



# NT Infrastructure Plan and Pipeline **2022**



## About Infrastructure NT

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



*Above: Aerial view from Bayview to the Darwin CBD.  
Credit: Steve Strike.*

## 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.



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

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Above/right: Berrimah Farm Science Precinct new Molecular Diagnostic Science Laboratories.  
 Credit: Department of Infrastructure, Planning and Logistics.

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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 2030. By 2030, the new economy industries will call the Territory's sustainable development precincts home, our population will be just tipping over 300 000, our regions will be thriving, resilient communities and our sustainable and diverse economy will be worth \$40 billion.

To achieve this goal, the Northern Territory Government has instructed the investment, major projects and infrastructure commissioners to take us in new directions, to places we haven't been before – in maritime industry, critical minerals, advanced manufacturing, data, solar, hydrogen and carbon capture and storage.

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.

A key value proposition for the Territory is our abundance of developable land. With only 1% cleared land and 50% Aboriginal freehold tenure, our land presents a unique opportunity to sustainably develop using economic, environment, social, cultural and governance principles – something many investors are looking for globally.

We have naturally deep water harbours, high solar irradiance, regular wet season rainfall and many of the world's significant mineral resources. This, coupled with our strategic location, has set the stage for the Territory to become a globally significant destination. A destination where new technologies meet old cultures to solve global problems.

The Territory's rebound has been strong. We are the Comeback Capital. Our current investment portfolio is worth over \$30 billion over the next five years. This is an 'INPEX sized' investment spread across the Territory.

Our NT Infrastructure Strategy 2022 to 2030 supports this growth through our vision of: *"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."*

The NT Infrastructure Plan and Pipeline provides a detailed roadmap to the investments that will enact our 2030 vision. Key infrastructure investments identified in the Plan 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 the 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 Territory has always had significant opportunities. Now is the right time to realise these opportunities for the benefit of all Territorians. The Territory is Australia's best investment.

# Executive summary

The Northern Territory Government has adopted a new Infrastructure Framework to align infrastructure planning and investment with the Territory Government's 2030 goals of a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs. The new Infrastructure Framework includes a refocused NT Infrastructure Strategy and Plan and the addition of an Infrastructure Pipeline and regular Infrastructure Audit.

Gross State Product



\$40 billion economy by 2030

Economic base



Diversifying our sectors and markets

Sustainable



Net zero economy by 2050

Employment



Creating 35 000 more jobs

Population



Boosting our population beyond 300 000





## The NT Infrastructure Strategy 2022 – 2030 (the Strategy) 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 Strategy articulates the industry sectors and enabling infrastructure ecosystems that are key to achieving the Strategy as well as the Northern Territory Government's 2030 goals. The Strategy includes four cross cutting objectives:

- 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.

This document is the first edition of the new NT Infrastructure Plan and Pipeline based on the new Infrastructure Framework. The new Plan and Pipeline splits the previous sector based project lists into funded projects and programs (the Pipeline) and unfunded proposals (The Enabling Infrastructure Plan).

The new NT Infrastructure Plan and Pipeline adopts a place-based approach by grouping projects, programs and proposals by national, territory-wide, regional and community significance. A place-based approach to infrastructure planning will provide better integration of government strategies and goals with community values, views and needs. It also aligns with existing Northern Territory Government policies of Local Decision Making and Regional Reconstruction and Development. Place-based planning recognises the unique characteristics and challenges for each region. It also highlights opportunities for common user infrastructure and synergies in infrastructure delivery to maximise the benefits gained from infrastructure investments.

Private sector investment and economic growth are intrinsically linked to population growth. Both economic and population growth directly affects infrastructure needs and subsequently influences investment decisions. This new Infrastructure 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.

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

The following summarises the implementation pathways contained in the NT Infrastructure Plan and Pipeline 2022.

Implementation pathway	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	25
Balance investment in social and economic infrastructure	25
<b>Support increased growth, productivity and innovation</b>	
Grow capacity and capability to lead and drive the development of northern Australia	27
Invest in infrastructure to increase the value of existing supply chains	27
<b>Improve liveability</b>	
Integrate place-based planning with local decision making and regional development strategies	28
Improve connectivity and equitable access	28
<b>Embed sustainability and resilience</b>	
Accelerate the delivery of sustainable development precincts	30
Consider economic, environmental, social, cultural and governance sustainability principles and resilience in infrastructure decision making	30
<b>Growing our population</b>	
Undertake ongoing monitoring and detailed analysis of economic growth in parallel with population growth to inform infrastructure needs	38
<b>Growing our economy</b>	
Annually monitor economic growth to match appropriate supporting infrastructure investment	59
Invest in regional infrastructure to support growth	59
Investigate rapid regional growth learnings from other jurisdictions to gain insights to apply to the Northern Territory's rapid growth challenges and opportunities	59
Adopt place-based approaches to planning for growth	59
Look at opportunities for co-investment in common user infrastructure	59

Implementation pathway	Page No
<b>Nationally significant projects, programs and proposals</b>	
Progress Stage 2 submission (options analysis) for enabling infrastructure to develop the Beetaloo Sub-basin (as all road upgrades are now funded, this will be for the remaining infrastructure required)	108
Progress Stage 2 submission (options analysis) for common user infrastructure at the Middle Arm Sustainable Development Precinct	108
Submit Stage 1 business/economic cases for: <ul style="list-style-type: none"> <li>• Central Australian tourism recovery</li> <li>• Regional logistics hubs</li> <li>• Marine Industry Park</li> <li>• Central Arnhem Road</li> </ul>	108
Remove and strengthen the listing, 'Enabling infrastructure and essential services for remote Northern Territory communities Wadeye, Tiwi Islands, Jabiru'	108
Accelerate planning for and delivery of residential, commercial and industrial land	108
<b>Territory-wide significant projects, programs and proposals</b>	
Plan for regional waste facilities	113
Develop options to ensure that entry level and affordable housing are in the market, including options to accelerate market participation by community housing providers	113
Complete Infrastructure Audit	113
<b>Greater Darwin significant projects, programs and proposals</b>	
Accelerate the planning for land release in Holtze and Kowandi so the first titles can be issued in 2024	143
Progress the business/economic case for Darwin Waterfront development	143
Progress the business/economic case for Darwin City Stadium	143
<b>Top End significant projects, programs and proposals</b>	
Progress Kakadu road upgrades	165
<b>Big Rivers significant projects, programs and proposals</b>	
Continue to progress Katherine Logistics and Agribusiness Hub	184
Undertake infrastructure planning for major private sector projects	184
Identify actions to alleviate accommodation pressures	184
Identify infill opportunities for accommodation, including consolidating existing government footprints by co-locating government services to free up land for development in Katherine	184

Implementation pathway	Page No
<b>Central Australian significant projects, programs and proposals</b>	
Accelerate design and delivery of further Kilgariff stages	201
Identify and take immediate action to alleviate accommodation pressures	201
Identify infill opportunities for accommodation, including consolidating existing government footprints by co-locating government services to free up land for development in Alice Springs	201
<b>Barkly significant projects, programs and proposals</b>	
Continue to progress the Mount Isa to Tennant Creek rail link planning	217
Undertake infrastructure planning for major private sector projects	217
<b>East Arnhem significant projects, programs and proposals</b>	
Continue with Gove Futures Program to identify enabling infrastructure for economic sustainment and future growth, particularly Gove Port	230



Above: Kilgariff Housing Estate. Credit: Land Development Corporation.

# 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 upgrade	1	96
Central Australia Tourism recovery	2	97
Common user infrastructure at the Middle Arm Sustainable Development Precinct	3	98
Darwin region water supply infrastructure upgrades – Adelaide River Off-Stream Water Storage (AROWS)	4	99
Digital industries		100
– DCI data centres	5	
– Hawaiki Nui subsea system	6	
– HyperOne high speed fibre cable	7	
– Inligo Network – terrestrial and subsea fibre cable	6	
– NEXTDC data centres	8	
– Vocus Darwin-Jakarta-Singapore fibre cable	6	
Ship Lift Facility (Darwin)	9	102
Enabling infrastructure for developing the Beetaloo Sub-basin	10	103
Marine Industry Park	11	103
Northern Territory remote community power generation program	12	104
Regional logistics hubs	13	105
Sun Cable – the Australia-Asia Power Link	14	106
Tanami Road upgrade	15	107

## Greater Darwin, Palmerston and Litchfield regions

Project	Map Reference	Page
Civic and State Square Precinct Revitalisation	16	124
Crowley Solutions – fuel storage facility	17	125
Darwin City Stadium	16	125
Darwin Waterfront Development	16	126
Defence strategic infrastructure and assets	16	126
Fort Hill Wharf activation	16	127
Humpty Doo Barramundi farm expansion	18	128
INPEX – Ichthys liquefied natural gas (LNG) onshore processing facility	19	129
Larrakia Cultural Centre	16	129
New Aerospace Manufacturing Precinct	20	130
Santos – Barossa and Bayu-Undan gas fields	21	130

## Top End region

Project	Map Reference	Page
Core Lithium – Finniss Lithium Project	22	156
Global Energy Ventures – Tiwi Hydrogen Project (Tiwi H2)	23	156
PNX Metals Limited – Fountain Head gold and Hayes Creek gold silver zinc	24	157
Primary Gold – Mt Bundy Gold project	25	157
Sustainable future of Jabiru and Kakadu	26	157

## Big Rivers region

Project	Map Reference	Page
ALEDA (Aboriginal Land Economic Development Agency)	27	174
Katherine Logistics and Agribusiness Hub	28	175
Keep Plains Agricultural Development	29	175
Lucapa Diamond Company Limited – Merlin Diamond Project	30	176
Northern Cotton Gin Development Group – cotton processing facility	31	176
Vista Gold Australia Pty Ltd – Mt Todd Gold Project	32	177
RAAF Base Tindal, Bradshaw and Delamere upgrades	33	178

## Central Australia region

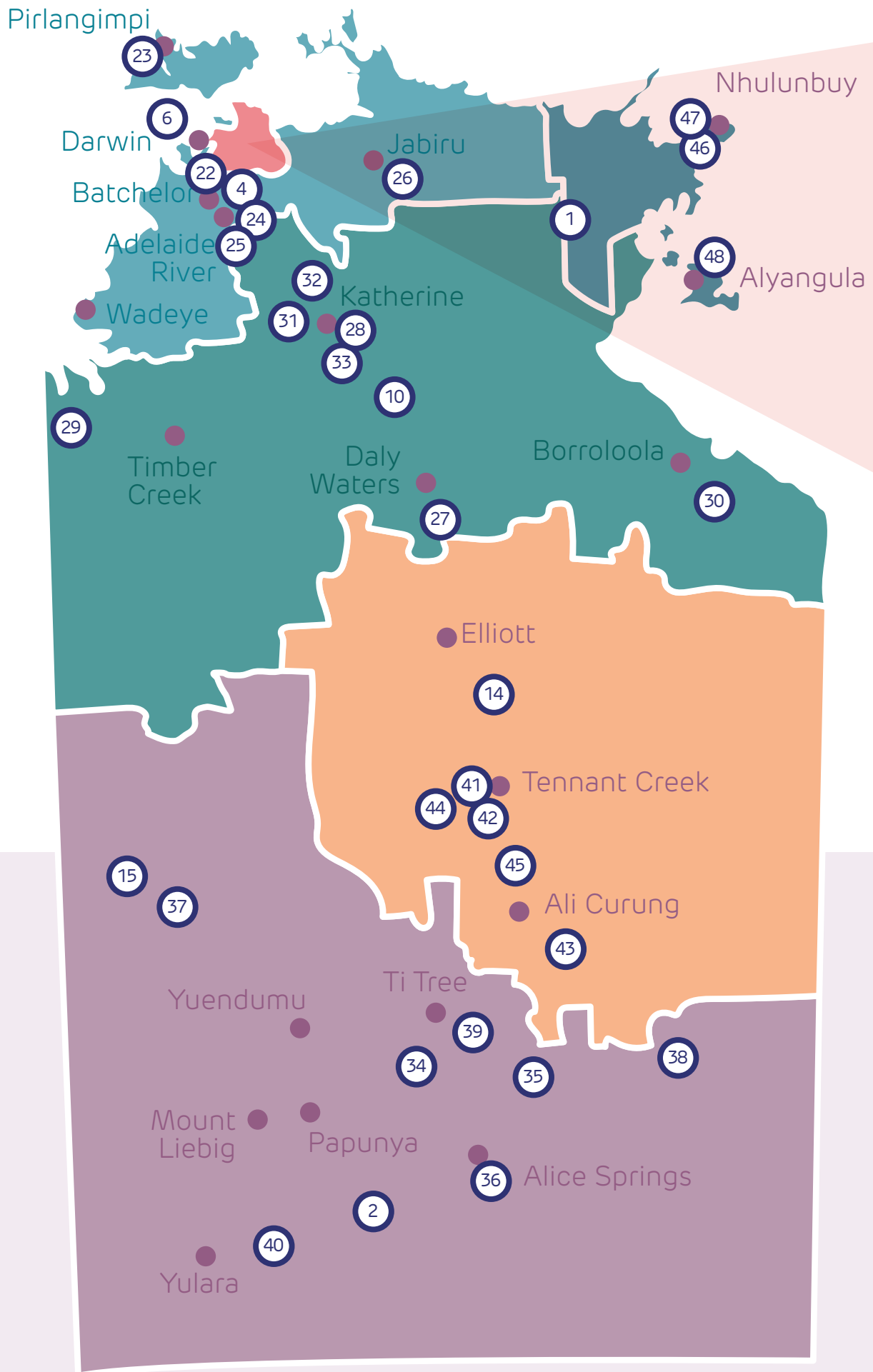
Project	Map Reference	Page
Arafura Resources – Nolans Project	34	192
KGL Resources Limited – Jervois Copper Project	35	193
Lasseter’s Casino and Resort redevelopment	36	193
Newmont – Granites Gold Mine expansion	37	193
Thor Mining – Molyhil Tungsten-Molybdenum-Copper Project	38	194
TNG Limited – Mount Peake Vanadium-Titanium-Iron Project	39	194
Verdant Minerals Limited and Parkway Corporate Limited Joint Venture – Karinga Lakes Potash Project	40	194

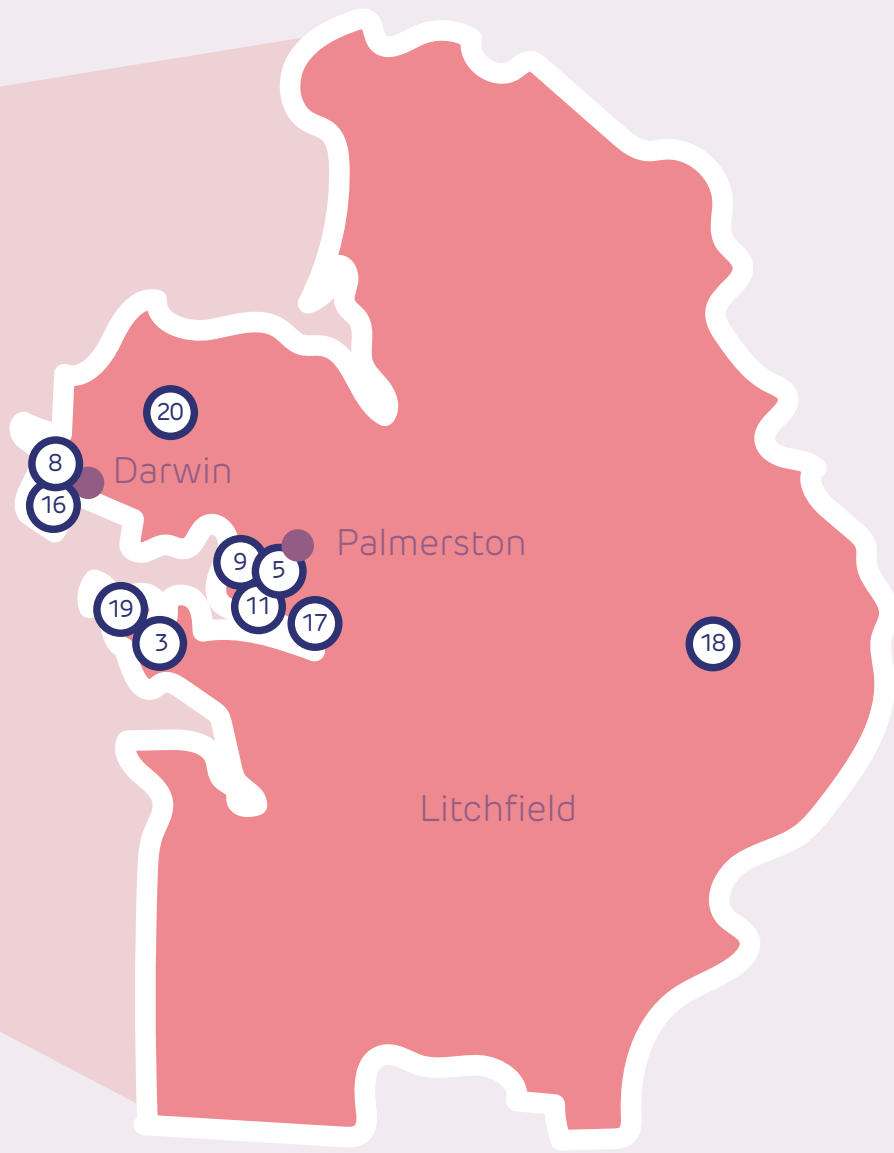
## Barkly region

Project	Map Reference	Page
Aqua Aerem – Desert Bloom Hydrogen	41	210
Castile Resources Limited – Rover Project	42	211
Fortune Agribusiness Funds Management Pty Ltd – Singleton Station	43	211
Tennant Consolidated Mining Group (TCMG) – Tennant Creek Gold Project	44	212
Verdant Minerals Ltd – Ammaroo Ammonium Phosphate Fertiliser Project	45	212

## East Arnhem region

Project	Map Reference	Page
Equatorial Launch Australia – Arnhem Space Centre	46	224
Nhulunbuy – Sustainable Development Precinct	47	226
Winchelsea Mining Pty Ltd	48	226





KEY

- Town/city
- 1 Project

TERRITORY-WIDE PROJECTS

- |  |   |
|--|---|
| <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin-right: 5px;">7</span> HyperOne  | <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin-right: 5px;">13</span> Regional logistics hubs |
| <span style="border: 1px solid black; border-radius: 50%; padding: 2px 5px; margin-right: 5px;">12</span> Northern Territory remote community power generation program |   |

# 1

## Introduction

The Northern Territory Government tasked Infrastructure NT with refocusing and reforming the current Infrastructure Strategy and Plan. To this end, Infrastructure NT developed the new Northern Territory Infrastructure Framework that has refocused the Strategy and Plan, but now also includes an Infrastructure Audit and Pipeline. The new Framework links the investment portfolio to economic growth and subsequently population growth to inform infrastructure planning and investment with Government's clear goals to be achieved by 2030.

The NT Infrastructure Plan and Pipeline are key elements of the new Framework that form the foundation of this document. This document has been informed by a broad range of stakeholders, each interested in different elements of the Plan and the Pipeline.

As the first edition of the new Infrastructure Plan and Pipeline, this is a transitional document. Further improvements will continue to be made with each ongoing, annual release of the Infrastructure Plan and Pipeline.

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.

The Investment Portfolio component summarises the anticipated investment that will occur in the next five 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.

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.

Taking a place-based approach, the Plan and Pipeline provides a clearer connection between local growth opportunities and the infrastructure investment to support that growth.

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

Clearly identifying projects that are funded (the 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.



Above: Darwin CBD Sunset. Credit: Anne Nguyen-Huyen, Maison Creative Pty Ltd ATF LPI Family Trust.

## 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 our population

Provides context for the need for our infrastructure ecosystems to keep pace with sustainable economic and population growth and to pave the road ahead for this growth

### Growing our economy

Provides a summary of the key industry sectors that contribute to the Northern Territory economy and how the current total investment portfolio could result in a step change in our economic and 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

## Developing the NT Infrastructure Plan and Pipeline



Details the key inputs and foundations of the Plan to inform government investment in infrastructure to achieve its goals and objectives

## A place-based approach



Details the projects, programs and proposals led by the private sector and the three 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 six 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 \$30 billion of capital investment in the pipeline over a five year period starting in 2022-23

## 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 to support population growth, wellbeing and quality of life for all Territorians

## 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

# 2

# NT Infrastructure Framework

The Northern Territory Infrastructure Framework (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.

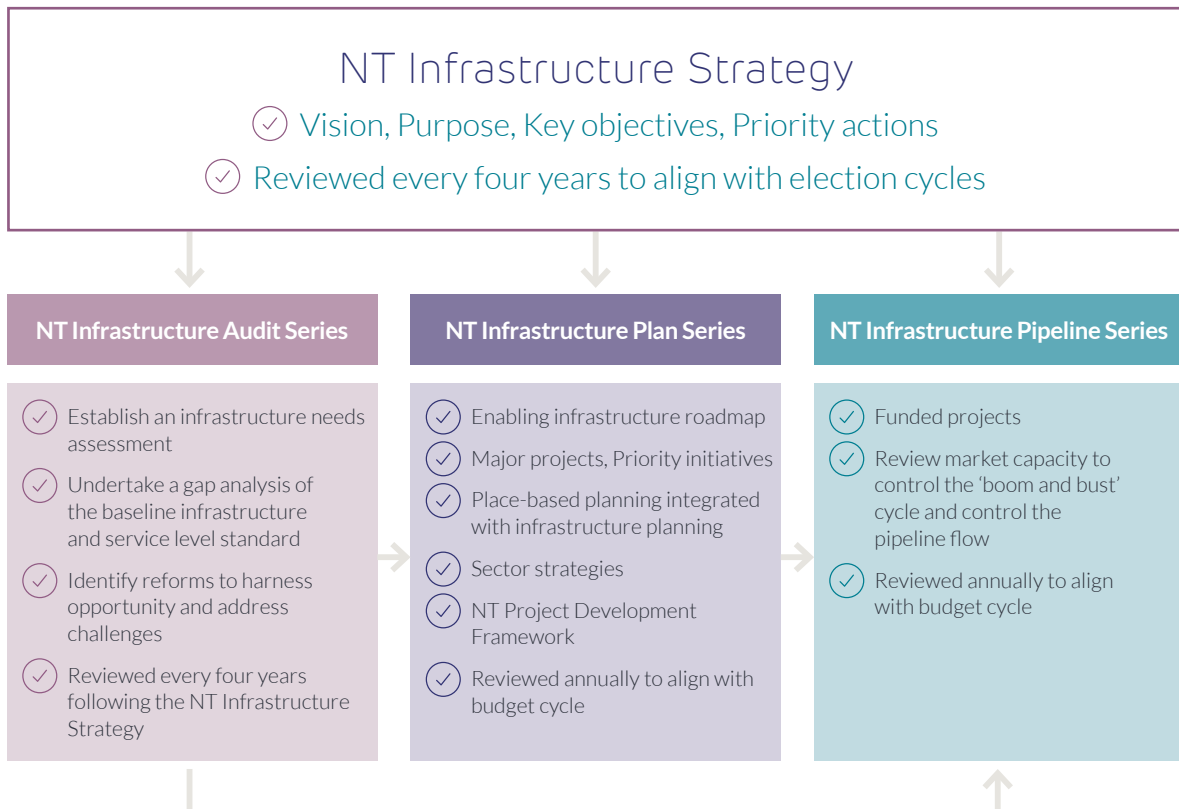
The Northern Territory Government plays a critical role in providing the framework for investment in transport and logistics, land, utilities (power and water, digital technologies) and social (health, education, policing, safety, housing and liveability) infrastructure on which our communities and economies depend.

The NT Infrastructure Framework is a place-based strategic plan that integrates land and infrastructure planning with economic development and population growth. This integration provides an opportunity to recognise and respond to the

implications for the entire infrastructure ecosystem. It provides more clarity on where to find efficiency opportunities across the infrastructure ecosystem.

It balances a stable long term set of priorities to encourage and de-risk public and private sector investment while maintaining flexibility to meet the demands of an uncertain future.

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



The NT Infrastructure Strategy sets the vision, purpose, key objectives and priority actions to prioritise and provide an evidence base for investment in Territory infrastructure. The Strategy identifies cross cutting objectives that support a more holistic vision for infrastructure development, enabling infrastructure ecosystems essential for economic and social development and emerging and established industry sectors.

The Infrastructure Audit will provide a gap analysis of the Northern Territory's infrastructure needs that will examine future challenges and opportunities and ways to respond to them.

This Infrastructure Plan and Pipeline provides a roadmap for infrastructure reform that responds to the challenges and opportunities identified in the Infrastructure Audit. The Plan identifies projects still under development and clarifies the relationship

to industry and sector strategies to create an overarching picture of infrastructure at a Territory, regional or community level.

The Infrastructure Pipeline articulates projects that will be delivered in the short term to enable industry to plan its workforce more effectively and manage market capacity issues.

Infrastructure continues to be central to the needs of Territorians. The NT Infrastructure Framework aims to deliver better infrastructure, improved infrastructure investment decision making and an improved quality of life for all Territorians.



Above: Asia Pacific Aircraft Storage Alice Springs Airport. Credit: Steve Strike.

# 3

# NT Infrastructure Strategy 2022 – 2030

The Northern Territory Government has a clear vision for 2030. By 2030, the Territory’s industries will be more diverse and productive, our population will be just tipping over 300 000, our regions will be thriving communities and our economy will be worth \$40 billion.

## Vision

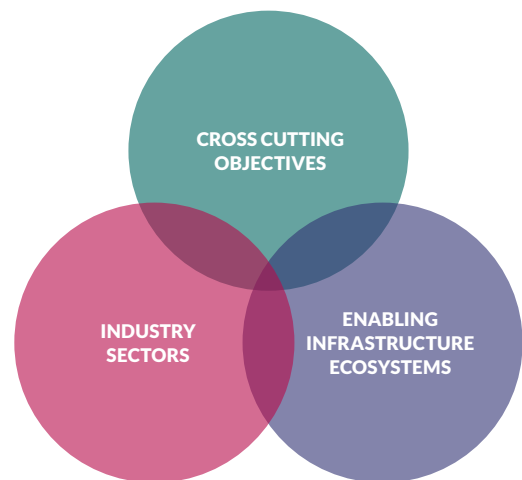
Infrastructure investment that enables growth of the Territory economy and population and supports wellbeing and quality of life for all Territorians, underpinned by sustainability and resilience.

To achieve the vision, the cross cutting objectives for infrastructure investment and implementation pathways are shown below and expanded in the following sections.

<p><b>Invest in the right infrastructure, in the right place, at the right time</b></p>	<p><b>Support increased growth, productivity and innovation</b></p>
<ul style="list-style-type: none"> <li>• Strategically plan new enabling infrastructure ecosystems to de-risk and secure investment</li> <li>• Balance investment in social and economic infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Grow capacity and capability to lead and drive the development of northern Australia</li> <li>• Invest in infrastructure to increase the value of existing supply chains</li> </ul>
<p><b>Improve liveability</b></p>	<p><b>Embed sustainability and resilience</b></p>
<ul style="list-style-type: none"> <li>• Integrate place-based planning with local decision making and regional development strategies</li> <li>• Improve connectivity and equitable access</li> </ul>	<ul style="list-style-type: none"> <li>• Accelerate the delivery of sustainable development precincts</li> <li>• Consider economic, environmental, social, cultural and governance sustainability and resilience in infrastructure decision making</li> </ul>

Infrastructure will play a key role in supporting sustainable economic and population growth. The NT Infrastructure Strategy 2022 – 2030 sets the vision for Government infrastructure investment. Getting the infrastructure investment right is crucial to winning private sector investment in the Northern Territory while balancing the social needs of a growing population.

There are three key elements that will influence the ability to achieve the Northern Territory Government’s vision – the industry sectors that will grow our economy, and subsequently our population, the enabling infrastructure ecosystems to support this growth and cross cutting infrastructure investment objectives.



## 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. Strategically planning and mindfully balancing investment in infrastructure to unlock the investment portfolio and support population growth will ensure we achieve sustainable growth over the longer term.

It is difficult to make decisions about infrastructure investments when there are so many needs and an envelope of affordable investment. Evidence based decision making helps ensure infrastructure investment is prioritised where it will have the most impact. The impacts of the infrastructure investment are dependent on investor objectives.

The Northern Territory Government is the largest, continual investor in economic and social infrastructure in the Northern Territory. The Northern Territory Government has a clear vision for growth – both population and economic. Infrastructure investment needs to target these two key drivers.

It helps to consider infrastructure as an ecosystem to understand the dependent nature of the different infrastructure types. For example, there is no point spending millions of dollars to upgrade and seal a road if it doesn't support economic growth or equitable access to social services. Similarly, there is no point building a training centre to service an entire region if the roads are cut for six months of the year. Considering infrastructure as an ecosystem enables us to modify our thinking from a one-dimensional project approach to an outcomes driven place-based approach.

Economic infrastructure includes, but is not limited to, roads, rail, airports, ports, water, digital, energy and common user infrastructure. Economic infrastructure supports businesses by connecting them to their markets and providing reliability for their customers and supply chains. Often, how quickly a business can establish itself is a key decision point for investors. Governments and cooperative infrastructure investors can use economic infrastructure as a mechanism to de-risk investment for potential businesses and attract them to be part of the Northern Territory's economic growth.

Social infrastructure is the human side of economic growth. Economic growth cannot occur without population growth. Social infrastructure includes buildings that support government services such as health, education and emergency services. It includes lifestyle and recreation infrastructure such as parks, sporting facilities and cultural venues. The Northern Territory needs to reach critical mass for our population to sustain continual economic growth. Investment in social infrastructure will ensure the wellbeing and quality of life for existing Territorians and attract more people to the Territory.

### Implementation pathway

Strategically plan new enabling infrastructure ecosystems to de-risk and secure investment

Balance investment in social and economic infrastructure

## Sustainable development precincts

The Territory is part of a globally competitive market for private sector investment, with competing jurisdictions actively developing opportunities to secure the same capital. To achieve our ambitions of a sustainable and diverse \$40 billion economy by 2030, it is incumbent on the Territory to establish a strategic approach to winning investment.

Actions that lower investment risk and accelerate approval timeframes will position the Northern Territory as the place where doing business is faster, smarter and aligned with our goals of both a sustainable and diverse economy by 2030 and net zero emissions by 2050.

A sustainable development precinct is an identified location within a master plan where proposed industrial activity or activities can be appropriately undertaken. With a clear purpose and vision aligned to sustainability principles, they will create an environment to develop supportive ecosystems that enable the Territory to capture greater downstream opportunities by delivering investment ready land supported by essential infrastructure and clear pathways to secure regulatory approvals.

