in the Territory and the north of Western Australia such as cotton, timber, aquaculture and beef.

It will encompass the services that support a logistics hub including fuel distribution and biosecurity functions.

Consolidating freight at strategic locations across the Northern Territory will create efficiencies and reduce the cost of freight to all industries using the supply chain. In the Big Rivers region, the hub will primarily support developing agribusiness opportunities.

Katherine East – land development 35



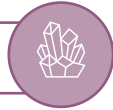
Work is progressing in Katherine East, with construction underway to support residential development opportunities that will include a mix of housing types, together with land for community purpose, commercial and retail uses. The first stage of the subdivision works is expected to be completed by the end of 2023 and will support the release of land for a mixed use commercial development.

The Northern Territory Government provided \$26 million over 2 years in Budget 2022-23 to support the development of the Katherine East Neighbourhood Centre to provide servicing for the future release of residential/community purpose land.



Above: Concept design of Katherine East (Englobo is a term for an undeveloped lot, generally a large parcel of land that has the potential for further subdivision). Credit: Department of Infrastructure, Planning and Logistics.

Minerals



Merlin Diamond Project – Lucapa Diamond Company Limited 36

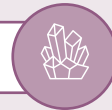
The Merlin Diamond Project is one of only 3 diamond mines that previously operated in Australia and is located approximately 70 kilometres south of Borroloola. The Merlin Mineral Lease comprises 11 kimberlite pipes, of which 8 were subject to open pit mining, mainly between 1999 and 2003, producing over 500 000 carats of diamonds.

Diamonds from Merlin have a high value compared to the global average due to the high percentage of gem quality stones and relatively high proportion of white gems.

In December 2021, Lucapa Diamonds completed the acquisition of Merlin, through its wholly owned subsidiary, Australia Natural Diamonds Pty Ltd. Merlin is a historic Australian mine containing a 4.4 million carat Joint Ore Reserves Committee (JORC) compliant mineral resource with significant exploration upside.

Following the closure of the Argyle and Ellendale Diamond Mines, Merlin will be the only operating commercial diamond mine in Australia.

Minerals



Major Project



Mount Todd – Vista Gold 37

The Mt Todd Gold Project is Australia’s largest undeveloped gold project and is located approximately 50 kilometres north of Katherine and 250 kilometres south-east of Darwin. The site covers a mine tenement of more than 153 700 hectares, which includes the Batman







and Quigley’s gold deposits. The 2022 Mt Todd feasibility study resulted in a 7 million ounce gold reserve and a 16 year mine life. The brownfield development project is 100% owned by Vista Gold and has the potential to be one of Australia’s largest gold producers.

## Enabling infrastructure plan

The enabling infrastructure plan for the Big Rivers region lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Across the region new or refurbished health clinics	•	Strengthen liveability by improving infrastructure to support health services	0-15
Across the region Remote School Renewal program	•	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Beswick new police complex	15	Support the continued delivery of quality police services in remote communities	0-5
Borroloola new police complex	18	Support the continued delivery of quality police services in remote communities	5-10
Borroloola regional town development residential and industrial land release	21	Enable economic development and population growth by increasing land availability	0-15
Buchanan Highway upgrade selected sections	25	Increase road capacity, safety, support accessibility, connectivity and amenity	5-10
Buntine Highway improve the road standard and extend the seal towards Western Australia	460	Increase road capacity, safety, support accessibility, connectivity and amenity	0-15
Carpentaria Highway upgrade October Creek to Surprise Creek	250	Increase road capacity, safety, support accessibility, connectivity and amenity	10-15
Casuarina Street Primary School (Katherine) refurbish student support hub	2	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Central Arnhem Road upgrade remaining road within the Big Rivers region (Stuart Highway to Bulman)	200	Improve all weather access to support accessibility, growth and community safety	0-15
Daly Waters regional town development residential land release	21	Enable economic development and population growth by increasing land availability	0-5
Douglas Daly Connector Road	•	Support agriculture and tourism industries and the community	10-15

Timeframe	
 0-5 Years	 0-10 Years
 0-15 Years	
 5-10 Years	 10-15 Years
	 15+ Years

• indicates value is either commercial in confidence or to be confirmed.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Douglas Daly roads flood immunity improvements lift pavement through floodplain and upgrade to 2 lane seal on selected sections	33	Support economic development of the cattle industry and improve community connectivity	0-15
Elsey National Park new and upgraded facilities	2	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	5-10
Gorge Road upgrade Maud Creek Crossing	6	Improve year round accessibility, supporting the tourism industry	0-10
Hodgson River/Nutwood Road selected upgrade and seal	10	Support economic development of the cattle industry and improve community connectivity	5-10
Kalkarindji new police complex and refurbish existing houses	15	Support the continued delivery of quality police services in remote communities	5-10
Kalkarindji regional town development residential, commercial, community and industrial land release	38	Enable economic development and population growth by increasing land availability	0-5
Katherine Airport cold stores, warehousing and loading facilities	6	Support economic development by improving goods handling facilities	0-10
Katherine Airport tourist facilities upgrade in passenger terminal, baggage handling facilities and hospitality elements	6	Improve infrastructure to enhance visitor experience	0-5
Katherine Airport upgrade strength of airside pavement and taxiway	4	Increase safety, support accessibility, connectivity and amenity	0-10
Katherine Airport upgrade the civilian aircraft parking to support larger aircraft	•	Meet visitor demand and respond to requirements in the aviation sector	0-10
Katherine Aquatic Centre with olympic size pool and nature splash adventure zone	10	Strengthen a healthy, active lifestyle by improving sporting opportunities and enhance visitor experience	0-5
Katherine Court House upgrade	7	Strengthen equitable access by improving infrastructure to support judicial services	0-10
Katherine East Neighbourhood Centre retail and commercial developments including supermarket	30	Provide a variety of contemporary, affordable and sustainable housing options to suit the Territory lifestyle	0-10
Katherine Heavy Vehicle Alternate Route	•	Enhance road infrastructure to increase safety and support accessibility, connectivity and amenity	5-10
Katherine Hospital upgrades	•	Strengthen liveability by improving infrastructure to support health services	0-15
Katherine hotel development	•	Provide quality, affordable accommodation	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Katherine Power Station fire system upgrade	1	Asset renewal to support growth, compliance and improve service efficiency	0-5
Katherine short-stay accommodation	•	Provide quality, affordable accommodation to meet current demands and future demand expected in the region as construction phases ramp up	0-5
Katherine tri-services hub	52	Support the continued delivery of quality police, fire and emergency services	0-15
Katherine upgrade to office accommodation and depot sheds	•	Improve staff facilities	0-10
Katherine Waste Management Facility upgrade transfer station and recycled goods shop	1	Support improved waste management and recycling processes	0-5
Keep River National Park improve northern boundary access	•	Improve accessibility and enhance experience for visitors and Territorians	10-15
Keep River, Judbarra, Gregory National Parks Visitor Experience Development Implementation	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Kidman Springs Research Station micro grid hybrid solar system	•	Improve energy efficiency by increasing renewable energy	0-5
Kintore Street School (Katherine) new special school from preschool to year 12	25	Relocate to non-flood area with new and improved infrastructure to support educational programs and services	0-5
Lajamanu new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Lajamanu new police station and visiting officer quarters	12	Support the continued delivery of quality police services in remote communities	0-15
Lajamanu police housing	3	Support the continued delivery of quality police services in remote communities	0-5
Lajamanu Road progressive sealing and upgrades	25	Enhance road infrastructure to support accessibility, connectivity, safety and amenity	0-10
Larrimah regional town development residential and industrial land release	22	Enable economic development and population growth by increasing land availability	0-5
Leliyn (Edith Falls) Master Plan	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Mataranka regional town development residential and commercial/industrial land release	25	Enable economic development and population growth by increasing land availability	5-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Mataranka tri-services hub	19	Support the continued delivery of quality police, fire and emergency services	5-10
Minyerri new police complex	15	Support the continued delivery of quality police services in remote communities	5-10
Nathan River Road improve flood immunity (Savannah Way)	60	Improve year round accessibility, supporting the tourism industry	5-10
Ngukurr emergency shelter sites for improved disaster management	20	Strengthen emergency support services in remote communities	5-10
Ngukurr multi-purpose sporting complex/ cyclone shelter	20	New recreational infrastructure to support liveability and resilience	0-10
Numbulwar emergency shelter sites for improved disaster management	12	Strengthen emergency support services in remote communities	5-10
Numbulwar new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-10
Numbulwar police housing	1	Support the continued delivery of quality police services in remote communities	0-10
Pine Creek new police station, visiting officer quarters and associated infrastructure	15	Support the continued delivery of quality police services in remote communities	0-5
Revitalise Katherine CBD public art, covered walkways, revised car and caravan parking	5	Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy	0-5
Roper Highway complete seal and widening to 2 lanes (Savannah Way)	200	Support economic development of the cattle, mining and mineral exploration industries	0-15
Short stay accommodation for Aboriginal people visiting Katherine	15	Provide safe, secure and affordable short stay housing for people visiting from community	0-5
Stuart Highway duplication of priority sections	•	Enhance road infrastructure to support accessibility, connectivity, safety and amenity	0-10
Timber Creek regional town development residential and commercial/industrial land release	16	Enable economic development and population growth by increasing land availability	0-10
Timber Creek tri-services hub	18	Support the continued delivery of quality police, fire and emergency services	0-10
Tjuwalyin (Douglas Daly) Hot Springs revitalise campground and establish a new bore	2	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-10
Wollogorang Road improve road standard	15	Support economic development of the cattle industry	0-15

## Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>Big Rivers</b>		
Undertake infrastructure planning to enable major private sector projects	Reform	In progress
Identify actions to alleviate accommodation pressures	Reform	In progress
Identify infill opportunities for accommodation, including consolidating existing government footprints by co-locating government services to free up land for development in Katherine	Reform	In progress
Continue to progress Katherine Logistics and Agribusiness Hub*	New	In progress

\* also included in Transport and Logistics implementation pathway – Establish a network of regional logistics hubs



Above: Casuarina Park Estate. Credit: Northern Territory Government.

## Infrastructure pipeline

The following is a list of committed projects, funded by either government or the private sector, for the Big Rivers region.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across the region HomeBuild new homes	•	•	•	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region land servicing headworks scoping, design and construction	40.9	20.3	13.5		Expand utilities networks to support land development
Across the region residential infill lots, design and construct power and water infrastructure, upgrades and network extensions to service nominated infill lots	9.7	0.4		•	Enable economic development and population growth through expanded utilities networks for new land development
Across the region residential subdivision planning, design and construction	30.7	0.4	•		Enable economic development and population growth through expanded utilities networks for new land development
Across the region Room to Breathe home extensions	16.6	•		•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Bitter Springs upgrade ablutions facilities	0.1	0.1			Value, preserve and expand access to parks, increase visitation opportunities and visitor experience
Borroloola child and family centre (Starting Early for a Better Future)	0.5	•			Strengthen early years learning and engagement of students and parents
Borroloola multi-purpose sporting complex/cyclone shelter	11.0	11.0			Build resilient communities and enhanced liveability by improving community facilities
Borroloola new community, retail and commercial development	3.0		3.0	•	Increase liveability of remote Aboriginal communities by providing infrastructure to support a strong regional centre through the Community Benefits Trust
Borroloola recycling depot	0.5		•		Support improved waste management and recycling processes
Borroloola regional town development residential land release	3.5		3.5	•	Enable economic development and population growth by increasing land availability
Buntine Highway improve the road standard and extend the seal towards Western Australia	125.0		30.0	•	Increase road capacity, safety, support accessibility, connectivity and amenity

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Carpentaria Highway upgrades	150.0	40.0	50.0	•	Roads of Strategic Importance – support economic development of the mining, cattle and tourism industries and improve community access
Casuarina Park residential estate stage 3	•	•	•	•	Enable economic development and population growth by increasing land availability
Casuarina Park residential estate stage 4	•			•	Enable economic development and population growth by increasing land availability
Casuarina Street Primary School (Katherine) convert library to early learning centre	0.5	•			Master planned infrastructure to provide contemporary educational facilities to support growth in early years learning enrolments
Central Arnhem Road upgrade road within the Big Rivers region (Stuart Highway to Bulman)	110.0	1.0	19.0	•	Improve all weather access to support accessibility, growth and community safety
Douglas-Daly region Regional Connectivity Program Round 2 – deploy one new Telstra macro cell base station	0.9	•	•	•	Enabling connectivity and creating digital equality
Edith locality, along the Stuart Highway, Regional Connectivity Program Round 2 – deploy a new Telstra macro cell mobile site	1.2	•	•	•	Enabling connectivity and creating digital equality
Elsley National Park upgrades at Rainbow Springs	1.7	1.7			Value, preserve and expand access to parks, increase visitation opportunities and visitor experience
Gas Industry Roads in the Beetaloo	214.7	5.0	50.0	•	Roads of Strategic Importance – support economic development of the mining, gas, cattle and tourism industries and improve community access
Giwining/Flora River Nature Park upgrade viewing platforms at Djarrung Falls and Kathleen Falls	0.1	0.1			Value, preserve and expand access to parks, increase visitation opportunities and visitor experience
Godinymayin Yijard Rivers Art and Culture Centre (GYRACC) stage and amphitheatre	7.4	1.0			Value, preserve and expand art and cultural places in Katherine, through the Arts Trail Gallery Extension Program
Kalkarindji Families as First Teachers Building security upgrade	0.1	•			Strengthen early years learning and engagement of students and parents
Kalkarindji oval lighting	1.4	1.4			Capital grant to strengthen a healthy, active lifestyle by improving recreation facilities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Kalkarindji regional town development residential and commercial/industrial land lots	4.0	3.8	•		Enable economic development and population growth by increasing land availability
Katherine Crisis Centre upgrades	3.0	•			Support vulnerable people by improving community service facilities
Katherine East infrastructure headworks to support residential land release	26.0	14.0	•	•	Enable economic development and population growth by increasing land availability
Katherine East infrastructure to support the neighbourhood centre and new infrastructure to mitigate flooding	22.0	13.0	•	•	Enable economic development and population growth by increasing land availability
Katherine High School STEAM (science, technology, engineering, arts and mathematics) centre	9.7	9.7	•		Upgrade ageing infrastructure to support the continued delivery of quality education
Katherine Hospital Central Sterilising Department	8.0		8.0	•	Strengthen liveability by improving infrastructure to support health services
Katherine Logistics and Agribusiness Hub infrastructure headworks to support industrial land release	35.0	32.3	•	•	Enable economic development by improving supply chains, processing and transport
Katherine new infrastructure to mitigate flooding (southern levee)	9.4	9.4			Improve community safety and reduce the damage, disruption and costs associated with major flood events
Katherine new multi-purpose sporting facilities	•		•	•	New recreational infrastructure to support liveability
Katherine office for Northern Land Council	•		•	•	Support NLC to consult with Traditional Owners and other Aboriginal and Torres Strait Islander peoples
Katherine Power Station 22kV tie feeder cables upgrade	0.3		0.3		Asset renewal to support growth, compliance and improve service efficiency
Katherine Power Station black start capability	9.5	3.5			Asset renewal to support growth, compliance and improve service efficiency
Katherine Power Station diesel storage tank B repair	0.6	0.6			Asset renewal to support growth, compliance and improve service efficiency
Katherine tyre recycling plant	6.3		6.3	•	Support improved waste management and recycling processes
Larrimah Agricultural Precinct	20.0	10.0	10.0	•	Develop production area to take advantage of good quality agricultural land and available water resources

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Nitmiluk and Elsey National Parks upgrade disability access	0.2	0.2			Value, preserve and expand access to parks, increase visitation opportunities and visitor experience
Nitmiluk National Park upgrades to Jatbula Trail	0.4	0.4			Value, preserve and expand access to parks, increase visitation opportunities and visitor experience
Numbulwar Road Phelp River crossing	20.0			•	Support delivery of essential services to regional and remote communities
Pine Creek water source augmentation	1.5	0.1	0.1		Support population growth by improving access to quality water
RAAF Base Tindal jet fuel storage tanks as part of the United States Force Posture Initiative	60.0	•			Enhance facilities for US Air Force operations at RAAF Base Tindal
RAAF Base Tindal MQ-4C Triton Forward Operating Base facilities and infrastructure	250.0	•	•	•	Enhance defence capability and operations
RAAF Base Tindal Redevelopment Stage 6 and United States Force Posture Initiative airfield works and associated infrastructure	1588.0	•	•	•	Enhance defence capability and operations
RAAF Base Tindal US Defence Force aircraft maintenance support facility	38.0			•	Enhance facilities for US Air Force operations at RAAF Base Tindal
RAAF Base Tindal US Defence Force bomber apron	95.0			•	Enhance facilities for US Air Force operations at RAAF Base Tindal
RAAF Base Tindal US Defence Force squadron operations facility	38.0			•	Enhance facilities for US Air Force operations at RAAF Base Tindal
Roper Highway sealing selected sections (Savannah Way)	30.0	20.0	10.0		Support economic development of the cattle, mining and mineral exploration industries
SILL80 Ilmenite Project upgrade process plant and water supply	•	•			Meet global demand for critical minerals used for new and emerging technologies
Stuart Highway intersection upgrade to the Cotton Gin	6.7	6.7	•		Increase road capacity, safety and accessibility to support the cotton industry
Tindal Zone Substation third 22kV line and capacity upgrade	•	•			Asset renewal to support growth, compliance and improve service efficiency
Victoria Highway Newman to Katherine corridor upgrades	47.9		20.0	•	Roads of Strategic Importance – economic enabler and key national freight route between the Territory and the rest of Australia
Weaber Plains Agricultural Development	20.0	10.0	10.0	•	Develop production area to take advantage of good quality agricultural land and available water resources

## NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining and improving our quality of life. It provides us with essential services we rely on like transport, energy, water and telecommunications, as well as social infrastructure such as hospitals and health centres, schools, policing and parks and access to goods and services.

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.



### Transport and Logistics

- Katherine Airport pilot's lounge
- Katherine upgrade bicycle path network



### Utilities

- Across the region improved digital connectivity
- Big Rivers Off-stream Water Storage

The audit, as discussed in chapter 3, revealed a number of potential infrastructure needs. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in the regional sections of this document. The remaining Big Rivers region audit items are listed below. These potential infrastructure needs are for projects that could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of those needs and proposals.



### Social Infrastructure

- Amanbidji sport and recreation facilities
- Bulman refurbish sports court
- Community shelter sites for improved disaster management
- Daguragu replace oval infrastructure
- Heat mitigation all sport, recreation and lifestyle facilities in the region
- Kalkarindji new recreation hall
- Katherine indoor sports centre including netball, basketball, volleyball, squash and cricket
- Katherine Museum upgrades
- Katherine outdoor sport and recreation upgrades
- Katherine Sportsground camping facilities
- Nauiyu multipurpose recreation centre, fencing to existing playgrounds
- Nitmiluk Jawoyn Resort
- Numbulwar oval upgrades
- Pine Creek playground rubber surfacing installed and hard cover shade erect
- Supported accommodation
- Veterinary hub
- Yarralin new multipurpose hall



Above: Ngukurr new housing subdivision. Credit: Northern Territory Government.



Above: Mparntwe / Alice Springs aerial panorama. Credit: Department of Territory Families, Housing and Communities.



## Central Australia

Stunning desert landscapes, Aboriginal cultures, Uluru-Kata Tjuta National Park, outback adventure and historic discoveries.

### The Central Australia region:

- > covers 543 080 kilometres of land – 40% of the Northern Territory's land mass
- > enjoys abundant sunshine, low humidity and cool winter temperatures, and freedom from most pests and diseases to support a wide variety of crops such as table grapes, dates, melons, figs, olives, bush foods and vegetables
- > boasts a rich fossil site preserving the bones of 30 species of animal, including megafauna, that lived in Central Australia 8 million years ago.

## Major industries and growth sectors in Central Australia



Tourism



Minerals

The Central Australia region covers 3 local government areas, including Alice Springs Town Council, Central Desert Regional Council and the MacDonnell Regional Council.

The region's heart is Alice Springs, also known by its Arrrente name Mparntwe. The town is located 1500 kilometres south of Darwin and 1500 kilometres north of Adelaide and is the second largest town in the Northern Territory.

The region has a population of 40 558 people, with approximately 28 000 residing in Alice Springs. A large percentage of the population also lives in outlying communities including the Yulara township, which provides accommodation and services for the Uluru-Kata Tjuta National Park. There are 22 major and 4 minor communities, 19 town camps and 208 homelands in the region.

There are several sectors that support the region's economy including mining, resources, agribusiness, tourism and defence.

The mining sector is the most productive sector in the region and is one of the largest employers. There are 6 mining projects in Central Australia with major project status including Arafura, Thor, Tellus, and Aqua Aerum.

The resources sector is also a strong contributor to the region's economy. The NT's onshore conventional gas is produced from the Amadeus Basin, Dingo, Palm Valley and Mereenie gas fields, located in the Central Australia region.

Tourism is an important contributor to the economic and cultural activity in the region. Many domestic and international visitors come to Central Australia to visit its outstanding natural wonders including Kata Tjuta, Kings Canyon, Uluru and the West MacDonnell Ranges.

Each year, Alice Springs hosts Parrtjima – the only authentic Aboriginal light festival of its kind, showcasing the oldest continuous culture on earth through the newest technology – all on the 300 million year old natural canvas of the iconic red centre and the West MacDonnell Ranges.

Aboriginal tourism plays a vital role across the region, enabled by authentic cultural experiences. The National Aboriginal Art Gallery in Mparntwe (Alice Springs) will become a touchstone experience for Australians and international visitors seeking to better understand Aboriginal and Torres Strait Islander culture, and to celebrate Aboriginal and Torres Strait Islander art as a quintessential element of our shared national story. The modern, state of the art gallery will exclusively house First Nations artwork. The project will help change the way that Aboriginal and Torres Strait Islander culture is understood and experienced, placing our First Nations peoples and their culture at the very centre of the Mparntwe (Alice Springs) visitor experience.

Other visitor experiences in the region include adventure and events such as the Finke Desert Race that sees people on motorbikes, cars and buggies competing in Australia's greatest desert race.

The Larapinta Trail is a 223 kilometre walking trail starting in Alice Springs and winding through the Tjoritja -West MacDonnell National Park and is tipped as one of the best trekking experiences in the world.

The Alice Springs CBD Revitalisation Project will establish the region as Australia's inland capital. The revitalisation of the Alice Springs CBD is one of the Northern Territory Government's priorities to improve the liveability and attractiveness of Alice Springs for residents and visitors. The \$23 million project includes lighting upgrades, a River Activation Space (completed in February 2022) and cooling initiatives such as shade structures and landscaping.



Defence



Agribusiness



Renewables

## Challenges and opportunities

- Work with the Central Land Council and Traditional Owners to coordinate land access to develop Aboriginal owned land in the region.
- Increase housing supply to meet current and future industry demands in the regions. Scarcity of housing is a significant barrier to attracting and growing new industry and supporting existing private sector employers to grow or diversify.
- Increase short-stay accommodation for community members visiting Alice Springs for medical and cultural reasons and options for workers accommodation.
- Maintain thoroughfares and central public facilities to create 'welcome public spaces' across the region for town and regional councils.
- Identify and release enough residential and commercial land to support growth in the region.
- Increase bandwidth and redundancy in the digital network, which are essential to ensure sufficient regional connectivity to support economic growth across a broad range of industries.
- Develop business capacity and capability and a suitably qualified workforce to meet the demands of a growing economy.



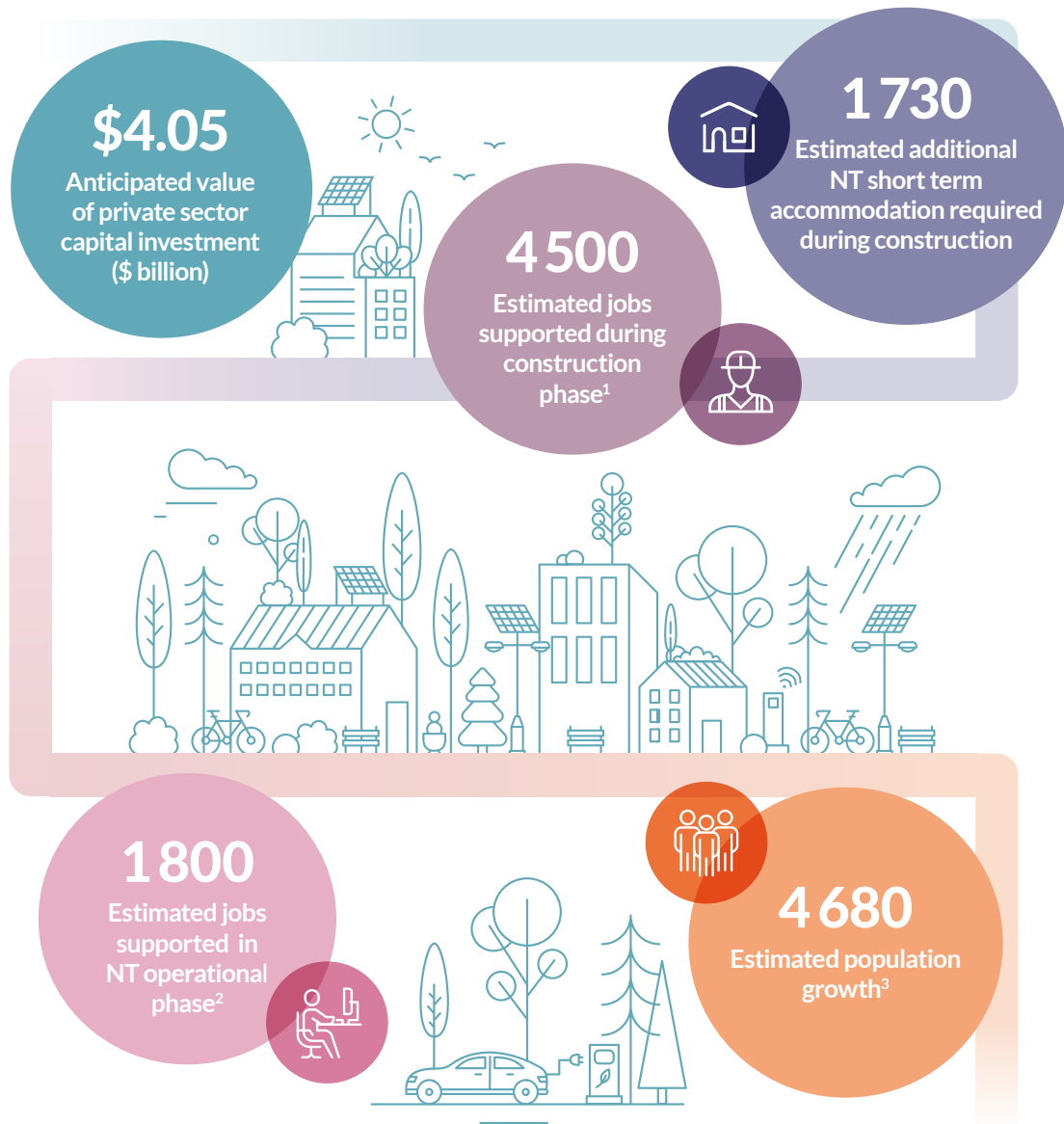
Above: Community Housing Central Australia project. Credit: Community Housing Central Australia and Edifice NT.

## Investment portfolio

The total Central Australia investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the Central Australia region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022–2023 Progress and Outlook: May 2023

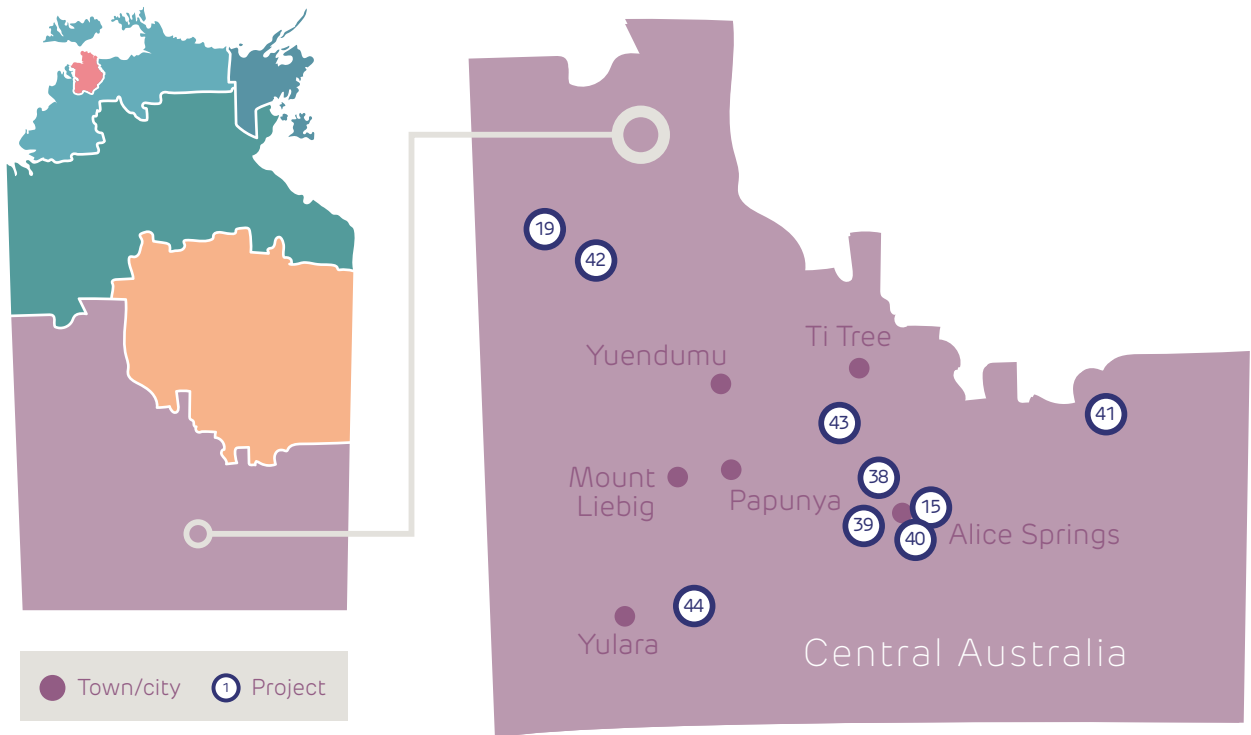


Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.



## Key projects, programs and proposals

The following nationally significant projects, programs and proposals located in the Central Australia region are detailed in Chapter 8.

- Tanami Road upgrade
- National Aboriginal Art Gallery.