Sustainable development precincts will offer a compelling proposition to investors as they will:

- ✓ embed sustainability principles to optimise economic, environmental, social, cultural and governance outcomes over the life of the precinct
- ✓ lower barriers for investment with construction ready sites and secure land tenure
- ✓ build business competitiveness by bringing together like-minded businesses to lower costs and stimulate the establishment of thriving ecosystems
- ✓ enable faster, cheaper and more reliable market access by co-locating projects

within a precinct and aligning them with the best available infrastructure, including transport and logistics hubs

- ✓ accelerate investment decision – through their proactive and pre-competitive environmental and planning studies, precincts will de-risk and enable earlier final investment decisions by individual projects
- ✓ lower investment risk by providing certainty about the growth prospects of the precinct by aligning with the Government's key strategies and plans
- ✓ catalyse regional economic growth by supporting regional supply chains.

The Territory Government is developing a Sustainable Development Precinct Framework to detail Government's approach to assessing and developing sustainable development precincts. The Framework will form part of the *Integrated Investment Delivery System* that coordinates activities across government to secure private sector investment.

Sustainable development precincts provide a good scale for sustainability innovation because they are large enough to pool resources and share services, but small enough to allow innovation that would not be possible in more traditional, capital-intensive approaches. At a precinct level, sustainability initiatives can be integrated across energy, water, waste and transport, as well as building social capital, that is often more difficult to achieve in smaller scale projects. Sustainable development precincts can deliver sustainable transport, common user infrastructure, energy efficient design, water and waste minimisation and develop and deliver infrastructure that is environmentally friendly and economically viable across its life cycle.

The Government has adopted five principles of sustainability – economic, environmental, social, cultural and governance – that will underpin all master planning for sustainable development precincts in the Territory.

## Support increased growth, productivity and innovation

To support this growth, we need to become more productive and innovative in our approach. We need to grow our capacity and capability for this growth and show our leadership to be the driving force to develop infrastructure that benefits not only the Territory, but northern Australia and the nation as a whole.

The Northern Territory's well known low base of infrastructure, vast distances and sparse populations intensify the need for optimal infrastructure investment yet also offer unique strategic opportunities and advantages.

Opportunity abounds to fully utilise Australia's underdeveloped north to enhance national resilience and capacity and to achieve national strategies to develop minerals, gas, manufacturing, agribusiness, Indigenous business, tourism and more.

A growing and more productive Northern Territory and northern Australia is beneficial to the nation by enabling a greater contribution to national gross domestic product (GDP) and strategic objectives. The opportunity for the Northern Territory to fully participate in wealth creation is not just about local jobs and benefits, but a matter of productivity that can improve the lives of all Australians.

National supply chain risks have been revealed and exacerbated in recent years due to the pandemic and resulting international destabilisation. Supply chains that fully utilise northern Australia can reduce pressure on congested southern networks and build national capacity, sovereignty and confidence.

The Northern Territory faces significant infrastructure challenges, however there is unprecedented optimism in an economic transformation in the next 10 years, led by private investment and the Government delivering the right enabling infrastructure in the right place at the right time.

The Northern Territory Government recently released the Business Innovation Strategy 2.0. The goal of the Business Innovation Strategy 2.0 is to develop a \$4 billion Territory innovation ecosystem to support achieving a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs in the Territory by 2030. The principles, which are equally applicable to infrastructure, include:

1. Think big, start small, learn fast, scale up through open innovation, human centred design and 4.0 technology.
2. Support, diversify and grow our innovation ecosystem to empower Territorians to innovate and commercialise more efficiently and effectively.
3. Collaborate locally, nationally and internationally to solve our own problems, strengthen our weaknesses and build on our capabilities.
4. Deliver innovation to support priority Northern Territory Government strategic objectives including Territory economic reconstruction, digital and Terabit Territory, science, technology, engineering and mathematics (STEM) in the Territory, climate change, and COVID-19 objectives.

### Implementation pathway

Grow capacity and capability to lead and drive the development of northern Australia

Invest in infrastructure to increase the value of existing supply chains

## Improve liveability

Population growth is an essential driver of the Territory's future economic prosperity. To grow our capacity and capability, we need people. Improving liveability is key to attracting and retaining people to live, work and ultimately call the Northern Territory home. Investment in social infrastructure will increase the wellbeing and quality of life for Territorians and ensure we attract and retain the growth in population we need.

Social infrastructure investment should support a diverse range of people including students, families in their many forms, singles and young and older people. A Territory lifestyle that is active, creative, culturally rich, socially diverse and safe, attracts visitors and creates a 'sticky' place that captures the hearts and minds to hold people for the long term. Integrating this with a place-based approach provides a clearer connection between local growth opportunities and the infrastructure investment to support that growth.

The Territory's unique lifestyle is intrinsically linked to the quality and ease of access to a diverse range of leisure and outdoor activities. Historically, the Territory's lifestyle has been linked to natural assets such as parks and waterways. Over time we have seen improvements to the quality of housing and the urban environment, social services and supporting infrastructure such as schools and health services. Critical to liveability is a built environment that supports community engagement in a variety of social, cultural, recreation and sporting activities.

Social infrastructure supports liveability by providing a safe and attractive built environment with reliable access to services such as health and education. Easily accessible health services improve the community's productivity. Quality education provides the foundation for future employment and develops community skills suited to where people live and the opportunities that place provides.

Lifestyle opportunities and liveability play an important role in defining a sense of 'place'. Working with local communities to develop place-based solutions is critical to unlock the potential of every place – from small communities and towns to larger regional centres. Infrastructure needs are based on local priorities that build on a place's capabilities and competitive strengths, or that reduces place-based disadvantage. A place-based approach to infrastructure planning and investment responds to key questions about a place and its people, including:

- What is special and unique about this location and its people?
- What can we do to improve liveability? For example, is there sufficient housing? Does it suit its location? Does it support a healthy, active and safe lifestyle?
- What can we do better to build strong, healthy, thriving communities? How can we leverage off technology, such as improved digital access to health and education? How can we better share and integrate infrastructure so that smaller places have better access to opportunities?

Responses to these questions will continue to evolve at the local and regional level. Guiding principles and lessons learned, coupled with future strategic trends and technological advances that change the way we live and learn, will inform plans and help develop responsive and adaptive social infrastructure.

### Implementation pathway

Integrate place-based planning with local decision making and regional development strategies

Improve connectivity and equitable access

## Responding to climate change

The Northern Territory's climate change response 'Towards 2050' proposes a well managed transition to a net zero emissions target by 2050. It is action orientated while providing a policy framework for the Northern Territory to proactively respond to climate risk, reduce greenhouse gas emissions across all sectors and maximise short term and long term benefits for the Territory.

The action plan will reduce exposure to economic risk, reduce cost, unlock opportunities and guide Northern Territory Government activity over the next three years as it establishes the foundation for building an effective response to climate change. The action plan will support energy transition and decarbonisation of our economy in a multi-faceted response, which includes:

- ✓ transitioning to renewable energy – 50% of total electricity in the Territory's electricity grid will be supplied through renewables by 2030
- ✓ promoting energy efficiency through education and adopting minimum design

standards and sustainability measures for new construction, already adopted by the Department of Infrastructure, Planning and Logistics

- ✓ supporting a transition to electric vehicles with supporting infrastructure
- ✓ improving urban design to mitigate heat
- ✓ leveraging the Territory's abundance of solar power to provide renewable energy to industry and support low carbon manufacturing and export industries including 'green hydrogen'
- ✓ supporting savannah burning programs that reduce emissions and deliver social, economic and cultural benefits to remote regions.

The Government is undertaking a climate risk assessment to guide understanding and assessment of potential climate risks on the day-to-day operations and service delivery of critical infrastructure and assets. This will assist in planning and implementing appropriate adaptation responses to reduce the level of risk exposure to government operations arising from climate change impacts.



Above: An electric car charging.

## Embed sustainability and resilience

Living in such uncertain times has changed the way we use infrastructure. With people choosing to work from home on a full time or part time basis, people are using roads and public transport less or for different reasons, digital connectivity is essential for business and healthy buildings have taken on new meaning. Combined with global instability and the effects of climate change, resilience and sustainability have never been more important.

This uncertainty and constant change requires us to think differently about infrastructure. Embedding sustainability and resilience in our

infrastructure decision making will ensure we can achieve our longer term goals. The Northern Territory has adopted Infrastructure Australia's four principles of sustainability, which is part of a national commitment to consistently apply a sustainability quadruple-bottom-line approach. Balancing outcomes across each of these areas will help communities function effectively in an equitable way, while not adversely impacting future generations and the natural environment. Given our rich Aboriginal history, the Northern Territory has adopted an additional component of sustainability – cultural sustainability.

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

Sustainable infrastructure is planned, designed, procured, constructed and operated to optimise economic, environmental, social, cultural and governance outcomes over the life of the asset. This is done in a way that ensures it supports the needs of society today without compromising the needs of future generations.

This differs from resilience, which focuses on the ability to mitigate and adapt to future uncertainty, including from the impacts of shocks and stressors, so that sustainable outcomes can be achieved. Resilient communities can resist, absorb, accommodate, recover, transform and thrive in response to the effects of shocks and stresses in a timely, efficient manner to enable positive, sustainable economic, social, environmental, cultural and governance outcomes.

Achieving resilience requires a shift in focus from the resilience of assets themselves, to the contribution of assets to the resilience of the 'system'. Cyclone shelters are a good example. Most Territorians would be familiar with police working with communities and an array of community people taking on leadership roles in a crisis that co-produces resilience, with the cyclone shelter just an enabler in the system.

### Implementation pathway

Accelerate the delivery of sustainable development precincts

Consider economic, environmental, social, cultural and governance sustainability principles and resilience in infrastructure decision making

Infrastructure NT is a member of the Infrastructure Sustainability Council of Australia, which is a member-based organisation to lead sustainability through infrastructure. 'Infrastructure sustainability' can be defined as infrastructure that is designed, constructed and operated to optimise long term environmental, social and economic outcomes.

Infrastructure NT is a member of Infrastructure Australia's cross-jurisdictional sustainability group.

Recognising the increasingly complex role infrastructure now plays in supporting resilience, Infrastructure Australia and Infrastructure New South Wales partnered on a research project to identify opportunities

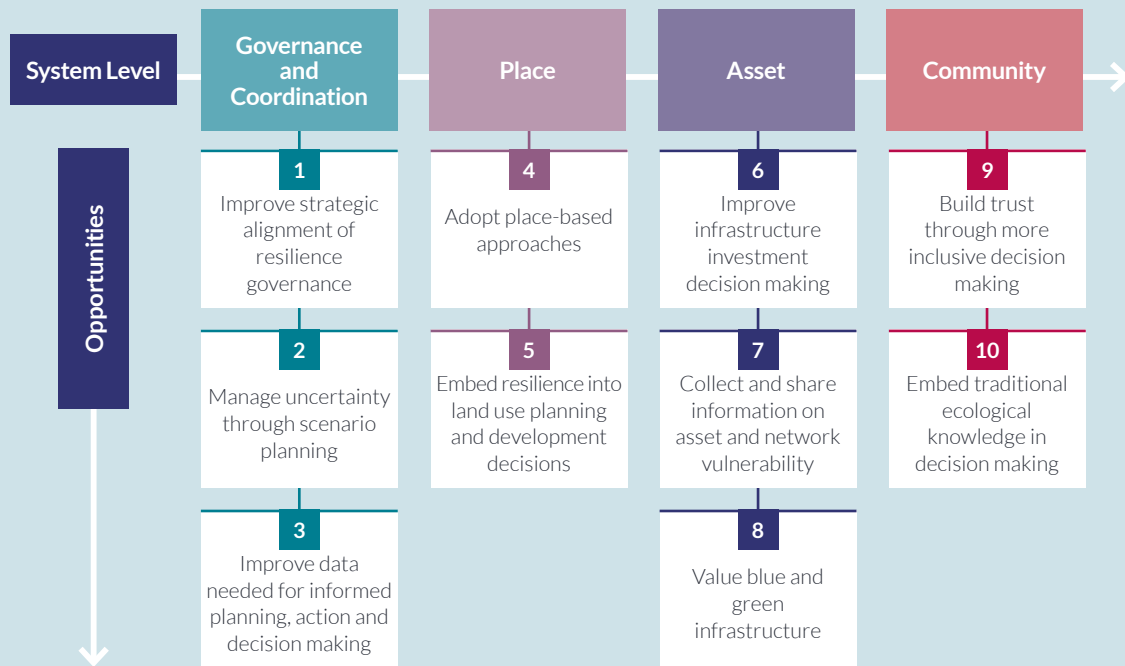
to improve how infrastructure is planned to increase resilience.

The research project Pathway to Infrastructure Resilience delivered two papers:

- ✓ Advisory Paper 1: Opportunities for systemic change identifies 10 directions for transformational and systemic change in infrastructure planning to achieve infrastructure for resilience
- ✓ Advisory Paper 2: Guidance for asset owners and operators in the short term identifies a series of short term actions for asset owners and operators as the first steps towards this change.

The Pathway to Infrastructure Resilience papers recommend a systems approach to infrastructure resilience that has been adopted by the Northern Territory.

The approach the Territory adopts for resilience is summarised below:





# 4

## NT Infrastructure Audit

Reliable infrastructure is a vital part of maintaining quality of life. Infrastructure provides us with essential services we rely on from transport, energy, water and telecommunications, to social infrastructure such as hospitals and health centres, schools, policing and parks and access to goods, such as fresh food.

While most of our infrastructure networks work well and support our everyday lives, it is important to consider what our infrastructure needs are now as well as in the future.

The Northern Territory Government is undertaking a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making and focus attention on the investments and reforms that will improve our living standards and local and national productivity.

The Infrastructure Audit will establish where we are now and where we want to be. It will document the gaps and constraints to achieving the Government's goals and infrastructure needs in the context of future challenges and opportunities.

Looking to the future, we face an unprecedented period of uncertainty with compounding issues of climate change, weather extremes and rapid technology changes that shape our day-to-day lives.

The impact of the COVID-19 pandemic has changed the way the community, businesses and government think about health, travel, transport, work, education, retail, manufacturing and digital connection.

This impacts how we plan our future infrastructure. We need a vision that adapts to change and manages risk.

The Audit to be released in early 2023 will:

- recognise infrastructure legacy issues
- provide a gap analysis of existing baseline infrastructure and service level standard
- identify reforms to harness opportunity and address challenges
- identify infrastructure that could unlock future growth and development and improve quality of life or productivity beyond the status quo
- provide a mid-term (2030) understanding of the infrastructure requirements to deliver on the Territory Government's goal of a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs by 2030 that includes expectations of liveable and environmentally responsible communities
- provide a longer term (2050) understanding of the infrastructure requirements to meet global and national emerging trends, such as a net zero emissions future and the impacts of climate change risks and opportunities such as the take up of electric vehicles.

The Infrastructure Audit 2022 is the start of how we can adapt existing networks to our changing user needs. The Audit covers transport and logistics, utilities, social and industry infrastructure across all regions in the Territory.

The Infrastructure Audit will be reviewed every four years to monitor progress and ensure it aligns with the NT Infrastructure Strategy and inform the Plan and Pipeline.

# 5

## Growing our population

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.

Innovation in service delivery, technology changes and upgrades to existing assets will form part of the response to population growth. However, there will be challenges in meeting the needs of a rapidly growing population that may require changes to the traditional methods of project procurement, partnerships and financing.

The needs of Territorians continue to evolve, driven by changing demographics, social expectations, technology and developments in best practice services delivery. Social infrastructure that supports the way we want to live, and improves the liveability of the Territory as a whole, must evolve and keep pace with the race to attract and retain population.

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

Examples include:

- harnessing the value of the creative industries to grow our economy and foster community wellbeing
- progressing high quality learning environments such as vertical schools in the central business district (CBD) that bring vitality and population growth to the city
- measuring the contribution of our natural assets such as national parks, which straddle important drivers such as increased tourism and liveability as well as environmental sustainability.

This 'systems' approach ensures the cross cutting themes in this Infrastructure Plan and Pipeline flow through and avoid the trap of planning around 'sector silos'.

### Historical population trends

Table 1 provides the historical populations in the Northern Territory from 2001 to June 2020. The averages reflect the maximum five and 10-year averages between 2001 to 2020.

The most recent five-year averages (June 2020) for major townships were either negative or flat, except for Palmerston and Litchfield. Achieving target population growth across all regions requires sustained growth over the next decade, which will be a dramatic turnaround from the past five years.



Table 1 – Historical population trends

Historical Trends (2001 to 2020)			
	Max 5-year average (%)	Max 10-year average (%)	Max annual growth
Northern Territory	2.2	1.8	6 153
Greater Darwin	2.8	2.5*	5 366
Rest of NT	1.5	1.0	2 048
<i>Major townships</i>			
Darwin	2.2	1.9	2 450
Palmerston	4.2	3.7*	1 837
Litchfield	4.8	4.0*	1 578
Alice Springs	1.3	0.6	602
Katherine	1.8	1.2	288
Nhulunbuy	3.2	1.5	278
Tennant Creek	2.7	1.4	122

\*constrained 10-year max (removed highest two results for Greater Darwin, Palmerston and Litchfield)

More recently, it seems that some of our major townships are experiencing a surge in population growth due to economic growth. A mix of micro-economic data and local intelligence suggests this is likely to continue and needs to be addressed.

## Target population growth

A Territory-wide population target of more than 300 000 by 2030 was defined in the Operation Rebound Green Paper and formed one of the key targets set for the Territory Economic Reconstruction Commission to reach a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs by 2030.

Regional and sectoral targets were not defined by the Green Paper or through the work of the

Territory Economic Reconstruction Commission. Table 2 provides regional population targets and indicative population growth required to reach a regional share of the overall Territory 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.

Table 2 – 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 2020)	Total population growth required
Northern Territory	300 000	246 143	53 857
Greater Darwin	189 390	147 231	42 159
Rest of NT	110 610	98 912	11 698
<i>Major townships</i>			
Darwin	92 456	83 050	9 415
Palmerston	58 186	39 017	19 169
Litchfield	38 739	25 164	13 575
Alice Springs	28 242	26 448	1 794
Katherine	12 204	10 710	1 494
Nhulunbuy	3 867	3 291	576
Tennant Creek	3 859	3 302	557

## NT Property Council renewed population strategy

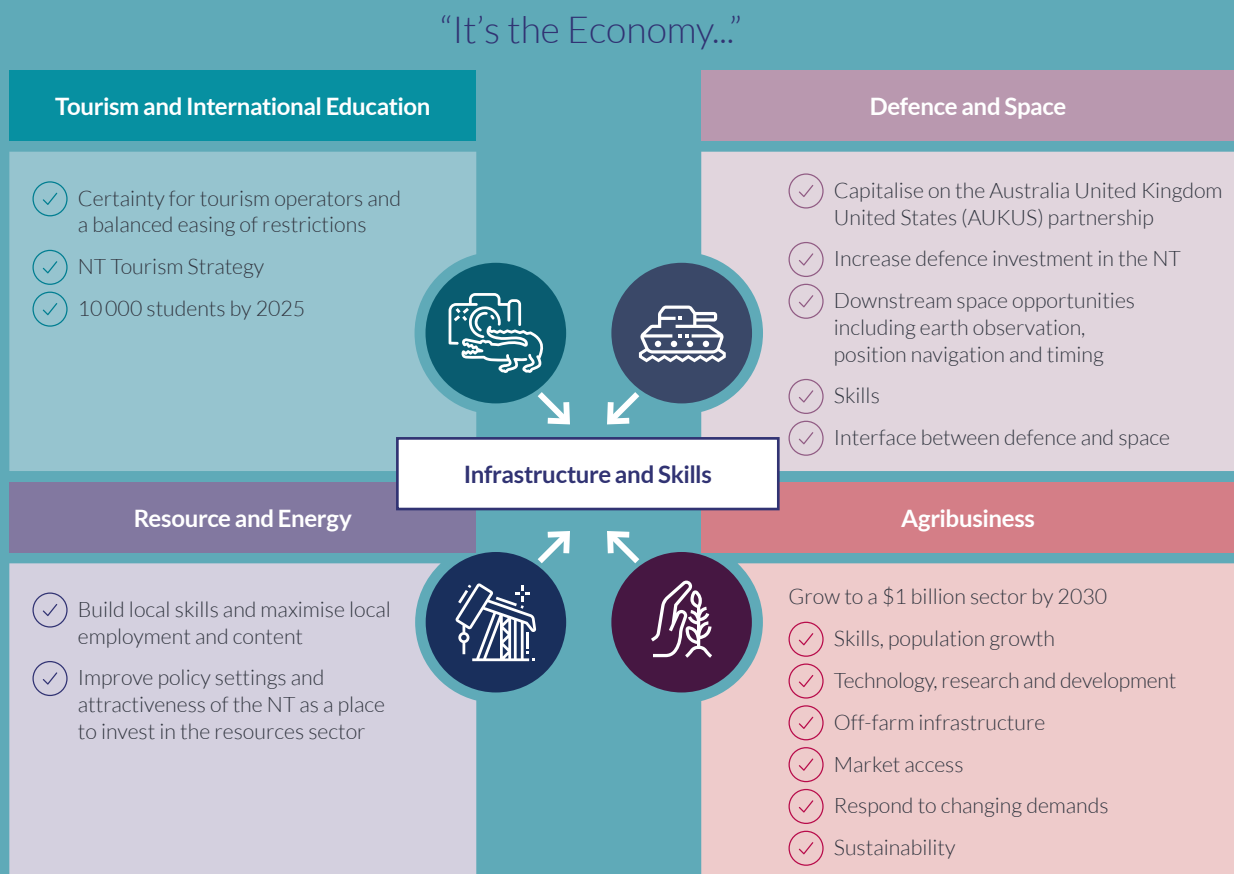
In February 2022, the Northern Territory Property Council released its report, *Recovery and Beyond – A Renewed Northern Territory Population Strategy*. The NT Property Council commissioned ACIL Allen to undertake this work, which reported the following:

- Low population growth has had a significant impact on the Territory economy in recent years and the impact of COVID-19 will exacerbate this in years to come.
- A renewed Northern Territory Population Strategy should be a key plank of the Territory Government’s economic recovery strategy and this is an opportunity for the Northern Territory to build on its success in managing COVID-19.
- In the fight for talent, it will be imperative that the Northern Territory attract and retain more young people to underpin workforce and economic growth.
- Skills and talent will be critical for the growth of key sectors in the Northern Territory and to maximise the local benefits from major developments and investments in the Territory.

The report looks at both a low growth and high growth scenario. The high growth scenario is based on 1.4% annual population growth that aligns with the Government’s Population Growth Strategy. The report states that under the high growth scenario the following results would be achieved by 2031:

- real economic output would increase by a cumulative total of \$20 billion
- a cumulative gain of 23 000 jobs
- an increase in dwelling demand of about 11 500 dwellings, worth an increase in new dwelling investment of \$1.1 billion
- a cumulative increase in Territory tax revenue of \$1.2 billion.

The report states that the sectors projected to record the highest change in real industry output include construction, transport, agriculture and services. However, the NT Property Council recognises the importance of integrating the population strategy with the economic development of all sectors of the economy.



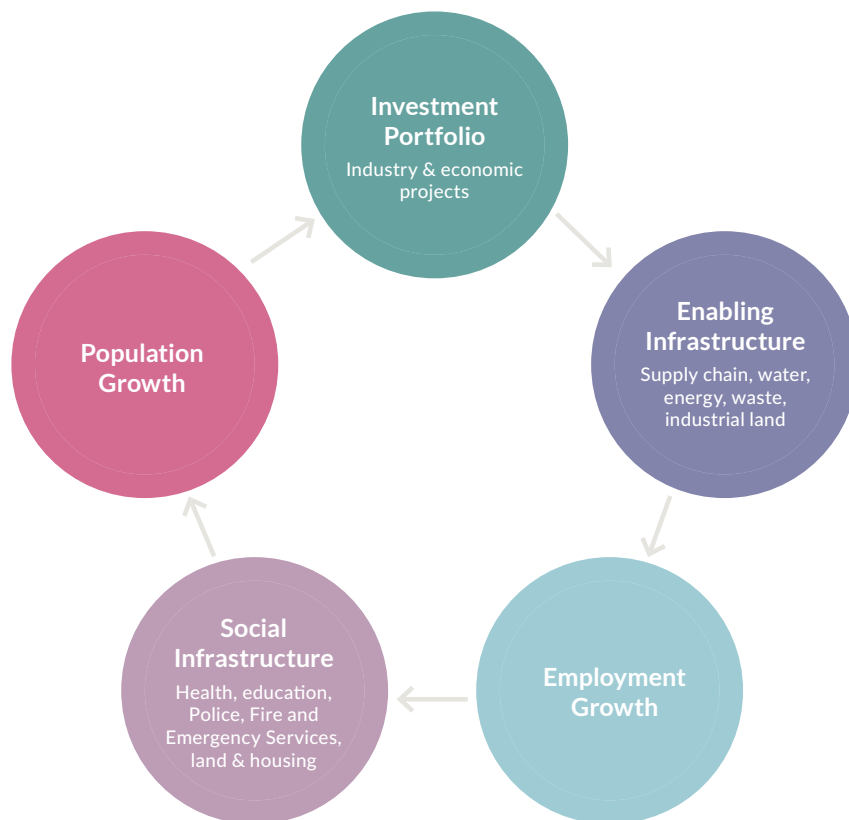
The NT Property Council recommends the following policy levers:

- double the intake of independent skilled migrants and better target to skills in demand
- reduce the loss of young people and families interstate to net zero over 10 years
- attract a growing share of business migrants and business investment
- better support humanitarian migration into the Northern Territory
- increase the level of chain migration through families and friends
- reboot international education
- invest in urban infrastructure
- improve housing affordability
- significant increase in resources and accountability for Migration NT.

## Implementation pathway

Actual population growth will reflect economic growth. As we start to see more economic growth and new businesses and major projects are established, more people will be required to fill the new jobs being created both during construction and ongoing. The magnitude of 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.

It is imperative that we connect, analyse and understand the links between the economic growth and population growth to ensure that our infrastructure ecosystems keep pace with both economic and subsequently population growth. The cyclic nature of this growth pattern is depicted in the diagram below.



### Implementation pathway

Undertake ongoing monitoring and detailed analysis of economic growth in parallel with population growth to inform infrastructure needs

# 6

## Growing our economy

To grow our economy and secure new investment, we need a strong, clear value proposition. We need to acknowledge and respond to global trends and growth opportunities by harnessing our strengths and comparative advantages and addressing our challenges.

To understand our current economic landscape, the infrastructure, major projects and investment commissioners analysed the investment portfolio of work that would support jobs over the next five years. The commissioners reported to Government that there is more than \$30 billion worth of projects in the investment portfolio for the next five years. This investment portfolio comprises \$4.5 billion of Government led major projects, \$8.5 billion investment from the gas industry, \$4.5 billion known Defence investments and \$20+ billion other private sector led investments.

The Deloitte Access Economics first quarterly report for 2022 further reinforces this growth analysis, forecasting that economic growth in the Territory in 2022 will be the strongest in the nation after New South Wales, at 6.9%.

Our traditional industry strengths are likely to continue to grow our economy based on

current global trends. The Territory Economic Reconstruction Commission identified five global trends the Territory is well placed to take advantage of – digitisation, deglobalisation, sustainability, regionalisation and inclusive and just societies. Due to global uncertainty, we cannot sit back and wait for things to happen. Shifting gear and driving our economy toward a sustainable economic future will require integrated strategic planning and targeted investment. Infrastructure will play a key role in supporting this by putting in place the key enablers to underpin economic and population growth.

The NT Infrastructure Strategy 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 as per Figure 1 on page 40. Each industry sector is explored in more depth in subsequent sections.

### Investment portfolio (\$ billions)

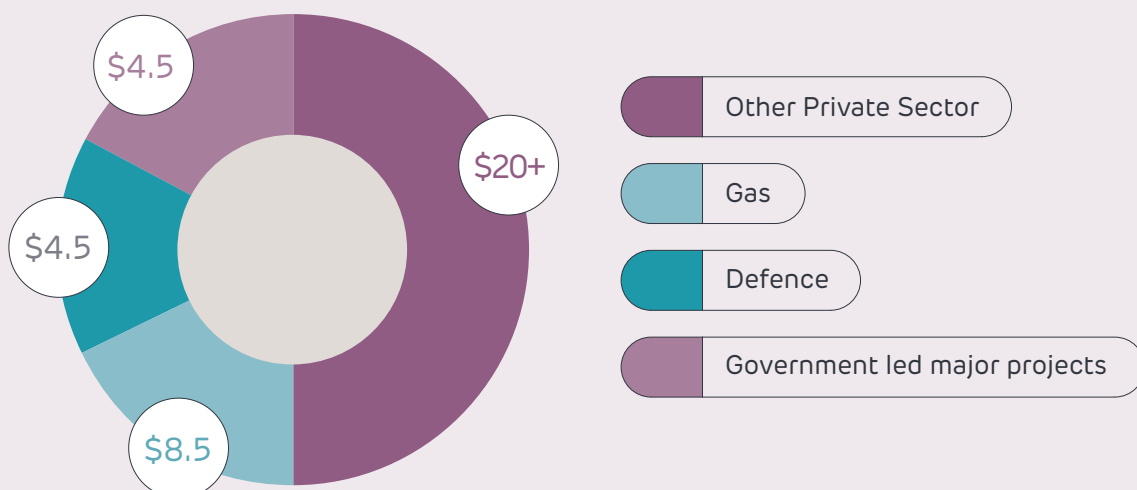


Figure 1 – Northern Territory key industry sectors



The Northern Territory Government has also recognised the importance of meaningful collaboration and partnering with the community to achieve economic and population growth. The Regional Development Framework and Regional Reconstruction Committees will play an important role providing advice to government on actions that will have a local impact. Page 54 provides the details of this important policy and how it relates to infrastructure planning and investment.

To further understand the impact the economy will have on infrastructure, page 36 summarises the analysis that determines the potential population growth arising from the expected economic growth. Understanding the future population growth and where it is expected to occur, is critical in making informed infrastructure investment decisions.



Image: Seafood Processing.

## Case Study

### Government Facilitated Investment Projects – Seafood Processing Facility

The Northern Territory Government is actively seeking to identify and assess Facilitated Investment Projects to grow private sector investment and jobs. Facilitated Investment Projects:

- ✓ are a commercial opportunity not currently being pursued by the private sector
- ✓ are a project of scale, with capacity to deliver long term economic benefits for the Territory
- ✓ have the commercial potential to attract private sector investment
- ✓ align with regional and industry growth strategies
- ✓ have a clear role for government.

Facilitated Investment Projects create a pipeline of opportunities for the private sector. They supply a pipeline of projects for commercial facilitation by scoping projects, developing business cases and pre-feasibility studies. Facilitated Investment Projects bring forward investment that might otherwise be delayed or not occur and can support key industry and/or precinct development.

In 2020, the Northern Territory Government and the Northern Territory seafood industry identified the need for an assessment on, if and how the Territory could retain more value from seafood products harvested from within the Territory.