Health

Lifestyle

Digital



## A better, safer future for Central Australia 38

In January 2023, the Prime Minister Anthony Albanese and the Northern Territory Chief Minister Natasha Fyles announced the appointment of a Central Australian Regional Controller to develop and implement a medium to long term plan for the region, which will include information on how to progress economic development and improve liveability.

The Regional Controller regularly travels to remote communities, listening to people and giving them the opportunity to be heard and have their say on solutions to local issues. Some common themes to date related to infrastructure include investment in remote communities and remote housing.

The Australian Government will invest \$250 million in a plan for A Better, Safer Future for Central Australia.

Better outcomes for children and young people will be a core focus of this investment.

The Plan will focus on:

- ① Improved community safety and cohesion – through more youth engagement and diversion programs.
- ② Job creation – particularly in the communities that surround Alice Springs – including urgent changes as part of replacing the Community Development Program (CDP).
- ③ Better services – by improving health services in surrounding communities, there will be less pressure on Alice Springs.

- ④ Preventing and addressing the issues caused by Fetal Alcohol Spectrum Disorders – including better responding through the health and justice systems.
- ⑤ Investing in families – including by better supporting elders and parents, boosting domestic violence services.
- ⑥ On country learning – improving school attendance and completion through caring for culture and country.

This is in addition to the \$48 million investment in community safety announced by the Australian Government on 24 January 2023, which included:

- \$14.2 million in additional funding for high visibility police and law enforcement operations targeting grog running, increasing liquor licensing compliance inspectors and boosting security guards in public places
- a \$2.8 million investment to improve CCTV, lighting and safety measures throughout Alice Springs
- \$5.6 million for additional emergency accommodation and safe spaces to give young people a place to go to at night and boost the effectiveness of the night patrol program to help get young people off the streets
- \$2 million for the Tangentyere Women's Council to boost domestic violence services
- \$25 million to extend funding for safety and community services to provide certainty to providers and their employees and ensure this work continues.

Office of the Central Australian Regional Controller

Working together for

**A better, safer future for Central Australia**

The Office of the Central Australian Regional Controller has heard from:

<b>20</b>	Communities
<b>1000+</b>	Community Members
<b>80</b>	Community Sector Representatives

who told them...

**Water**

Tourism  
Real jobs, real wages  
Local employment

Outstations  
Food security

On country learning

**More houses**

Culturally appropriate homes

Better roads Renal beds

Dialysis in community

More health care workers

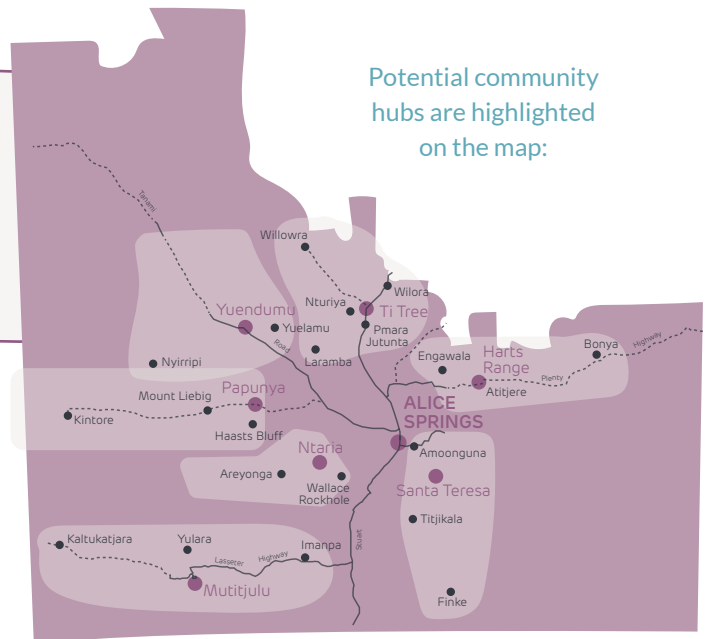
**Connected Services**

Culturally trained health care providers

Better power

To support Central Australian communities, key communities could be expanded to provide greater service delivery and infrastructure for neighbouring communities. Community catchments are based on seven localised regions across Central Australia which represent language and kinship groups.

Potential community hubs are highlighted on the map:



Community and Regional Infrastructure **39**

Lifestyle



The Australian Government has allocated \$50 million for community and regional infrastructure projects in Central Australia.

Central Australian communities have been consulted on their priorities and feedback has been delivered through the Office of the Regional Controller and the Aboriginal Leadership Group (ALG). The ALG has been asked to provide advice on prioritising

community infrastructure projects for funding and how best this investment can be delivered to provide large economic and social benefits by improving community amenity and liveability in Central Australia.

There is also a remaining \$94.5 million in Australian Government investment that the ALG will provide input and identify where it could be best used.

Tourism

Housing

Lasseters Casino and Resort Development 40

One of Australia's fastest growing hospitality outfits, Iris Capital, has a masterplan to significantly upgrade the existing facilities at Lasseters Hotel Casino to create a world class entertainment and function precinct in the heart of Alice Springs.

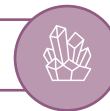
The works include major hospitality and casino refurbishments, a new apartment style

residential development, a new child care facility, expansion of the existing gymnasium and health/wellbeing centre, new entry statements, landscape, signage and upgrades to the Convention Centre.

Approximately \$70 – \$100 million of investment is proposed for the initial stages which could become 'potentially upward of \$150 million'.

Minerals

Major Project

Molyhil Tungsten-Molybdenum-Copper Project – Thor Energy 41

The Molyhil Tungsten-Molybdenum Project was historically mined as a small open cut mine and produced a combined tungsten and molybdenum concentrate. Tungsten is included on Australia's Critical Minerals List as a mineral that is considered essential to our modern technologies, economies and national security, and whose supply chains are vulnerable to disruption. The Molyhil Project is located approximately 320 kilometres by road (or 220 kilometres as the crow flies) north-east of Alice Springs and is accessible from the Plenty Highway.

Thor Energy PLC (Thor), through their 100% owned subsidiary Molyhil Mining Pty Ltd, owns the tenure containing the deposit. In 2018 Thor prepared an updated definitive feasibility study that supported the technical and economic feasibility of developing a modern facility to process ore mined from a single open pit and produce concentrate for sale. Mineralisation

occurs in 2 adjacent skarn hosted bodies that includes outcropping molybdenite, chalcopyrite and scheelite mineralisation.

Thor also has a 40% joint venture interest in the Bonya project, which is located approximately 30 kilometres north-east of Molyhil. The Bonya project comprises several prospects that have the potential to add resource inventory and extend the operational life of Molyhil.

In November 2022, ASX listed Investigator Resources Ltd, through its wholly owned subsidiary Fram Resources Pty Ltd (Fram), entered into a phased earn-in agreement over the Molyhil Project where Fram will undertake work to revalidate the mineral resource and revalidate the definitive feasibility study with a view to rapidly moving the project through to a decision to commence construction and production.

Newmont – Granites Gold Mine expansion  (42)

Located 540 kilometres north-west of Alice Springs in the Tanami Desert, the Newmont gold mine operates in one of Australia's most remote locations. The mine is located on Aboriginal freehold land that is owned by the Warlpiri people and managed on their behalf by the Central Desert Aboriginal Lands Trust.

In October 2019, Newmont announced approval of the Tanami Expansion 2 project, which in early 2022 was about 35% complete with construction scheduled to continue in 2024.

The project involves constructing a headframe and a 5.5 metre diameter concrete lined vertical hoisting shaft to a depth of 1,460 metres below surface. The shaft will be used to transport ore and personnel and accommodate support

services and cooled ventilation air to develop the mine to about 2 140 metres below surface.

The Granites Gold Mine has been in production since 1986 and has produced over 10 million ounces of gold. On completion, the Tanami Expansion 2 project has potential to extend the mine life beyond 2040 and provide a platform for further exploration and development in the very prospective Tanami district.

In 2019 the underground mine produced 500 000 attributable ounces (500 Koz) and supported over \$174.1 million in economic value-add to the Territory economy. The Newmont mine supported 1 162 jobs in the Territory in 2019 with 632 people directly employed. The expansion project will increase production by an additional 150 to 200Koz per annum.

Nolans NdPr Project – Arafura   (43)

Arafura Rare Earths Ltd (Arafura) is developing the Nolans Project approximately 135 kilometres north of Alice Springs. Nolans will consist of a new open cut rare earths mine and advanced downstream manufacturing facility, producing 4914 tonnes per annum (tpa) of total rare earth oxides comprising 4440 tpa neodymium-praseodymium (NdPr) oxide and 474 tpa middle and heavy rare earth (SEG-HRE) oxide. The project will also produce 144 000 tpa of merchant grade phosphoric acid (54%) P2O5.

NdPr oxide is essential for electrifying transport and other renewable energy initiatives, which is central to the future of the world's major and emerging economies. With demand forecast to

grow 6 to 15 times over the next 2 decades, there is a looming supply imbalance that Nolans is perfectly placed to feed into.

Nolans offers international customers rare earth supply chain diversification and security by producing separated oxides at a single site that will meet sustainability expectations. The company also has plans to maximise involvement of local businesses and workforce, and provide sponsorship in education and to the community.

The Nolans Project has an initial operational life of 38 years and will deliver opportunities for Central Australia, including jobs, economic development and an enhanced logistics capacity in Alice Springs.

Verdant Minerals Limited and Parkway Corporate Limited Joint Venture – Karinga Lakes Potash Project  (44)

The Karinga Lakes Potash project is located approximately 230 kilometres south-west of Alice Springs where an extensive brine lake system covers approximately 1109 square kilometres of pastoral land.

The system consists of a chain of dry salt lakes located within the Central Australian Groundwater

Discharge Zone. The potential resource is ideally located with major road and rail infrastructure located close to the project, with regional gas options also available.

Verdant Minerals, one of the joint venture partners, has undertaken extensive resource appraisal since 2010.

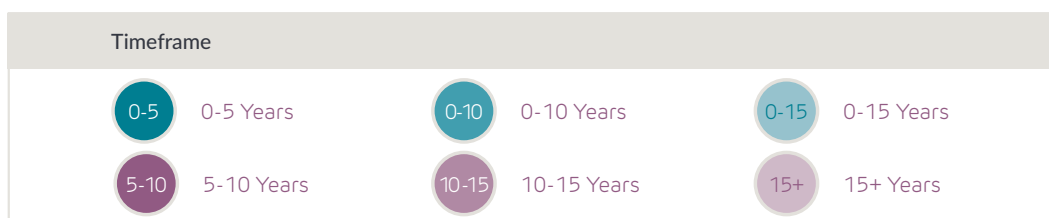
## Enabling infrastructure plan

The enabling infrastructure plan for the Central Australia region lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Across the region improved storm water infrastructure	2	Support liveability and resilience	0-10
Across the region new or refurbished health clinics	•	Strengthen liveability by improving infrastructure to support health services	0-15
Across the region Remote School Renewal program	•	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Across the region toilets in 9 larger communities	2	Support liveability	0-5
Alcoota School replace preschool transportable	1	Replace ageing infrastructure to support the continued delivery of quality education	0-10
Alice Springs aged care facilities	•	Provide a variety of contemporary, affordable and sustainable housing options for older Territorians	0-5
Alice Springs Airport 2020 Master Plan Seven-Mile Precinct Business Park	•	Improve airport services to support accessibility, visitor growth and tourism	0-10
Alice Springs Airport Regular Public Transport (RPT) apron overlay	•	Improve airport infrastructure to support aviation safety and growth	0-5
Alice Springs Airport residential, worker and tourist accommodation precinct	•	Improve airport services to support accessibility, visitor growth and tourism	0-5
Alice Springs alcohol and other drugs rehabilitation facilities	8	Strengthen liveability by improving infrastructure to support mental health services	0-15
Alice Springs community learning and sports hub	18	Strengthen a healthy, active lifestyle by improving recreation opportunities	0-5
Alice Springs Desert Park visitor experience development	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Alice Springs Hospital upgrades	•	Strengthen liveability by improving infrastructure to support health services	0-15

• indicates value is either commercial in confidence or to be confirmed.



Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Alice Springs Northern Territory Government cultural infrastructure upgrades (Strehlow Research Centre, Araluen Cultural Centre)	•	Preserve Aboriginal art and cultures	0-10
Alice Springs School of the Air new school with tourist facility	15	Support students and increase tourism opportunities	0-15
Alice Springs Telegraph Station reflective garden	•	Value, preserve and expand historic, cultural meeting places, increase visitation opportunities and visitor experience	5-10
Alice Springs whole-of-government Emergency Operations Centre	15	Increase service delivery and improve community safety by providing emergency management facilities	0-10
Arid Zone Research Institute upgrade office accommodation, depot sheds and laboratory facilities	•	Improve staff facilities	0-10
Bradshaw Primary School 4 classroom block	3	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Braitling Primary School refurbish internal areas	4	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-10
Bullen Road upgrade and widen between Larapinta Drive and Ilparpa Road	5	Increase road capacity, safety, support accessibility, connectivity and amenity	0-10
Central Australia Community Football upgrades	•	Enhance community engagement by improving facilities	0-5
Central Desert region expand visitor accommodation	•	Support construction works within the community	0-10
Centralian Middle School upgrade to STEM (Science, Technology, Engineering and Mathematics)	4	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Centralian Senior College replace air-conditioning	4	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Centralian Senior College upgrade entry and reception	1	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Desert Knowledge Precinct accommodation	30	Provide culturally sensitive accommodation to support education outcomes for Aboriginal students of Batchelor Institute and Centre for Appropriate Technology, while also providing Aboriginal people employment in construction and facilities management	0-5
Docker River construct new police post including visiting officer quarters	7	Support the continued delivery of quality police services in remote communities	0-15
Ellery Creek Big Hole upgrade and seal carpark and paths	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Engawala improve access road to airstrips	1	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Finke Gorge National Park upgrade Kunanan Creek day use area to camping	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-15
Finke new dental clinic within health centre	1	Strengthen liveability by improving infrastructure to support oral health services	0-10
Former Mt Ebenezer Road House site rectification works	•	Environmental remediation of the area in consultation with stakeholders	0-10
Gap Road Clinic renovations	2	Strengthen liveability by improving infrastructure to support health services	0-5
Harts Range new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Hermannsburg Historical Precinct carpark	•	Improve facilities and visitor experience on an iconic arts trail destination	0-10
Hermannsburg new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Hermannsburg to Finke Gorge National Park walking track	•	Improve facilities and visitor experience on an iconic hiking track	0-10
Jim McConville Oval lights installation	•	Enhance community engagement by improving facilities	0-5
Kilgariff new preschool and primary school for 500 enrolments	50	Contemporary educational infrastructure to support growth in population and student enrolments	10-15
Kings Canyon Power Station microgrid battery energy storage system and controls	1	Asset renewal to support growth, compliance and improve service efficiency	0-5
Kings Canyon Power Station solar farm refurbishment	1	Improve liveability and improve energy efficiency by increasing renewable energy	0-5
Kintore new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Kintore Road upgrade selected sections	10	Increase road capacity, safety, support accessibility, connectivity and amenity	0-15
Kulgera police housing	2	Support the continued delivery of quality police services in remote communities	0-5
Kulgera police visiting officer quarters	3	Support the continued delivery of quality police services in remote communities	0-15
Larapinta Drive duplication Milner Road to Bradshaw Terrace	25	Enhance road infrastructure to support accessibility, connectivity, safety and amenity	0-15







Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Larapinta Drive traffic management improvements Bradshaw Terrace to Albrecht Drive	10	Enhance road infrastructure to support accessibility, connectivity, safety and amenity	15+
Larapinta Primary School extend and upgrade administration building	1	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Lasseter Drive Strategy signage, vehicle turning points, vehicle parking, rest stops, waste services	•	Enable economic development and population growth through tourism led economy	0-10
Lasseter Highway improve the road standard	50	Support economic development of the tourism, cattle and resource industries	5-10
Luritja Road improve flood immunity construct new crossings over Kings and Kathleen Creeks	20	Support tourism and local cattle industry	0-10
Maryvale Road upgrade and seal to Titjikala	110	Support community access and the cattle industry	0-10
Mutitjulu Clinic rebuild	6	Strengthen liveability by improving infrastructure to support health services	0-5
Mutitjulu School add early years general learning area	1	Contemporary educational infrastructure to support growth in population and student enrolments	0-5
Namatjira Drive seal access into Redbank Gorge	8	Improve accessibility, supporting the tourism industry	5-10
Ntaria new police complex with housing	20	Support the continued delivery of quality police services in remote communities	0-15
Nyirripi improve access road to airstrips	1	Support accessibility and connectivity	0-5
Nyirripi to Kintore Road upgrade	10	Enhanced liveability through improved roads	0-10
Old Alice Springs police station refurbish/replace for multi-purpose government centre	10	Support the community with improved services	0-10
Outback Way upgrade Tjukururu Road and Plenty Highway to two-lane sealed standard	500	Enable mining, pastoral, cattle and tourism growth by connecting Queensland through the Northern Territory to Western Australia	5-10
Owen Springs Power Station fuel farm back-up power supply	1	Asset renewal to support growth, compliance and improve service efficiency	0-10
Owen Springs Power Station solar and battery energy storage system	•	Improve liveability and improve energy efficiency by increasing renewable energy	0-5
Papunya new police station and visiting officer quarters including structure to house trailers	10	Support the continued delivery of quality police services in remote communities	0-15

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Papunya police housing	3	Support the continued delivery of quality police services in remote communities	0-10
Papunya School new preschool	3	Master planned infrastructure to provide contemporary early years educational facilities to support growth in population and student enrolments	0-15
Roger Vale Drive upgrade	10	Increase road capacity, safety, support accessibility, connectivity and amenity	0-10
Ross Highway to Trepina Gorge extend the seal on access road	2	Improve access to support the tourism industry	5-10
Ross Park Primary School refurbish upper primary 4 classroom block	2	Replace ageing infrastructure to support the continued delivery of quality education	5-10
Sadadeen Road connector	27	Improve flood immunity in the Mount Johns Valley and Desert Springs areas	15+
Santa Teresa Clinic renovations	2	Strengthen liveability by improving infrastructure to support health services	0-5
Santa Teresa new police complex	15	Support the continued delivery of quality police services in remote communities	5-10
Santa Teresa road complete upgrade and seal	65	Progressive seal and upgrade to support accessibility, growth and community safety	0-10
Simpsons Gap improve disability access 400 metre path and amenities	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Stuart Highway duplication Bradshaw Drive to Commonage Road	200	Increase road capacity, safety, support accessibility, connectivity and amenity	0-10
Stuart Highway duplication Commonage Road to Roger Vale Drive	70	Increase road capacity, safety, support accessibility, connectivity and amenity	0-10
Stuart Highway Roger Vale Drive Intersection upgrade	15	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Ti Tree multi-purpose sports facility/emergency displacement facility	1	Support community engagement through sport and recreational facilities	0-5
Ti Tree police housing	2	Support the continued delivery of quality police services in remote communities	0-10
Ti Tree regional town development residential and commercial/industrial land release	15	Enable economic development and population growth by increasing land availability	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Ti Tree School upgrades	•	New infrastructure to support the continued delivery of quality education	0-10
Tivan Limited Sandover Project	•	Exploration and potential drilling program for copper and lithium	0-5
Tjoritja/West MacDonnell National Park – Ormiston Gorge redevelopment – Redbank Gorge upgrade day use to gorge track	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Uluru-Kata Tjuta National Park enhance the cultural centre facilities including contemporary interpretations	1	Increase visitor numbers and length of stay in the Territory and enhance experiences with improved cultural facilities	0-10
Uluru-Kata Tjuta National Park walking trail and accommodation project	1	Increase visitor numbers and length of stay in the Territory and enhance experiences with improved cultural facilities	0-10
Willowra new police shopfront	2	Support the continued delivery of quality police services in remote communities	0-15
Willowra School replace classroom block	3	Replace ageing infrastructure to support the continued delivery of quality education	5-10
Yuelamu improve access road to airstrip	1	Support accessibility and connectivity	0-5
Yuelamu new dental clinic within health centre	1	Strengthen liveability by improving infrastructure to support oral health services	0-10
Yuelamu School replace senior classroom	1	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Yuendumu Cultural Centre	•	Community led response to improving economic viability and liveability of the community	0-10
Yuendumu new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Yuendumu police housing	1	Support the continued delivery of quality police services in remote communities	0-10
Yuendumu School upgrades	•	New infrastructure to support the continued delivery of quality education	0-5
Yulara essential services upgrade and new visitor accommodation	25	Increase visitor numbers and length of stay in the Territory and enhance experiences with improved cultural facilities	0-10
Yulara water supply project	23	New infrastructure to support the access to water	0-5

## Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>Central Australia</b>		
Identify and take immediate action to alleviate accommodation pressures	 Reform	 In progress
Identify infill opportunities for accommodation, including consolidating existing government footprints by co-locating government services to free up land for development in Alice Springs	 Reform	 In progress
Accelerate design and delivery of further Kilgariff stages	 New	 Achieved

## Infrastructure pipeline

The following is a list of committed projects, funded by either government or the private sector, for the Central Australia region.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across the region expand housing for council staff	4.7		4.7	•	Support council operations by providing housing for local government employees in remote communities
Across the region HomeBuild new homes	•	•	•	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region land servicing headworks scoping, design and construction	0.3	0.2			Enable economic development and population growth through expanded utilities networks for new land development
Across the region residential infill lots, design and construct power and water infrastructure, upgrades and network extensions to service nominated infill lots	21.7	0.2	•		Enable economic development and population growth through expanded utilities networks for new land development
Across the region Room to Breathe home extensions	25.8	4.2	3.0	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Alice Plaza office refurbishment	10.0	•			Support contemporary work practices and environments to attract and retain people
Alice Springs Airport major expansion of the solar array	•			•	Increase renewable energy to meet Northern Territory renewables target of 50% by 2030, supported by Northern Australia Infrastructure Facility (NAIF)
Alice Springs Aquatic and Leisure Centre adventure park	2.0		2.0		Enhanced liveability by improving community facilities
Alice Springs Correctional Centre expand modular accommodation	16.2	15.8	•	•	Meet community expectation through additional correctional infrastructure
Alice Springs Hospital Ambulatory Care Centre	25.7	24.7	•		Strengthen liveability by improving infrastructure to support health services
Alice Springs Hospital Central Sterilising Department relocation	5.8	4.0	1.7		Strengthen liveability by improving infrastructure to support health services
Alice Springs Hospital hybrid operating theatre	5.6	4.0	1.6		Strengthen liveability by improving infrastructure to support health services
Alice Springs infrastructure to support commercial and light industrial development	7.0		7.0	•	Enable economic development and population growth by increasing land availability
Alice Springs new and upgraded infrastructure to mitigate flooding	10.0	10.0	•	•	Improve community safety and reduce the damage, disruption and costs associated with major flood events
Alice Springs outdoor netball court	1.7		1.7		Enhanced liveability by improving community facilities
Alice Springs Power Network replace corroded poles	12.0	4.0	2.0	•	Asset renewal to support growth, compliance and improve service efficiency
Alice Springs Power Network upgrade Lovegrove power transformers	4.4		4.4	•	Asset renewal to support growth, compliance and improve service efficiency
Alice Springs public housing accessibility and electrical upgrades	0.9	•			Provide safe, secure and accessible housing for people on low incomes
Alice Springs reconfigure 22kV power network	4.8		4.8		Asset renewal to support growth, compliance and improve service efficiency
Alice Springs regional skate park	4.8		4.8		Enhanced liveability by improving community facilities
Alice Springs revitalise infrastructure in town centre	20.0	9.5			Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Alice Springs Town Council granulator for regional waste management facility	0.1	•			Support improved waste management and recycling processes
Alice Springs upgrade bus stops and <i>Disability Discrimination Act</i> (DDA) compliance upgrades	0.8	0.8			Increase road capacity, safety, support accessibility, connectivity and amenity
Aputula Finke – ranger hub including office, shed, visiting staff accommodation, staff accommodation, meeting space, ablutions block	2.1	2.1			Enhanced liveability through improved Central Land Council services to remote Indigenous communities
Araluen Park upgrade	1.0		•		Enhanced liveability by improving community facilities
Areyonga Access Road upgrade and concrete floodways	1.1	1.1			Improve safety, access and flood immunity
Atitjere single basketball court cover and resurface	0.6	0.6			Support youth engagement through sport and recreational facilities
Brewer Estate headworks to support general industry development	26.0	1.0	10.0	•	Enable economic development and population growth by increasing land availability
Central Australia improve digital connectivity for First Nations communities	10.0	•	•	•	Enabling connectivity and creating digital equality through the Australian Government funding commitment
Central Desert remote community recycling bays	0.2	0.2			Support improved waste management and recycling processes
Centralian Senior College upgrade study and open learning areas	0.4			•	Upgrade ageing infrastructure to support the continued delivery of quality education
Ciccione – Central Land Council internal office renovation	0.9	0.9			Enhanced liveability through improved Central Land Council services to remote Indigenous communities
Community and Regional Infrastructure package	50.0		•	•	Community led response to improving safety, amenity and liveability of the community
Defence housing construct new houses	•		•	•	Provide supportive housing for defence personnel and their families
Disaster Recovery Central Australia Floods, February 2023	3.0		3.0	•	Increase road capacity, safety, support accessibility, connectivity and amenity
Disaster Recovery Central Australia Floods, November 2021	1.7	•			Increase road capacity, safety, support accessibility, connectivity and amenity
Engawala youth space new canteen and toilets	0.3	0.3			Support youth engagement through sport and recreational facilities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Gemtree, Anmatjere Regional Connectivity Program Round 2 – deploy a new Telstra macro mobile site	1.0	•	•	•	Enabling connectivity and creating digital equality
Kilgariff Area Plan new estates stage 2 with community land	23.2			•	Enable economic development and population growth by increasing land availability
Kilgariff headworks to support residential and community sporting facility development	30.0	11.0	10.0	•	Enable economic development and population growth by increasing land availability
Kings Canyon replace and augment water tanks	4.5	3.7			Support visitor growth by improving access to quality water
Lajamanu oval upgrades	1.0	1.0			Support youth engagement through sport and recreational facilities
Laramba basketball court shade	0.5	0.5			Support youth engagement through sport and recreational facilities
Lasseters Casino and Resort upgrade and expansion	70.0		•	•	Support growth in luxury tourism, visitor and corporate travel markets
M'Bunghara School upgrades	0.5	•			Upgrade ageing infrastructure to support the continued delivery of quality education
Mparntwe Health Hub, 127 Todd Street – Central Australian Aboriginal Congress office, medical clinic and child care centre	22.0	22.0	•	•	Strengthen liveability by improving infrastructure to support health services
Mutitjulu – new office, shed, visiting staff accommodation, meeting space and ablutions block	2.1	2.1			Enhanced liveability through improved Central Land Council services to remote Indigenous communities
Mutitjulu and Yulara Futures community upgrade	51.0		51.0	•	Redevelop the remote community of Mutitjulu
National Aboriginal Art Gallery	150.0		64.5	•	Value, preserve, exhibit and celebrate Aboriginal art and culture, improving sense of place and tourism opportunities
Newmont Tanami stage 2 gold mine expansion and underground facilities	1 000.0	500.0	500.0	•	Meet global demand for minerals
Ntaria lighting at community oval	2.0	•			Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience
Nturiya basketball court cover	0.5	0.5			Support youth engagement through sport and recreational facilities
Nyirripi basketball court, cover and resurface	0.6	0.6			Support youth engagement through sport and recreational facilities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Outback Way upgrade Tjukururu Road and Plenty Highway to two-lane sealed standard	243.6	30.0	65.0	•	Enable mining, pastoral, cattle and tourism growth by connecting Queensland through the Northern Territory to Western Australia
Owen Springs Power Station solar and battery energy storage system	15.0		3.0	•	Improve liveability and improve energy efficiency by increasing renewable energy
Papunya child and family centre (Starting Early for a Better Future)	0.5	0.5			Strengthen early years learning and engagement of students and parents
Red Centre Way/Mereenie Loop Road seal outer loop to better connect Watarrka and West MacDonnell National Parks	165.0		5.0	•	Increase visitor numbers and length of stay in the Territory and enhance experiences with improved cultural facilities
Santos Amadeus Basin Dukas exploration well	15.0	•			Enable economic development
Schwarz Crescent intersection upgrade	11.9		11.9		Economic enabler and key national freight route between the Territory and the rest of Australia
Stirling (Wilora) School universal access ablutions	0.5	•			Infrastructure to support Students With Additional Needs (SWAN)
Tanami Road complete the upgrade and seal	400.0	115.6	40.0	•	Economic enabler for the mining industry and key national freight route between the Territory and the rest of Australia
The Gap South Terrace construct 30 multiple dwellings (in four stages)	12.0	12.0			Provide a variety of contemporary residential options
Ti Tree child care centre	1.0	1.0			Support delivery of children services
Ti Tree commercial laundromat	2.0	2.0			Enhanced liveability through improved services to remote Indigenous communities
Ti Tree water supply upgrade equip one bore	0.6		0.6		Support population growth by improving access to quality water
Tjoritja/West MacDonnell National Park adventure cycling track	11.9		•	•	Expand tourism product to develop the economy and increase liveability
Tourism Central Australia new information centre	4.9	4.9			Increase visitation opportunities and visitor experience
Walungurru Kintore – ranger hub including office, shed/ workshop, meeting space, ablutions block, staff accommodation	2.1	2.1			Enhanced liveability through improved Central Land Council services to remote Indigenous communities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Watarrka National Park iconic multi-day walking track	5.6		5.6		Value, preserve and expand access to parks, increase visitation opportunities and visitor experience
Yuelamu youth centre	0.3	0.3			Support youth engagement through sport and recreational facilities
Yuendumu critical water infrastructure	15.3	15.3	•		Closing the Gap on access to safe and reliable water for First Nations communities
Yuendumu learning hub	1.0	1.0			Support community engagement through education
Yuendumu oval upgrades	1.0	1.0			Support youth engagement through sport and recreational facilities
Yuendumu School new play equipment, outdoor eating area and amphitheatre	4.4		4.4		New infrastructure to support the continued delivery of quality education
Yulara Power Station capacity replacement	9.9	4.9	•		Asset renewal to support growth, compliance and improve service efficiency
Yulara Power Station refurbish fire system	1.4		0.6	•	Asset renewal to support growth, compliance and improve service efficiency
Yulara recycling centre	0.6		0.6		Support improved waste management and recycling processes



Above: Laramba Water Treatment Plan. Credit: Territory Families, Housing and Communities.

## NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining and improving our quality of life. It provides us with essential services we rely on like transport, energy, water and telecommunications, as well as social infrastructure such as hospitals and health centres, schools, policing and parks and access to goods and services.

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.

The audit, as discussed in chapter 3, revealed a number of potential infrastructure needs. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in the regional sections of this document. The remaining Central Australia region audit items are listed below. These potential infrastructure needs are for projects that could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of their ideas and proposals.



### Transport and Logistics

- Improve access roads to airstrips
- Shaded road stops



### Utilities

- Across the region improved digital connectivity
- Alice Springs Hospital sustainable power generation solution



### Social Infrastructure

- Across the region cultural heritage tourist route
- Across the region improved sport and youth facilities
- Across the region retail and cultural precincts
- Alice Springs baseball complex
- Alice Springs new and improved sports facilities and change rooms
- Alice Springs refurbish community halls at 4 town camps
- Alice Springs upgrades to Red Centre BMX facility
- Cultural camps
- Desert Knowledge Precinct expansion
- Purple House renal headquarters
- Road Transport Hall of Fame upgrades
- West MacDonnell Ranges iconic, sustainable and in landscape accommodation facility



Above: Central Australia, Kata Tjuta (The Olgas).



Above: Mary Ann Dam, Tennant Creek. Credit: Department of Territory Families, Housing and Communities.



## Barkly

The Barkly is genuine outback Australia, a vast land of brilliant blue skies, iconic rock formations and strong Aboriginal heritage and cultures.

### The Barkly region:

- > is known for its million acre cattle stations
- > is home to Tennant Creek, known as the site of the last gold rush in Australia during the 1930s
- > has one of the highest solar irradiance resources in the world.

## Major industries and growth sectors in the Barkly



Resources



Agribusiness

The Barkly region is the second largest local government area in Australia with an area of approximately 323 000 square kilometres. The region stretches from the old Telegraph Station at Barrow Creek in the south to the historical droving township of Newcastle Waters in the north.

Tennant Creek and Elliott (the second largest urban centre for the region) service the region's homelands, pastoral stations, localities and communities that are spread across the large distances. Most of the region's population lives in the regional service centre of Tennant Creek, which is just over 1000 kilometres south of Darwin and 500 kilometres north of Alice Springs.

Despite its remote location, the region is well connected by road to Central Australia via the Stuart Highway and to Queensland by the Barkly Highway and to the rest of the Territory's regional centres by air and rail.

The Barkly Region is home to 10 Aboriginal language groups who are custodians of the region. Aboriginal people represent 66% of the region's population of 6025, with strong Aboriginal leadership and representation by land councils, Aboriginal Community Controlled Organisations, Traditional Owners and Registered Native Title Body Corporate groups. The Barkly region has a young population, with about 39% aged 24 years or younger.

The Barkly is a resource-rich region with comparative advantages for future economic growth in priority sectors such as mining, gas, agribusiness and tourism.

The Barkly region is known for its resources in particular its gold mining heritage. With its vast deposits of critical minerals and gold across the region, and others in the eastern Barkly region, this industry has the potential to contribute significantly to economic growth.

Renewable energy is an emerging industry in the region. The Barkly region receives one of the highest levels of solar radiation on the continent. There are opportunities to produce both solar energy and clean hydrogen in the region. The Territory's renewable potential has been recognised by SunCable's \$35 billion Australia-Asia Power Link project. AAPowerLink is a world first, transformational renewable energy project providing a pathway to a new export industry.

The Barkly Region has access to the key factors of production required for large scale agribusiness development including cattle and food production. Agribusiness in the region contributes \$159 million to the economy. An agribusiness hub is being developed in Tennant Creek to generate additional economic opportunities from the region's pastoral activity.

Compared to other regions, the Barkly is lesser known as a tourist destination, however it is important to the drive tourism sector. The Barkly is most frequently visited by travellers touring between regions of the Territory. Aboriginal cultural experiences include Nyinkka Nyunyu Art and Culture Centre, the Karlu Karlu (Devil's Marbles) and pioneering history is showcased at the Battery Hill Mining Centre. With its highly rated Aboriginal art and cultural centre and unique historical and heritage experiences, tourism and creative arts are emerging industries in the region.

In 2019, the Australian and Northern Territory governments and the Barkly Regional Council signed the Barkly Regional Deal. The implementation of initiatives under the \$84.7 million Barkly Regional Deal is well underway. The 10-year deal includes \$45.4 million from the Australian Government, \$30 million from the Territory Government and \$3 million from Barkly Regional Council. The deal is focused on working with Barkly communities and Aboriginal homelands to design and deliver a range



## Construction



## Tourism



## Renewables

of initiatives that aim to improve the productivity and liveability of the Barkly region by stimulating economic growth, improving social outcomes and supporting local Aboriginal leadership.

The Deal includes transforming the Barkly Business Hub to deliver a 'one-stop-shop' to support local business and skills development. It also includes constructing the Barkly student boarding facility for secondary school children and the Barkly youth justice accommodation facility, which will provide an alternative to detention for young people in the region.

### Challenges and opportunities

- Increase housing supply to meet current and future social and industry demands in the regions. Scarcity of housing is a significant barrier to attracting and growing new industry and supporting existing private sector employers to grow or diversify.
- Improve socio-economic equality to promote sustainable economic growth in the region.
- Improve access to social infrastructure in the communities to attract workers and visitors and to create equity within communities.
- Improve management of natural resources, including water, to cater for increased industry and development.
- Timely access to land to make the most of upcoming opportunities.
- Maintain and improve existing road transport routes to improve flood immunity and support industry projects located in remote areas including Barkly Tablelands and Western Davenport.
- Increased bandwidth and redundancy in the network are essential to ensure sufficient regional digital connectivity to support liveability and economic growth across a broad range of industries.



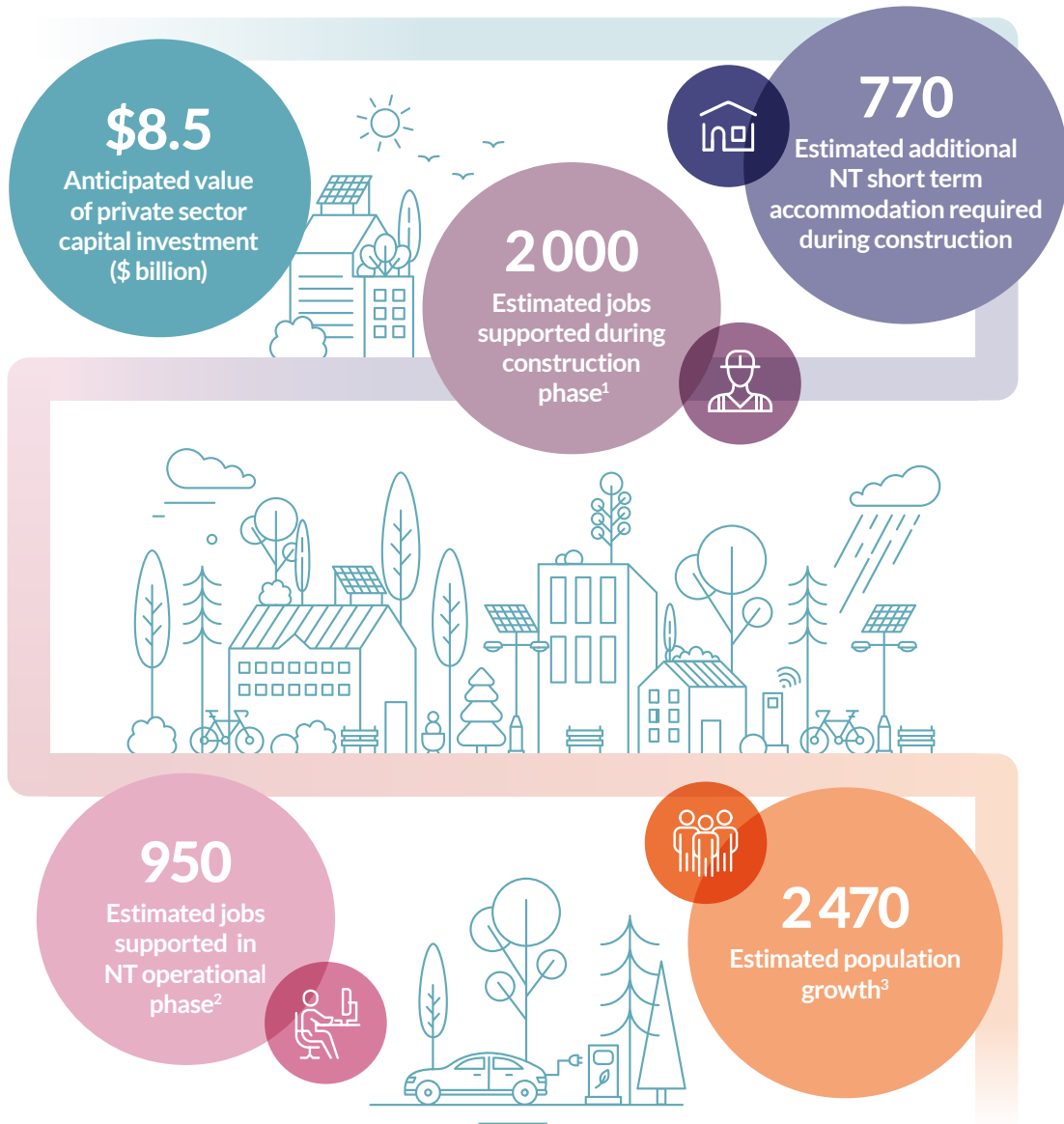
Above: Tennant Creek High School. Credit: Department of Territory Families, Housing and Communities.

## Investment portfolio

The total Barkly investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the Barkly region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022-2023 Progress and Outlook: May 2023

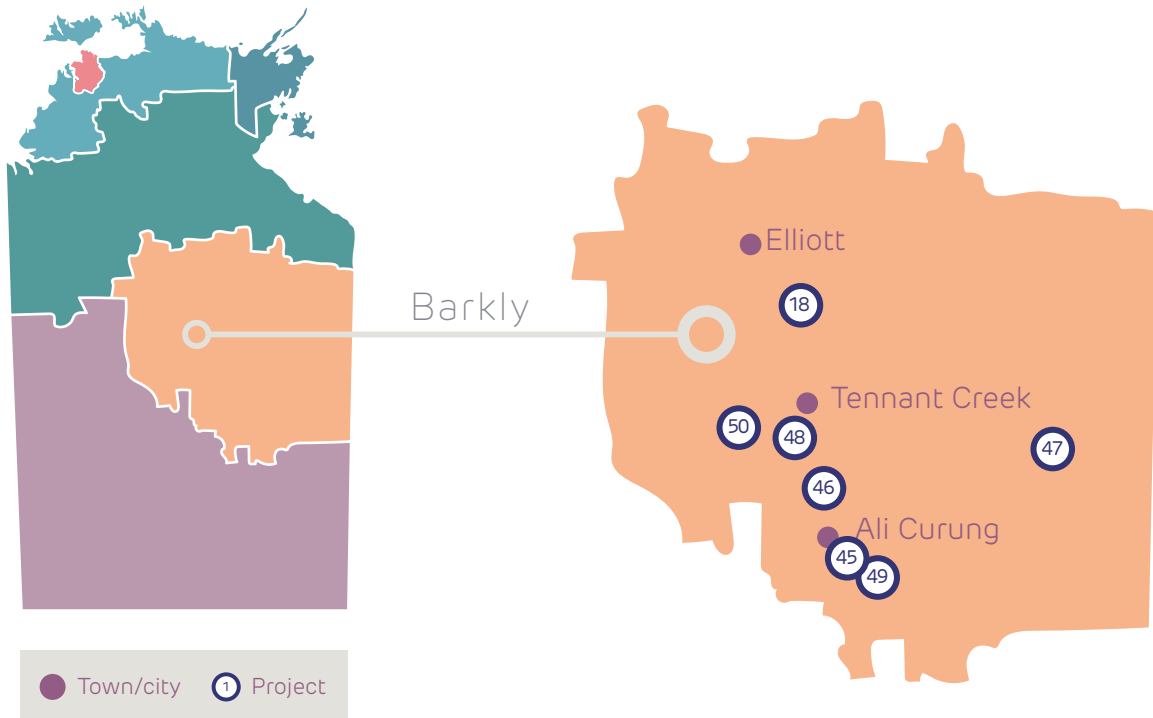


Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.



## Key projects, programs and proposals

The following nationally significant project located in the Barkly region is detailed in Chapter 8.

- SunCable – the Australia-Asia Power Link.

Aboriginal Land Economic Development Agency (ALEDA) Project 



The Aboriginal Land Economic Development Agency (ALEDA) Project is a pilot program to validate an economic development model for Aboriginal land. The project proposes to establish agribusiness developments at 6 sites located within the Mataranka (Sturt Plateau) and Ali Curung (southern Barkly) areas and

produce a range of crops. The 6 sites will be leased from Traditional Owners and then sub-leased to commercial farm operators to generate economic benefits for the Traditional Owners and employment opportunities for local Aboriginal people.

Ammaroo Ammonium Phosphate Fertiliser Project – Verdant Minerals Ltd 

Minerals

Agribusiness

Major Project



The Ammaroo Project is located approximately 200 kilometres south-east of Tennant Creek in the Northern Territory’s Georgina Basin. The Ammaroo phosphate deposit was first discovered in 2011 and is now the largest Joint Ore Reserves Committee (JORC) compliant phosphate resource in Australia and one of the largest undeveloped phosphate resources in the world.

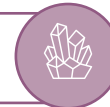
The project is a phosphate rock mine with processing of phosphate rock concentrate

that can be exported or feed an integrated ammonium phosphate production operation – open cut strip mining operations, with dry and wet beneficiation to produce phosphate rock concentrate. An integrated sulphuric acid and phosphoric acid plant would enable the phosphate rock concentrate to be locally processed into phosphoric acid and combined with small scale ammonia production and granulation to enable the integrated manufacture of approximately 1 million tonnes per annum of ammonium phosphate fertilisers.

Avenira Limited’s Phosphate Rock Mine and Yellow Phosphorous Plant 

Minerals

Agribusiness



The Wonarah phosphate project is located in the Barkly region, halfway between Three-ways and the Queensland border, adjacent to the Barkly Highway and Northern Gas Pipeline. Avenira recently signed a mining agreement with the Arruwurra Aboriginal Corporation, creating a strong framework to share in the economic and social benefits from the project on Arruwurra lands.

A Mining Management Plan (MMP) was recently approved by the Northern Territory Minister for Mining and Industry for a 5 000 tonnes per annum (tpa) test pit and the first stages of a 35 000 tpa direct shipping ore (DSO) operation. A MMP will soon be lodged to extend the duration of the DSO operation.

Mining rate and duration will depend on the prevailing and predicted economic conditions.

A second phase of the project is to build a yellow phosphorous plant at Wonarah to provide an efficient feedstock for the thermal phosphoric acid plant in Darwin and an export product.

Wonarah has existing Environmental Impact Statement approvals for a high rate of DSO production and operation of thermal furnaces streamlining the pathway to development and production.

Phosphate is traditionally used in agricultural fertiliser, and is increasingly in demand for use as a critical active material used within an electric vehicle battery or energy storage battery.