The Northern Territory Government conducted a scoping study for a seafood processing facility in Darwin. The study identified the need and assessed the potential value-add of processing seafood in the Territory. The study revealed:

- there is currently limited seafood processing in the Northern Territory
- most Territory seafood is sent to southern states for processing
- there is significant value that is not being captured in the Territory.

Following the study:

- a register of interest was released to industry to capture interest and select working group participants
- site feasibility analysis was completed as a starting point to inform industry workshops
- workshops considered products, customers, export opportunities, volume constraints, supply chain limitations, potential site viability, potential for commerciality, governance structures and the path forward over the short, medium and long term.

The identification and assessment of this potential Facilitated Investment Project has provided the opportunity and created the momentum for a future private sector led seafood processing facility.

The next steps will be detailed site selection and solidified private sector and Government direction.



*Australia has the highest average solar irradiation per square metre of any continent in the world – with the strongest residing in the Territory with an average annual solar radiation of 22 to 24 megajoules per square metre*



*Manufacturing is currently only 4% of the Territory's output presenting a prime opportunity for economic transformation with a number of manufacturing projects being considered in the Territory*



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

The Northern Territory by nature is a pioneering economy – the gold rush, buffalo and camel industry, crocodile products and Barramundi aquaculture.

Resource rich, the Territory has always focused on our raw products – minerals, cattle, mangoes, gas, seafood and timber.

As we continue to build onto these critical sectors it is time to pivot and turn to developing new and emerging industries to benefit the Territory.

Manufacturing is a key opportunity and critical driver for future economic activity that will help transform the Territory's economy.

The Territory is rich in raw, natural resources – solar, world class gas and mineral deposits and fertile soils.

We often export these natural resources. However, there remains a significant opportunity to add more value to these products through manufacturing. Raw materials we currently export can be leveraged to transform and modernise the Territory's industry through advanced manufacturing.

The Northern Territory Government is working with the Advanced Manufacturing Growth Centre to identify manufacturing opportunities, including base and critical

mineral processing, food, renewable hydrogen, petrochemicals, recycling, defence and space industries.

By investing in manufacturing, the Territory can diversify our economy and attract a higher skilled and higher paid workforce.

One example is the Territory's first lithium mine. In 2021, Core Lithium started constructing the Finnis Lithium Project. In March 2022, Core Lithium signed a contract with Tesla to provide lithium spodumene concentrate to manufacture batteries for electric vehicles.

Electric vehicles, which can also be powered by hydrogen, are a growing market in Australia, with a 200% rise in electric vehicle sales since 2019. The Territory is well placed to provide the raw materials such as lithium and hydrogen and there is an opportunity to create more value in the Territory by also manufacturing the components.

The Territory has embraced a target of net zero emissions by 2050 and is positioning 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 Territory is well on its way to reaching its goal of 50% of renewables for electricity supply by 2030 with new large-scale renewable generation and energy storage in the Darwin-Katherine electricity system to increase the role of renewables in our energy supply. The project will see a large scale battery energy storage system built for the Darwin-Katherine power grid to help manage the uptake of household and business solar.

Major project proponent Sun Cable is using solar resources in the Territory to help decarbonise Singapore. The Sun Cable project will build 12 000 hectares of solar array near Tennant Creek to send renewable electricity to a battery storage facility in Darwin and then via an undersea cable to Singapore.

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.

Carbon capture is an emerging technology to reduce emissions to meet net-zero emission targets. Both INPEX and Santos, located on the Middle Arm peninsula, are undertaking project feasibilities for carbon capture and storage to reduce their emissions to low and zero emissions.

The Government is investing in growing Territory capabilities in advanced manufacturing through the Northern Territory Advanced Manufacturing Ecosystem Fund (AMEF).

While we are grounded people, the Territory has its eyes on the skies to develop the aviation and space industries.

The Territory's proximity to the equator, low population, clear skies and low light and noise pollution make it the perfect place to develop space infrastructure, including launch facilities, high altitude pseudo-satellites, ground station operations and downstream space industries.

The Arnhem Space Centre near Nhulunbuy in the East Arnhem Region is leading the way with a

commercial launch facility being built by Equatorial Launch Australia.

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.

Increased data connectivity in the Territory will fast track our space, aviation and manufacturing capabilities. The Territory has attracted a number of digital infrastructure projects in Darwin.

### Northern Territory Space Strategy 2022–2026

The Northern Territory Space Strategy 2022–2026 provides the framework to grow the size, scope, capability and commercial sustainability of the Northern Territory's space sector, and to support Australia to develop as a significant player in the global space industry.

The Northern Territory Government has identified five focus areas and accompanying actions.

To grow the local space economy and enhance industry capability, the Northern Territory will:

- attract and facilitate new investment
- encourage strategic place-based industry development
- support integration of the space industry with the broader economy
- establish conditions for workforce development
- support collaborations that enhance the development of the Australian space ecosystem.

The vast majority of recent and forthcoming space industry investment is in the Northern Territory's regions, unlocking new growth opportunities.



*Territory agriculture and aquaculture industries are worth \$1.3 billion*



*The Territory 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 beef industry is worth \$1 billion and drove much of the Territory's early infrastructure development*

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.

There are opportunities to diversify our agriculture, fisheries and horticulture sectors across the vast landscape of the Northern Territory.

The Northern Territory covers over 1.3 million square kilometres of the Australian continent.

Five times the size of the United Kingdom and twice as big as Texas, the Territory's climate ranges from tropical savannah in the Top End to semi-arid in the Barkly and Central Australia regions.

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 Territory produce includes succulent mangoes and melons, juicy oysters, tasty Barramundi, hearty beef and healing Kakadu plum.

Guided by soil type, climate and water resources, the Territory's agribusiness industry includes forestry for manufacturing and beauty products, wild capture of Tropical Snapper, Spanish Mackerel and Mud Crab, aquaculture such as Barramundi, Trepang, oysters and prawns, beef, crops of melons, vegetables, table grapes and tropical fruit.

Our cattle, tropical fruit and fibre, seafood, Asian vegetables and protein crops including cotton, sorghum and soybean are exported to international markets via the Darwin Port or Darwin International Airport.

International markets include South East Asia, China and the United States of America.

The aim is to grow the economic contribution of the agribusiness sector in the Territory to \$2 billion by 2030.

Opening up land for agriculture with the support of appropriate water resources will see the Territory's agribusiness sector expand to reach this goal.

Partnering with Aboriginal-led or owned groups is key to this strategy.

About 47% of the Territory's land mass and 85% of its coastline is Aboriginal land, offering economic and social opportunities for Aboriginal Territorians.

Sustainable development precincts are being developed in Keep Plains in the Big Rivers region and Wildman in the Greater Darwin region. Finding new agribusiness opportunities like these on greenfield sites are a priority.

Hand in hand with this is the opportunity to develop Aboriginal owned agribusiness enterprises to create new sustainable industries and jobs on country.

Successful trials of broad acre crops such as cotton and peanuts are leading to an investment in upstream processing industries such as cotton ginning in the Big Rivers region.

Opportunities to add value to the Territory's agribusiness sector includes processing and manufacturing as well as prioritising biosecurity.

The Northern Territory Seafood Council is investigating potential sites for a commercial seafood processing facility in Darwin to increase export opportunities.

A recent scoping study found that limited seafood processing is carried out in the Territory and the majority of local seafood is sent to southern states for processing, which highlights an opportunity to add value to the local seafood industry by producing niche seafood products in the Territory.

Biosecurity is key to supporting the growth of agriculture and security supply chain integrity by managing plant and animal disease risks. The Territory has built a biosecurity containment level three facility in the new Molecular Laboratory as part of the world-class biosecurity capacity within the Berrimah Farm Science Precinct upgrades.

### Agribusiness and Aquaculture Strategy

Developing a new Agribusiness and Aquaculture Strategy has been identified as an important catalyst to drive economic growth in the sector.

The Strategy will aim to establish a set of strategic priorities to guide the development of key actions to chart a pathway for sustainable agribusiness and aquaculture development.

The following four draft strategic priorities have been identified to be included in the strategy following workshops with agribusiness and aquaculture industry peak bodies:

- grow
- protect
- adapt and innovate
- engage.

Protecting supply chains and building biosecurity capacity in industry is critical to growth along with value-adding with new cold storage, meat, fruit, vegetable and seafood processing to diversify the economy.

Machinery, technology, education, transport and logistics, environmental and land management services and climate change management are all important to 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.

### NT Beef Industry

The cattle industry is the largest economic contributor to the Territory's primary production sector.

A total of 272 153 head of Territory cattle were exported to South East Asia in 2019–20, with the value of production estimated at \$302.9 million.

Major export markets for Territory producers are Indonesia, Vietnam, Malaysia, Thailand, the Philippines and Brunei.

A total of 405 997 head of cattle were sent interstate in 2019–20, with the value of production estimated at \$451.9 million.

The Territory beef industry employs people directly and indirectly – from cattle producers, station hands and truck drivers, to mechanics, shop assistants, scientists and public service.

The pastoral industry relies heavily on road transport for moving livestock and produce. Road quality, reliability and accessibility issues are major concerns for the industry.

Access to year round use of sealed beef roads will significantly benefit the existing industry and facilitate accelerated growth of an industry with considerable economic potential.



*Two million overnight visitors spent almost \$2.6 billion in the Territory in 2019 – 85% of these visitors were domestic visitors*



*By 2030 holiday visitors to the Northern Territory are projected to reach between 1.18 million and 1.45 million*



*By 2030 overnight visitors are projected to spend between \$3.01 billion and \$3.67 billion in the Territory*

The Northern Territory is different in every sense – our ancient Aboriginal culture, crystal clear water in our natural springs, our vivid sunsets, fresh desert air and the infusion of local and international flavours.

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

The Territory has world class heritage and national parks, including Uluru-Kata Tjuta and Kakadu, and one of a kind, dramatic landscapes combined with soul inspiring wide open spaces.

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 places around the world.

Research has shown that the Territory is viewed as the best location in Australia to experience Aboriginal cultures authentically. Visitors to the Northern Territory experience a land rich in culture, with one quarter of our population Aboriginal Australians compared to 3% nationally.

The tourism industry in the Territory is poised to target new experiences within each of its regions, including heritage tourism to showcase our military and pioneering history, youth tourism such as international study tours and edu-tourism, and adventure outdoors experiences including fishing, birdwatching, mountain biking, hiking and four-wheel driving.

We need to protect the biodiversity and cultural significance of our national parks and cultural sites with a balanced approach to development that is sensitive to our natural and cultural landscapes.

Investing in the Territory’s remarkable assets in each of our regions will help us protect our natural landscapes and culture while improving infrastructure to enable more people to experience them.

To target the growing middle class in Asia who are eager to travel, the Territory needs to lift the quality of its products and experiences to satisfy this selective market.

Destination Management Plans for the regions have identified a number of core infrastructure projects to expand the tourism experience and facilities in the Territory.



*1.278 million interstate holiday visitors came to the Territory in 2021 – 99% of all holiday visitors*

*By 2030 overnight visitors to the Northern Territory are projected to reach between 2.51 million and 3.03 million*



*The NT has seen losses of \$334 million in domestic overnight expenditure from March 2020 to December 2021 due to the impact of COVID-19. Combined with the \$414 million lost from international markets, this puts the Territory's tourism losses due to the pandemic at over \$749 million*

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

These projects include revitalising Darwin city under the Darwin City Deal including the new art gallery, a master plan to transition Jabiru from a mining town to a vibrant and sustainable tourism hub with infrastructure to support Kakadu National Park, a master plan for Uluru-Kata Tjuta and Yulara, the National Aboriginal Art Gallery in Alice Springs and an Aboriginal Arts Trail linking key cultural experiences through the Territory's centre.

Infrastructure on routes used by self-drive tourists open up roads that are otherwise inaccessible during wet periods, providing access to local communities and enabling Territorians and tourists to travel more easily.

Darwin has first point of entry to Australia status for cruise ships and over the past decade the number of days cruise ship passengers visited our capital city more than doubled from 29 027 days in 2009–10 to 60 205 days in 2019.

The growing superyacht industry in the Territory will be supported by investment in marine infrastructure, which will enable the resources and manufacturing sectors. A scoping study showed that the superyacht industry could contribute as much as \$146 million to the Territory economy by 2028.

To make the most of the Territory's tourism advantages, there needs to be investment in tourism infrastructure including accommodation, road, air, maritime and

places to celebrate our art and culture. Improving access to tourism sites and digital connectivity will support our tourism industry sector and enhance our customer experience.

**Tourism Industry Strategy 2030**

The Northern Territory's Tourism Industry Strategy 2030, co-developed and co-designed with industry, sets the direction of tourism in the Territory for the next 10 years. The strategic framework is designed to unite efforts across the public and private sectors and shift performance of the tourism sector to one of sustainable growth.

The strategy identifies six priority objectives that, if delivered, will make a real impact on the trajectory of tourism in the Territory including:

- grow investment in the Territory's remarkable assets, product and regions
- strengthen and showcase the Northern Territory's distinctive Aboriginal cultural tourism experiences
- grow the value of the holiday market in the Northern Territory through strategic marketing activities
- leverage and build events to drive visitation
- develop ongoing access to and within the Northern Territory
- increase recognition of the value of tourism to the Northern Territory.



*The Territory has 306 heritage sites*



*Creative Industries in the Territory were valued at \$735 million in 2018*



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

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

*87 parks and reserves offer a multitude of outdoor experiences to Territorians and visitors alike with 3.33 million visitors a year*

*More than 200 000 people visit our museums and art galleries each year*

People live in the Territory because they love the relaxed lifestyle, choice of outdoor activities and the chance to immerse yourself in nature.

Fishing, watching a community or sporting event, camping in a national park or reserve, joining in festivals and cultural activities, visiting a museum or art centre and enjoying laksa at a local market are what makes us feel like Territorians.

One of our most valued pastimes is to relax and reinvigorate ourselves while swimming, hiking or camping in our park estate, with some of the most popular national parks in the world including Uluru-Kata Tjuta, Litchfield, Limmen, Watarrka, Kakadu and Nitmiluk.

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.

Our natural environmental and rich history has attracted creative industries to the Territory. Iconic Australian movies such as *Crocodile Dundee*, *Top End Wedding*, *Sweet Country*, *Priscilla*, *Queen of the Desert* and Baz Luhrmann's *Australia* have all used the Territory's incredibly beautiful and varied landscapes as the backdrop for many classic movie scenes.

The Territory is home to some of Australia's most iconic events – Darwin Festival, BASSINTHEGRASS, Garma Festival, Barunga Festival, V8 Supercars, Finke Desert Race, World Solar Car Challenge and RedcentreNATS. Our market culture is very strong with most regional centres supporting at least one weekly market.

Sport is a strong unifier and popular activity for Territorians and the Territory Sports Academy is located at the Marrara Sporting Precinct in Darwin to build up the next generation of sports people.

The Michael Long Learning and Leadership Centre, based in Darwin and a first for the Territory, is designed to harness the power of AFL football in the Northern Territory to give young Aboriginal Territorians the same opportunities as all Australians. The Centre has a focus well beyond football, delivering education programs for Aboriginal students from remote areas. School attendance, engagement, good behaviour, completion of secondary education and work readiness are some of the many outcomes the Centre's education programs focus on improving.

The Centre has accommodation facilities for up to 72 people, a state-of-the-art gym and pool/recovery centre, education spaces and corporate facilities for functions and events.

A high class, multi-purpose professional sport and entertainment venue is being proposed in Darwin, with AFL Northern Territory planning to build a 25 000 seat Darwin City Stadium to attract more world class events in the heart of the city.

There are activities from the Territory's past to enjoy such as fossicking for gold and other precious metals or historical military items.

New generations and the young at heart enjoy mountain biking around trails along the rugged landscapes of Alice Springs (Larapinta trail), Nitmiluk National Park, Casuarina Coastal Reserve and Charles Darwin National Park, as well as local urban bike trail networks.

Our rivers and oceans are magnets for water activities including canoeing or kayaking in Nitmiluk Gorge, jet skiing, diving or sailing in Darwin Harbour and the azure blue Arafura Sea.

Music brings us together in the Territory and our local performers and musicians celebrate the uniqueness of our landscapes as well as our stories.

The Darwin Symphony Orchestra performs in all corners of the Northern Territory from floating on pontoons on a sunlit Nitmiluk Gorge, making beautiful music on a working barge on Darwin Harbour to being the first symphony orchestra to perform at our iconic Uluru.

Our festivals bring our different cultures, ages and experience together for everyone to enjoy – locals and visitors alike.

The Parrtjima, A Festival in Light, event is a 10-night festival in the stunning Red Centre featuring light installations on ancient landscapes, artworks and performance that attracted 15 300 unique visitors in 2021.

Darwin Festival is Australia's most northern and only tropical festival and was created to celebrate the town's revival after it was almost destroyed by Cyclone Tracy in 1974.

## Comments from Sentinel Property Group CEO Warren Ebert – purchase of Casuarina Square

Over the past six years, Sentinel Property Group has heavily invested in the Northern Territory, a region that has an enormous couple of decades ahead of it.

In early 2022, Sentinel completed the \$418 million purchase of the Territory's largest shopping centre – Casuarina Square – from GPT Group. This was Sentinel's all-time greatest acquisition, the largest sale price for a commercial property north of Brisbane and also the biggest capital raise of \$265 million by a non-listed real estate investment trust (REIT).

No other shopping centre in Australia dominates its market like Casuarina Square. A total of 8.2 million people visited Casuarina Square during the year ending May 2021. Over the two years to May 2021, the centre's moving annual turnover increased by more than 8% from \$345 million to \$372 million.

We see a tremendous opportunity to add value to the complex as there is approximately 54 000 square metres of development potential on the site. For Darwin to grow, Casuarina Square must also grow as both a retail centre and an employment node. Our long term view is to create a town centre at Casuarina Square, which has been serving the Darwin community since 1973.

Casuarina Square is located centrally between the Charles Darwin University campus to the west, the Royal Darwin Hospital to the north, and the Darwin International Airport to the south and is directly serviced by the Casuarina Bus Interchange.

We at Sentinel are excited about what we can do at Casuarina and with our other investments in the Northern Territory, a region that I believe provides some of the best economic opportunities in Australia over the next decade and beyond.

The support of the Northern Territory Government and their willingness to promote and encourage economic growth has certainly been a breath of fresh air. Since Sentinel was established in 2010 it has invested in every state and territory, with the exception of Tasmania, and we have not encountered a government as approachable and cooperative as the Northern Territory Government.



*Resources is the Territory's largest contributor to the economy*



*The Territory has 14 of the 17 world's critical minerals including lithium, rare earth elements, cobalt, tungsten, molybdenum, vanadium, nickel, titanium, magnesium*

*As of March 2022, there were 21 projects in approvals processes. These projects represent a combined capital expenditure of \$7.2 billion*

*The Territory's mineral industry produced \$4.28 billion worth of commodities in 2020-21 and supported 4800 direct jobs*

The Northern Territory has enviable access to oil and gas reserves and world-class mineral resources. The vision for the Government's Gas Strategy is that by 2030, the Territory will be a world-class gas production, manufacturing and services hub.

The Territory has strong reserves in critical minerals, including copper, lithium, vanadium, rare earth elements, tungsten and cobalt coupled with world-class oil and gas resources onshore and offshore.

A strong resources industry is not just good for the economy, it is good for the community and spreads the economic benefits to remote and regional locations.

The Territory Government is committed to supporting the development of gas and mineral resources in a sustainable and responsible manner. Many of the resources found in the Territory will support the world's transition to zero emissions by providing the raw materials needed to make batteries and solar panels as well as hydrogen.

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

Darwin is home to the INPEX-led Ichthys LNG Project, which represented a US\$34 billion final investment decision and the largest ever direct foreign investment made by both Japan and France. INPEX has two LNG trains and recently announced plans for expansion, and transition to renewables with plans to establish carbon capture and storage for the project from 2026.

The Territory is also home to the Santos-operated Darwin LNG Project that has potential to add another LNG train.

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

In March 2022, Santos announced it was entering front end engineering and design for its proposed Bayu-Undan carbon capture and storage project with a final investment decision targeted for 2023.



*The Territory has 66% of Australia's manganese resources and 26% of its zinc resources*



*Onshore we have over 500 trillion cubic feet of gas in place in one layer (Beetaloo Sub-basin), which is currently being appraised and there are other layers and basins yet to be assessed*

*There are 30 trillion cubic feet of proven untapped offshore gas reserves in the Territory*

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

To build on our role as an LNG export hub, the Northern Territory Government's Middle Arm Sustainable Development Precinct has industrial land available for gas-based processing and low emissions manufacturing, supported by carbon capture and storage and renewable power. This manufacturing industry is linked to the transcontinental rail service, national highway, international airport and strategically positioned Darwin Port.

Additional LNG and domestic gas could be sourced from offshore or onshore fields.

There is a pipeline of 20 potential mining projects at various stages of the approvals or financing process in the Northern Territory. These projects represent a combined capital expenditure of \$6.56 billion and the potential to create up to 5000 construction jobs and up to 3500 operational jobs.

Opportunities in mining equipment, technology and services, and developing renewable energy projects to sustain them, add value to the existing and future mining activities in the Territory and boost local and regional jobs.

Key to expanding the resources sector is building partnerships with Traditional Owners.

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.

Darwin is home to an oil and gas research, innovation and training centre at Charles Darwin University.

### Establishment of the Mineral Development Taskforce

In November 2021, the Northern Territory Government established an industry-led Mineral Development Taskforce to drive the Territory's resource sector and unlock a strong pipeline of projects.

The taskforce will investigate and identify strategies to activate and secure ongoing private capital in mineral projects, including downstream manufacturing processes.

It will have a critical role to play to devise innovative approaches and options to accelerate private investment.

The taskforce will identify new opportunities, recommend options to win more private sector investment and accelerate the process of turning prospective mines into operational mines.

Established for an initial period of 12 months, the taskforce is aligned with the Territory Economic Reconstruction Commission recommendation to investigate and identify opportunities to accelerate significant private investment in mineral projects, including value-add processes.

The taskforce includes 10 members (including the chair) and comprises government, industry and private sector experts.



*Defence forces have a long association with the Northern Territory in its globally strategic location*



*Defence spending in the Northern Territory reached \$2.2 billion in 2020–21, equivalent to 4.5% of the national defence expenditure*

*Defence Housing manage almost 1750 properties in the Northern Territory to accommodate personnel with two new housing projects in Darwin to increase property numbers for local and defence members*

*During World War II, Darwin, the Northern Territory's capital was bombed more times than Pearl Harbour*

The Northern Territory plays an important role in supporting the operational capability of the Australian Defence Force, Australia's military allies and partners and regional neighbours.

Strategically located between the Indo-Pacific, an increasingly important arena for geo-political competition, and the rest of Australia, the Northern Territory supports a large number of major defence assets including:

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

Since the Quadrilateral Security Dialogue (QUAD) was reinvigorated and the Australia, United Kingdom and United States (AUKUS) agreement introduced, there has been a significant increase in the attention and resources of Australia and its allies in the Indo-Pacific. The Northern Territory is a key asset for Australia's participation in these frameworks due to its position as a forward operating base in the Indo-Pacific, roughly equidistant between key QUAD countries and with the space and capacity to host joint training exercises.

National security has a growing scope outside of defence, including 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.

The planned defence capital investments were outlined in the 2016 Defence White Paper and 2016 Integrated Investment Program. As subsequent announcements were made as a result of the 2020 Defence Strategic Update and Defence Force Structure Plan and foreign defence investment, total expenditure is expected to increase.

The Northern Territory is a hub of strategic infrastructure and assets, with more planned. The Northern Territory is in the midst of an \$8 billion major infrastructure investment commitment through to 2025, with a further \$12 billion earmarked for 2026 to 2035, pending parliamentary approvals.

Local industry capability plans and Indigenous procurement targets set by Defence have resulted in an increase in Territory businesses, including Indigenous Business

Enterprises, winning work across defence programs and projects since 2016. Nationwide, local industry participation in defence infrastructure projects is sitting at 75%. In late 2021, the Territory was achieving 82% participation.

The Northern Territory is home to the Indo-Pacific region's best military training ranges including:

- Kangaroo Flats Training Area
- Mount Bunday Training Area
- Delamere Air Weapons Range
- Bradshaw Field Training Area.

The training 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. These ranges are undergoing upgrades due to a \$747 million investment by the Australian Government.

The Northern Territory hosts a number of significant multi-lateral training exercises involving the United States and other key allies and partners. These include Exercise Pitch Black and Exercise Kakadu, two biennial exercises in the air and sea respectively, and various smaller exercises involving a large number of defence forces drawn from regional, coalition and allied nations.

The United States Government established the Marine Rotational Force – Darwin (MRF-D) in 2011, with the first rotation of 240 United States Marine Corps (USMC) personnel rotating through the Northern Territory in 2012. This number has increased since then, with approximately 2200 USMC personnel involved in the 2021 rotation, and is expected to increase further.

In addition to MRF-D, the Enhanced Air Cooperation element of the US Force Posture Initiative (USFPI) is a US-Australia cooperative initiative aimed at strengthening air cooperation between the two allies and involves the rotation of air assets and personnel throughout the

Northern Territory. It is through the Enhanced Air Cooperation that the Bulk Fuel Storage Facility at East Arm is being funded to provide storage of aviation grade JP-5 turbine fuel and commercial grade Jet A-1 fuel.

Humanitarian and disaster response (HADR) 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.

Throughout the COVID-19 pandemic, the AUSMAT team and National Critical Care and Trauma Response Centre supported the Howard Springs Centre for National Resilience, which was a key aspect of the Australian and Northern Territory governments' response to the pandemic.

The centre's other roles include managing natural and man-made disasters impacting Australia's neighbours including volcanoes 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 after the Bali bombing in 2002, to establish a centre of excellence in trauma management and surgery in northern Australia so that 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 as an asset in the future.

## Regional Development Framework

Each region within 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 Regional Development Framework guides how regions will:

- support effective regional economic planning, implementation and project facilitation including coordinating effort from all spheres of government and stakeholders, with support to facilitate feasibility studies and develop business cases to attract investment
- establish effective governance and engagement arrangements across agencies, stakeholders,

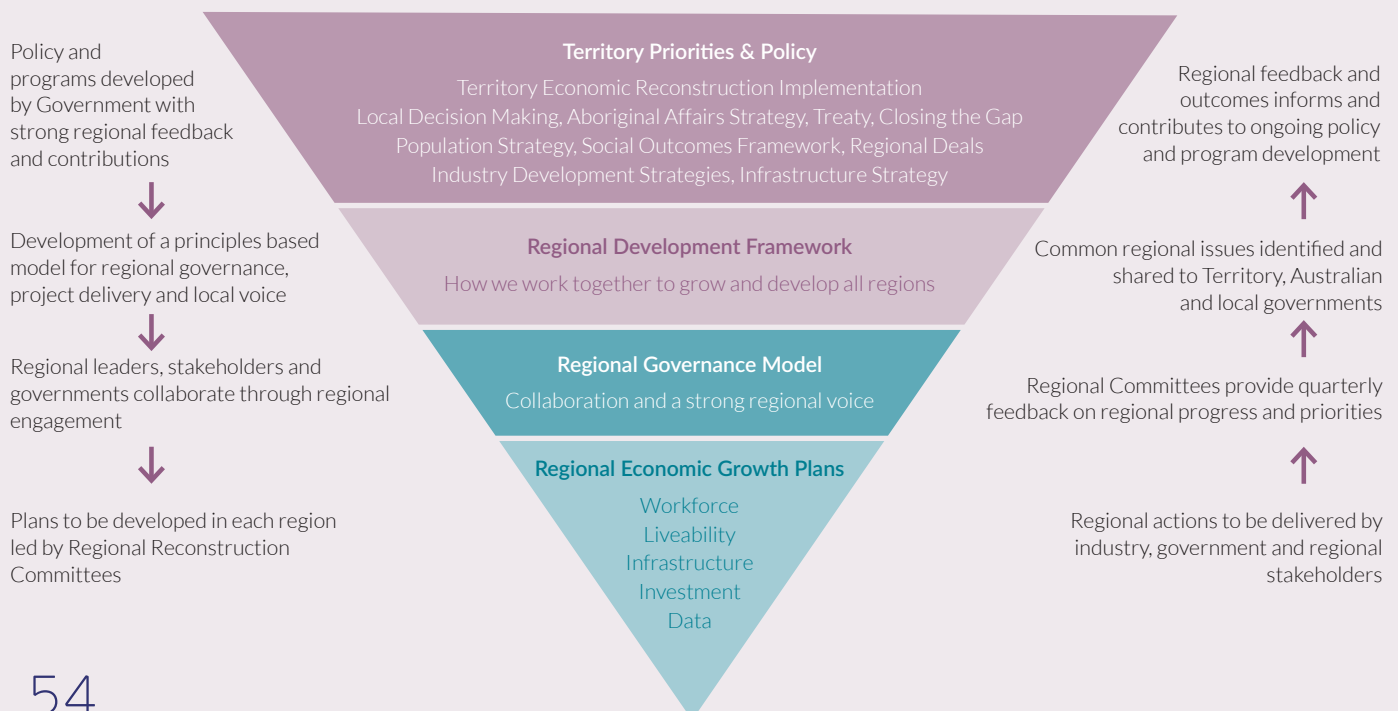
business leaders, Traditional Owners and communities that provide a clear regional voice to government

- identify barriers and enablers to regional economic growth, including areas for structural reform and priority government investment
- develop Regional Economic Growth Plans to inform priorities for government investment, attract private sector investment, increase Aboriginal economic development and support local industry growth and diversification
- access regionally derived data, information and analysis to improve and inform decision making, regional investment and measurable outcomes.

While the Regional Development Framework focuses on economic growth, it also aligns with the Northern Territory's Social Outcomes Framework. The Social Outcomes Framework provides a transparent approach for the Northern Territory Government and its partners to measure progress towards a broad, aspirational vision for social outcomes in the Territory.

Social and economic outcomes are interdependent and mutually supportive.

Figure 2 - Aligning regional development with Northern Territory priorities



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

The RRCs lead the development of Regional Economic Growth Plans that:

- identify regional priorities for economic growth and the implementation pathways and actions required to deliver them
- support government decision making and private sector investment decisions
- define the region's connection and contribution to the Territory's overall growth strategy and the regional implementation of identified priorities
- set goals and actions that allow a region to prioritise what is most important and determine how they can be implemented to locally agreed timelines and delivery methods.

The Growth Plans focus on measurable outcomes – the creation of sustainable jobs for local and regional people.

While the Growth Plans differ from region to region, their core structures are consistent so that they can connect into the broader Northern Territory planning and investment attraction. Each Growth Plan is informed by data and analysis and includes:

- a regional economic development vision and targets
- regional strengths and competitive advantages, opportunities and enablers for job creation and economic baselines to measure ongoing performance

- enablers and barriers to regional growth, such as regional infrastructure priorities, workforce planning and local workforce needs for industry and social sectors, Aboriginal economic leadership, regional liveability and local supply chain analysis
- future opportunities for investment
- a continuously updated prioritised pipeline of current and planned regional projects.

The work of the RRCs will help inform the Infrastructure Plan and Pipeline.

## Closing the Gap

Closing the Gap is an agreement between the Coalition of Aboriginal and Torres Strait Islander Peak Organisations (the Coalition of Peaks) and all Australian governments. The first of its kind.

The agreement has four priority reform areas and 17 socio-economic targets in areas including education, employment, health and wellbeing, justice, safety, housing, land and waters and Aboriginal and Torres Strait Islander languages. These targets have been developed through a co-design process to meet the aspirations of Aboriginal people to improve life outcomes.

The priority reforms are:

- 1** Priority Reform One – Formal partnerships and shared decision making
- 2** Priority Reform Two – Building the community-controlled sector
- 3** Priority Reform Three – Transforming government organisations
- 4** Priority Reform Four – Shared access to data and information at a regional level

## Investment Territory

Investment Territory is co-led by the Territory Investment Commissioner and the Major Projects Commissioner with the goal of making the Northern Territory a sustainable and diverse \$40 billion economy by 2030.

Investment Territory is focused on three areas:

- 1** helping major and significant project proponents reach their final investment decision and commence their projects
- 2** taking investment opportunities to the market and bringing new business to the Territory
- 3** ensuring the Territory is the best place to invest.

Investment Territory is working with a range of proponents with a combined project portfolio of more than \$30 billion that are targeting investments within the next five years, including three new major projects and 16 existing major projects. Not all these projects will make their target dates for any one of a number of reasons. However, Investment Territory will be working hard to help bring these opportunities to reality.

The Territory Investment and Major Project Commissioners work closely with the Territory Infrastructure Commissioner to problem solve at a strategic level and to support infrastructure planning and delivery that aligns with community expectations and support the Territory's sustainable growth.

## Total investment portfolio

The current total investment portfolio, if delivered, will result in a step change in our economic and population growth. Table 3 provides a summary of the total investment portfolio expected to commence in the next five years. This is a total of over \$30 billion in capital investment starting in 2022–23 and is a similar size to the investment in the Ichthys LNG onshore processing facility. However, the capital investment will be across the Territory rather than in the Greater Darwin area only.

The investments articulated in Table 3 are considered highly likely investments over the next five years in the private sector, gas, Defence and Northern Territory Government based on their current status, project design complexity and market analysis.

Table 3 also provides a desktop analysis of the magnitude of anticipated jobs supported during construction and ongoing jobs. The anticipated jobs supported during construction is based on the way projects have historically accommodated their workforces in the Territory, with a proportion of fly-in-fly-out workers. The figures for ongoing supported jobs assume all workers will be based in the Northern Territory. The figures for the anticipated population growth are based on the Australian Bureau of Statistics average number of people per household (2.6 to 2.9 people per household) multiplied by the ongoing jobs supported.

This analysis continues to be refined as more information is available, to more accurately predict the number of jobs and the impacts on regions and population growth.

Table 3 – Total investment portfolio summary

Investment	Total Anticipated Investment	Anticipated Jobs Supported (construction)	Anticipated Jobs Supported (ongoing)	Anticipated Population Growth
Private Sector	\$20+ billion	8 400 approx. over 10 years	5 000 approx.	12 915 approx.
Gas	\$8.5 billion	Unknown. Will impact over 10 years	To be confirmed with further analysis	To be confirmed with further analysis
Defence	\$4.5 billion	3 000 approx. over 5 years	To be confirmed with further analysis	To be confirmed with further analysis
NT Government led Major Projects	\$4.5 billion	5 000 approx. over 10 years	To be confirmed with further analysis	To be confirmed with further analysis

Note: Numbers are approximate and further refined analysis is ongoing.

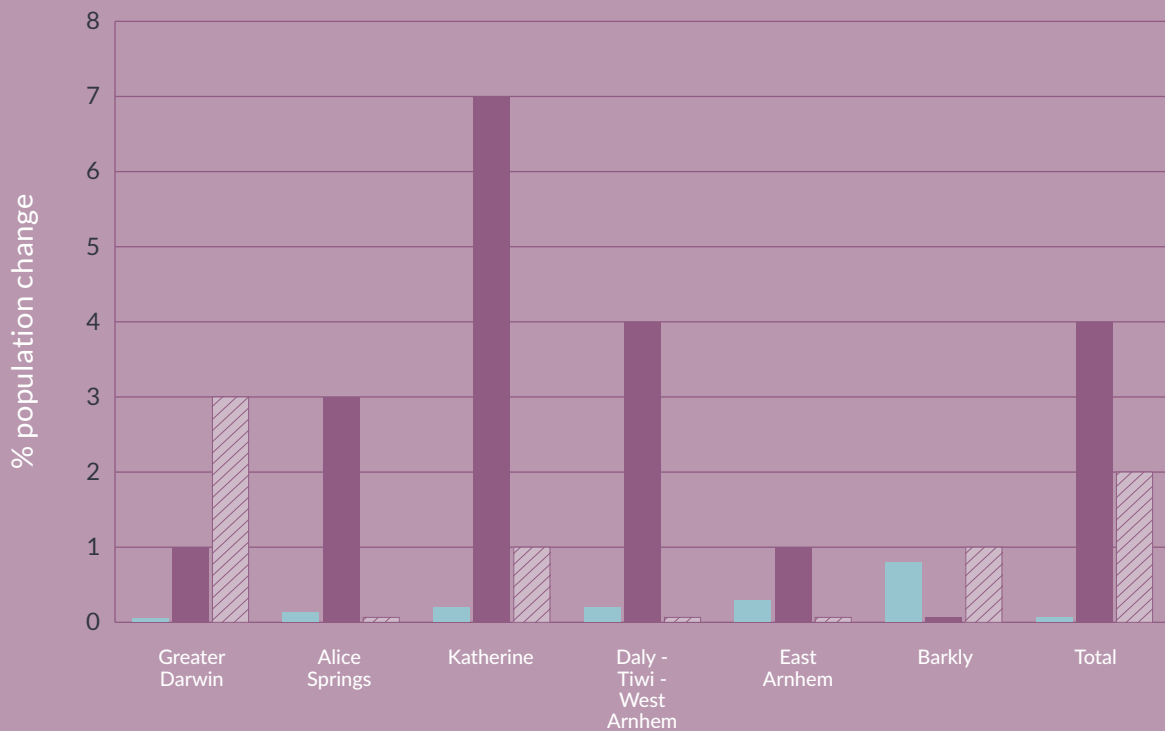
The regional centres of Katherine, Alice Springs and Tennant Creek are already experiencing growing pains as a result of economic growth. In many cases, economic activity has outpaced the capacity of regional markets to meet the influx of new demand.

Rental and housing market pressures are already occurring and increased economic pressures from anticipated new investment across the Territory means action to meet future growth is required now.

The projected population growth is expected to apply further pressure on land and housing supplies as well as government services.

Figure 3 indicates the anticipated population growth as a result of the investment portfolio. This compares the percentage population growth for a five year average annual change, the anticipated investment change and the annual population target for growth. The effect of the anticipated investment in the Barkly region is 77% population growth, which has been removed from the chart as it distorts the information. This analysis shows that growth pressures will be felt most acutely in the regional centres.

Figure 3 – Percentage population growth rate comparisons



	Greater Darwin	Alice Springs	Katherine	Daly - Tiwi - West Arnhem	East Arnhem	Barkly	Total
5-year average annual change	-0.1	0.1	0.2	0.2	0.3	0.8	0
Anticipated investment change	1	3	7	4	1		4
Annual target based on Territory Economic Reconstruction Commission (TERC)	3	0	1	0	0	1	2

## Case Study – Western Australia Rapid Regional Growth – Research and Learnings

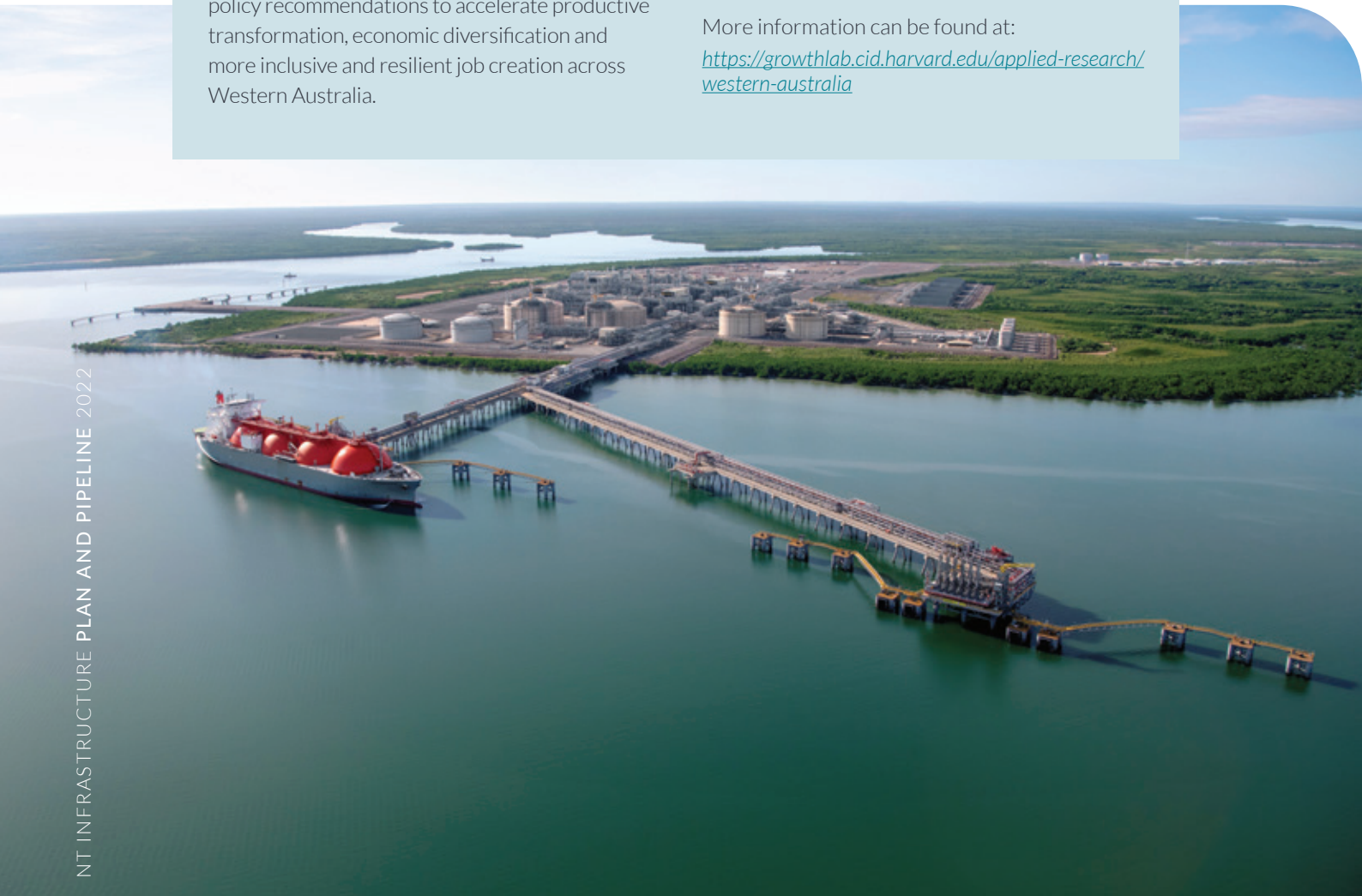
Western Australia has experienced highly imbalanced economic growth, both over time and among its regions. Similar to the Northern Territory, this growth stemmed from the mining sector and other primary industries.

This has led to limited diversification of the Western Australian economy and exposed the state to commodity price driven 'boom and bust' cycles. The Harvard Growth Lab worked with the WA Government between 2019 and 2020 to identify both high potential economic diversification opportunities and structural challenges to sustained and inclusive growth. The Growth Lab applied growth diagnostic and economic complexity methodologies to inform policy recommendations to accelerate productive transformation, economic diversification and more inclusive and resilient job creation across Western Australia.

The Growth Lab's Growth Perspective Report and Economic Complexity Report provides a framework to overcome historical interacting issues so that greater economic diversification can take place. The goal of this policy framework is to create the conditions for sustainable and resilient economic growth to create better job opportunities for generations. The framework consists of three main policy goals: achieving labour market balance, counter-cyclical fiscal policy and better alignment of public goods provision. It also includes the cross cutting goal of supporting development of new engines of growth. For each policy goal, the report outlines key principles to address factors that cause systemic problems to persist. The report also discusses a range of policies and processes applicable to each principle of the framework.

More information can be found at:

<https://growthlab.cid.harvard.edu/applied-research/western-australia>





Above: Bauxite Mining Gove NT. Credit: Steve Strike.

## Implementation pathway

It is clear that infrastructure investment is required to support both economic and subsequent population growth. Achieving the best outcomes for the Territory will require deep thinking, careful planning and execution alongside collaboration between all levels of government, industry and the community.

### Implementation pathway

Annually monitor economic growth to match appropriate supporting infrastructure investment

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

# 7

## Enabling infrastructure ecosystems

To reach our 2030 goals and beyond, investment in the right infrastructure is key to sustaining this growth over the longer term. The enabling infrastructure ecosystems will be the backbone supporting economic and population growth.

Thinking about our infrastructure as an ecosystem will help plan a more integrated approach.

Strategically looking at the entire ecosystem, rather than individual parts, allows us to observe synergies and help get more 'bang for our buck' when investing in infrastructure.

Land is critical to all infrastructure. Integrated land and infrastructure planning is an essential part of the ecosystem growth.

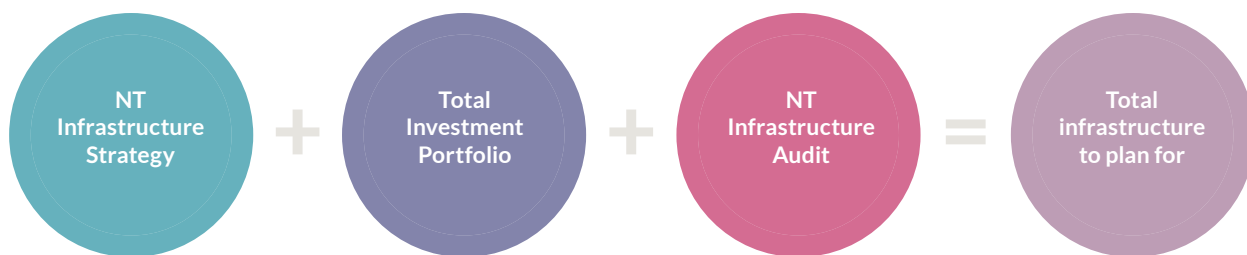
Utilities are fast becoming our economic powerhouse. However, they are also essential for the wellbeing of Territorians. Electricity, energy, water and digital and telecommunications infrastructure are key to securing investment and supporting population growth. Waste management

is not only about managing our own waste – with the adoption of a circular economy, it is also an economic opportunity.

Transport and logistics support both economic and social outcomes. Reliable connections and supply chains provide access to health, education and jobs as well as export markets and business opportunities.

Social infrastructure is how we will improve the wellbeing and quality of life for Territorians and support the critical government services required across the Territory.

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





## Transport and Logistics

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



## Utilities

- Electricity
- Energy
- Water
- Digital and Telecommunications Infrastructure
- Waste Management



## Social Infrastructure

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



## Land

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





## Transport and Logistics

Enhanced logistics in the Territory will not only grow local business and employment but also the Territory's contribution to national gross domestic product (GDP) and national supply chain resilience. This will provide surety in times of national and international impacts or uncertainty.

The Northern Territory Government will balance economic, environmental, social, cultural and governance outcomes when considering sustainable infrastructure investment. Transport connectivity is a good example of this. Arts and culture play a crucial role in strengthening social inclusion and identity for communities and in delivering economic empowerment, particularly for Aboriginal communities.

Using a sustainable approach to infrastructure investment will balance the benefits of a 'drive market tourist' following the Territory Arts Trail, sharing the same sealed and flood mitigated road as a livestock transport operator and a gold mine prospector. The business beneficiaries form part of a value chain producing flow-on effects of purchasing local Aboriginal art that contributes to the goal of economic empowerment for Aboriginal people. In turn, the public investment for multiple road users is contributing to quality of life, access and wellbeing, to create an inclusive and fair society and grow productivity.

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 46% (or \$1.27 billion) of the Northern Territory Government's infrastructure budget was allocated to transport in the 2021-22 budget. Despite this investment and ongoing collaboration with the Australian Government, a huge deficit remains, including unsealed roads that provide essential connectivity.

Given the Northern Territory's strong economic growth agenda, a suite of actions are being implemented:

- Establish a Logistics Advisory Council to ensure collaboration between industry, government and business to ensure an enhanced and cohesive understanding of supply chain opportunities and impediments.
- Develop a supply chain database collating the freight and industrial requirements and impacts of known future developments across agribusiness, minerals and energy, manufacturing, defence, digital and social sectors. This will become the evidence base to underpin freight and land use investment whether it is the private sector, government or financing agencies.
- Analysis of logistics infrastructure capability including port, rail, road, intermodal facilities and their capacity to support the growing freight task of a developing Territory. This will include both built infrastructure and the commercial frameworks governing operations.



*Left/above: Intermodal through Virginia. Credit: Balen Taylor.*

### 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 75% of the road network in the Territory is unsealed and vulnerable to closure and restrictions in wet weather.

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.

The rail line connecting Alice Springs and Darwin was completed in 2003, almost 100 years after first being envisioned. The rail provides freight train and passenger train services between Adelaide and Darwin.

Opportunity exists to more 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.

## Marine infrastructure

Darwin is the Northern Territory's only declared port under the *Ports Management Act 2015*. It is also Australia's northern maritime trade gateway to international markets. Darwin Port is closest by distance and shipping time of any Australian port to markets in Indonesia, Singapore, Japan, India, China and much of the global economy.

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

Marine infrastructure in Darwin Harbour is extensive and includes commercial shipping facilities such as East Arm and supporting industry such as tugs and pilot vessels, future developments such as the Darwin Ship Lift Facility and the Middle Arm Sustainable Development Precinct, infrastructure that supports cruise ships such as Fort Hill Wharf, and infrastructure that supports the offshore oil and gas industry such as the Marine Supply Base. There is also infrastructure that supports Defence such as HMAS Coonawarra and the Multi User Barge Facility and infrastructure that supports commercial fishing such as Frances Bay and Fisherman's Wharf. All of this infrastructure that supports industry needs to successfully merge with infrastructure that supports liveability for the community in and around Darwin Harbour such as the Darwin Waterfront development, Stokes Hill Wharf and marinas

and ferry terminals at Mandorah, Cullen Bay and Tipperary Waters.

Less visible than these assets are the enabling infrastructure that makes them usable including channels and dredging, landside connections such as loading facilities and roads and utilities such as energy and waste. The infrastructure and commercial arrangements that guide operation of this infrastructure will need to grow and adapt.

A network of barge landings operate across the northern coastline. In addition to Darwin Harbour, 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 operate across the northern coastline.

These barge landings are on Aboriginal land, managed by land councils or the Office of Township Leasing 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, materials as well as food and medical supplies.

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

## Air transport

Darwin is home to one of seven major international airports and one of only two in northern Australia. Domestic airports service the regions and communities of Alice Springs, Katherine, Gove (Nhulunbuy), Tennant Creek and Groote Eylandt.

In addition to the regional airports, there are approximately 230 remote aerodromes, with over 90 locations supported by the Regional Aviation Access Program. The Program provides weekly air transport service for passengers, educational materials, medicines, fresh foods and other urgent supplies to communities in remote and isolated areas of Australia. The Northern Territory Government manages 70 regional and remote aerodromes throughout the Northern Territory.

### Challenges

**Vast distances, sparse populations**

**Scarce funding**

**Small scale of funding requirements**

**Skills and population shortages**

### Opportunities

No congestion, no 'last mile' freight issues, corridor protection for future industry development, less competing land use issues

Holistic project assessment based on strategic fit with national priorities

Programs of work developed to meet scale requirements and roll out over structured and manageable time frames

Infrastructure programs that develop skills for both construction and operations alongside business/economic case development, bespoke to regional needs

## NT Logistics Advisory Council

The Territory Government is establishing a NT Logistics Advisory Council to act as an advisory body on logistics issues including infrastructure, land use planning, supply chain efficiency, regulation and safety improvements.

The Council will comprise industry experts and will analyse the Territory's current logistics and supply capacity, constraints and opportunities, to ensure a greater share of Australia's international and national freight is moved via Northern Territory supply chains. This will help to grow sovereign capacity and reduce national supply chain risk.

COVID-19 has exposed national and international supply chain vulnerabilities. Locally, seasonal weather and access challenges have highlighted the need for greater resilience and investment in infrastructure to promote growth and reduce risk to industry and communities in northern Australia.

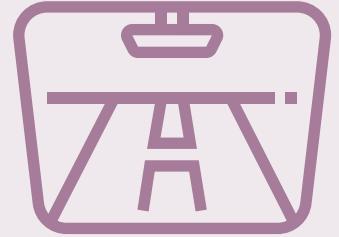
Now is the time for the Territory to maximise its comparative advantages, including its abundance of natural resources and proximity to international markets, to support the private sector.

Building a coalition between industry, business and government to collaborate to improve market connections was a recommendation of the Territory Economic Reconstruction Commission to help accelerate the Territory's growth.

36 000 kilometres (km)  
of roads



25%  
of the entire 36 000 km  
road network sealed



1 major  
port  
(Darwin)



14 barge  
landings

servicing Top End 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)



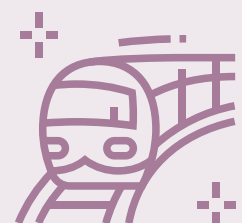
1 international  
airport

350+ remote  
airplane landing  
areas or  
aerodromes



24 certified or  
registered airports  
(regional and mining)

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





## Utilities

Utilities provide basic human needs including water, energy and connection through digital infrastructure. Energy, water, digital and waste management infrastructure is essential to sustain healthy communities and support economic development and business. Without any one of these infrastructure essentials, sustainable and resilient population and economic growth is not possible.

### Roadmap to Renewables

The Northern Territory Government commissioned an independent expert panel to advise and provide a report on viable options to reach the renewable energy target, considering technical, financial, operational and economic issues. Chaired by Alan Langworthy, the expert panel members included Greg Bourne, Amanda McKenzie, Owen Peake, Lyndon Frearson and Katherine Howard.

The Roadmap to Renewables report was delivered to the government and released on 27 November 2017 with the government's response. The report provided 11 recommendations to guide government to achieve the target. The government supports or supports in-principle each of these recommendations.

✓ Secure	✓ Reliable	✓ Stable	✓ Transparent
✓ Flexible and Adaptive	✓ Competitive	✓ Practical	✓ Cost Effective
✓ Efficient	✓ Clean		

The Northern Territory Government is completing detailed technical, economic and financial analysis and modelling to support implementation that ensures a reliable, secure and least cost (for consumers and taxpayers) electricity supply for the Northern Territory as it progresses towards the 50% renewable energy target.



*Left/above: Katherine Solar Farm. Credit: Department of Industry, Tourism and Trade / Investment Territory.*

## 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.

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. The Northern Territory Government is 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, the Northern Territory Government has developed the Darwin-Katherine Electricity System Plan, the Alice Springs Future Grid Roadmap to 2030 and the Remote Power System Strategy.

The Territory has some of the highest solar irradiance in the world. With large areas of undeveloped land, renewable solar energy is a growing industry for the Northern Territory. The announcement of Sun Cable's solar energy network project, which will provide 10% of Singapore's energy needs through renewable energy, cements the Territory as a global leader in the energy market transition.



Above: Uterne Solar Power Station, Alice Springs.

## Northern Territory Renewable Hydrogen Strategy

The Territory is positioning itself at the forefront of the developing hydrogen industry and aspires to be an international scale renewable hydrogen technology research, production and downstream manufacturing centre.

To achieve this vision the Northern Territory Renewable Hydrogen Strategy has been developed. The strategy articulates the potential hydrogen opportunities and the Territory's competitive advantages. The Territory will leverage these to be an Australian centre for hydrogen technology research, production and use.

The Territory is well placed to achieve its hydrogen vision:

- With significant tracts 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 that 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 emissions vision.

## Water

Water is essential to supporting every aspect of life. In the Territory, the Power and Water Corporation provides water and wastewater services to 18 major and minor urban centres as well as 72 remote communities and 79 homelands. Each centre is geographically isolated and dispersed across tropical and arid environments, requiring services that are resilient to the extremes of the harsh Northern Territory climate.

In Darwin and surrounds, most of the water comes from the Darwin River Dam, with groundwater making up the remainder of supply.

With a growing population in the Territory there is an increasing need to secure water for the future for people, agriculture, industry and the environment. The Northern Territory Government is working on securing water for the Territory. The Territory Government has identified the Adelaide River Off-Stream Water Storage (AROWS) as an economically viable solution to provide water security to the Darwin region and is working with the Power and Water Corporation to progress the project.

The 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. A multi-barrier approach is used to providing drinking water consistent with Australian Drinking Water Guidelines. Chlorination and ultraviolet systems are used as appropriate.

Fifty-six remote towns and communities have full waterborne sewage disposal systems with waste stabilisation ponds. The remainder have individual on site systems maintained by the community.

For remote water and wastewater services, Power and Water contracts and trains Essential Services Operators through local councils, Indigenous enterprises and private contractors to run facilities day-to-day.

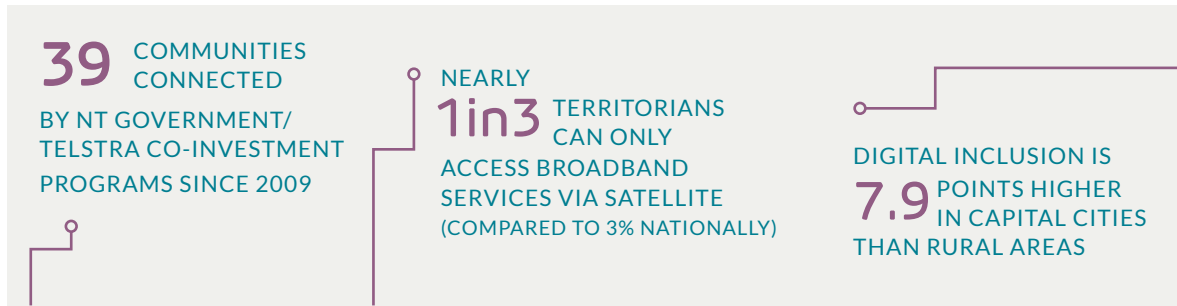
### Water security

Water security for the Northern Territory is an important issue. The Northern Territory Government and Power and Water Corporation are working to secure water supplies across the Territory.

The Northern Territory Government is developing the Territory's first long term strategic water plan. The plan provides a reform pathway to increase 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:

- put water for people and communities first
- be informed by the best available science, data and knowledge
- help deliver water for local jobs right across the Territory
- provide for transparent, fair and streamlined governance and decision making that attracts job creating investment
- ensure that environmental and cultural flows are protected
- be adaptable to the impacts of climate change
- educate and inform the community about the value of water as a precious and finite resource
- help ensure our existing water resources are used in an efficient and sustainable manner.

## Digital and telecommunications



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.

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.

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.

Almost 90% of the Territory's population has internet at home and 47 remote communities have access to the internet.

### The National Broadband Network (NBN)

NBN Co Ltd, a publicly-owned corporation of the Australian Government, is tasked to design, build and operate Australia's National Broadband Network.

- 61 608 homes and businesses in the Northern Territory can connect to the NBN network
- 44 151 homes and businesses in the Northern Territory are currently connected
- 3935 active satellite connections in the Northern Territory

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

- **Yirrkala Technology Change** through NBN's Regional Connectivity Program will deliver a \$3.7 million project to transition Yirrkala from NBN Satellite to fibre to the premises to improve access to telehealth and education services as well as provide increased opportunities in cultural tourism and the creative industries.
- **Jabiru Fibre to the Premises** is a \$4.5 million project that will provide fibre to the premises infrastructure to more than 700 premises in Jabiru, which will be pivotal in positioning Jabiru as a central tourism hub in the heart of Kakadu National Park.

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 both Defence, Australian allies and 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.

*Right: Preparing to connect.  
Credit: NBN Co.*

## Digital Territory Strategy

The Northern Territory Government's first ever Digital Territory Strategy has a strong focus on:

- helping local business to grow, upskill and create more jobs
- supporting children to thrive, be safe and have strong foundations for a bright future
- connecting, creating and supporting safe, sustainable and vibrant communities
- strengthening the delivery and reliability of services in the bush
- improving accountability, inclusion and ingenuity.

The Digital Territory Strategy sets out a plan that will enable Territorians to get the most out of the digital opportunities and challenges now and into the future. Leveraging the opportunities of the digital age is critical to delivering better government services, connecting communities and remaining competitive in the global economy.



## Waste management

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).

The Northern Territory’s waste is largely comprised of construction and demolition waste (20%), commercial and industrial waste (29%) and municipal solid waste (18%).

While the Territory has had success with recycling through initiatives such as the Container Deposit Scheme, recycling of other waste such as construction and demolition waste, commercial and industrial waste and municipal solid waste has been unsuccessful.

The Northern Territory Government has developed a circular economy strategy to realise the potential this concept can play in building the Territory’s economy.

Various opportunities have been identified, including building an industrial liquids waste treatment plant, industrial water management, mixed paper (fibre) processing, plastics processing, organics processing, tyres (derived aggregate or crumb processing), glass processing and e-waste.

The circular economy approach acknowledges and seeks to minimise the environmental, cultural and health impacts that are commonly associated with modern economies.

The strategy maps out a coordinated, collaborative, and innovative approach across all tiers of government to support and encourage investment by industry, small business and the community to increase waste recovery, reuse and recycling. The strategy also identifies how government will modernise the Territory’s regulatory framework to protect the environment by transitioning the Territory’s waste into a circular economy.