Rover Project – Castile Resources 48

The Rover Mineral Field, which contains the Rover 1 Mining Project, is 100% owned by Castile Resources Ltd (Castile) and is located approximately 75 kilometres south-west of Tennant Creek in the Northern Territory. A pre-feasibility study for the Rover 1 Mining Project, completed in December 2022, strongly supported the feasibility of the project.

The proposed development consists of an underground mine, accessing 3 loads (Jupiter,

Jupiter Deeps and the Western Zone) and a 500 000 tonnes per annum processing facility, producing 4 products – gold doré, copper (99%), cobalt (99%) and a high-grade coal washing magnetite (96.4%).

A bankable feasibility study has commenced and is expected to be completed in 2024.

Castile is concurrently progressing project approvals and licensing. Construction is expected to occur in 2025.

Singleton Farm project – Fortune Agribusiness Funds Management Pty Ltd 49

The proposed Singleton Farm involves 3300 hectares of annual and perennial crop production, accommodation for workers and supporting infrastructure. The project will provide significant expansion of the NT fruit and vegetable sector with benefit to the regions and communities through enhanced employment opportunities and wider economic benefits.

From construction through to production, Singleton Farm will create and sustain over 420 direct and indirect full time equivalent jobs, provide employment and training for local people and business opportunities for existing and new contractors and service providers.

A shortlist of 7 crop options have been identified including mandarin, table grape, dried grape, onions, avocado, muskmelon and jujube.

Tennant Creek Central Gold Mill – Tennant Mining 50

Tennant Mining is a gold and copper focused resource company with an exploration portfolio of tenements that includes the Tennant Creek Goldfield. Tennant Mining's suite of gold assets includes Nobles Nob and Juno, as well as Mauretania and Chariot, which are part of the Northern and Southern Project Areas respectively (joint ventures with Emmerson Resources). Tennant Mining is developing a

central processing plant at its Nobles Nob project site, located around 14 kilometres south-east of Tennant Creek to process ore from across other mine sites in the Tennant Creek region. In the medium term, Tennant Mining plans to develop its copper-gold Warrego asset near Tennant Creek to help meet the growing demand for copper, as the world transitions to a net zero carbon future.

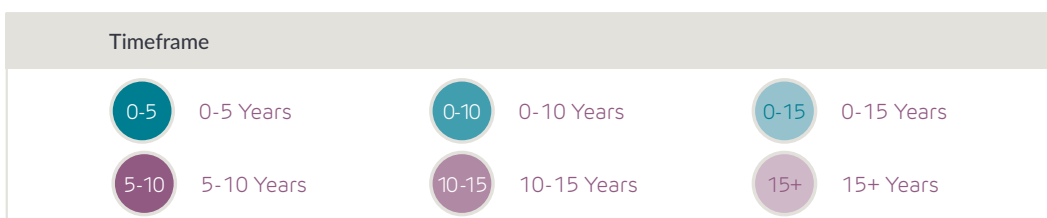
## Enabling infrastructure plan

The enabling infrastructure plan for the Barkly region lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Across the region additional health staff accommodation	•	Strengthen liveability by improving infrastructure to support health services	0-10
Across the region new or refurbished health clinics	•	Strengthen liveability by improving infrastructure to support health services	0-15
Across the region new remote health education facilities	•	Strengthen liveability by improving infrastructure to support health education services	0-15
Across the region Remote School Renewal Program	•	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Alekarenge School new early years pre-school incorporating a Families as First Teachers space and new administration building	7	Strengthen early years learning and engagement of students and parents	0-5
Ali Curung new police complex including housing and Emergency Services (NTES)/ NT Fire and Rescue Service (NTFRS) storage structure	21	Support the continued delivery of quality police services in remote communities	0-10
Ali Curung refurbish council staff housing, visitor accommodation and depot shed	1	Support council operations by providing housing for local government employees in remote communities	0-5
Ali Curung upgrade football field	1	Enhanced liveability through improved community recreation facilities	0-5
Alpurrurulam ablutions, BBQ, fencing and playground with shade	1	Enhanced liveability through improved community facilities	0-5
Alpurrurulam install critical drinking water infrastructure	6	Support population growth by improving access to quality water treatment systems	0-5
Alpurrurulam new police complex	19	Support the continued delivery of quality police services in remote communities	0-5

• indicates value is either commercial in confidence or to be confirmed.




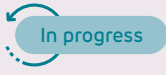


Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Alpurrurulam School replace classrooms	2	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Alpurrurulam short term safe house	1	Support vulnerable people by improving community service facilities	0-5
Ampilatwatja cemetery fencing, council workshop and depot upgrade	1	Support council operations	0-5
Ampilatwatja new sport and recreation building	1	Enhanced liveability through improved community recreation facilities	0-5
Ampilatwatja upgrade sewer network	8	Improve liveability through the provision of adequate water systems	0-5
Ampilatwatja water park and BMX track	1	Enhanced liveability through improved community recreation facilities	0-5
Arlparra upgrade football oval	1	Enhanced liveability through improved community recreation facilities	0-5
Austral Downs Road upgrade selected sections	15	Increase road capacity, safety, support accessibility, connectivity and amenity	0-15
Barkly Stock Route improve road standard	25	Support economic development of the cattle industry	0-10
Canteen Creek new dental clinic within health centre	1	Strengthen liveability by improving infrastructure to support oral health services	0-5
Elliott council staff housing	1	Support council operations by providing housing for local government employees in remote communities	0-5
Elliott Jim Rennie Reserve Master Plan	3	Enhanced liveability through improved community facilities	0-5
Elliott new police complex	19	Support the continued delivery of quality police services in remote communities	0-5
Elliott police housing	2	Support the continued delivery of quality police services in remote communities	0-5
Elliott regional town development residential and commercial/industrial land release	20	Enable economic development and population growth by increasing land availability	0-5
Elliott School integrated early learning facility	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Epenarra/Kurundi Road upgrade selected sections	10	Enhanced liveability through improved roads	0-15

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Karlu Karlu (Devil's Marbles) upgrade campground and overnight visitor amenities	12	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Kunjarra/The Pebbles seal access from Stuart Highway	9	Improve accessibility, supporting the tourism industry	5-10
Sandover Highway sealing selected sections	22	Support community access and the cattle industry	0-10
Tablelands Highway continue widening the seal from one lane to 2 lanes in conjunction with pavement rehabilitation works	80	Support economic development of the cattle industry	0-15
Tennant Creek Airport workers accommodation	•	Improve airport services to support accessibility, visitor growth and tourism	0-5
Tennant Creek animal management facility	1	Support council operations, community services, generate local jobs and skills training	0-5
Tennant Creek council staff housing	2	Support council operations by providing housing for local government employees in remote communities	0-5
Tennant Creek Court House upgrades	5	Strengthen equitable access by improving infrastructure to support judicial services	0-10
Tennant Creek High School STEAM (science, technology, engineering and mathematics) centre	8	Contemporary educational infrastructure to support growth in population and student enrolments	0-5
Tennant Creek Hospital upgrades	•	Strengthen liveability by improving infrastructure to support health services	0-15
Tennant Creek Lake Mary Ann caravan park development	3	Enhanced liveability through improved community facilities	0-5
Tennant Creek new emergency service facility including visiting officer quarters	7	Support the continued delivery of quality police services in remote communities	0-15
Tennant Creek Power Station battery energy storage system	5	Asset renewal to support growth, compliance and improve service efficiency	0-5
Tennant Creek Primary School install lift for accessibility	1	Contemporary educational infrastructure to support students with additional needs	0-5
Tennant Creek Primary School replace early years classroom block	4	Contemporary educational infrastructure to strengthen early years learning and engagement of students	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Tennant Creek Speedway upgrades	3	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-15
Tennant Creek visitor accommodation	•	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-10
Wonarah Trial Pit	•	Meet global demand for critical minerals used for new and emerging technologies	0-5
Wonarah Direct Shipping Ore (DSO) Operation	•	Meet global demand for critical minerals used for new and emerging technologies	0-5
Wonarah Yellow Phosphorous Plant	•	Meet global demand for critical minerals used for new and emerging technologies	5-10
Wutunugurra (Epenarra) new dental clinic within health centres	1	Strengthen liveability by improving infrastructure to support oral health services	0-10
Wutunugurra football oval ablution block	1	Enhanced liveability through improved community facilities	0-5
Wutunugurra new women's centre	1	Support vulnerable people by improving community service facilities	0-5

## Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>Barkly</b>		
Continue to progress planning of the Mount Isa to Tennant Creek rail link	 Reform	 In progress
Undertake infrastructure planning to enable major private sector projects	 Reform	 In progress

## Infrastructure pipeline

The following is a list of committed projects, funded by either government or the private sector, for the Barkly region.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across the region HomeBuild new homes	38.5	8.3	3.5	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region residential infill lots, design and construct power and water infrastructure, upgrades and network extensions to service nominated infill lots	7.7	0.2	0.2	•	Enable economic development and population growth through expanded utilities networks for new land development
Across the region residential subdivision planning, design and construction	2.0	0.2			Enable economic development and population growth through expanded utilities networks for new land development
Across the region Room to Breathe home extensions	8.8			•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Ali Curung Aerodrome seal and line mark airstrip	2.5		2.4		Support connectivity and improve all weather access to improve community safety and to support future growth
Ali Curung child and family centre (Starting Early for a Better Future)	0.5	•			Strengthen early years learning and engagement of students and parents
Alyawarre Arlparra Utopia ranger hub including office, shed, visiting staff accommodation, staff accommodation, meeting space, ablutions block	2.1	2.1	•		Enhanced liveability through improved Central Land Council services to remote Aboriginal communities
Ampilatwatja refurbish basketball court	0.4	•			Enhanced liveability through improved community facilities
Barkly youth work camp	3.6	3.1			Improve outcomes for young people in detention, their families and the community
Government Employee Housing	•	•			Increase housing options for Government employees in regional areas in partnership with private sector through the Barkly Regional Deal
Murray Downs School upgrade ablutions	0.5	•			Upgrade ageing infrastructure to support the continued delivery of quality education

Project	Estimated \$m			Outer Years	Challenges/opportunities
	Total	2023-24	2024-25		
New weather radar	15.0	•			Improve road and air travel safety and support agricultural, pastoral, transport and mining industries through the Barkly Regional Deal
Purkiss Sporting Reserve upgrades	7.9	3.0			Improve amenity for sporting participants and attendees
Tennant Creek Airport enabling infrastructure for new patient transfer facility including taxiway and apron extension	•	•			Improve airport facilities to support accessibility to health services
Tennant Creek High School student boarding accommodation	16.0		16.0	•	Contemporary educational infrastructure to support rural and remote students through the Barkly Regional Deal
Tennant Creek Hospital staff accommodation	3.2	3.2			Strengthen liveability by improving infrastructure to support health services
Tennant Creek industrial land release	10.0	9.7			Enable economic development and population growth by increasing land availability
Tennant Creek new bike path with lighting	2.0	•			Enhanced liveability through improved community facilities
Tennant Creek new watch house	11.5		11.5	•	Support the continued delivery of quality police services in remote communities through the Barkly Regional Deal
Tennant Creek Nyinkka Nyunyu Art and Culture Centre	10.0	7.0			Value, preserve and expand art and cultural places, through the Arts Trail Gallery Extension Program
Tennant Creek residential land release	5.0		5.0	•	Enable economic development and population growth
Tennant Creek to Townsville corridor	85.6		40.0	•	Roads of Strategic Importance - economic enabler and key national freight route between the Territory and Queensland
Tennant Creek visitor experiences including gold rush and ore mining interpretive displays	4.4	3.4			Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
Tennant Creek visitor park	9.7		9.7	•	Provide safe, affordable and sustainable temporary housing options for mobile Territorians through the Barkly Regional Deal
Tennant Creek weighbridge and office at landfill site	0.4	•			Support council operations and community services

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Tennant Creek, 7 and 9 Noble Street construct 8 2-bedroom townhouses	3.0	3.0			Provide a variety of contemporary residential options
Utopia Art Centre upgrade	2.8	2.8	•		Community led response to improve economic development and liveability through the Aboriginal Benefits Account
Utopia Footy Oval new surface, baseball diamond, male and female change rooms, viewing stands, electronic score board and siren	8.5	•	•	•	Community led response to improve community engagement, amenity and liveability through the Aboriginal Benefits Account
Utopia Homelands projects	1.2	1.2	•		Community led response to improve community engagement, amenity and liveability through the Aboriginal Benefits Account
Warrego Tailings Project reprocessing of old tailings dams to produce magnetite concentrate	48.0	48.0			Meet global demand for minerals



Above: Tennant Creek. Credit: Department of Territory Families, Housing and Communities.

## NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining and improving our quality of life. It provides us with essential services we rely on like transport, energy, water and telecommunications, as well as social infrastructure such as hospitals and health centres, schools, policing and parks and access to goods and services.

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.



### Transport and Logistics

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- Tennant Creek recycling plant



### Land

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- Tennant Creek headworks upgrades and expansion

The audit, as discussed in chapter 3, revealed a number of potential infrastructure needs. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in the regional sections of this document. The remaining Barkly region audit items are listed below. These potential infrastructure needs are for projects that could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of those needs and proposals.



### Social Infrastructure

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- Across the region community controlled early childhood facilities
- Across the region community controlled health facilities
- Across the region community controlled housing
- Ali Curung sport and recreation hall and upgrade football field
- Alpururulam skate park, playground with shade, basketball court and play equipment
- Ampilatwatja ablution block, basketball court enclosure, refurbish basketball court, BMX track and water park
- Ampilatwatja art centre and meeting place
- Arlparra artists hub and gallery
- Elliott shaded recreation facilities and ablutions
- Purkiss Reserve sporting upgrades
- Tennant Creek construct Staunton oval, walking path and bowling club green
- Tennant Creek government and industry housing
- Tennant Creek sports hub facility
- Tennant Creek Hospital renewal
- Tennant Creek Ranger hub
- Tennant Creek wave pool
- Utopia oval upgrades, score board, change rooms, lights and softball upgrades
- Vocational Education and Training facilities in schools



Above: Nhulunbuy. Credit: Developing East Arnhem Limited (DEAL).



## East Arnhem

Home to one of the world's longest continuing cultures with a history of trade and entrepreneurship and a vision for a growing, diverse and sustainable regional economy.

### The East Arnhem region:

- > is home to Yolŋu and Anindilyakwa people who have a history of strong Aboriginal economic leadership
- > is home to the Arnhem Space Centre where Equatorial Launch Australia is developing the first commercial equatorial launch facility in Australia
- > has strong, sustainable homelands that can enable economic opportunities
- > is strategically located between Darwin and Cairns
- > has an underutilised labour market with approximately 47% of working age people not in the labour force in 2021
- > has the Territory's second deep water port serviced by a deep water marine wharf.

## Major industries and growth sectors in East Arnhem



Tourism



Aerospace

The East Arnhem region is home to the Yolŋu and Anindilyakwa people, both of which represent some of the oldest living cultures on earth. Yolŋu and Anindilyakwa people make up more than 64% of the region's 14 602 population as at 2021.

East Arnhem spans 33 328 square kilometres. The town of Nhulunbuy is located approximately 600 kilometres from Darwin by plane and 1000 kilometres by road and serves as the region's economic hub.

The Groote Archipelago of Groote Eylandt and Bickerton Island, home to the Anindilyakwa people, is just off the coast.