	Challenges	Opportunities
<b>Electricity</b>	<ul style="list-style-type: none"> <li>Cost of infrastructure especially in remote communities – keeping costs as low as practical</li> </ul>	<ul style="list-style-type: none"> <li>Battery</li> <li>Solar</li> </ul>
<b>Water</b>	<ul style="list-style-type: none"> <li>Wet and dry seasons affect our access to water sources</li> </ul>	<ul style="list-style-type: none"> <li>Adelaide River Off-Stream Water Storage (AROWS)</li> </ul>
<b>Digital and telecommunications</b>	<ul style="list-style-type: none"> <li>Digital inclusion is 7.9 points higher in capital cities than rural areas</li> </ul>	<ul style="list-style-type: none"> <li>Predicted 2.9% annual job growth in ICT sector in the Territory</li> </ul>
<b>Waste</b>	<ul style="list-style-type: none"> <li>Concerns that the waste management facilities in regional and remote areas are not adequate to manage waste and pose a risk to the environment and human health in the communities</li> </ul>	<ul style="list-style-type: none"> <li>Direct contribution to the NT economy was estimated to be \$54 million in 2017–18, Waste Recycling Industry Association NT (WRIANT)</li> <li>An estimated 633 jobs were provided by WRIANT members</li> </ul>

## Circular Economy Strategy

The Northern Territory Circular Economy Strategy is the Northern Territory Government's plan to:

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

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

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



**50% renewable**

energy target by 2030

**Zero**

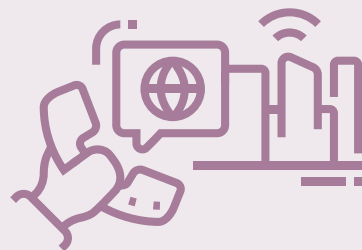
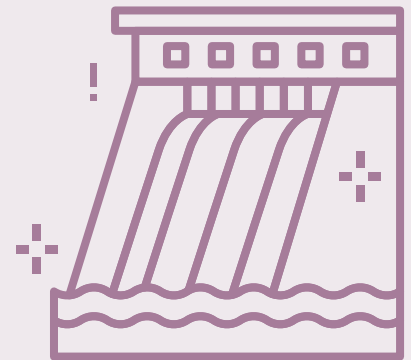
net emissions  
by 2050

**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



**96 518  
premises**

have an **NBN**  
enabled connection  
available

**Over 80% of  
all containers**

sold in the Northern Territory  
during the 2019–20 were  
recycled with support of  
the Territory's Container  
Deposit Scheme





Above: Palmerston Regional Hospital – hydrotherapy pool. Credit: Scope Builders.



## Social infrastructure

The Northern Territory needs to attract and retain a larger population to maintain a strong economy. Social infrastructure will play a key role in attracting and retaining new Territorians. Social infrastructure can be government owned or privately owned infrastructure that supports government services such as health care, education and training, justice and public safety as well as housing, sport, recreation and lifestyle.

### Health

The Clinical Services Plan developed by Territory Health Services articulates the clinical services strategies and capital requirements to meet current and future health service needs to 2037. The plan focuses on:

- the health status of the current and future population
- the capacity of current services
- predicted future health service demands based on strategic directions and projected requirements for new, upgraded and re-purposed infrastructure.

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. Future infrastructure investments will need increased reliability (ongoing uninterrupted operation) while maintaining safety and hospital accreditation and improving the patient experience. Culturally appropriate internal and external spaces are at the forefront of planning.

Remote community clinical demand forecasting identified that additional capacity is needed to deliver primary healthcare. This includes consultation rooms, emergency bays, X-ray rooms, dental chairs, hearing booths, renal dialysis chairs and morgue facilities. The Department of Health has developed a plan to respond to clinical demand.

COVID-19 tested the limits of health services globally and in turn the infrastructure that supports health professionals, patients and clients. Advances in technology such as tele-health can significantly improve services and reduce costs. However, COVID-19 highlighted issues for equity of access where internet services are not available. Advances in health and medical service delivery that are underpinned by technology, will require significant infrastructure investments.

Access to quality health and care services is important to attract investors and the skilled workforce that comes with sustainable developments. As we strive to attract and retain a diverse population, we also need the ability to provide specialised facilities for all demographics.



Above: Darwin Middle School multi-purpose hall. Credit: Rossi Architects.

## Education and training

Increasing our population and preparing our students for the jobs of the future will require investment in education and training infrastructure. The jobs of the future will require skills and abilities such as problem solving, technology literacy, creativity and empathy as well as being able to adapt and collaborate. Our educational infrastructure needs to support students to enter a technology rich and creative society. Education and training builds our capacity and capability, our workforce skills and enhances liveability drivers to attract and retain people to the Territory.

The Department of Education 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 housing 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. This results in multiple social benefits for communities due to wider use and adaptability of the infrastructure. Integrated child and family centres and school halls designed as community hubs or cyclone shelters, are just two examples of this approach.

A key driver for future investment will be population growth, with potentially about 10 000 additional primary and secondary students if the 2030 population targets are reached.

A total of 71% of Northern Territory Government schools are located 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. High quality education will attract families to settle and remain in the Territory.

International education, in particular higher education and vocational, education and training (VET), will be a key growth sector for the Northern Territory. International education could significantly add to our economy by contributing to a vibrant Darwin CBD, attracting skilled migrants and potential further migration through family connections.

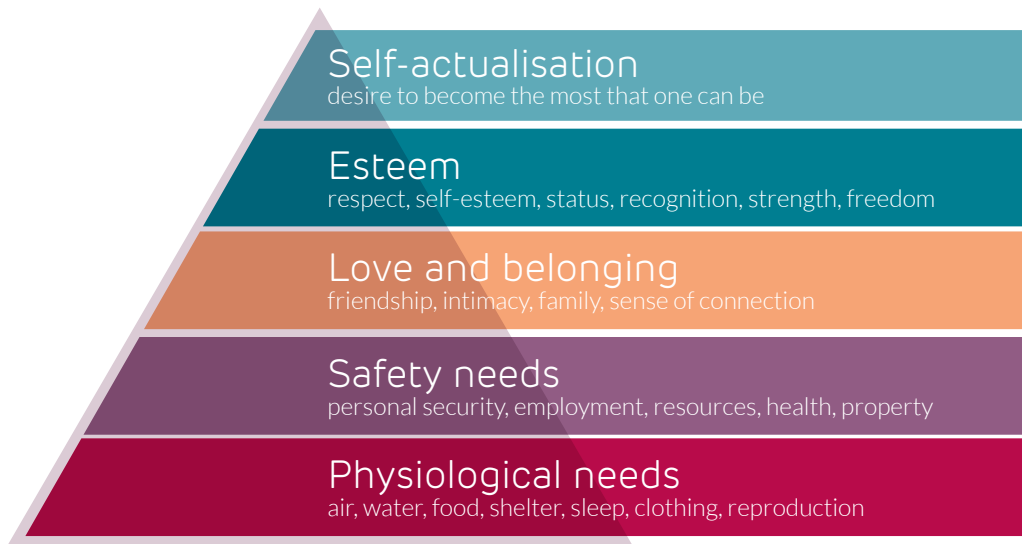
### Charles Darwin University Darwin CBD Campus

The new Charles Darwin University CBD campus will be the catalyst for establishing the Darwin CBD as a 'university town' – a great place for students to study, live and work. With other social infrastructure being delivered through the Darwin City Deal, the Territory's reputation will grow as a knowledge and research leader multiplying the benefits of being a 'university town'. The new campus is set to open in 2024.

## Justice and public safety

Building resilient Territory communities means feeling safe, stable and secure, which is essential to our wellbeing. Maslow's theory of human motivation rates safety as a fundamental need, just above physiological needs like food, water and shelter.

Figure 4 – Maslow's Pyramid of Motivation



Efficient justice services help keep the community safe and ensure that people are treated fairly.

Infrastructure that relates to justice and safety includes courthouses, police stations, emergency evacuation centres and correctional facilities. However, it also relates to design of the urban environment and adoption of crime prevention through environmental design (CPTED) principles of natural surveillance, access control, territorial reinforcement and space management.

Providing policing services in the Territory is unique and challenging considering the sheer size of coverage across over 1.3 million square kilometres. With such a small, culturally diverse population outside of Greater Darwin, Katherine and Alice Springs, of which 27% live in rural and remote communities, the immense geographical distances result in significant challenges to overcome.

Appropriate justice and correctional facilities also help those Territorians on a journey to rehabilitate, to engage in trauma informed care and services as

well as training and education. Modern facilities help offenders prepare to re-enter civic life and equip people with the skills to contribute to community life and participate in the economy.

The Territory's climatic conditions add to the infrastructure portfolio to ensure public safety during extreme weather events of cyclones, floods and droughts. Northern Territory Government departments working with communities strive to build resilience along with community trust and confidence, to manage a range of emergency situations.

The Territory has led the nation in providing cyclone shelters, and the re-purposed INPEX village became the Centre of National Resilience for international arrivals undertaking mandatory quarantine during the COVID-19 pandemic. The Northern Territory Government will continue to build more multi-purpose facilities that can act as emergency evacuation centres that foster resilience and better community recovery.

## Housing

Provision of housing is a central issue for the Territory's growth. The Northern Territory Government is proactively releasing land for residential development aligned with population projections to ensure that housing is available ahead of the demand curve.

While some Territorians will invest in private housing for wealth creation, other Territorians require affordable housing options to protect and build resilience to overcome disadvantage.

The National Partnership Agreement on Remote Housing is a joint funding program between the Australian and Northern Territory governments to improve housing in remote communities by investing \$1.1 billion. This program aims to reduce overcrowding and improve living conditions for Aboriginal people living in remote communities.

Other drivers for demand and challenges requiring innovative housing options include affordable social housing in the growth regional centres, student accommodation and housing for seniors.

Land released for future housing development needs to be timed to support the predicted population growth associated with economic development across the Territory. The regional centres of Katherine, Alice Springs and Tennant Creek are already experiencing growing pains as a result of economic growth. In many cases, economic activity has outpaced the capacity of regional markets to meet the influx of new demand.

The Greater Darwin region has a number of urban growth areas with capacity to support new housing over the coming years including the suburbs of Zuccoli, The Heights, Northcrest and Lee Point. Planning is also underway to fast track the development of 5000 residential lots at the new land release areas of Holtze and Kowandi to cater for population growth in the short to medium term. Holtze and Kowandi will be developed in stages with the first stage issued in 2024.

Residential lots in the Katherine region are being developed in Casuarina Park with Stage 3 expected to be released in 2022 and infrastructure has been designed to service land for future land releases in Katherine East to cater for population growth in Katherine.

In Tennant Creek, additional lots are being prepared for release in 2022 and planning is in place for future residential land.

In Alice Springs Stage 2B of the Kilgariff housing estate is anticipated to commence in mid-2022 with titles issued in mid-2023. Importantly the speed of the land release can be adjusted to meet market demand.

### Northern Territory Community Housing Growth Strategy 2022–2032

This Strategy has been developed to invest in transitioning the delivery and management of social and affordable housing to Community Housing Providers (CHPs).

The Strategy positions the community housing sector as a central part of the broader social and affordable housing system in the Northern Territory.

Sector growth will be fast tracked under this Strategy to increase the size and scope of community housing across the next 10 years.

It is underpinned by a commitment of \$22.3 million in 2021–22 and 2022–23 to seed fund sector growth and provide a foundational investment in community housing.



## Sporting, recreation and lifestyle

Sports and recreation facilities improve physical and mental health, wellbeing, help build strong social networks and provide the lifestyle that attracts people to want to live, work and stay in the Territory. While the cost to build these facilities can be high, the beneficial outcomes are substantial. The Territory has a strong track record of building multi-purpose facilities that support a wide range of programs with opportunities for wider community use, multiplying the benefits.

Creative industries cut across economic and social domains. The sector is diverse, from visual arts and digital design, to screen production, broadcasting and festivals. 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.

With 87 national parks and reserves, many world-class including two of Australia's heritage listed destinations, Kakadu and Uluru-Kata Tjuta, and home to the world's oldest living culture, 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 heritages.

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 in delivering cultural infrastructure as well as leading operations and providing content.

*Left: V8 Supercars. Credit: Department of Infrastructure, Planning and Logistics.*

## NT Sport and Active Recreation Strategic Plan 2021–2025

Investment in sport and active recreation infrastructure is targeted towards inspiring participation, improving liveability and delivering vibrant places where every Territorian belongs, through a diverse range of leisure and outdoor activities. The key actions for Territory sport and active recreation places and spaces are to:

- identify and improve participation in sport and active recreation by enhancing infrastructure accessibility and availability in response to community needs
- prioritise development and investment in multi-purpose community facilities
- develop a long term sport and active recreation infrastructure master plan that supports participation and growth in grassroots sport.

The NT Sport and Active Recreation Strategic Plan 2021–2025 provides a road map for decision making across the next four years to create celebrated communities, vibrant places and active Territorians through sport and active recreation. To achieve this mission, the strategic plan sets out four goals:

- Territorians participate regularly in sport and active recreation to improve their health and wellbeing.
- Places and spaces inspire sport and participation in active recreation, improve liveability and are vibrant places where everyone belongs.
- Achievements across sport and active recreation are celebrated and inspire the community.
- Partnerships are agile, responsible and focused on optimising the collective impact of Territorians participating regularly in sport and active recreation.

### 7 hospitals

Greater Darwin, Gove, Katherine, Tennant Creek and Alice Springs



71% of Northern Territory government schools are located in remote and very remote areas

### 41% of Northern Territory students are enrolled at these schools

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.*



### 85 Northern Territory parks and reserves

cover 49 326 square kilometres

254 crocodiles removed from Top End waterways in 2020–21



46 police stations

1 police beat

2 multi-jurisdictional facilities

17 police posts



11 fire stations

7 volunteer fire stations



## Land

Land is the first step to infrastructure development, therefore land ‘infrastructure’ is essential for social and economic development.

Investment ready land is 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.

Land also 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.

Land tenure is complex in the Northern Territory. Other than freehold land, the other key land holdings are summarised in the following table.



Left/above: Tropical fruit farming at Lambels Lagoon NT. Credit: Steve Strike.

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 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>Land Development Corporation</b>	The Land Development Corporation is a Northern Territory Government owned corporation with a vision: “ <i>To demonstrate excellence in strategic development, unlocking the potential of land to drive economic growth in the Northern Territory.</i> ” The Land Development Corporation partners with the public and private sectors to plan, build and deliver strategic land developments in the Northern Territory. Under legislation, the Land Development Corporation is to act commercially and where appropriate, work with the Northern Territory Government and the private sector to deliver a diverse range of projects.
<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 four 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>
<b>NT Land Corporation</b>	The NT Land Corporation was established in 1986 by the Northern Territory Government to protect key government land holdings until they are ready for their long term potential to be realised. The NT Land Corporation has been entrusted with selective land holdings to ensure their long term benefits are maintained. The land holdings include national parks, Marrakai Dam catchment, land suitable for large scale agricultural developments and land for future development such as Gunn Point. The NT Land Corporation holds more than 6000 square kilometres of land covering over 100 properties.
<b>Conservation Land Corporation</b>	The Conservation Land Corporation is the land holding body of the Parks and Wildlife Commission of the Northern Territory. It is established under Part IV of the <i>Parks and Wildlife Commission Act 1980 (NT)</i> . Crown lands may be directly vested in the Corporation by the Northern Territory Government. Land vested or owned by the Conservation Land Corporation, the National Park and Reserve estate, is managed by the Northern Territory Parks and Wildlife Commission.

The Northern Territory Government is planning its largest residential land release program to accommodate 6500 homes and support population growth across 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 Tennant Creek.

Development of land for other uses is also critical. The 1500 hectare Middle Arm Sustainable Development Precinct that includes two industrial estates is underway – Kittyhawk Estate (300 hectares) and Spitfire Estate (300 hectares). The Kittyhawk and Spitfire estates will support downstream processing and manufacturing of gas and renewable energy-based products. 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 Keeps Plains Agricultural Development along the Keep River and adjoining Ord developments in WA. This was recently leased to AAM group for agricultural development
- the Wildman Agricultural Precinct, 26 000 hectares of land approximately 135 kilometres from Darwin.

## Bringing land to market

The Territory Government is working towards achieving a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs by 2030. With this economic and jobs growth will come population growth.

To ensure there is sufficient housing to support population growth, effective and efficient land development is critical to delivering land at the right time and in the right place.

Team Territory co-chair, Dick Guit, in consultation with key stakeholders and industry from across the Territory, conducted an independent review of the land development process in the Northern Territory.

The final report *Bringing Land to Market: An Independent Review of the Land Development Processes, Land Under Development and Titled Land* was released in February 2022. The report identified two critical themes to deliver land at the right time and in the right place:

- the process for developers to bring sufficient titled land to market
- the process to ensure the Northern Territory Government continues to plan and deliver sufficient supply.

To address these themes, 23 recommendations were identified. The recommendations focused on:

- planning for future demand
- new initiatives
- identifying opportunities to improve and streamline the current land development processes
- understanding the entire land development process, the inter-dependencies between stakeholders and the responsibilities of each party in order to gain efficiencies.

## Integrated land use and infrastructure planning

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, and to protect the operation of existing infrastructure from future development.

In 2020, the Northern Territory Planning Scheme 2020 came into effect. Changes were made to the *Planning Act 1999* to strengthen the role of strategic plans and policy, to enable better development outcomes and allow the community, industry and government to anticipate future development and coordinate infrastructure provision.

Under this new system, 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 four years, eight 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 Subregional Land Use Plan – Gunn Point
- Howard Springs Rural Activity Centre Area Plan
- Katherine East Area Plan
- Tennant Creek Land Use Plan
- Central Alice Springs Area Plan
- Kilgariff Area Plan.

## Integrated approach to planning and development

The Northern Territory Government has adopted an integrated approach to land use and infrastructure planning to realise the potential of the Middle Arm Sustainable Development Precinct. The Sustainable Development Precinct is unique because of the benefits of adopting an integrated approach, outlined below:

- The Northern Territory Government identified the land use as being strategically important to support industry in the Darwin Regional Land Use Plan 2015 that was developed in consultation with the community and informed by infrastructure studies.
- The magnitude of potential development at Middle Arm is considered when planning infrastructure corridors (for roads, rail lines, pipes and cables) to supply essential services.
- A Strategic Assessment Agreement has been adopted that includes a regional strategy for air, marine and land conservation to offset the development. It will reduce time and up front investment costs for environmental approvals for those proponents wishing to locate at Middle Arm, and are contained within the Northern Territory Government's approved impact envelope.
- The development will be planned, designed, constructed and operated in line with principles set out by the Infrastructure Sustainability Council of Australia with an Infrastructure Sustainability rating.

Integrated land use and infrastructure planning provides an opportunity to enhance the urban environment and to improve liveability.

Planning 'green' assets (trees, parks, gardens) and 'blue' assets (water sensitive urban design – drainage areas and flood storage) in parallel rather than separately, enables the same asset to provide multiple services that benefit both green and blue objectives. By purposely planning for green and blue infrastructure that achieves multiple objectives, cities and towns can benefit from more efficient infrastructure.

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 on and challenges for the built environment has provided greater opportunities to combine elements of green and blue infrastructure as an effective tool in mitigating climatic conditions such as pollution, stormwater and the heat island effect – urbanised areas that experience higher temperatures than outlying areas.

A redeveloped and greener State Square will cool the city of Darwin, make it more liveable and increase space for outdoor events and festivals, ensuring Darwin is a vibrant, tropical capital.

Innovations to cool and green the city, along with promoting climate-appropriate design, will help change the face of Darwin, transforming it into a best-practice example of tropical, urban living.



## NT Subdivision Development Guidelines

In 2020, the Northern Territory Government published the Northern Territory Subdivision Development Guidelines that aim to create a holistic approach to subdivision development (regardless of zoning) across the Territory.

These guidelines provide best practice engineering design and construction standards for important public infrastructure such as streets and pathways, public open space and landscaping, stormwater drainage and utility services.

The guidelines set out the minimum standards required by relevant authorities to facilitate clearance of development permit conditions imposed on a subdivision by the Northern Territory Development Consent Authority, the approval authority under the *Planning Act 1999*.

Adopting the guidelines reduces ambiguity for councils and developers by providing a clear and concise approach to planning, design, and construction requirements in the Northern Territory, which in turn reduces construction costs and time for councils and developers.

The Bringing Land to Market Report recommends the Northern Territory Government legislate the Subdivision Development Guidelines to become mandatory, formalise the Subdivision Development Guidelines Management Committee and that each individual local government have its own requirements specific to its jurisdiction approved through the Committee.



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

**246 000 persons**



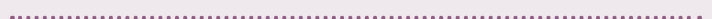
In 2020–21 there was an increase of

**158% titled  
residential lots**

compared to 2019–20

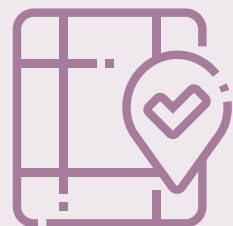
**Increase of 100%  
in lots sold**

in 2020–21 compared  
to 2019–20



**Average of  
54 days**

to process development  
applications in 2020–21



# Developing the NT Infrastructure Plan and Pipeline

Infrastructure planning is planning for the facilities, structures, networks, systems, plant, property, equipment, or assets required to achieve a set of objectives. Infrastructure planning is typically undertaken by governments to inform government investment in infrastructure to achieve government goals and objectives. The Northern Territory Government’s vision is:

**Vision 2030**

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.

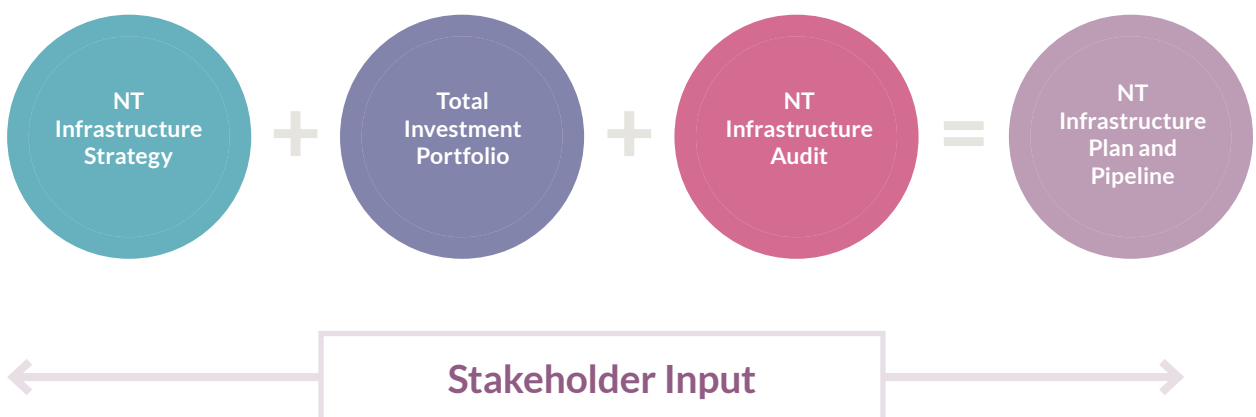
Achieving this vision through the NT Infrastructure Plan and Pipeline will require better coordination, integration, visibility and analysis of the infrastructure needs to formulate the plan.

There are three key inputs to the NT Infrastructure Plan and Pipeline – The NT Infrastructure Strategy, the Total Investment Portfolio and the NT Infrastructure Audit.

The NT Infrastructure Strategy articulates the vision, and the cross cutting objectives to achieve that vision. The cross cutting objectives integrate with the industry sectors driving economic growth and the enabling infrastructure systems supporting that growth.

The Total Investment Portfolio is critical to the NT Infrastructure Plan and Pipeline. The economic growth and jobs supported through the Total Investment Portfolio inform the predicted population growth and the infrastructure required to support both economic and population growth.

The NT Infrastructure Audit will provide recommendations for infrastructure investment based on a needs assessment and gap analysis. It will articulate infrastructure legacy issues and make recommendations to harness opportunities and address challenges. The NT Infrastructure Audit is in progress but is not available for the 2022–23 Infrastructure Plan.



Infrastructure NT adopts a place-based approach to infrastructure planning, underpinned by stakeholder input that informs development of the NT Infrastructure Plan and Pipeline. Adopting a place-based method for the NT Infrastructure Plan and Pipeline aligns with relevant Northern Territory Government policies of Territory Economic Reconstruction, Local Decision Making and the Regional Development Framework.

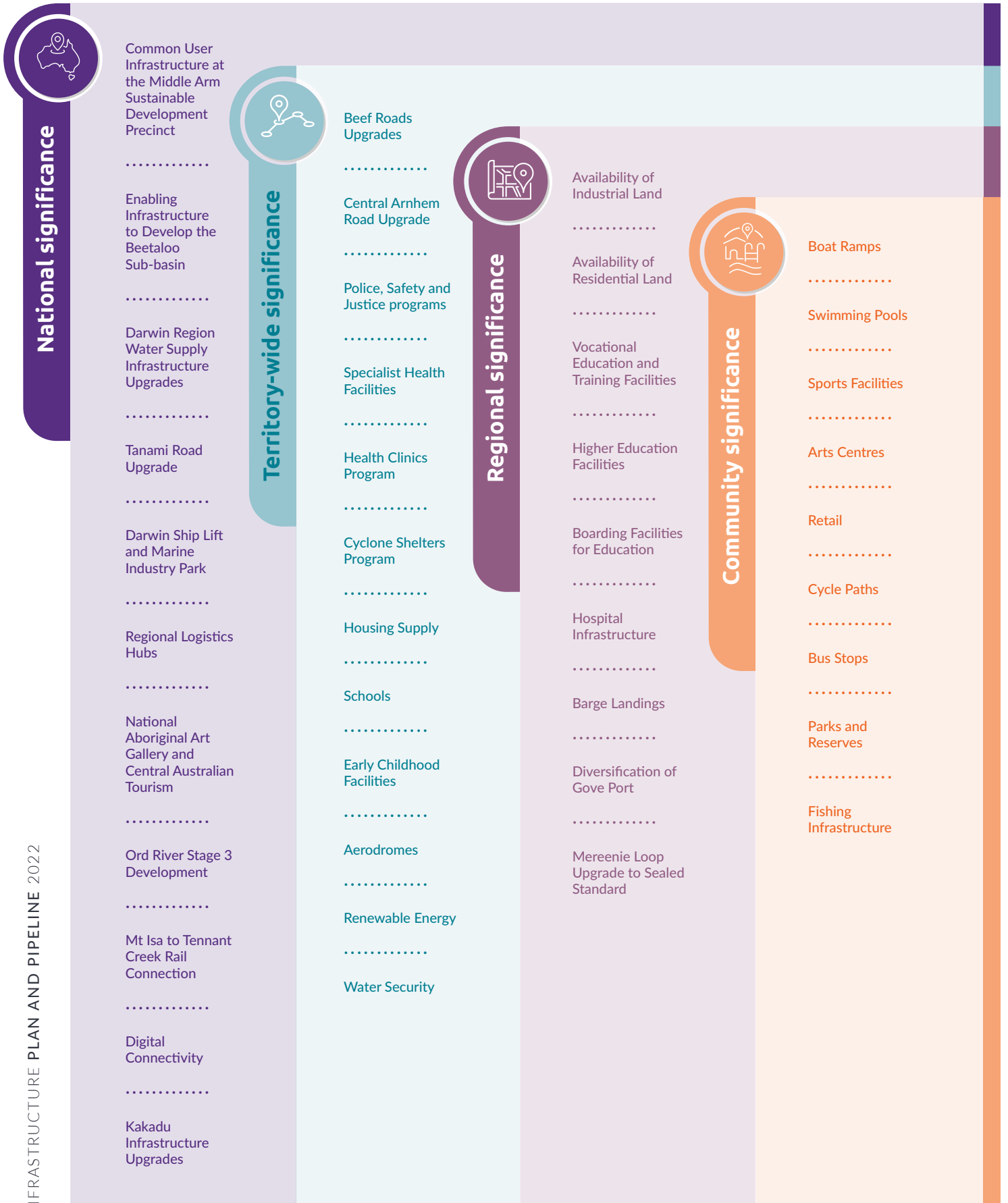
Many governments across the world have adopted a place-based approach to integrate community ideas into government decision making for better outcomes. Place-based approaches aim to build thriving communities in a defined geographic location and are often used to respond to complex, interrelated or challenging issues. The unique attributes of a place are considered so that operational structures and services can be tailored to regional or local perspectives, and for innovative service structures that integrate or co-locate services in localised areas.

The key principles of the place-based approach adopted for the NT Infrastructure Plan and Pipeline are as per the cross cutting objectives:

<p><b>Invest in the right infrastructure, in the right place, at the right time</b></p>	<p><b>Support increased growth, productivity and innovation</b></p>
<ul style="list-style-type: none"> <li>• Strategically plan new enabling infrastructure ecosystems to de-risk and secure investment</li> <li>• Balance investment in social and economic infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Grow capacity and capability to lead and drive the development of northern Australia</li> <li>• Invest in infrastructure to increase the value of existing supply chains</li> </ul>
<p><b>Improve liveability</b></p>	<p><b>Embed sustainability and resilience</b></p>
<ul style="list-style-type: none"> <li>• Integrate place-based planning with local decision making and regional development strategies</li> <li>• Improve connectivity and equitable access</li> </ul>	<ul style="list-style-type: none"> <li>• Accelerate the delivery of sustainable development precincts</li> <li>• Consider economic, environmental, social, cultural and governance sustainability and resilience in infrastructure decision making</li> </ul>

Investment by the private sector will influence economic and population growth outcomes and subsequently government service requirements and infrastructure needs at the national, Territory, regional and community level. Proposals and projects will be defined at the national, Territory or regional significance level. Infrastructure NT will aim for nationally significant proposals to be included on the Infrastructure Australia National Infrastructure Priority List.

Figure 5 – Example of a place-based approach



Note: Territory-wide projects may also meet the national significance threshold for the Australian Government

Each place includes an investment portfolio analysis, an enabling infrastructure plan, implementation pathway and infrastructure pipeline. The table below summarises what is included in each of these to build a complete picture of the infrastructure portfolio and impacts and outcomes based on the significance of place.

Investment Portfolio	Enabling Infrastructure Plan	Implementation Pathway	Infrastructure Pipeline
<ul style="list-style-type: none"> <li>Analysis of projects that will generate employment and subsequently economic and population growth</li> </ul>	<ul style="list-style-type: none"> <li>The infrastructure needed to support and/or stimulate growth</li> <li>The infrastructure needs or aspirations identified by the stakeholders or the Infrastructure Audit</li> </ul>	<ul style="list-style-type: none"> <li>Recommendations to achieve outcomes and address problems or harness opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Currently funded and announced projects in delivery</li> <li>Market capacity analysis</li> </ul>

## Infrastructure Australia – Regional Strengths and Infrastructure Gaps

On 17 March 2022, Infrastructure Australia released the Regional Strengths and Infrastructure Gaps report. The report provides an evidence base to support regional growth, off the back of the COVID-19 pandemic and recent extreme events. In developing this report, Infrastructure Australia partnered with 48 Regional Development Australia committees to conduct extensive consultation on community views.

This was supported by engagement with key regional stakeholders, including businesses, peak bodies and industry groups, to help create a picture of each area's diverse assets, incumbent growth industries and infrastructure requirements.

These region specific analyses provide a lens to highlight and understand opportunities and prioritise investment. The Regional Strengths report looks for commonalities to promote collaboration and knowledge sharing to enable proactive planning led by local communities.