The region is entirely Aboriginal freehold land with 11 main communities: Nhulunbuy, Yirrkala and Gunyaŋara (collectively referred to as the Gove Peninsula), Galiwin'ku, Gapuwiyak, Ramingining, Milingimbi and the Groote Archipelago communities of Alyangula, Angurugu, Umbakumba and Milyakburra. There are also more than 50 homelands and satellite communities across the region.

East Arnhem is a highly prospective and emerging regional economy. The region boasts world class mineral deposits, a quality solar resource, a strategic location for defence, a deep water port, proximity to Asia Pacific markets and vast Aboriginal estates with Traditional Owners actively seeking to increase their economic participation.

Against a cultural landscape, industries such as tourism, human services, arts and culture, agribusiness and regional sea freight continue to expand alongside exciting new opportunities in aerospace, resources projects, renewable energy and manufacturing.

Agribusiness in the region encompasses aquaculture, forestry and agriculture. In 2020–21 the agribusiness sector contributed approximately \$10.3 million to the region's economy.

In the aquaculture sub-sector there are opportunities to explore the international seafood market with a variety of aquaculture products including mullet, barramundi, oyster and mackerel found in the region. In the forestry and agriculture sub-sectors there are several pilot projects underway including the opportunity for sustainable local production in the region.

Mining is the largest employer in the region, directly employing approximately 1000 people as at 2021 and contributing in excess of \$420 million in value to the region's economy. Although Rio Tinto and GEMCO's mines are approaching their end of life, Aboriginal-led mining opportunities are emerging in the region, including Gulkula and Winchelsea mines.

Tourism added approximately \$7 million in value to the region's economy in 2020–2021. Of the 53 tourism businesses operating in the region, 24 (45%) are Aboriginal owned. The majority (60%) of these businesses operate from the Gove Peninsula.

Aerospace in East Arnhem is an emerging player in the global space industry. Supported by the Yolŋu-owned Gumatj Corporation Ltd, Equatorial Launch Australia developed the Arnhem Space Centre, the first commercial equatorial launch facility in Australia. In 2022, NASA launched 3 projectiles from the Arnhem Space Centre, which is located on the Dhupuma Plateau about 30 kilometres east of Nhulunbuy.

The land surrounding Nhulunbuy provides an opportunity for a large scale solar and renewable hydrogen developments due to the abundance of solar irradiance. There is also an opportunity to utilise natural assets in communities to produce renewable energies.

East Arnhem is entering a period of transition from a long established resources-based economy to a diverse economy which supports greater regional participation and broader distribution of jobs. The region is one of the Territory's most prospective regions. With pristine waters, stunning landscapes, abundant natural resources and rich, unbroken cultures, East Arnhem is set to become one of the Territory's growing regions in the decade to come.



Resources



Defence



Agribusiness



Renewables



Advanced  
Manufacturing



Above: Umbakumba community. Credit: East Arnhem Regional Council.

## Challenges and opportunities

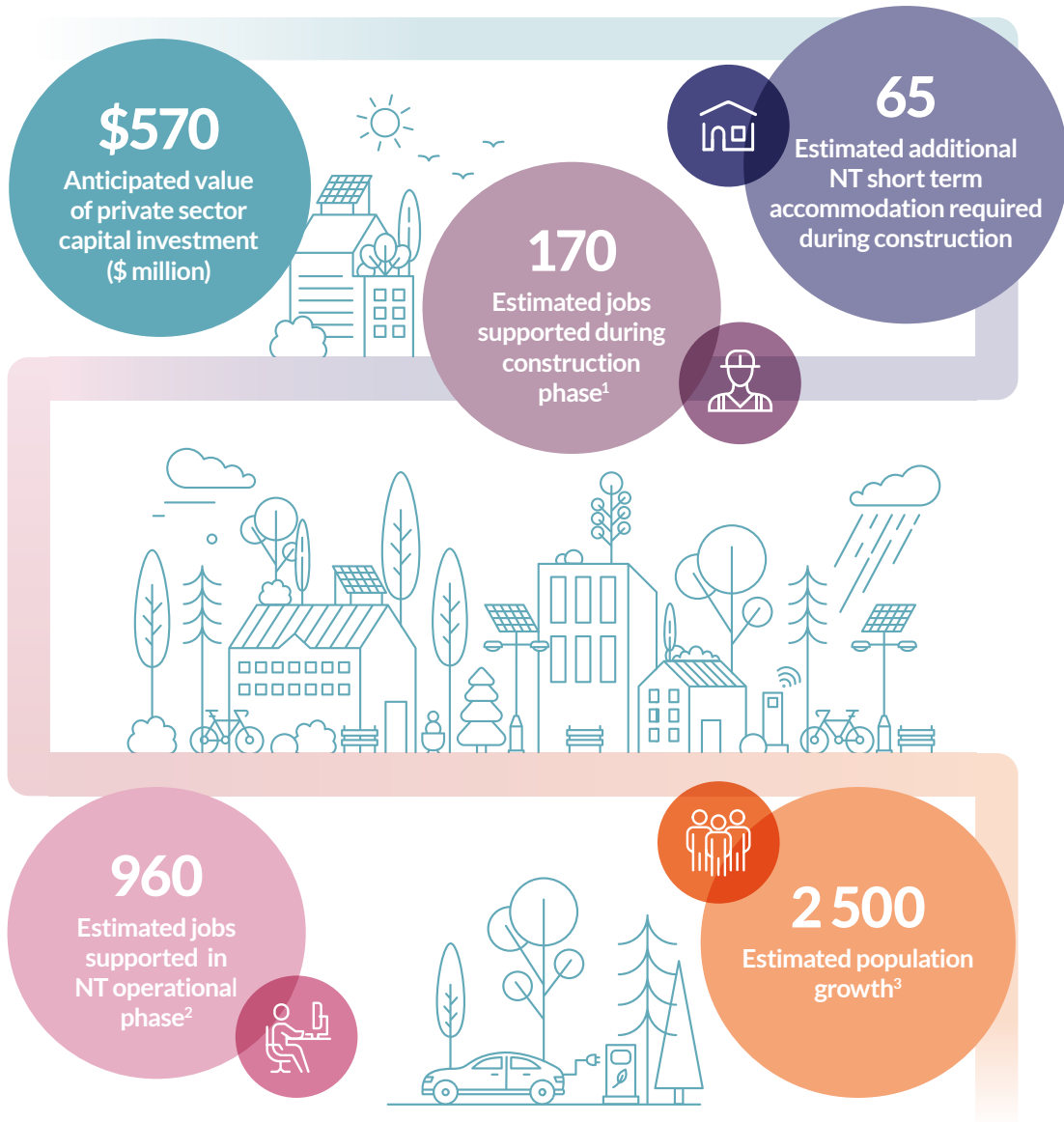
- Around 150 to 200 additional houses are required to meet current industry demands on the Gove Peninsula. Up to 80 more houses are needed for industry on Groote Eylandt. Scarcity of housing is a significant barrier to attracting and growing new industry and supporting existing private sector employers to grow or diversify.
- Additional housing to address overcrowding in communities.
- Improved all weather and year round road connectivity is critical to both social and economic development in the East Arnhem region to improve food security and freight and logistic services. The first order priority is the Central Arnhem Road, a 675 kilometre road connecting the Stuart Highway to Nhulunbuy, the majority of which is unsealed.
- Improve digital connectivity in homelands to support economic growth and support improved safety outcomes.
- Connecting communities such as Gapuwiyak and Ramingining and homelands through all-weather access to the main arterial network to support tourism aspirations of communities and homelands.
- Expand the existing Gove commercial port to support a diverse range of marine industries including tourism, fisheries and aquaculture and regional sea freight.
- Secure land tenure for investment in Nhulunbuy and Alyangula post mining and support pathways for land tenure and Traditional Owner partnerships with investors throughout the region.

## Investment portfolio

The total East Arnhem investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the East Arnhem region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022–2023 Progress and Outlook: May 2023

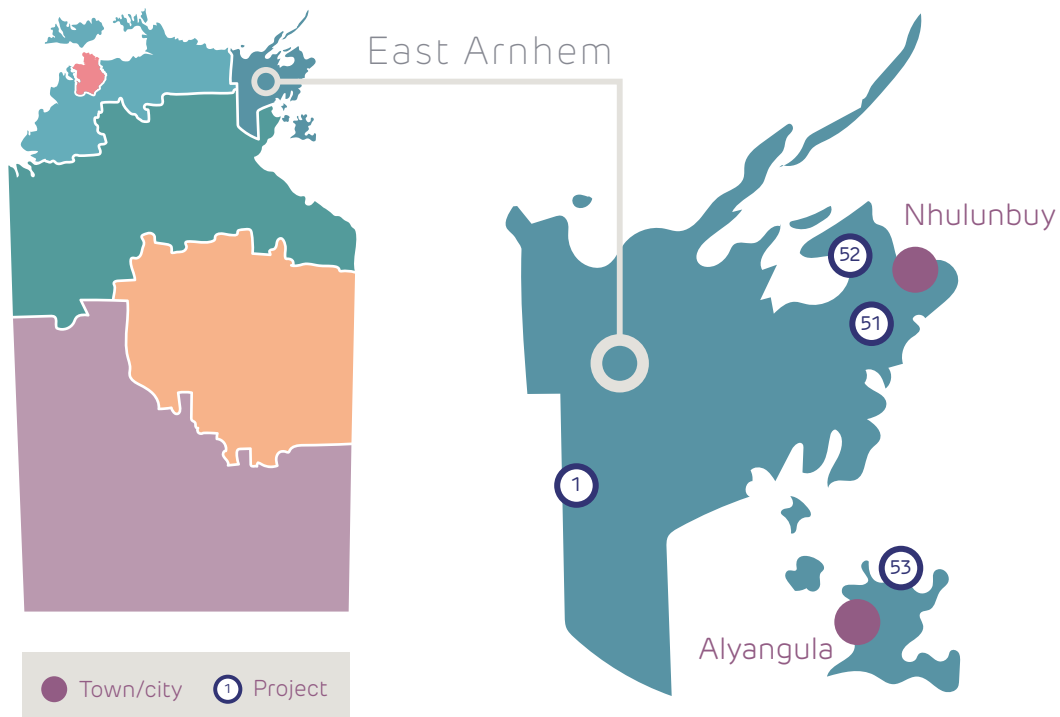


Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

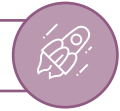
Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.



### Key projects, programs and proposals

The following nationally significant project located in the East Arnhem region is detailed in Chapter 8.

- Central Arnhem Road upgrade

Equatorial Launch Australia – Arnhem Space Centre 51

The Arnhem Space Centre site is situated near the East Arnhem township of Nhulunbuy, approximately 12 degrees south of the equator on the land of the Yolngu people.

The space centre is positioned to pursue a significant share of the global small and medium launch market, expected to be worth US\$930 million over the next decade.

The space centre's equatorial proximity caters for all orbits and inclinations, providing sub-orbital and orbital access to space for commercial, research and government organisations.

Phase 1 launch facility developments saw 3 launch pads constructed to accommodate sub-orbital and small orbital satellite launch vehicles (payload 150 to 500 kilograms). Operations commenced in June/July 2022 with NASA conducting a sub-orbital launch campaign, it's first from a commercial launch facility.

Currently, Equatorial Launch Australia (ELA) is in its Phase 2 site expansion to support anticipated increased commercial and research launch demand for launch vehicles with payloads of up to 2000 kilograms.

Phase 2 will provide spacecraft manufacturers with an active and technologically advanced launch complex. The proposed new spaceport includes 14 new launchpad facilities suitable for larger and more complex rockets (increased capacity to launch 20 00 kilogram payloads compared to the 300 kilograms payloads NASA launched in 2022), advanced engine testing rigs (single engine static test rig and a full scale hot fire test rig), horizontal integration facilities, launch and mission control centre, range control centre, launcher lounge, fuel storage facility, on site accommodation, telemetry and a logistic centre. The new spaceport will also include a new radar tracking and telemetry station and multiple radars, a fuel farm, 20 tonne gantry crane, a man-made lake for in house water supplies and a water tower for water pressure on the site.

The new development provides an opportunity to design and build purpose-built facilities for resident launchers and allow for higher launch cadence and a wider range of rockets to launch from the site.

Equatorial Launch Australia has undertaken extensive consultation with key stakeholders in Australia and internationally to provide strong foundations for a growing spaceport in the Northern Territory. ELA continues to work closely with regulators, including the Australian Space Agency in alignment with their strategy, to provide reliable access to space. There is ongoing interest and opportunities for domestic and international launch operations, rocket and satellite operations and testing, space sciences, space education, related logistics and operational support, systems engineering and avenues for broader education in science, technology, engineering and mathematics (STEM) and support for government space related activities. The sector is set to be worth over \$1 trillion by 2040, and lead to 20 000 new jobs in Australia alone by 2030. The sector is of interest to investors, educators, and regulators alike.



Above: Arnhem Space Centre. Credit: Equatorial Launch Australia.

## Gove Peninsula – A post mining future 52



With the Alcan Gove mine closure at Nhulunbuy, the legacy of industrial and town infrastructure creates the opportunity with infrastructure such as fuel tanks, the port, warehouses, roads and administration buildings available for new industry development.

The mine closure has provided the opportunity for Yolgnu businesses specialising in mine rehabilitation and mining services to develop. The clean-up of the mine is one of the largest environmental rehabilitation projects and demolition projects in the southern hemisphere.

There is an opportunity to focus on renewables based hydrogen manufacturing at relatively low cost. Critical components required for such a precinct already in place include multimodal transport (port, road and air) and plentiful access to both salt and fresh water. Local solar supplemented by bio-energy resources and

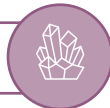
storage could today provide energy at reasonable costs, countering the challenges that led to the closure of the alumina refinery in 2014.

Any future development will be decided or led by Traditional Owners at a local level. A variety of proponents are demonstrating interest in significant investment at this site and are actively engaged in discussions with Traditional Owners and government.

A Gove Port Development Plan will sit as one component within a broader framework essential to the successful future of the region.

The combination of a deep water port (including export facilities), existing industrial infrastructure, rich mineralisation and abundant marine resources make the site optimal for the production and use of biomass as well as processing of minerals, marine and agricultural products.

## Winchelsea Mine 53



Winchelsea Mining Pty Ltd (Winchelsea Mining) is a joint venture between Anindilyakwa Advancement Aboriginal Corporation (AAAC) and AUS China International Mining, and is majority owned by the Traditional Owners of Akwamburrkba Island. The proposed manganese mine is located on Akwamburrkba Island (Winchelsea), north of Groote Eylandt, about 600 kilometres south-east of Darwin. It is proposed that mining using free digging and rock breaking would be undertaken to extract the ore. Mine infrastructure would include run-of-mine and ore stockpiling areas, a processing plant, workshops, haul and access roads, a product conveyor from the processing area to the wharf, a loading jetty and a boat ramp. Supporting infrastructure would be

located at the Little Paradise development area on Groote Eylandt, approximately 6 kilometres south-west of the mine site, and include a barge landing ramp and jetty, access roads, a logistics hub and a 100-person accommodation camp. A Joint Ore Reserves Committee (JORC) Reserve Estimate Statement has been completed while bankable feasibility studies and Environmental Impact Assessments are currently being finalised.

The revenue generated by the proposed Winchelsea Mine will be a critical enabler of a comprehensive economic strategy to generate long lasting economic benefits to maintain important health, education, cultural and community programs for the residents of the Groote Archipelago well into the future.