The report highlights that many regions are eager to capitalise on new opportunities and industries. However, they need to have robust, reliable and resilient infrastructure networks to tap into this growth. For the Northern Territory, the following strengths and infrastructure gaps were noted:

### Strengths

Existing enabling infrastructure	Growth industries
Gateway ports	Defence
Defence assets	Mining
Natural environments	Agriculture, forestry and fishing
Natural resources	
Cultural heritage	
Education and research institutions	

### Infrastructure Gaps

Telecommunications	Transport	Social
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# 9

## Nationally significant projects, programs and proposals

The Territory has opportunities to grow the economy and contribute to the national agenda by growing our traditional industry sectors and enabling and attracting globally emerging growth sectors.

There are a substantial number of nationally significant projects in the Territory and potential opportunities that will see future investment in mines, minerals processing, agribusiness and tourism enterprises, renewable energy exports 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 nine 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



Infrastructure Australia made recommendations for each reform area, outlining where and when each reform should impact. State and territory governments were nominated as a reform sponsor or supporter to achieve the reforms. The relevant sections of the Australian Infrastructure Plan that relate to the Northern Territory are summarised in the following table.

Table 4 – 2021 Australian Infrastructure Plan

IA Recommendation	IA Description	IA Recommended timeframe (years)
<b>Place-based outcomes for communities</b>		
Strengthen smaller cities and regional centres	Attract growth to smaller cities and regional centres while maintaining quality of life by enhancing local identity, leveraging social infrastructure and improving digital and economic connectivity to fast-growing cities and neighbouring regions	5-10
Lifting access in small towns, rural communities and remote areas	Support a better quality of life by aligning funding and minimum standards with principles for sustainable infrastructure delivery in small towns, rural communities and remote areas	5-10
Unlocking opportunity in northern Australia and developing regions	Ensure northern Australia and developing regions fulfil their economic role, attract and retain skilled workers and enable participation of Aboriginal and Torres Strait Islander people through greater collaboration between governments on infrastructure needs across the region	10-15
<b>Sustainability and resilience</b>		
Infrastructure planning for an uncertain future	Build community resilience to all hazards by considering systemic risks, interdependencies and vulnerabilities in infrastructure planning and decision making	0-5
Technology-led sustainability	Meet Australia's present and future needs by establishing the quadruple bottom line as a goal for all infrastructure policy and investment	0-5
Transparency and collaboration build trust in decisions	Build community trust in infrastructure decision making and institutions by ensuring infrastructure decisions are transparent and reflect place-based community needs and preferences	0-5

IA Recommendation	IA Description	IA Recommended timeframe (years)
<b>Industry productivity and innovation</b>		
Improving planning, portfolios and pipelines	Improve industry productivity and value for money by having a coordinated project pipeline with a mature approach to procurement and risk management	5-10
Enhancing project outcomes	Improve value for money and reduce risk by consistently adopting appropriate best practice front-end due diligence for projects	0-5
Enhancing project outcomes	Reduce uncertainty for industry and improve value for money by improving engagement with industry and the supply chain	0-5
Digital by default	Increase productivity and embed a culture of innovation in the infrastructure sector by adopting evidence based digital by default approach to infrastructure planning, delivery and operations	5-10
Next generation infrastructure investment	Deliver greater return on investment by ensuring governments act as model clients and custodians of industry health and productivity	5-10
<b>Transport – delivering an integrated network</b>		
Getting the most out of our transport investments	Maximise the overall benefits of transport investment by aligning transport programs with place-based objectives	5-10
Connecting regional and remote Australia	Improve the liveability and economic sustainability of regional, rural and remote areas by developing, maintaining and operating integrated freight and passenger transport networks that meet end-to-end access needs	5-10
Mobility choice made possible	Free people from relying on driving door to door mobility by ensuring urban transport services are managed as an integrated, inclusive, user-responsive and smart transport system	5-10
A fairer price for every journey	Ensure the price paid for mobility supports the efficient movement of people and goods by leading the transition to a nationally coordinated and multimodal transport network pricing regime	10-15
<b>Energy – enabling an affordable transition to net zero</b>		
Putting customers first	Help households and businesses reduce electricity bills by making sure they have the right information and incentives	5-10
A smart, affordable and reliable grid	Transition to a smart, affordable, reliable future grid	0-5
Powering a cheaper, cleaner future	Transition Australia’s exports and domestic energy demand to high-tech, low-cost, low-emission energy sources through a coordinated national strategy	0-5

IA Recommendation	IA Description	IA Recommended timeframe (years)
<b>Water – prioritising safety and security</b>		
Securing our water future	Secure long term water supply for urban, rural, environmental and cultural users by developing a national approach to water security, including independent ownership	10-15
Valuing water to create liveable communities	Value water in communities by prioritising a whole-of-water-cycle management approach and applying fit-for-purpose, fit-for-place and fit-for-people approaches	10-15
<b>Telecommunications and digital</b>		
Improving the resilience of Australia's telecommunications	Ensure every Australian can rely on digital services by providing transparency of the resilience of Australia's telecommunications infrastructure	5-10
Putting customers at the heart of digital infrastructure	Give Australians improved telecommunications coverage, quality and access by taking strategic actions to improve digital inclusion, regional telecommunications and broadband quality levels	10-15
Enabling Australia's digital future	Fully realise the digital economic dividend by better enabling emerging technologies such as 5G, the Internet of Things, smart cities across Australia through regulation, investment and coordination	10-15
<b>Social infrastructure – supporting economic prosperity and quality of life</b>		
Transforming social infrastructure to enhance quality of life	Support Australians to enjoy a healthier, safer, more connected and fulfilled quality of life by facilitating targeted investment in the right physical and digital social infrastructure	10-15
Partnerships to build communities	Maximise social and economic community benefits by supporting shared use of social infrastructure through future agreements and capital funding programs prioritising shared use of facilities	10-15
Social infrastructure is economic infrastructure too	Support economic development by recognising the value of investment in social infrastructure	5-10
<b>Waste – accelerating Australia's transition to a circular economy</b>		
Valuing resources to enable a circular economy	Avoid waste, improve resource recovery and build demand and markets for recycled products by integrating the circular economy in national waste policy and infrastructure projects	15+
Waste data to drive innovation	Encourage market development through government and industry partnerships to accelerate and extend implementation of the National Waste Strategy's data actions and bring national consistency to the household waste collection and landfill levy system	5-10



Above: Tanami Road, completion of the seal to Yuendumu turn off. 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.

On 16 July 2021 Infrastructure Australia released a refocused Infrastructure Priority List Assessment Framework. The assessment framework is designed to help proponents develop high quality infrastructure proposals for submission to Infrastructure Australia. It provides a national standard for best practice infrastructure development and explains Infrastructure Australia's requirements and process for assessing proposals.

The 2021 changes to the assessment framework will benefit 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.

Although Infrastructure Australia retains the use of cost-benefit analysis, it now considers strategic, social and deliverability benefits more explicitly. 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 four main volumes, reflecting the four stages of project development and submission and is supported by detailed technical guidelines. The four key stages for Northern Territory proposals are:

1. Stage 1 – Clearly identify the problems seeking to be solved and the opportunities seeking to be realised.
2. Stage 2 – Options analysis for addressing the problem/opportunity.
3. Stage 3 – Business/economic case for infrastructure proposal, demonstrating options have been assessed in detail to identify a preferred option based on merit. This includes a cost benefit analysis.
4. Stage 4 – Post project delivery review.

The Australian Infrastructure Priority List (IPL) 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 IPL and their relative stages are shown in Table 5.

Table 5 – Current Territory projects listed on the IPL

NT Project	Submitted by	Stage 1	Stage 2	Stage 3	Investment Ready
Tanami Road upgrade	Western Australian and Territory governments, Halls Creek Shire			✓	
Enabling infrastructure and essential services for remote NT communities Wadeye, Tiwi Islands, Jabiru	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	✓			
Outback Way Road Access	Outback Highway Development Council	✓			
Northern Territory large-scale solar generation (submitted by Sun Cable)	Sun Cable	✓			

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 three 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?

## Key projects, programs and proposals

### Central Arnhem Road upgrade <sup>①</sup>

The Central Arnhem Road is a critical piece of infrastructure enabling social and economic development in the East Arnhem region. Located predominantly on Aboriginal Land, it spans 685 kilometres including the Central Arnhem (645 kilometres), Dhupuma (17.3 kilometres) and Melville Bay (23.2 kilometres) roads. It links the Stuart Highway (national network) to Nhulunbuy and the East Arnhem Land communities, 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 92% of the road length unsealed, and there are frequent restrictions or closures throughout the wet season from December to May each year.

Sealing the Central Arnhem Road will further help unlock the economic potential of the region and open up 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 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
- enhanced freight supply chains and logistics
- deliver on Closing the Gap targets
- access to health care and education
- 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 to upgrade the Central Arnhem Road announcing an investment of \$180 million in its 2019–20 Budget. This funding is matched by a 20% co-contribution of \$45 million from the Northern Territory Government, taking the available funding to \$225 million.





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

## Central Australia Tourism Recovery ②

Central Australia Tourism has suffered significantly from travel restrictions during the COVID-19 pandemic, particularly from international visitors. There is an opportunity to reinvigorate Central Australia as an internationally iconic destination through a program of infrastructure works.

The Central Australia Tourism Recovery program proposes a networked, regionalised approach to connecting the built environment with natural iconic forms through galleries, roads, visitor amenities and recreation facilities. This program of work also provides an opportunity to generate significant Aboriginal economic development and investment.

The regional program focuses on five key projects that are an 'ecosystem of opportunity' enabling greater regional development:

- enhancing accessibility and the visitor experience of existing anchor attractions such as Uluru-Kata Tjuta National Park and Watarrka (Kings Canyon)
- adding two new iconic attractions – purpose-built art galleries for, and majority managed by, Aboriginal people through a National Aboriginal Gallery Program. One will be built

in Alice Springs CBD on an iconic scale and the other in the remote town of Ntaria, the birthplace of Albert Namatjira, to provide an intimate remote experience

- 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 the communities from remote towns back to the inland capital of Alice Springs.

The preliminary business/economic case for the National Aboriginal Art Gallery found that the gallery will bring an additional 53 000 visitors to Alice Springs each year. This visitation generates a further economic contribution of between \$42.8 million and \$64.2 million and 164-245 jobs. The direct economic contribution from gallery employment is \$13.73 million per annum and up to 69 jobs once fully operational.

### Common user infrastructure at the Middle Arm Sustainable Development Precinct 3

The Middle Arm Sustainable Development Precinct is a 1500 hectare industrial development on the Middle Arm peninsula in Darwin Harbour that will accommodate large strategic industries for downstream gas processing, mineral processing, renewable energy and related developments.

The Northern Territory Government is three years into the planning work to realise the potential of the Middle Arm Sustainable Development Precinct, which includes two industrial estates that are underway – Kittyhawk Estate (300 hectares) and Spitfire Estate (300 hectares). Titles have been issued for the first lots in the Kittyhawk subdivision and discussions are underway with several private sector proponents wanting to be the first movers at this site.

The Middle Arm Sustainable Development Precinct has been recognised as nationally significant through its inclusion on Infrastructure Australia’s National Infrastructure Priority List.

The precinct is a key economic enabler that leverages the Northern Territory’s significant endowment of natural resources and strategic minerals. A new downstream gas processing

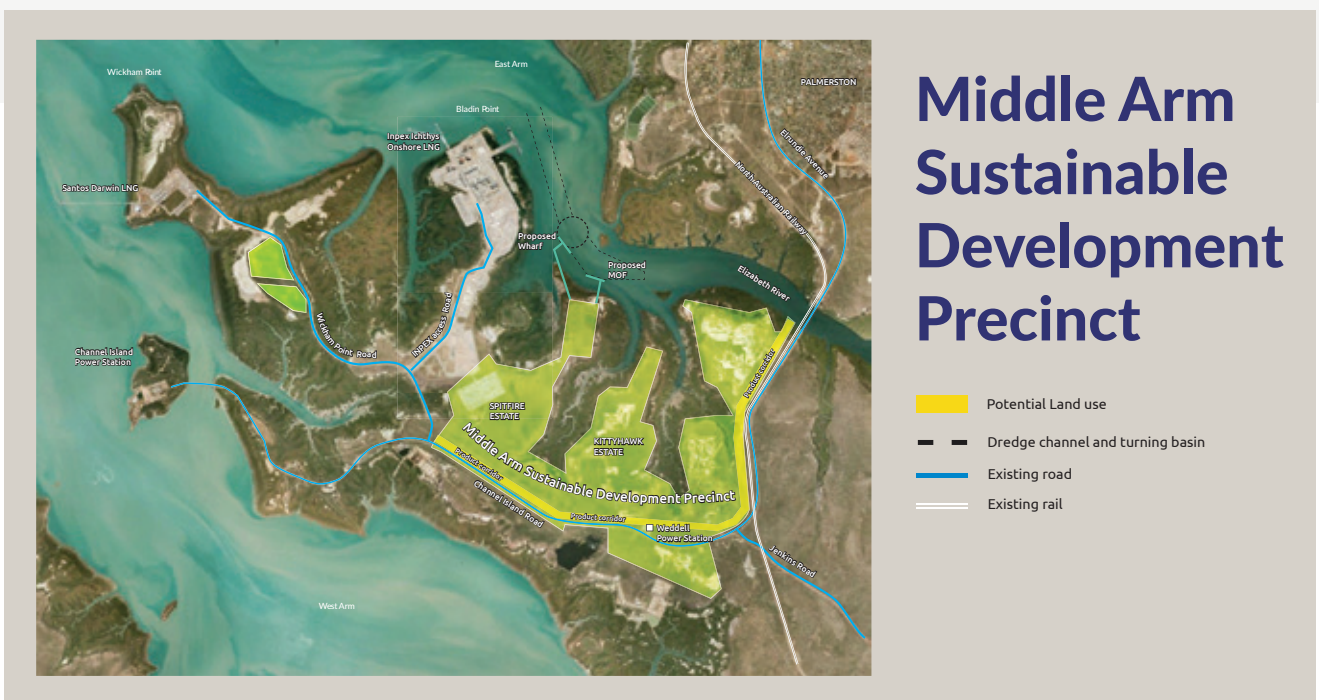
industry in Darwin will bring broader and deeper benefits for the national economy and contribute to Australia’s energy security.

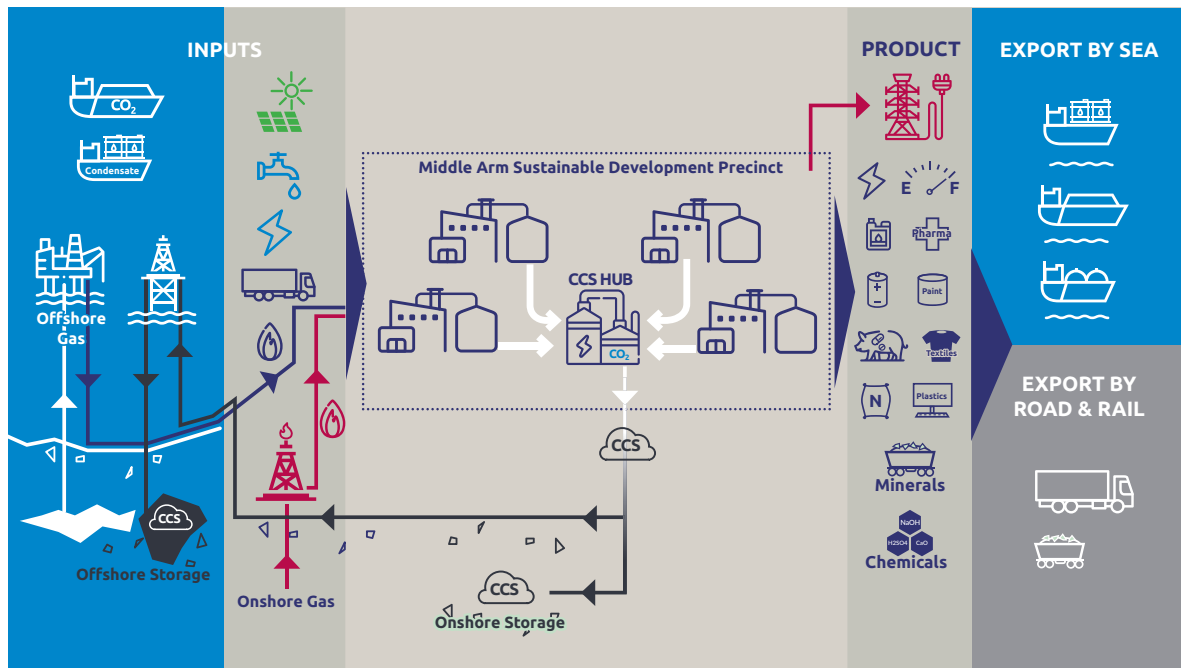
The Northern Territory has the opportunity to use these abundant resources to manufacture on an international scale, competing with other countries for both high volume and high value commodity markets, and capitalise on its proximity to large Asian markets.

The \$2 billion investment in common user infrastructure will unlock significant job creation and economic potential for the Northern Territory.

It is estimated that the project will inject \$16 billion of private sector investment and support up to 20 000 ongoing jobs by 2040.

Stage 1 is expected to unlock about \$5–\$8 billion in private sector investment, depending on their chosen technology platform.





Types of industries at Middle Arm Sustainable Development Precinct

### Darwin region water supply infrastructure upgrades – Adelaide River Off-Stream Water Storage (AROWS) ④

Most of Greater Darwin’s water comes from Darwin River Dam, which operates at its sustainable yield (and has for the past 10 years). The water supply is supplemented by a series of groundwater resources that are largely over allocated. There are three key drivers of additional water demand in the Greater Darwin region:

- **Urban demand** – based on the forecast growth of the NT population and existing industry.
- **Industrial demand** – driven largely by the development of highly prospective onshore and offshore oil and gas fields. The industrial demand is expected to be accommodated at the Middle Arm Precinct, which is a key strategic priority of the Northern Territory Government.
- **Agricultural demand** – an abundance of land suitable for high value horticulture across the region requires secure and reliable water sources to support successful agricultural development. A detailed review of industry and market data on potential agricultural greenfield demand, supported with market sounding and stakeholder engagement, determined four core crops to be most viable for the region – mango, jackfruit, lime and okra. The review also

identified that additional water supply could unlock growth (brownfield demand) on existing agricultural and horticultural properties and producers, which are currently constrained due to oversubscribed groundwater resources and a lack of reliable water. These developments will be accommodated at Lambells Lagoon and Middle Point.

The Manton Dam Return to Service and the Adelaide River Off-stream Water Storage (AROWS) have both been identified as potential sources of supply.

The yield from Manton Dam has been estimated at 7300 megalitres (ML) per annum through new pumping stations and pipelines while the yield from AROWs has been estimated at 60 200ML per annum by capturing wet season flows in a natural saddle with pumping and pipeline infrastructure.

## Digital industries 5 6 7 8

Darwin's proximity to Asia will deliver unparalleled opportunity to close the gap between the booming Australian and Asian digital economies. This will provide a bilateral gateway that will deliver more jobs and growth in Australia's Top End and more efficient digital services for business and the Territory Government.

NEXTDC will expand its digital infrastructure platform and 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.

NEXTDC have secured rights to a second location in the Darwin Technology Park at the Wishart Estate for a future planned second data centre (D2) to ensure the Territory is well geared to meet the growing needs of our digital economy.

The planned HyperOne network, once complete, is proposed to comprise over 20 000 kilometres of new high speed fibre cable across Australia and 2200 kilometres across the Territory, capable of carrying over 10 000 terabits per second.

HyperOne will be Australia's first hyperscale national fibre network, currently proposed to incorporate three 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).

Vocus will provide high capacity connectivity to D1 on its Terabit Territory fibre network as well as being an anchor tenant in the facility. Vocus' Darwin-Jakarta-Singapore fibre cable will be the first direct fibre link between Darwin and Singapore. It will be operational by mid-2023. D1 will also have access to Project Horizon fibre between Darwin and Perth via Port Hedland.

Hawaiki Nui's construction of their subsea system will connect Darwin to Singapore, Jakarta, eastern Australia, New Zealand, Hawaii and Los Angeles and will be ready for service in 2025.

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 proposed 16 fibre pairs with a combined capacity of about 256 terabytes per second. Subsequent phases include a branch connecting links to Papua New Guinea (with potential opportunities to connect Nhulunbuy and Groote Eylandt).

Inligo Network Unite Cable System (Unite) is a private terrestrial fibre network. Phase 1 is a new link between Darwin and Adelaide and phase 2 links Adelaide to Melbourne and Adelaide to Sydney. 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.

DCI Data Centres has secured a 2.7 hectare site in the Greater Darwin region to construct a secure cloud edge 10 megawatt (MW) data centre called DWN01.

This level of government and private investment will strengthen the Territory's position as "Australia's Digital Territory and gateway to Asia" and will support sectors including defence, space, agriculture, mining and tourism.



## Ship Lift Facility – Darwin 9

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 and six metres deep
- lifting capability of 5000 tonnes
- wet berths (wharves)
- additional hard stand 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. It is expected that it will take two years to construct, before becoming operational in 2024. Once operational, the facility will be a catalyst for developing a marine maintenance and servicing industry and creating many new jobs.

Construction of the \$400 million ship lift begins this year, supporting 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, oil, gas and marine industries across the entire region.



## Enabling infrastructure for developing the Beetaloo Sub-basin 10

The Beetaloo Sub-basin is one of the most prospective areas for shale gas and liquids in Australia.

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.

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 Australian and Northern Territory governments have committed a \$367 million investment in road upgrades to support the Beetaloo Sub-basin development that will improve road safety, increase road reliability during the wet season and boost regional productivity.

The Northern Territory Government is currently upgrading the Carpentaria Highway, which will be a key road in servicing the Beetaloo Sub-basin as it moves through exploration, appraisal and development stages.

Investment in road upgrades will unlock significant job creation and economic potential for the Northern Territory.

## Marine Industry Park 11

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. The Marine Industry Park is 16 kilometres by road from Darwin CBD and directly adjoins East Arm Wharf. It provides opportunities to enhance support for the marine and offshore industries, complementing services already available within the region.

The first stage of the Marine Industry Park was a barge ramp that is an accredited first point of entry for the Darwin Port and a secure nine hectare hardstand with 24-hour access for storage and fabrication activities. Both amenities are available for use. Stage two of the Marine Industry Park will comprise a further four hectares of land for marine maintenance workshops and supporting services.

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.

As the Marine Industry Park is next to the Darwin Ship Lift, this will enhance the benefits of the ship lift project by providing industrial land for services industries that complement the ship lift facility.

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.

Once operational the 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.

## Northern Territory remote community power generation program 12

The Northern Territory Government, through Power and Water's subsidiary Indigenous Essential Services, provides electricity to 72 remote towns across the Northern Territory. This network includes 51 power stations, consisting of:

- 26 diesel generators
- 23 diesel generators supplemented with solar
- one diesel generator supplemented with solar and energy storage
- one gas power station.

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.

The operating costs from purchasing and transporting diesel to remote areas is relatively high.

Renewing power generation for remote communities with new technologies and renewable energy sources is expected to improve resilience, flexibility, reliability, amenity and sustainability of power infrastructure in remote Aboriginal communities of the Northern Territory.

Potential options include a program of works to provide renewable energy or hybrid generation and new storage solutions for these remote towns, in partnership with the local communities.

### Power and Water – Our Service Area



## Regional logistics hubs 13

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.

The Northern Territory Government is implementing actions to ensure logistics support rather than constrain industry and economic growth. The initial step, already underway, is developing a supply chain database that collates the freight and industrial requirements and impacts of known and anticipated future developments across agribusiness, minerals and energy, manufacturing, defence, digital and social sectors. This will become the evidence base to underpin freight and land use investments.

As part of this assessment, the Government will consider the demand to consolidate freight in centres throughout the Northern Territory.

Intermodal terminals play a significant role in the consolidation, storage and transfer of freight between rail and road at the beginning and end of each rail journey. Intermodal terminals provide connectivity to ports, regional networks and other capital cities and locations. Efficient intermodal

terminals can also increase flexibility for freight operators and decrease the overall cost in a supply chain.

A network of regional logistics hubs to create an efficient supply chain throughout the Northern Territory is expected to generate new opportunities, support and facilitate economic development and ensure more of the Northern Territory's gross state product (GSP), investment and employment is retained.

Each regional logistics hub will:

- consider specific industry and opportunities
- lead to informed decisions around freight types and infrastructure requirements
- consider stakeholder, community and site considerations as well as existing infrastructure specific to that region.

### Concept

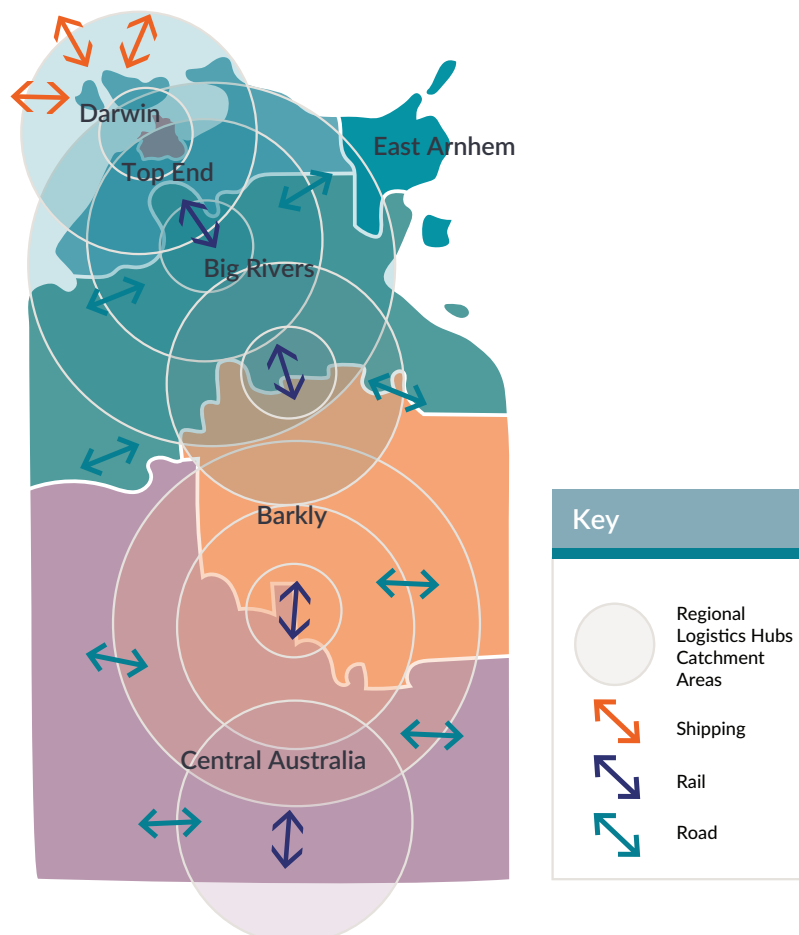
Network of Regional Logistics Hubs across the NT

### Result

- ✓ Supply chain that caters to all of NT industry (and interstate catchment)
- ✓ Maximises efficiency (reduced costs to infrastructure users and providers)
- ✓ Each hub caters to the region's key industries and opportunities
- ✓ Infrastructure needs are clarified

### Note

- ✓ Arrows indicate two way trade (imports and exports)



## Sun Cable – the Australia-Asia Power Link 14

Sun Cable's flagship project is the Australia-Asia Power Link (AAPowerLink). Solar energy will be harnessed and stored at one of the world's largest solar farms and battery systems in the Barkly region in the Northern Territory of Australia, for 24/7 dispatch to Darwin and Singapore via a 5000 kilometre high voltage direct current (HVDC) transmission system.

Sun Cable'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.

Providing 800 megawatts (MW) of electrical capacity to the Darwin region will facilitate the electrification of new and existing industries, supporting large-scale economic development, while reducing greenhouse gas emissions.

The AAPowerLink is a AUD \$30+ billion project and 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, create opportunities for local businesses and suppliers, as well as innovation and investment in Australia, Singapore and Indonesia. Benefits include \$8 billion in investment in Australia during the four-year construction period, with most spent in the Northern Territory, 1750 direct construction jobs and 350 long term operational jobs for the 70-year life of the project.



## Tanami Road upgrade 15

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.

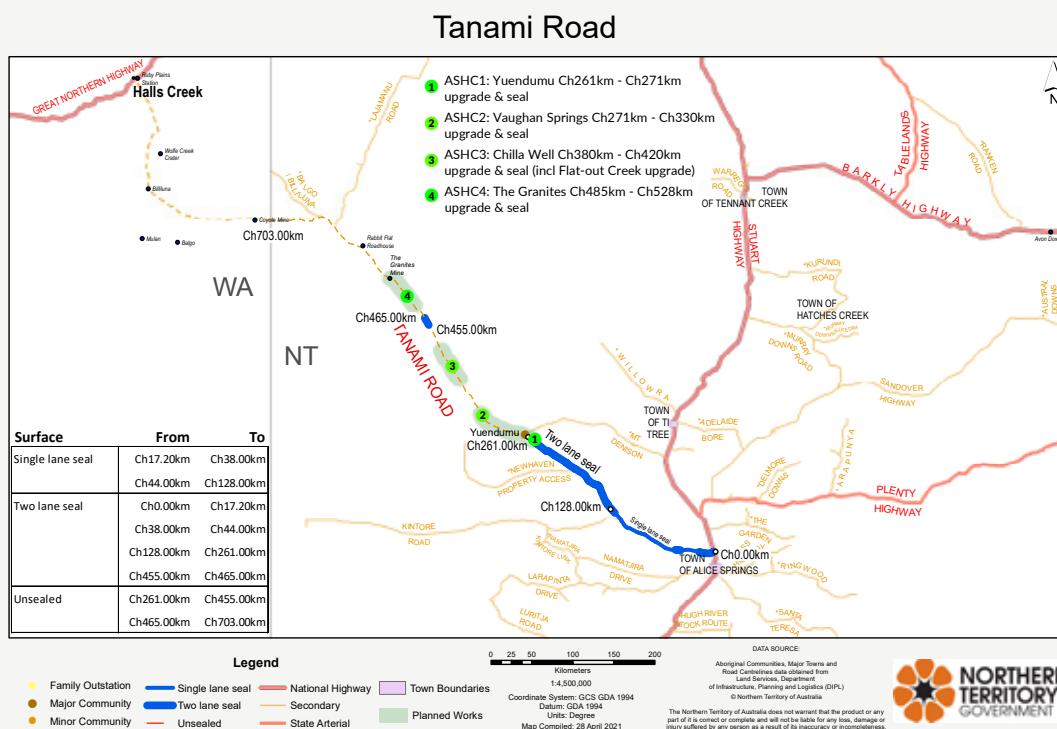
The Tanami Road is a 1014 kilometre direct link from Halls Creek, Western Australia to the north of Alice Springs in the Northern Territory. The road condition along the 703 kilometre Northern Territory section of Tanami Road, from the Stuart Highway turn off 19 kilometres north of Alice Springs to the Western Australia border, comprises 261 kilometres of sealed and 442 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 interregional tourism 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.