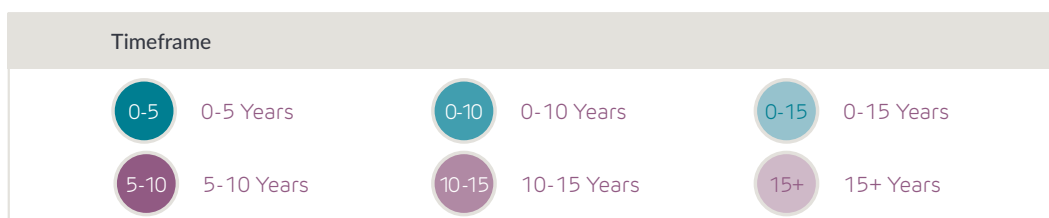
## Enabling infrastructure plan

The enabling infrastructure plan for the East Arnhem region lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Across the region new or refurbished health clinics	•	Strengthen liveability by improving infrastructure to support health services	0-10
Across the region Remote School Renewal program	•	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Across the region, including on Groote Eylandt and the Gove Peninsula, various scale aquaculture enterprises	•	Produce high-quality and reliable supply of niche produce year round for domestic and export markets	0-5
Alyarrmandumanja Umbakumba School upgrade	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Birritjimi Beach replacement housing development	17	Improve housing in remote locations	0-10
Central Arnhem Road upgrade remaining road within the East Arnhem region (Bulman to Nhulunbuy)	300	Improve all weather access to support accessibility, growth and community safety	0-15
Dhimurru Recreational Areas review and expand	•	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-10
Dhupuma Road upgrade and seal from Central Arnhem Road to Gove Airport	•	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Galiwin'ku expand and renovate police station, construct new visiting officer quarters and 3 additional houses	8	Support the continued delivery of quality police services in remote communities	0-10
Galiwin'ku multi-purpose sporting complex/cyclone shelter	5	Build resilient communities and enhanced liveability by improving community facilities	0-10
Galiwin'ku new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Galiwin'ku Shepherdson College upgrade or replace 2 elevated classrooms and canteen	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Gapuwiyak new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15

• indicates value is either commercial in confidence or to be confirmed.





Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Gapuwiyak Oval new public amenities/change rooms	1	Enhance liveability through improved facilities	0-5
Gapuwiyak Road seal additional sections of barge/access road	2	Improved community safety and connectivity	0-5
Gove District Hospital upgrades	•	Ensure health facilities are fit for purpose	0-15
Groote Eylandt construct up to 25 Government Employee Houses through long term lease back	•	Provide quality, affordable housing to attract a workforce	0-5
Gunyangara (Gove Port) commercial port development	20	Improve marine facilities to support growth of commercial marine sector	5-10
Gunyangara Oval new public amenities/change rooms/cyclone shelter	4	Enhance liveability through improved facilities	0-5
Gunyangara upgrade water infrastructure to support new projects	13	Support economic development and population growth by improving access to serviced land	0-10
Little Paradise biosecurity compound	3	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise key worker housing estate	20	Support services by key workers in remote communities through local decision making	0-5
Little Paradise marine harbour facilities	40	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise solar renewable power supply	35	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise timber industries precinct	7	Support industries of the future, increase and enhance services and job opportunities for remote communities	5-10
Little Paradise vehicle workshop for clan businesses	4	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise Winchelsea Marina	40	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise worker accommodation village	10	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise worker accommodation, sports, restaurant and community hospitality infrastructure	20	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-10
Milingimbi cyclone shelter	10	Build resilient communities and enhanced liveability by improving community facilities	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Milingimbi new police complex with housing, visiting officer quarters and associated infrastructure	17	Support the continued delivery of quality police services in remote communities	0-5
Milingimbi School integrated early learning facility	2	Contemporary educational infrastructure to support growth in early years learning enrolments	0-10
Milingimbi School refurbish administration block, library and classrooms	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Nhulunbuy develop up to 160 industry houses (up to 80 Government Employee Houses)	•	Provide quality, affordable housing to attract a workforce	0-5
Nhulunbuy office for Northern Land Council	•	Support NLC to consult with Traditional Owners and other Aboriginal and Torres Strait Islander peoples	0-5
Nhulunbuy short-stay visitor accommodation	•	Provide quality, affordable accommodation	0-10
Nhulunbuy sport and recreation hall/cyclone shelter	15	Build resilient communities and enhanced liveability by improving community facilities	0-5
Nhulunbuy tri-services hub	40	Support the continued delivery of quality police, fire and emergency services	5-10
Numbulwar multi-purpose sporting complex/cyclone shelter	10	Build resilient communities and enhanced liveability by improving community facilities	0-10
Ramingining additional police housing	1	Support the continued delivery of quality police services in remote communities	0-15
Ramingining and Gapuwiyak sealing the connector roads from Central Arnhem Road	•	Improve all weather access to support accessibility, growth and community safety	0-15
Ramingining barge road sealing for all weather access	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-10
Ramingining new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
South East Arnhem Land track upgrade, connecting the Central Arnhem Road to the Savannah Way	•	Improve all weather access to support accessibility, growth and community safety	15+
Yirrkala School upgrade Middle School and specialty areas	8	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Yirrkala recreation hall/cyclone shelter	8	Build resilient communities and enhanced liveability by improving community facilities	0-5

## Implementation pathway

The suggested implementation pathway outlines action that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
<b>East Arnhem</b>		
Continue with Gove Futures Program to identify enabling infrastructure for economic sustainment and future growth, particularly Gove Port	 Reform	 In progress



Above: ARRCs Nhulunbuy Aged Care Facility. Credit: Scope Building.

## Infrastructure pipeline

The following is a list of committed projects, funded by either government or the private sector, for the East Arnhem region.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across the region commercial roll out of digital connectivity solution to 10 priority Homelands	•		•	•	Enabling digital Territory and creating digital opportunity
Across the region HomeBuild new homes	127.8	25.8	30.0	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region land servicing headworks scoping, design and construction	19.3	19.3			Enable economic development and population growth through expanded utilities networks for new land development
Across the region residential subdivision planning, design and construction	41.3	10.3			Enable economic development and population growth through expanded utilities networks for new land development
Across the region Room to Breathe home extensions	43.3	11.9	8.7	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Alyangula Anindilyakwa Land Council head office upgrade	4.7	4.7			Support council operations, community services, generate local jobs and skills training
Alyangula construct new wing at Pole 13 Ranger base	0.7	0.7			Enhanced liveability by improving community facilities
Alyangula Groote Holdings Aboriginal Corporation office/ workers accommodation and community kitchen and meal service	8.0		•	•	Support industries of the future, increase and enhance services and job opportunities for remote communities
Angurugu airport new public amenities	0.4	0.4			Enhance liveability through improved facilities
Angurugu building upgrade and internal repaint of church	0.3	0.3			Enhanced liveability by improving community facilities
Angurugu construct 6 Groote Archipelago Housing Program houses at Angurugu East subdivision	8.0	8.0			Enhanced liveability by increasing housing availability through local decision making
Angurugu new sports hall	5.9	•			Support council operations, community services, generate local jobs and skills training
Angurugu renal clinic and staff accommodation	3.0	3.0			Strengthen liveability by improving infrastructure to support health services

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Angurugu sports oval lighting upgrades	1.0	1.0			Enhanced liveability by improving community facilities
Angurugu waste transfer station	0.4	0.4			Support council operations, community services, generate local jobs and skills training
Angurugu water play park	1.4	1.4			Enhanced liveability by improving community facilities
Angurugu, Groote Eylandt Regional Connectivity Program Round 2 – deploy a small cell mobile base station	0.9	•	•	•	Enabling connectivity and creating digital equality
Arnhem Space Centre phase 2 commercial development	•		•		Support growth in the space sector for commercial, research and government organisations
Central Arnhem Road upgrade road within the East Arnhem region (Bulman to Nhulunbuy)	116.8	0.8	16.0	•	Improve all weather access to support accessibility, growth and community safety
Complete the upgrades to huts and exchanges on the Arnhem Fibre Network	8.0		•		Enabling digital Territory and creating digital opportunity
East Arnhem recycling infrastructure upgrade	0.2	0.2			Support improved waste management and recycling processes
Elcho Island aerodrome safety upgrades	4.3		4.0	•	Support connectivity and improve all weather access to improve community safety and to support future growth
Galiwin'ku Airport new public amenities block	0.4	0.4			Enhance liveability through improved facilities
Galiwin'ku improve barge landing	0.9			•	Improve all weather access to support accessibility, growth and community safety
Galiwin'ku replace council staff housing	0.7	0.7			Support council operations by providing housing for local government employees in remote communities
Galiwin'ku Shepherdson College access path to support students with additional needs	0.3	•			Contemporary educational infrastructure to support students with additional needs
Galiwin'ku Shepherdson College minor works upgrades	0.5	0.5			Strengthen early years learning and engagement of students and parents
Galiwin'ku Shepherdson College new students with additional needs classroom	2.0	•			Contemporary educational infrastructure to support students with additional needs

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Galiwin'ku water park and BMX	0.9	0.9			Enhance youth engagement by improving community facilities
Gapuwiyak Airport and centre town area new public amenities	0.6	0.6			Enhance liveability through improved facilities
Gapuwiyak child and family centre (Starting Early for a Better Future)	0.5	•			Strengthen early years learning and engagement of students and parents
Gapuwiyak Culture and Arts Centre new building	2.0	•			Value, preserve and expand art and cultural places, through the Arts Trail Gallery Extension Program
Gapuwiyak footpath project	0.1	•			Enhance liveability through improved facilities
Gapuwiyak improve the barge landing and goods handling facilities	2.5		2.2		Improve all weather access to support accessibility, growth and community safety
Gove District Hospital AS 4187 Compliant Central Sterilising Department (CSD)	8.0		8.0	•	Strengthen liveability by improving infrastructure to support health services
Gove District Hospital fire remediation works	20.0		20.0	•	Ensure health facilities are fit for purpose
Groote Eylandt alternative to custody facility	10.0	10.0			Provide community based options to detention
Groote Eylandt Bickerton Island Primary College	67.0	22.0			Support Culture, Language and Leadership using a bilingual curriculum in an independent Primary Boarding College
Gunyangara (Gove Port) tourism precinct development	8.0	4.0	4.0		Support existing tourism operators, and attract new yacht and cruise tourism operators to the region
Gunyangara Garma Institute	•	•	•		Contemporary educational infrastructure to support growth in population and student enrolments
Gunyangara new Barker Dhupuma School	•	•	•		Contemporary educational infrastructure to support growth in population and student enrolments
Little Paradise land services to support vehicle workshop for clan businesses	4.2	•	•		Support industries of the future, increase and enhance services and job opportunities for remote communities
Little Paradise logistics basecamp workshop and aquaculture facilities, hatchery and cold stores	14.0	•	•		Support research and develop for future industries, increase and enhance services and job opportunities for remote communities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Melville Bay common user facility	4.0		4.0		Capital grant to increase capacity and enable economic development
Milingimbi cemetery at new site	0.2	•			Ensure community facilities are a secure, respectful space
Milingimbi critical water infrastructure	11.4	11.4	•		Closing the Gap on access to safe and reliable water for First Nations communities
Milingimbi new public amenities in central town area	0.3	0.3			Enhance liveability by improving community facilities
Milingimbi water park	0.6	0.6			Enhance community engagement by improving facilities
Milyakburra Airport new public toilet block	0.4	0.4			Enhance liveability through improved facilities
Milyakburra building upgrade and internal repaint of church	0.3	0.3			Enhanced liveability by improving community facilities
Milyakburra cyclone shelter upgrades	1.8	1.8			Build resilient communities and enhanced liveability by improving community facilities
Milyakburra jetty pontoon	0.2	0.2			Support economic development by improving all weather access and goods handling facilities
Milyakburra Regional Connectivity Program Round 2 – deploy a new Telstra macro cell mobile site	1.6	•	•	•	Enabling connectivity and creating digital equality
Milyakburra upgrade Outback Store	2.3	•			Support council operations, community services, generate local jobs and skills training
Ramingining improve barge landing	0.9			•	Improve all weather access to support accessibility, growth and community safety
Umbakumba alternative to custody facility	4.7	2.0			Provide community based options to detention
Umbakumba building upgrade and internal repaint of church	0.3	0.3			Enhanced liveability by improving community facilities
Umbakumba Community Centre (music studio)	2.1	2.1			Enhanced liveability by improving community facilities
Umbakumba jetty pontoon	0.2	0.2			Support economic development by improving all weather access and goods handling facilities
Umbakumba men's shed	2.2	2.2			Enhanced liveability by improving community facilities
Upgrade radio tower links to Galiwin'ku, Milingimbi, Minjilang and Warruwi	4.0	4.0	•		Build a resilient and diversified digital network

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Yirrkala ablutions refurbishment	0.3	•			Enhance community engagement by improving facilities
Yirrkala aged care facility replacement	2.2	2.2			Provide a variety of contemporary, affordable and sustainable housing options for older Territorians
Yirrkala Buku-Larrnggay Mulka Centre upgrades	2.5	1.0			Value, preserve and expand art and cultural places, through the Arts Trail Gallery Extension Program
Yirrkala NBN fibre-to-the-premise services to residents and businesses	3.7	•	•	•	Enabling connectivity and creating digital equality
Yirrkala replace council staff housing	0.7	0.7			Support council operations by providing housing for local government employees in remote communities
Yirrkala waste transfer station	0.5	0.5			Support council operations, community services, generate local jobs and skills training



## NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining and improving our quality of life. It provides us with essential services we rely on like transport, energy, water and telecommunications, as well as social infrastructure such as hospitals and health centres, schools, policing and parks and access to goods and services.

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.



### Transport and Logistics

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- Groote Eylandt helipad links to iconic rock art sites across the archipelago
- Nhulunbuy repurpose existing 160 million litres of fuel storage tanks



### Utilities

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- Commercially viable hybrid models for micro grids in remote communities and homelands throughout the region
- Gove Peninsula and Groote Eylandt alternative power generation and innovative grid solutions
- Groote Eylandt Little Paradise telecommunication facilities
- Groote-Gove subsea fibre link

The audit, as discussed in chapter 3, revealed a number of potential infrastructure needs. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in the regional sections of this document. The remaining East Arnhem region audit items are listed below. These potential infrastructure needs are for projects that could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of those needs and proposals.



### Social Infrastructure

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- Buthan recreation area upgrade, outdoor youth recreation facilities and BMX track
- Gapuwiyak playground upgrades
- Milingimbi combined change rooms, toilets, and showers, renovate and upgrade commentator box and water park
- Milyakburra multi-sport building with oval lighting, basketball court cover and seating, and BMX track
- Nhulunbuy manufacturing hub for housing
- Nhulunbuy synthetic golf green, bunker reconstruction project and driving range space
- Ramingining oval lights and shade shelter
- Umbakumba oval upgrades and equipment for recreation hall



### Land

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- Develop serviced land for industry growth in remote communities



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*Below: Garramilla Boulevard.  
Credit: Department of Infrastructure,  
Planning and Logistics.*



Infrastructure NT thanks all those who contributed to developing the Northern Territory Infrastructure Plan and Pipeline 2023.

We appreciate the time you have taken to provide feedback through face to face and online presentations on the Infrastructure Plan and Pipeline and directly through feedback to Infrastructure NT.

We have received feedback from Northern Territory and Australian government agencies, local government, land councils, private sector, not for profit organisations, industry representative bodies and peak bodies.





# Connect with us

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