The upgrade of the Tanami Road is strategically important to the Northern Territory and Western Australia and is recognised as being nationally significant on the National Infrastructure Priority List, due to its importance to developing northern Australia. The Australian and Northern Territory governments have committed \$400 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.

It is anticipated that the \$400 million program will complete the sealing of the Tanami Road within the Northern Territory.



## 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

Progress Stage 2 submission (options analysis) for enabling infrastructure to develop the Beetaloo Sub-basin (as all road upgrades are now funded, this will be for the remaining infrastructure required)

Progress Stage 2 submission (options analysis) for common user infrastructure at the Middle Arm Sustainable Development Precinct

Submit Stage 1 business/economic cases for:

- Central Australia tourism recovery
- Regional logistics hubs
- Marine Industry Park
- Central Arnhem Road

Remove and strengthen the Infrastructure Australia Priority List proposal 'Enabling infrastructure and essential services for remote Northern Territory communities in Wadeye, Tiwi Islands, Jabiru'

Accelerate planning for and delivery of residential, commercial and industrial land



Above: Royal Flying Doctor Service Alice Springs Tourist Facility. Credit: Royal Flying Doctor Service of Australia Central Operations.

## Infrastructure Australia – 2021 Infrastructure Market Capacity Report

Australia is currently experiencing a record level of investment in infrastructure. With an unprecedented wave of infrastructure investment across transport, utilities and social infrastructure expected in Australia over the next five years, Infrastructure Australia released an Infrastructure Market Capacity report, in late 2021. The report, the first in its market capacity program, provides a new evidence base for a comprehensive understanding of the supply and demand of the skills and materials critical to delivering Australia's major infrastructure pipeline, and associated risks in planning and delivery.

Investment in major public infrastructure over the next five years across Australia will exceed \$218 billion. The scale of demand for skills and resources is highly likely to exceed the normal capacity increases expected in the market. The report identifies:

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

With the strongest growth anticipated in the resources sector in the Northern Territory, it is critical for the Northern Territory Government to work with industry to plan and manage workforce capacity and resources as this will be vital in achieving a sustainable and diverse \$40 billion economy, a population of 300 000 and 35 000 more jobs by 2030.



Above: MIG Welder Winnellie NT. Credit: Steve Strike.

# Territory-wide significant projects, programs and proposals

The Northern Territory holds only 1% of Australia's population. However, the Northern Territory's land mass makes it the third largest Australian state/territory and 11th largest subdivision in the global list of large country subdivisions behind the State of Alaska in the United States, Greenland in the Kingdom of Denmark and the State of the Amazonas in Brazil.

The Territory is seen as one region but its size, physical remoteness, small population and two 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.

Darwin is our northern capital – supporting a central spine of regional centres that in turn sustain smaller regional and remote communities of primarily Aboriginal people living on their homelands.

From the Arrernte in Central Australia, the Yolngu in Arnhem Land to the Tiwi people of the Tiwi Islands near the Timor Sea, there are more than 100 different Aboriginal languages and dialects spoken in the Territory. The Territory is one of the most linguistically diverse areas of the world.

Each of the Territory's regions are distinct – 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.

Infrastructure Australia acknowledges the recent trend of regionalisation as Australians take the opportunity to move away from densely populated cities to regional centres.

With this population shift comes the need to think strategically about the different infrastructure needs of our regions.

The regions are the Territory's growth hubs that will generate jobs, grow our population, boost economic prosperity and protect and enrich our lifestyle and culture. Our regions are where opportunities will germinate at a community level and incubate at the regional level before emerging on the Territory and then potentially the national stage. Our regions include:

- Greater Darwin – Darwin, Palmerston and Litchfield
- Top End
- East Arnhem
- Big Rivers
- Barkly
- Central Australia.

This Plan 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 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.



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.







## 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 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)
Access roads to barge landings and aerodromes	•	Improve all weather air and sea access to support accessibility, visitor growth and community safety	5-10
Aerodrome and airstrip upgrades	30	Support connectivity and improve all weather access to improve community safety, accessibility and support future growth	0-15
AFL NT 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	10	Support economic development by improving all weather access and goods handling facilities	10-15
Child care centre upgrade program	7	Contemporary educational infrastructure to support growth in early years learning enrolments	0-10
Communications network upgrades to provide terabit transmission to southern states	18	Enable connectivity and create digital opportunity	0-5
Correctional facility expansions - additional facilities for prisoners	300	Meet community expectation through additional correctional infrastructure	0-10
Football ovals - install lighting	4	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Inligo Network - terrestrial cable connecting Darwin and Adelaide	•	Build a resilient and diversified digital network	0-5
Mobile and/or broadband services	30	Enable connectivity and create digital opportunity	0-10
Park facilities - enhance experience and access for visitors with limited mobility	9	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10

• indicates value is either commercial in confidence or to be confirmed.

Timeframe					
	0-5 Years		0-10 Years		0-15 Years
	5-10 Years		10-15 Years		15+ Years

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Public transport - upgrade bus stops, install bus stop shelters, upgrade bus interchanges, <i>Disability Discrimination Act</i> (DDA) compliance upgrades and closed-circuit television (CCTV)	20	Support accessibility, connectivity and amenity for public transport passengers	0-10
Rail passing loops	•	Enable economic development through improved supply chains, processing and transport	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
Seniors lifestyle accommodation	•	Increase the quantity and range of accommodation opportunities to retain seniors in the Territory	0-5
Stuart Highway WWII and pastoral history journey experience	•	Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience	5-10
Territory parks – develop new visitor hubs in the Top End, Savannah Gulf, Barkly and Central Australia regions	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Territory parks – two-wheel drive access improvements	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-15
Territory parks – water security projects	•	Ensure water security to enable commercial opportunities	0-10
Territory schools - air-conditioning and electrical upgrades	•	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15

## 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

Plan for regional waste facilities

Develop options to ensure that entry level and affordable housing are in the market, including options to accelerate market participation by community housing providers

Complete Infrastructure Audit

## 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	2022-23	2023-24	Outer Years	
Across all regions - housing infill lots: site servicing plan and civil layout design and documentation	27.8	22.7	1.9	•	Enable economic development and population growth through expanded utilities networks for new land development
Across all regions - upgrade critical water tanks	15.2	2.9	1.5	•	Support population growth by improving access to quality water
Across all regions - water main replacement	14.4	2.2	2.9	•	Support population growth by improving access to quality water
Across all regions - water services - capital works and minor works	120.0	33.0	26.4	•	Support population growth by improving access to quality water
Capital Grants - non-government organisation (NGO) managed Remote Women's Safe House upgrades	1.6	1.6			Support the vulnerable through improved community service facilities
Community Housing Provider Capital Grants - redevelopment projects	4.4		4.4		Provide safe, secure and affordable housing for people on low incomes
Community Housing Provider Capital Grants - Venture Housing	7.0	7.0			Provide safe, secure and affordable housing for people on low incomes
COVID-19 Stimulus - targeted road safety projects, local roads and community infrastructure - shovel ready projects	67.5	21.9			The Australian and Northern Territory governments supporting infrastructure construction jobs across the Territory
Darwin-Katherine energy storage system	45.0	20.0			Reduce the use of gas generators for the Darwin-Katherine system to meet Northern Territory renewables target of 50% by 2030
Darwin-Katherine Transmission Line (DKTL) - upgrade secondary systems	9.0	3.0	6.0		Asset renewal to support growth, compliance and improve service efficiency
First responders P25 radio communication system upgrade	10.0	2.0	2.0	•	Support the continued delivery of quality police services
Government Employee Housing Build Program	186.0	27.7	48.0	•	Provide government employees with safe, secure and appropriate housing while performing duties in remote locations
Government managed Remote Women's Safe House upgrades and play equipment	1.1	0.8			Support the vulnerable through improved community service facilities

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Homeland Learning Centres infrastructure upgrades	16.0	1.1	5.0	•	Upgrade ageing infrastructure to support the continued delivery of quality education
Indigenous Essential Services - asset replacement	84.0	20.0	21.0	•	Support remote communities by improving essential services efficiency
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	19.0	19.0			Support population growth by increasing land availability
Information communications technology (ICT) cabling upgrades in schools	8.0	1.0	1.0		Enabling connectivity and creating digital opportunity
Infrastructure to support Territory Families remote services expansion	5.3	5.3			Improve outcomes for children and families
Mobile oral health dental unit - replacement	0.7	0.7			Strengthen liveability through improved infrastructure to support oral health services
Northern Territory Government leased property stimulus scheme - commercial building upgrades	58.0	•			Support local business by encouraging private sector building upgrades
Power Networks - augmentation and capital projects	164.0	38.0	43.0	•	Asset renewal to support growth, compliance and improve service efficiency
Public housing - new builds	8.5	8.0			Provide safe, secure and affordable housing for people on low incomes
Rail capital spending	•	25.0	25.0	•	Maintenance to maximise existing supply chain and transport infrastructure
Regional logistics and multimodal hubs	440.0	10.0	30.0	•	Enable economic development by improving supply chains and transport
Road Safety Program - intersection upgrades, improvements for pedestrian safety, street lighting, truck parking bays, rest areas	267.0	195.1	•	•	Support connectivity and regional development and improve road safety by upgrading key arterial and secondary roads
Roads to Recovery Program - targeted local road upgrades	24.7	11.0			Enhance road infrastructure to support accessibility, connectivity, safety and amenity

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Security enhancements to police facilities	9.0	2.0	2.0	•	Support the continued delivery of quality police services
Specialist Disability Accommodation – land grant	1.6		1.6		Provide purpose-built accommodation for people with disabilities
Support the development of land - infrastructure planning, concept development and detailed design	41.0	5.5	4.0	•	Enable economic development and population growth through increased land availability
Territory Generation all sites - earthing remediation	1.2		1.2		Asset renewal to support growth, compliance and improve service efficiency
Territory schools - air-conditioning mechanical and electrical upgrades	4.0	2.0	2.0		Upgrade ageing infrastructure to support the continued delivery of quality education
United States Force Posture Initiatives (USFPI) Northern Territory training area upgrades - Bradshaw Field, Kangaroo Flats, Mt Bunday and Robertson Barracks	711.0	•	•	•	Upgrade infrastructure to enhance defence capability and operations



Above: TC Barneson. Credit: Shaana McNaught.



Above: Darwin aerial at sunset. Credit: Tourism NT/Shana McNaught.



## Greater Darwin

The Greater Darwin region includes Darwin – the capital city of northern Australia – with the Territory’s youngest city, Palmerston, and growing Litchfield region nestled in its hinterland.

### The Darwin region:

- > is Australia’s most northern capital city and closest capital city to Asia
- > will see almost \$390 million spent over the next five years to revitalise the Darwin CBD including redevelopment of Civic and State Square with a new State Square Art Gallery and a new Charles Darwin University campus as part of an Education and Community Precinct.

### The Palmerston and Litchfield region:

- > is the location of the only significant vessel servicing point between Cairns and Perth with a 5000 tonne Darwin Ship Lift being built at the Marine Industry Park at East Arm
- > is the location of a significant fast tracked land release of 5000 residential lots in Holtze and Kowandi to cater for population growth in the short to medium term.

Major industries and growth sectors in Darwin



Construction



Defence

Darwin has a significant and fascinating history from its pre-colonial days to European settlement, the history of the Larrakia people, the Traditional Owners and custodians of the region, the region’s involvement in World War II and the devastation and rebuilding of the city after Cyclone Tracy in 1974.

Located in the tropical north of Australia, Darwin is a coastal city overlooking the picturesque Arafura Sea. It is the closest Australian capital city to Asia and is known as Australia’s Asian gateway.

About 83 000 people live in Darwin city and the surrounding suburbs. Darwin has a young population with a median age of 34.7 and is known for being home to a diverse and multicultural population.

About 10% of Darwin’s population is Aboriginal – the Larrakia people are the Traditional Owners and custodians of the Darwin region.

The rich multicultural history and year round tropical climate contribute to the region’s vibrant, welcoming and relaxed atmosphere.

Domestic and international tourists are drawn 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 such as Kakadu and Litchfield national parks and the Territory’s regional centres.

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.

Darwin International Airport provides air connections between Darwin and the Territory’s regional towns and communities, Australian cities and international destinations. Planned upgrades for the airport will enable the facility to cater for a projected increase in passenger movements to four million movements by 2037.

The AustralAsia Railway and Port of Darwin’s international deep-water port provide a multimodal freight facility that capitalises on Darwin’s position between Asia and Australia’s southern cities.

Darwin is the main service and supply centre for industries including mining, offshore oil and gas, tourism, and pastoral and horticultural industries.

Darwin, through the Darwin City Deal, has a 10 year plan to grow as a vibrant and liveable tropical capital city, supported by a growing population and diverse economy. Catalyst projects will revitalise Darwin’s city centre and unlock Darwin’s potential for future growth.

The revitalisation of Civic and State Square in Darwin’s CBD will transform the precinct with a centrally located heart, tropical gardens and expansive lawns to become a gateway for visitors and will physically connect Darwin harbour and the city.

Developing the State Square Art Gallery will enable the Museum and Art Gallery of the Northern Territory to showcase the Territory’s extensive art collection and host prestigious Australian and international exhibitions.

With a new Charles Darwin University city campus, Darwin is set to attract more international students along with new staff, helping to invigorate and transform the city centre.



Retail



Tourism



Health



Digital

Economic recovery is centred on bolstering local resources, renewable and digital industries with the Marine Industry Park at Middle Arm, the HyperOne cable linking Darwin to Brisbane, the Barkly region and Perth via a high-speed fibre cable and the Sun Cable battery storage facility at East Arm to supply Darwin and Singapore with solar energy sourced in the Barkly region.

Future population growth will be supported with the new Lee Point urban development to allow for about 800 homes only 17 kilometres from Darwin city and minutes from the Royal Darwin Hospital and the Territory's biggest shopping centre – Casuarina Square.

Casuarina Square, which was recently purchased by Sentinel, receives more than eight million visitors a year and has about 54 000 square metres of development potential on its existing site to cater for future growth in Darwin and surrounding regions.

## 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.
- Capitalising on Darwin's strategic geographic location for tourism, trade and defence.
- 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.
- Developing the workforce skills to capitalise on the region's economic development opportunities.



Above: NT Mounted Police in Darwin CBD. Credit: Northern Territory Police, Fire and Emergency Services.

## 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.

Located only 20 kilometres from the Northern Territory’s capital of Darwin, the City of Palmerston is nestled between Darwin Harbour and the rich agricultural lands of Litchfield.

Bordered by two light industrial areas, Palmerston is central to key transport infrastructure including the Darwin Port, Adelaide to Darwin Railway and the Stuart Highway – the spine of the Northern Territory.

The Traditional Owners are the Larrakia 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.

Approximately 64 600 people live in Palmerston and Litchfield.

Palmerston was developed in 1980 and the young city has grown quickly over a short period of time on the cusp of the greater Darwin rural area it services.

A growing population has seen a strong construction industry and retail trade with two new large shopping centres opening in the city within the past three years.

Palmerston has a significant defence presence with the Robertson Barracks close by and a burgeoning defence support industry. The city is home to a state-of-the-art Palmerston Regional Hospital and hosts a Charles Darwin University campus.

Litchfield is a relaxed lifestyle-focused area with only nine people living within one square kilometre – the polar opposite to Palmerston where 690 people live on average in a one square kilometre area.

With so much room to grow, Litchfield 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 in the areas of Holtze and Kowandi. Weddell and Murrumujuk, as well as rural activity centres in Berry Springs, Howard Springs, Humpty Doo and Coolalinga, will also provide future areas for population growth and development.

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.

Encircling Darwin’s vast harbour, Palmerston and Litchfield support their capital city Darwin with industry and transport connections, including future ferry transport and mining operations such as lithium and rare earths.

Developing a Marine Industry Park and delivering the Darwin Ship Lift Facility at East Arm will support the defence, logistics and freight sectors and create the only marine servicing point between Cairns in Queensland and Perth in Western Australia.

Litchfield hosts the Darwin Correctional Centre in Holtze, the new site of the Holtze Youth Detention Centre, and the new Palmerston Youth Skills Centre in Yarrowonga bordering the Palmerston CBD.

Access between Darwin and Palmerston and Litchfield via Tiger Brennan Drive is about to be improved with an overpass at the Berrimah Road intersection. The overpass will improve the main transport logistics route to the East Arm wharf and supporting facilities.

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.

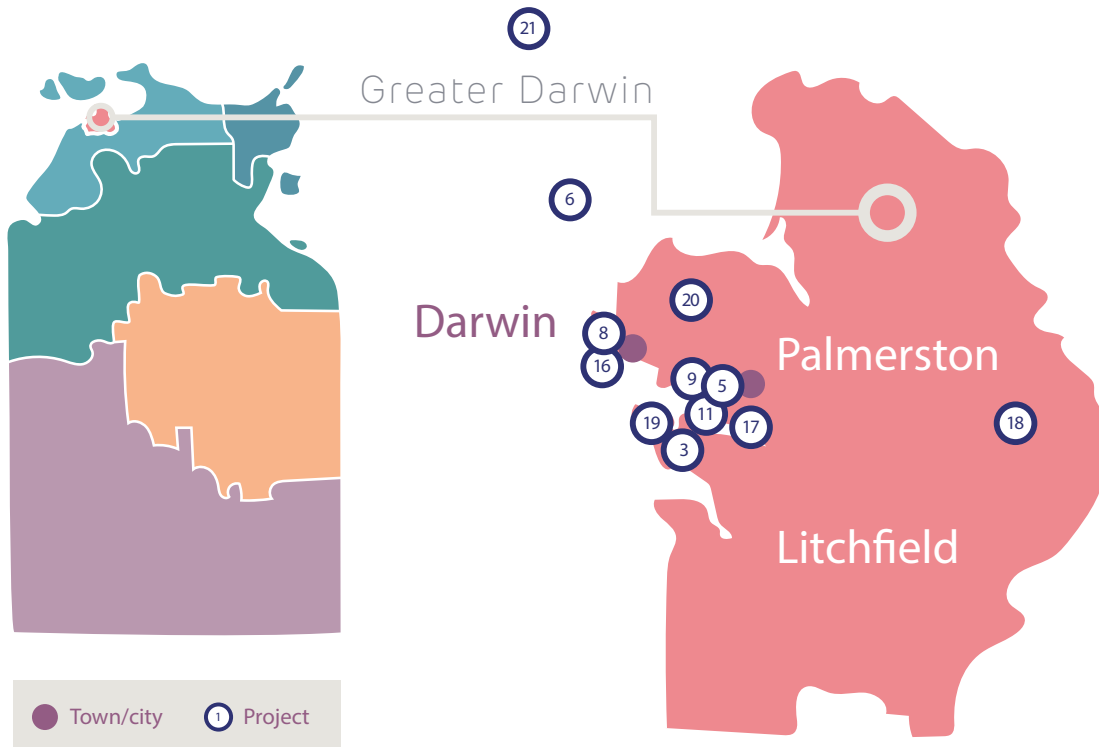


## Challenges and opportunities

- Developing a Middle Arm Sustainable Development Precinct to support economic growth.
- 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: Gray Community Hall. Credit: M+J Builders.



## Key projects, programs and proposals

### Civic and State Square Precinct Revitalisation 16

Revitalising the Civic and State Square precinct in the Darwin CBD will activate a welcoming green heart of the city, befitting of northern Australia's capital.

This will integrate public parkland with the Territory's State buildings including Parliament and Government House and Supreme Court, Darwin's CBD and Darwin's Waterfront (a premier lifestyle precinct).

The next stages include constructing the State Square Art Gallery, an iconic and contemporary art gallery, along with completing a detailed design for the remainder of the precinct including Liberty Square. The precinct will include sheltered pedestrian walkways connecting the precinct and surrounding areas,

high calibre Aboriginal artwork to celebrate the city's rich cultural history, lush shading and landscaping and water features.

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. Liberty Square will also be redeveloped as a reflective, open green space to complement the prominent civic buildings in the area.

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.

## Crowley Solutions – fuel storage facility 17

Work has begun building the \$270 million fuel storage depot at East Arm in support of the United States defence force. The facility is adjacent to the Darwin Port and next to an existing 174 million litre Vopak fuel storage facility.

By September 2023, the East Arm fuel storage facility is expected to 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 is going to 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 onto road tankers to go inland to places like RAAF Base Darwin and RAAF Base Tindal in Katherine.

Approximately 400 jobs will be created during construction of the facility with 20 ongoing jobs when operational.

## Darwin City Stadium 16

AFL Northern Territory plans to develop and construct a new multi-purpose Darwin City Stadium with the support of key stakeholders and industry bodies. The stadium will attract first class and high-level professional sport and entertainment to the Territory as part of a new community and entertainment precinct in Darwin.

Developing the new stadium will elevate the Northern Territory's position as a world-class business, education and tourism destination by broadcasting major events to billions of viewers across Australia and southern Asia.

The stadium will enable the Northern Territory to host professional sporting matches, entertainment events and international acts more often, at a premier, world-class venue.

The stadium will provide new employment and business opportunities through its development and operation. It will generate up to \$559 million in economic impact and over 2600 jobs during construction.

### Darwin Waterfront Development 16

The Waterfront precinct is located on approximately 25 hectares of harbour side land adjacent to the Darwin CBD. The precinct includes the 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 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 five years. Given proximity to the Darwin CBD, and a spectacular natural environment including the Darwin harbour front and tropical vegetation, the Waterfront is an inviting precinct for residents and visitors to the city.

By refreshing and expanding the existing infrastructure delivered through the precinct, the redevelopment (which 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 as well as increased employment outcomes during operation and business opportunities for retailers, tour operators and hospitality providers operating in the precinct.

### Defence strategic infrastructure and assets 16

The Darwin Port is a strategically located deep water port that sits within the wider Darwin Harbour, roughly halfway between Australian defence and maritime ports at Fremantle in Western Australia and Cairns in Far North Queensland.

Darwin Harbour will host a growing number of strategic infrastructure assets, particularly at East Arm, which will include the planned Marine Industry Park and Ship Lift, and the

US-Australia joint funded 300 million litre Bulk Fuel Storage Facility. Port Melville, north of Darwin, is Australia's northernmost port. It has infrastructure for refuelling vessels, which is now being used by Defence. The Ship Lift and Marine Industry Park will enable the Regional Maintenance Centre – North to conduct maintenance and sustainment to support the Navy's fleet of vessels, as well as Australian Border Force and private industry vessels.

## Fort Hill Wharf activation 16

Darwin city and Darwin Port are interconnected through harbour and marine related infrastructure and industries.

As with the Darwin Waterfront redevelopment, the Northern Territory Government will work with Darwin Port to coordinate planning and delivering a number of projects within surrounding areas. This will reduce costs and timing and generate certainty for broader industry.

The existing Fort Hill Wharf infrastructure is currently underutilised. To enable greater industry activation, community and cultural pride and to enhance the visitor experience, the Fort Hill Wharf infrastructure will be improved in line with Darwin's position as an Australian capital city, rich in culture and history with

unique tourism offerings. This can be achieved in a short timeframe to align with expectations for a rebounding cruise shipping industry as international borders reopen to tourism.

Benefits include:

- Fort Hill Wharf development plan in harmony with adjacent precincts and iconic developments including the Larrakia Cultural Centre, the Darwin Waterfront, CBD and Master Plan
- long term certainty for industry and infrastructure
- activated industries including cruising, tourism, marine, small business and superyachts.



Above: 60,000 kilograms of armour touches down onto the purpose-built rolling stock during loading trials.  
Credit: Department of Defence. © Commonwealth of Australia, Department of Defence.

## Humpty Doo Barramundi farm expansion 18

As Australia's iconic fish, demand for quality, Australian saltwater Barramundi is growing. This was recognised in October 2020 with the announcement of the second Northern Australia Infrastructure Facility (NAIF) loan to support expansion of the Humpty Doo Barramundi farm.

Humpty Doo Barramundi is a 100% Australian family owned and operated farm, halfway between Darwin and Kakadu National Park.

Humpty Doo Barramundi operates with rigorous environmental systems, reducing water discharge to almost nil through an award-winning saltwater wetland system. The wetland system uses natural grasses to clean the water for recirculation through the farm, delivering optimum quality water for high quality Barramundi while protecting the unique environment surrounding the farm.

Since 1993 Humpty Doo Barramundi's harvest has grown from 300 kilograms in their first year of sales to over 3000 tonnes of Barramundi per year.

The new NAIF loan to one of Australia's most successful Barramundi farms is set to deliver a

major economic and jobs boost to the Territory local economy.

The NAIF loan, alongside private bank co-funding, will support the construction of increased Barramundi production and handling capacity including a purpose-built hatchery for saltwater Barramundi and nursery and post harvest packing that will provide a significant boost to the Territory's aquaculture industry.

Humpty Doo Barramundi received a NAIF loan for \$7 million in 2018, alongside bank co-funding. The result of that loan saw the business successfully deliver increased capacity for Barramundi aquaculture at their farm and increased employment, as well as a high-tech nursery facility, introducing a higher level of care for baby Barramundi before they enter the grow out ponds.

The 2020 funding will support around 110 jobs during construction, and a further 160 jobs when the new facilities are operational.



Above: Aquaculture technicians Kayla Mahoney and Amber Aylott inspect the quality of a freshly harvested Barramundi with CEO Dan Richards. Credit: Photo by Charlie Bliss, courtesy of Northern Australia Infrastructure Facility (NAIF).

## INPEX – Ichthys LNG onshore processing facility 19

Ichthys Liquefied Natural Gas (LNG) onshore processing facilities at Bladin Point near Darwin cool 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 two 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.

## Larrakia Cultural Centre 16

The Larrakia Cultural Centre is a long-held economic and cultural aspiration of the Larrakia Development Corporation with its cultural significance acknowledged through the Darwin City Deal. The Larrakia Cultural Centre will be located on Stokes Hill Road at the Darwin Waterfront precinct neighbouring the Larrakia sacred site at Stokes Hill.

The Cultural Centre will:

- showcase Larrakia culture and history to the world
- enable Larrakia people to continue caring for the land and sea

- be economically sustainable and foster economic independence for Larrakia people
- maintain Larrakia culture for future generations
- maintain existing links and build new relationships with other Indigenous people in the region and world.

The building form represents the ancestral bird in flight hovering over the site protecting country and the people.

### New Aerospace Manufacturing Precinct 20

A new Aerospace Manufacturing Precinct will be established at Darwin International Airport (DIA) creating jobs and new training opportunities for Territorians.

It follows the recent announcement by Amphibian Aerospace Industries Pty Ltd (AAI) to establish an advanced manufacturing centre to build an upgraded version of the Albatross amphibious aircraft in the Territory for the global export market, which will create about 300 jobs. AAI will be the first tenant of the Aerospace Manufacturing Precinct in Darwin.

The milestone comes as the Northern Territory Government and 15 other signatories signed a Collaboration Agreement.

The 15 signatories include aerospace, manufacturing and commercial investment industry organisations, as well as the Territory Aviation Skills Centre, Chamber of Commerce NT, Advanced Manufacturing Growth Centre and Airport Development Group (ADG), which are the owners and operators of DIA.

This 20 hectare precinct will provide new manufacturing jobs and opportunities for Territorians to upskill in a growing aviation industry.

### Santos – Barossa and Bayu-Undan gas fields 21

Barossa is one of the lowest cost, new liquefied natural gas (LNG) supply projects in the world and will give Santos and Darwin LNG (DLNG) a competitive advantage in a tightening global LNG market. At the time of financial investment decision (FID), the project represented the biggest investment in Australia's oil and gas sector since 2012.

The gas industry is one of the largest growing sectors in the Northern Territory. Located 300 kilometres north of Darwin in Commonwealth waters, it is estimated that the Barossa gas field contains over 4.5 trillion cubic feet of recoverable gas resources and nearly 50 million barrels of condensate.

The Barossa gas field is being developed by a joint venture partnership between Santos, SK E&S and JERA.

The proposed development will include a floating production storage and offloading (FPSO) facility, subsea production system, supporting subsea infrastructure and gas export pipeline.

It is expected to produce an average of 3.5 million tonnes of LNG a year and will supply the existing DLNG train.

The project is expected to create 600 jobs throughout the construction phase and secure 350 jobs for the next 20 years of production at the Darwin LNG facility.

Santos is progressing detailed engineering and design work to transform Bayu-Undan infrastructure into a carbon capture and storage (CCS) facility. This would involve capturing the carbon dioxide produced from Barossa, and transporting it via DLNG to the Bayu-Undan gas field. The carbon dioxide would then be pumped deep under the sea floor, with the aim for it to remain underground forever. This would reduce the carbon emissions from the Barossa field, and other surrounding projects.

The Bayu-Undan CCS project could potentially safely and permanently store up to 10 million tonnes of carbon dioxide per annum, equivalent to about 1.5 per cent of Australia's carbon emissions each year.

## Investment portfolio

The 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 Greater Darwin region, subsequent jobs, accommodation needs and population growth.



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.

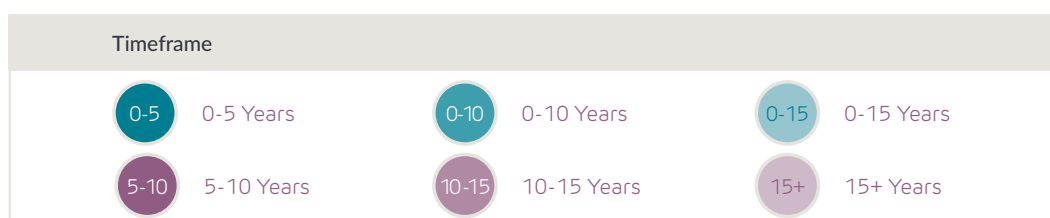
## Enabling infrastructure plan

The enabling infrastructure plan for the Greater Darwin 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)
Abala Road revitalisation	10	Enhance liveability by improving access to sports facilities	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	16	Improve community safety and reduce the damage, disruption and costs associated with major flood events	0-10
Amy Johnson Avenue - begin progressive duplication	28	Provide commuters with an alternative connector from the northern suburbs to Darwin CBD	10-15
Arts and Museums collection storage expansion for Northern Territory Government collecting institutions	55	Preservation, protection and accessibility of collections	0-15
Bagot Park Master Plan - outcomes	•	Strengthen liveability by creating versatile shared spaces for the entire community	0-10
Bagot Road - capacity improvements and upgrades	26	Increase road capacity and safety and support accessibility, connectivity and amenity	5-10
Barbara James House - refurbishment	10	Strengthen liveability by improving infrastructure to support health services	0-15
Batchelor Area School - upgrade primary school infrastructure	1	Upgrade ageing infrastructure to support the continued delivery of quality education	5-10
Bees Creek School - new classroom block	3	Contemporary educational infrastructure to support growth in population and student enrolments	5-10
Berrimah Business Park - showroom developments	60	Increase availability of quality commercial premises	0-10
Berrimah Industrial Estate - warehouse developments	100	Increase availability of quality light industrial premises	0-10

• indicates value is either commercial in confidence or to be confirmed.



Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Berrimah Road - capacity improvements	60	Improve network capacity and safety for increased traffic into the port	0-10
Berry Springs - child care centre	3	Contemporary educational infrastructure to support growth in early years learning enrolments	0-10
Berry Springs Nature Park - upgrade and refresh swimming entries, including limited mobility access	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Boulter Road - urban cross section upgrade	10	Increase road capacity and safety and support accessibility, connectivity and amenity	5-10
Breezes Muirhead - new Defence housing	•	Provide supportive housing for Defence personnel and their families	0-10
Bushfires 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
Casuarina Senior College - upgrade block A	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Casuarina Senior College - upgrade block E	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Channel Island Power Station fleet transition phase 3 and 4	170	Asset renewal to support growth, compliance and improve service efficiency	0-10
Channel Island Power Station upgrades and replacement works	23	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 and safety and support accessibility, connectivity and amenity	10-15
City of Darwin Movement Strategy - wayfinding, pedestrian, cycling and micro-mobility infrastructure, upgrade local intersections	10	Make it easier for people to move around the city and suburbs and reduce the impact of transport on the environment	0-10
Commercial data centre park, including electrical network upgrades and communications network upgrades	380	Enabling digital Territory and creating digital opportunity	0-5
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 A-grade office development	50	Support contemporary work practices and environments to attract and retain people	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Darwin CBD - new vertical school	45	Contemporary educational infrastructure to support growth in population and student enrolments	10-15
Darwin CBD - purpose-built performance space	•	Value and expand access to cultural activities, increase visitation opportunities and improve visitor experience	10-15
Darwin CBD - The Escarpment – Mitchell Street - luxury hotel	120	Support growth in luxury tourism, convention and corporate travel markets	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 Civic Centre redevelopment	60	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-5
Darwin Cruise Terminal and wharf upgrades	•	Support growth in tourism, visitor and corporate travel markets	0-5
Darwin High School - refurbish Block A (classrooms)	11	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-10
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	0-15
Darwin International Airport - Albatross amphibious aircraft manufacturing facility - stage 1	8	Re-invent and manufacture the Albatross aircraft in Darwin	0-5
Darwin International Airport - Regular Public Transport (RPT) apron expansion	12	Improve airport infrastructure to support aviation safety and growth	0-5
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	5-10
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	5-10
Darwin Seafood Processing Facility	10	Enable economic development of the seafood industry	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Darwin Supreme Court refresh	10	Strengthen equitable access by improving infrastructure to support judicial services	5-10
Darwin Visitor Park	10	Provide safe, affordable and sustainable temporary housing options for Territorians	0-5
Darwin Waterfront - hotel adjacent to the Darwin Convention Centre	85	Enable growth in high yield convention and corporate markets	0-5
Darwin Waterfront - luxury hotel	200	Support growth in luxury tourism, visitor and corporate travel markets	0-10
Darwin Waterfront central precinct - 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
Darwin Waterfront northern precinct development - residential hub - connect foreshore walk	250	Unlock future expansion towards Frances Bay and beyond the Darwin Waterfront	0-10
Darwin Waterfront southern precinct development - superyacht facility - mixed use development - tourism development	750	Improve the economic diversity of the Darwin Waterfront precinct	0-5
Darwin/Palmerston Passenger Rail Terminal	75	Enable economic development by improving passenger rail transport	5-10
DCI Data Centres - 10 megawatt data centre	300	Support the evolving technology and business industries	0-5
Dick Ward Drive - full pavement rehabilitation	10	Increase road capacity and safety and support accessibility, connectivity and amenity	5-10
Dick Ward Drive - Kurringal Court extension and signalised intersection	6	Increase road capacity and safety and support accessibility, connectivity and amenity	0-5
Dinah Beach Road - upgrade to urban cross section	6	Increase road capacity and safety and support accessibility, connectivity and amenity	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

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
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
Fannie Bay - 7 Waratah Crescent - residential redevelopment	30	Provide innovative medium density housing options and create a safe and vibrant place for people to enjoy	0-5
Farrar West - future residential subdivision	•	Enable economic development and population growth by increasing land availability	0-10
Fogg Dam Conservation Reserve - upgrades to sluice gate and additional flood spillway to maintain condition of the dam wall and road edges	•	Develop Fogg Dam as the premier site for bird watching close to Darwin to grow the birdwatching tourism sector	0-5
Frances Bay Marine Precinct development	•	Support economic development of the commercial boating and fishing industry	0-15
Gardens Oval upgrades - multi-sport precinct	5	Common user facilities to maximise a healthy, active lifestyle by improving recreation opportunities	0-5
Girraween Primary School - new four classroom block	3	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-10
Girraween Road - duplication between Stuart Highway and Anglesey Road	30	Increase road capacity and safety and support accessibility, connectivity and amenity	15+
Greater Darwin Regional Waste Management Facility	•	Support improved waste management and recycling processes	5-10
Hawaiki Nui subsea cable system	100	The first and largest spatial division multiplexing (SDM) cable linking South-East Asia	0-5
Hicks Road - extension both ends, including bridging wet areas	25	Increase road capacity, safety, support accessibility, connectivity and amenity	10-15
Hockey NT upgrade to surface	2	Enhance liveability by improving sports facilities	5-10
Howard Springs Nature Park - refresh infrastructure	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Howard Springs Volunteer Fire Bridage - construct new station	3	Strengthen emergency support services in rural communities	0-15
Humpty Doo Primary School - early years	3	Contemporary educational infrastructure to support growth in early years learning enrolments	5-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Humpty Doo Primary School - upgrade administration	3	Upgrade ageing infrastructure to support the continued delivery of quality education	5-10
Humpty Doo Volunteer Fire Brigade - construct living quarters and sheds	5	Strengthen emergency support services in rural communities	0-15
HyperOne - national terrestrial private sector telecommunications	700	Enable digital Territory and maximise digital opportunity	0-5
Kowandi - infrastructure headworks for the release of the new subdivision	•	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 - capacity improvements and upgrades	10	Increase road capacity and safety and support accessibility, connectivity and amenity	10-15
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	0-5
Larrakeyah Primary School - four new classrooms	5	Contemporary educational infrastructure to support growth in population and student enrolments	0-5
Larrakeyah Primary School - preschool redevelopment	5	Master planned infrastructure to provide contemporary educational facilities to support growth in early years learning enrolments	5-10
Leanyer Primary School - early years and community hub	7	Master planned infrastructure to provide contemporary educational facilities to support growth in early years learning enrolments	10-15
Letchford Road - floodway upgrade	1	Support connectivity and improve all weather access to improve community safety, accessibility and support future growth	0-5
Litchfield Aquatic Centre - 50 metre Olympic sized 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 etc)	•	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 community facilities	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Litchfield 'Gateway to Kakadu' tourist information centre	•	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	5-10
Litchfield municipality - drainage and erosion mitigation	1	Improve community safety and reduce the damage, disruption and costs associated with major flood events	0-15
Litchfield municipality - soccer changerooms	1	Enhance liveability by improving recreation facilities	0-5
Lloyd Creek - master planned rural residential community	50	Enable economic development and population growth by increasing land availability	5-10
Ludmilla Primary School - new administration building	9	Support population growth by improving access to water treatment systems	10-15
Madsen Road construction between Hicks Road and Howard Springs Road	20	Increase road capacity and safety and support accessibility, connectivity and amenity	10-15
Manunda Terrace School - basketball court upgrades	1	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Marrara - new residential estate in two stages	•	Provide innovative infill housing options and create a safe and vibrant place for people to enjoy	0-10
McMinn Street - duplication from Daly Street to Bennett Street	30	Provide capacity improvements for Darwin CBD circulation and relieve congestion	10-15
Mickett Creek Shooting Range Master Plan - infrastructure outcomes	•	Enhance liveability by improving recreation facilities	0-10
Milner Primary School - install lift	1	Contemporary educational infrastructure to support students with additional needs	0-5
Mimik-Ga (Henbury Avenue) - early intervention hub upgrades	3	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	0-5
Mira Square - meeting and play areas in Southport	1	Strengthen a healthy, active lifestyle by improving recreation and community facilities	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	0-5
Muirhead North - new preschool and primary school for 450 enrolments	50	Contemporary educational infrastructure to support growth in population and student enrolments	0-15
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

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Museum and Art Gallery of the Northern Territory (MAGNT) Bullocky Point Master Plan – infrastructure outcomes	•	Value, preserve and expand historic, cultural meeting places, increase visitation opportunities and user experience	0-15
Museum and Art Gallery of the Northern Territory (MAGNT) - cultural collections storage upgrade (visual arts store only)	2	Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience	0-15
Nakara Primary School - classroom refurbishment	2	Upgrade ageing infrastructure to support the continued delivery of quality education	5-10
New Water Police Complex	40	Support the continued delivery of quality police services	10-15
NEXTDC - second premium grade (D2) data centre	•	Enable a digital Territory and maximise digital opportunity	0-10
Nightcliff Beach redevelopment	8	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhancing visitor experience	5-10
Nightcliff Jetty replacement	12	Replace ageing infrastructure to improve recreational opportunities and enhance visitor experience	0-10
Nightcliff Mall Master Plan - outcomes	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity	5-10
Nightcliff Middle School - upgrade home economics and canteen and traffic calming in school 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
Nightcliff Primary School - replace demountables with four new classrooms	3	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Northcrest - new preschool and primary school for 500 enrolments	50	Contemporary educational infrastructure to support growth in population and student enrolments	5-10
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

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Palmerston - aged care facilities	•	Provide a variety of contemporary, affordable and sustainable housing options for older Territorians	0-5
Palmerston arts and cultural performing arts centre	•	Value and expand access to cultural activities, increase visitation opportunities and improve visitor experience	10-15
Palmerston - expand oral health services	4	Strengthen liveability by improving infrastructure to support oral health services	0-10
Palmerston - new ambulance station	7	Strengthen liveability by improving infrastructure for health support services	5-10
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 - additional science lab	2	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	5-10
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 Health Precinct - refurbish Super Clinic	4	Strengthen liveability by improving infrastructure to support health services	0-5
Palmerston new ferry pontoon boarding point	23	Support economic development by improving all weather access and goods handling facilities	0-10
Palmerston renal services expansion - 30 bed renal patient accommodation unit	18	Strengthen liveability by improving infrastructure to support renal health services	0-5
Parap Primary School - preschool	4	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Parap Primary School - upgrade arts space and classrooms	4	Upgrade ageing infrastructure to support the continued delivery of quality education	5-10
Parap Village Master Plan - outcomes	14	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-10
Peter McAulay Centre - new exhibits / property storage facility upgrades	7	Support the continued delivery of quality police services	10-15
Peter McAulay Centre - new local and international joint Asia Pacific Emergency Response Training Complex	25	Support the continued delivery of quality police services	5-10
Pinelands Industrial Precinct access - stage 2	27	Provide better heavy vehicle access into Pinelands Industrial Precinct	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Progress Drive/Nightcliff Road - upgrade to dual lane roundabout	•	Increase road capacity and safety and support accessibility, connectivity and amenity	5-10
Regional Creative Industries Hub in Darwin	•	Grow businesses and develop supply chains in the creative industries	10-15
Replace the Tamarind Centre	35	Strengthen liveability by improving infrastructure to support mental health services	0-15
Royal Darwin Hospital upgrades	•	Strengthen liveability by improving infrastructure to support health services	0-15
Roystonea Avenue - complete road to Elrundie Avenue	12	Provide increased north-south capacity to cater for residential development	10-15
Shoal Bay Waste Management Facility - new leachate pond	8	Support improved waste management and recycling processes	0-5
Shoal Bay Waste Management Facility - stage 2 expansion	12	Support improved waste management and recycling processes	0-5
Snell Street extension to Tiger Brennan Drive	200	Increase road capacity and safety and support accessibility, connectivity and amenity	15+
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 Darwin Waterfront precinct	0-10
Stuart Park Primary School expansion	10	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Taminmin College - multi-purpose community hall	15	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	10-15
Textile Printing and Fashion Manufacturing Hub	•	Enable economic development by improving supply chains, capturing value, and providing a centralised platform to deliver a broader range of goods and services within the Northern Territory	5-10
The Heights Durack - staged subdivision	160	Enable economic development and population growth	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 at various locations	•	Increase road capacity and safety and support accessibility, connectivity and amenity	10-15

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Tourism Master Plan - outcomes	•	Activate Cullen Bay to East Point Darwin Harbour area	0-5
Trower Road - capacity improvements and upgrades	10	Increase road capacity and safety and support accessibility, connectivity and amenity	0-5
Undergrounding power to schools and suburbs	•	Continue to build a resilient power network, against cyclones and monsoons, for businesses, schools and homes	0-10
Unite Cable System - Inligo subsea optical cable	700	The Territory's third cable connection to Singapore, with additional links to Indonesia, Timor Leste, Guam, Japan and the United States	0-5
Vanderlin Drive - capacity improvements and upgrades	37	Provide north-south capacity improvement for access from the northern suburbs	0-10
Virginia/Bees Creek Volunteer Fire Brigade - construct new station	3	Strengthen emergency support services in rural communities	0-10
Virginia Road - bridge over Wells Creek	1	Increase road capacity and safety and support accessibility, connectivity and amenity	5-10
Wanguri Primary School - four new classrooms and library	5	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Weddell Freeway	•	Improve access from the Darwin CBD to Noonamah, Berry Springs, Weddell and the Middle Arm Sustainable Development Precinct	15+
Weddell Industrial Hub - infrastructure to support development	•	Enable economic development and population growth by increasing land availability	5-10
Weddell Power Station upgrades and replacement works	43	Asset renewal to support growth, compliance and improve service efficiency	0-10
Weddell Renewable Energy Hub stage 2	•	Enable economic development and population growth	5-10
Women's Correctional Facility - separate purpose-built facility	120	Meet community needs and expectations through additional correctional infrastructure	0-10
Woodlake Boulevard - upgrade Kirkland Road intersection	3	Enhance road safety, accessibility, connectivity and amenity	10-15
Woodroffe Oval - upgrade to suit AFL	5	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhancing visitor experience	0-5
Wulagi Primary School - upgrades for accessibility	1	Contemporary educational infrastructure to support students with additional needs	0-10
Zuccoli Primary School - four additional classrooms	3	Contemporary educational infrastructure to support growth in population and student enrolments	5-10

## 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

Accelerate the planning for land release in Holtze and Kowandi so the first titles can be issued in 2024

Progress the business/economic case for Darwin Waterfront development

Progress the business/economic case for Darwin City Stadium

## Infrastructure pipeline

The following is a list of committed projects, funded by either government or the private sector, for the Greater Darwin region.

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Across the region - housing infill lots: power and water asset upgrades and network extensions to service nominated infill lots	1.1	0.4	0.7		Enable economic development and population growth through expanded utilities networks for new land development
Across the region - power network and substation upgrades	84.0	12.0	1.6	•	Asset renewal to support growth, compliance and improve service efficiency
Across the region - Specialist Disability Accommodation - land grant	1.1	1.1			Provide purpose-built accommodation for people with disabilities
Across the region - upgrade bus stops, install bus stop shelters, upgrade bus interchanges, Disability Discrimination Act (DDA) compliance upgrades	2.7	2.7			Increase road capacity and safety and support accessibility, connectivity and amenity
Airport Development Group - diesel storage facility	60.0			•	Expand Australia's diesel storage to boost long term fuel security
Arafura Stadium athletics track upgrades	1.6	1.6			Strengthen a healthy, active lifestyle by improving sporting opportunities, and enhancing visitor experience

A lesser figure in the 2022-23 and 2023-24 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	2022-23	2023-24	Outer Years	
Aviation Advanced Manufacturing Precinct	10.0	•			Grow manufacturing capabilities in the Territory
Bees Creek - National Critical Care and Trauma Response Centre - emergency training facility	3.0	3.0			Ensure the Territory has expertise to respond to a crisis
Berrimah Farm - Northern Territory Government Research Precinct - new Science Services Laboratory Building	19.0	15.8	•		Increase research capacity and capability in the Territory
Berrimah North Area Plan - headworks infrastructure	43.0	12.9	•	•	Enable economic development and population growth through increased land availability
Berrimah - replace Trevor Horman Zone Substation	41.0	20.0	19.0	•	Asset renewal to support growth, compliance and improve service efficiency
Casuarina Pool redevelopment	25.0	•	•		Enhance liveability by improving community facilities
Channel Island Power Station - fleet transition phase 1 and 2	70.7	33.8	1.2	•	Asset renewal to support growth, compliance and improve service efficiency
Channel Island Power Station - life extension upgrades and hot gas path realignment	20.3	13.2	4.7	•	Asset renewal to support growth, compliance and improve service efficiency
Charles Darwin University - Casuarina campus optimisation	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 - council driveway program	2.2	0.2	0.2	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity
City of Darwin - council irrigation infrastructure upgrades	2.0	0.2	0.2	•	Improve public open space amenity and maximise irrigation efficiency
City of Darwin - council pathway program	9.0	1.3	1.3	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity
City of Darwin - council road resurfacing and renewal	12.0	2.2	2.2	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
City of Darwin - council street and public lighting	14.9	1.0	1.3	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity
Civic and State Square Revitalisation (includes City Deals) - CBD Art Gallery, central heart shade structure, walkways, landscaping and public art	165.0	153.0	•	•	Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
Coolalinga sewer connection to Power and Water Corporation sewer network	17.0			•	Support population growth by improving access to water treatment networks
Coolalinga traffic management	27.0	10.0	17.0	•	Improve safety and connectivity in and around the Coolalinga commercial precinct
Cox Peninsula Road - upgrade intersections to improve capacity and safety	3.0		1.5	•	Support development of the extractive industry
Crowley Project Caymus - Bulk Liquids Area – construct US Defence jet fuel storage facility	270.0	•	•		Strategic bilateral defence facility for fuel reserve storage
Damoe-Ra Park redevelopment with entrance to Waterfront	1.0	1.0			Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience
Darwin Corporate Park - commercial office building	25.0	•			Increase quality office space availability
Darwin - groundwater disinfection	6.0	0.3	0.7	•	Support population growth through improved access to quality water
Darwin International Airport - aerobridge replacement and concrete bays	10.0	•	•		Improve airport services to support accessibility, visitor growth and tourism
Darwin International Airport - auto bag drop installation	3.0	•			Improve airport services to support accessibility, visitor growth and tourism
Darwin International Airport - Darwin Airport Central - Osgood South 'West Village' - stage 3	3.5			•	Improve liveability by providing a variety of contemporary retail and commercial precinct options
Darwin International Airport - resort redevelopment	23.0	•	•		Support growth in tourism, visitor and corporate travel markets
Darwin International Airport - upgrade of short stay car park to include solar panels	3.0	•			Improve airport services to support accessibility, visitor growth and tourism

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Darwin Local Court fit out - Northern Territory Civil and Administrative Tribunal (NT CAT)	1.5	1.4			Strengthen equitable access through improved infrastructure to support judicial services
Darwin Ship Lift Facility	400.0	120.5	•	•	Provide a common user facility for the general maritime sector and Department of Defence
Darwin Waterfront - headworks infrastructure - critical infrastructure upgrades - landscaping works	7.0		6.1	•	Master planned vision for Darwin's central water attraction catering to both residents and visitors
Darwin Youth Justice Centre development and fitout	72.0	48.2			Improve outcomes for young people in detention, their families and the community
Dawn House and Darwin Aboriginal Women's Shelter upgrades	7.7	7.7	•		Support the vulnerable by improving community service facilities
Dripstone Middle School - redevelop facilities into science, technology, engineering, arts and mathematics (STEAM)	1.8	1.8			Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments
East Arm - construct Wishart Zone Substation	6.4			•	Additional assets to support growth, compliance and improve service efficiency
East Point - new land based fishing platforms	4.6	0.5	4.1		Enhance liveability by improving access to recreation facilities
Frances Bay marine facilities - lock replacement and upgrade	20.0	12.0	7.8		Support economic growth and improve safety for the commercial boating and fishing industry
Government House - stabilisation and staff accommodation upgrades	4.3	0.6			Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
Gunn Point - emerging agribusiness precinct	6.3	6.3	•		Economic growth through the development of emerging industries in the agricultural sector
Hidden Valley - track safety upgrades	0.4	0.4			Enhance liveability by improving sports facilities
HMAS Coonawarra - N2263 - Sea1180 facilities and infrastructure	245.0	•	•	•	Enhance defence capability to handle larger vessels
Holtze Prison - increase capacity	2.0	2.0			Meet community expectation through additional correctional infrastructure

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Holtze - infrastructure headworks for the release of the new subdivision	43.0	23.0	•	•	Enable economic development and population growth by increasing land availability
Hudson Creek Thermal Power Station connection	•	•			Expand and diversify the Territory's power grid to improve efficiency and reliability
Hudson Creek - trunk sewer	0.3			•	Support population growth by improving access to water treatment systems
Hughes Airfield - maintenance and sealing the airstrip	1.1	0.6	0.5		Provide effective emergency aerial response and improve community safety
Humpty Doo Barramundi farm expansion	24.0	•		•	Further develop and expand the fisheries export industry supported by the Northern Australia Infrastructure Facility (NAIF)
John Stokes Square housing redevelopment	31.0	•			Improve services and increase supply of affordable housing
Kowandi - infrastructure headworks planning for the release of the new subdivision	1.0		1.0		Enable economic development and population growth by increasing land availability
Kulaluk (Coconut Grove) trunk drains	3.2	3.2			Improve safety and reduce the damage, disruption and costs associated with major flood events
Larrakeyah and Robertson Barracks - Joint Health Command - Garrison Health Facilities	49.0	•	•		Provide defence personnel services including outpatients, physiotherapy, pharmacy and general medical administration
Larrakeyah Barracks redevelopment - new outer wharf and infrastructure upgrades	520.0	•	•		Enhance infrastructure to support defence operations
Larrakia Cultural Centre	•	2.0	•	•	Value, preserve and celebrate Larrakia culture, improving tourism opportunities and experience
Leanyer/Sanderson waste water treatment ponds - long term augmentation	0.7		0.2	•	Support population growth through improved access to water treatment systems
Lee Point residential subdivision	•	•	•	•	Enable economic development and population growth through increased land availability
Lee Point Road - duplication	3.0	2.0			Enhance infrastructure to support accessibility, connectivity, safety and amenity

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Litchfield municipality - road resealing	8.0	0.9	0.9	•	Increase road capacity and safety and support accessibility, connectivity and amenity
Little Mindil Resort - 190 rooms	200.0	100.0	100.0		Support growth in tourism, visitor and corporate travel markets
Marine Industry Park	6.0	3.0	3.0		Support the development of local industry and create a sustainable economy
Middle Arm Sustainable Development Precinct - industrial land	300.0	•	•		Support the establishment of large strategic industries for downstream gas processing, mineral processing, renewable energy and related developments
Middle Arm Sustainable Development Precinct - marine infrastructure	1500.0	•	•	•	Support the establishment of large strategic industries for downstream gas processing, mineral processing, renewable energy and related developments
Middle Arm Sustainable Development Precinct - roads and rail	200.0	•	•		Support the establishment of large strategic industries for downstream gas processing, mineral processing, renewable energy and related developments
Moulden - Community Housing Provider - redevelop Davoren Circuit and Bonson Terrace	•		•		Improve the sustainability of the social and affordable housing system
Muirhead - mixed use commercial development including serviced apartments and a family bistro	•	•	•		Increase housing and commercial diversity
Nakara Primary School - refurbish ablutions	0.9	0.9			Upgrade ageing infrastructure to support the continued delivery of quality education
NEXTDC - premium grade (D1) Data Centre	80.0	•	•	•	Enable a digital Territory and maximise digital opportunity
Nightcliff Business Centre	•	•	•		Revitalise and support further economic development
Nightcliff Oval - canteen upgrade	0.2	0.2			Strengthen a healthy, active lifestyle by improving recreation opportunities and enhancing visitor experience
Northcrest Berrimah - headworks - new residential subdivision - neighbourhood centre	•	•	•	•	Enable economic development and population growth

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
NT Archives Centre - refit work areas	0.5		•		Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
NT Archives Centre - upgrade to Compactus shelving	0.4	0.4			Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
NT Library move to the Education and Community Precinct	•		•		Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
Palmerston Rugby League Complex - replace scoreboard	0.2	0.2			Strengthen liveability by improving infrastructure
Palmerston SWELL Master Plan (Swimming, Wellness, Events, Leisure, Lifestyle) – refurbish swimming pool, aquatic adventure play area, basketball half court and shaded areas	15.0	7.0	•		Strengthen a healthy, active lifestyle by improving recreation opportunities and enhancing visitor experience
Parap Village upgrades	0.2	0.2			Enhance infrastructure to support accessibility, connectivity, safety and amenity
Pearl - 24 new aged care beds	10.0			•	Provide a variety of contemporary, affordable and sustainable options for older Territorians
Peter McAulay Centre - main building roof replacement	2.6	1.6			Support the continued delivery of quality police services
Pinelands Industrial Precinct - heavy vehicle access	6.0	5.1			Provide better heavy vehicle access into Pinelands Industrial Precinct
Public Housing - new builds	2.6	2.6			Provide safe, secure and affordable housing for people on low incomes
RAAF Base Darwin - P-8A Poseidon Forward Operating Base (separate horizontal and vertical packages)	149.0	•			Enhance defence capability and operations
RAAF Base Darwin - US Air Force bulk fuel facility	92.0	•			Enhance facilities for US Air Force operations at RAAF Darwin
Richardson Park - access road extension, upgrade playing field and new ablutions	7.1	4.8			Strengthen a healthy, active lifestyle by improving recreation opportunities and enhancing visitor experience

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Royal Darwin Hospital main ward block concrete spalling repairs	3.3	3.3			Strengthen liveability by improving infrastructure to support health services
Royal Darwin Hospital Mental Health - new two storey building	44.4	37.9	•		Improve mental health services and increase number of beds available
Royal Darwin Hospital - upgrade fire doors and frames	1.2	0.7			Strengthen liveability by improving infrastructure to support health services
Shoal Bay Waste Management Facility - new 13 mega litre tank	3.2	3.2			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
Territory Wildlife Park - green energy solutions	1.0		1.0		Increase renewable energy to meet Northern Territory renewables target of 50% by 2030
The Narrows - Community Housing Provider - redevelop Shiers Street housing	•		•		Improve the sustainability of the social and affordable housing system
Tiger Brennan Drive - overpass at Berrimah Road	100.0	50.0	50.0		Increase road capacity and safety and support accessibility, connectivity and amenity
TIO Stadium - seating upgrades	0.8	•			Improve stadium facilities to grow Australian Football League (AFL) in the Territory
Undergrounding power to schools and suburbs	60.0	•	•	•	Continue to build a resilient power network, against cyclones and monsoons, for businesses, schools and homes
Vocus' Darwin-Jakarta-Singapore fibre cable	100.0	•	•	•	Enable digital Territory and create digital opportunity
Weddell Industrial Hub - infrastructure planning to support development	1.0		1.0	•	Enable economic development and population growth by increasing land availability
Weddell Power Station upgrades	16.0	10.0	6.0		Asset renewal to support growth, compliance and improve service efficiency
Weddell Renewable Energy Hub stage 1	10.0		5.0	•	Enable economic development and population growth

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Zuccoli and surrounds Community Hub	20.0	5.0	15.0		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	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	•	7.0	8.0	•	Enable economic development and population growth by increasing land availability



Above: East Arm. Credit: Land Development Corporation.



*Above: Cobourg Peninsula Arnhem Land NT. Credit: Steve Strike.*



## Top End

Bordered by idyllic, tropical islands and untouched coastlines, the Top End region is an untapped paradise and home to one of the world's heritage listed natural and cultural wonders – Kakadu National Park.

### The Top End region:

- > is 112 294 square kilometres in size – a similar size to Nicaragua, the largest country in Central America
- > includes Melville Island, as part of the Tiwi Islands, which is Australia's second largest island after Tasmania
- > 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
- > has the Northern Territory's largest Aboriginal-owned agribusiness, Tiwi Plantations Corporation with more than 30 000 hectares of plantation timber.

## Major industries and growth sectors in the Top End



### Tourism



### Agribusiness

The Top End region covers the north and north-west sections of the Territory, encompassing the West Daly and West Arnhem regional councils and the Tiwi Islands. Extending from Wadeye in the west to Maningrida in the east, the region includes the town of Jabiru inside Kakadu National Park.

It is a sparsely populated area with about 17 900 people living across the vast region, which is almost one-twelfth of the Northern Territory's total land area.

Most residents are young Aboriginal people, with about 38% aged 24 or younger and only 7% aged 65 or older. The Top End has the highest proportion of Aboriginal people in the Territory, with almost three-quarters of residents identifying as Aboriginal.

There are 12 major and five minor communities, two town camps and 135 homelands across the Top End. Almost 60% of people in the Top End speak a language other than English, including Aboriginal languages, at home.

Tourism is a significant contributor to economic activity in the region, with 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 agriculture, bush foods and medicines, fishing and caring for country.

The Tiwi Islands are about 80 kilometres north of Darwin across the Beagle Gulf, accessible by air or a 2.5 hour ferry ride from Darwin. The Tiwi Islands are made up of two main islands – Bathurst Island and Melville Island, which is the second largest Australian island after Tasmania.

Forestry is a key driver for the region's economy with the Tiwi Islands Forestry Project boosting local employment. The project could diversify into horticulture, agriculture, marine industry supply through Port Melville and biofuel production for renewal power generation.

Aboriginal Australian art, tourism, forestry plantations and mineral sand mining are some of the existing and potential locally generated, internationally recognised industries on the islands. There are also retail opportunities, construction ventures, and community and government service provision supporting the local economy.

Australian rules football generates national attention, with several Tiwi Islands players playing in the Australian Football League (AFL).

The community of Wadeye, one of Australia's largest remote Indigenous communities, approximately 420 kilometres south-west of Darwin in the West Daly region, is known for contemporary art, textiles and food.

The buffalo industry in northern Australia has the potential to generate jobs and economic growth in the West Arnhem region. The industry could include live export to South East Asia as well as processing meat products through local abattoirs.

The self-drive market, which represents more than 57% of total visitation to the Territory, could be supported with specialist accommodation and transport infrastructure.

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.

This region is home to the spectacular natural wonder of Litchfield National Park – a mecca for tourists and Territorians who want to slip into the cool rock pools and waterfalls and enjoy nature and its wildlife.



Closer to Darwin, Lake Bennett is surrounded in an idyllic bushland setting, offering a tranquil getaway for visitors and locals alike.

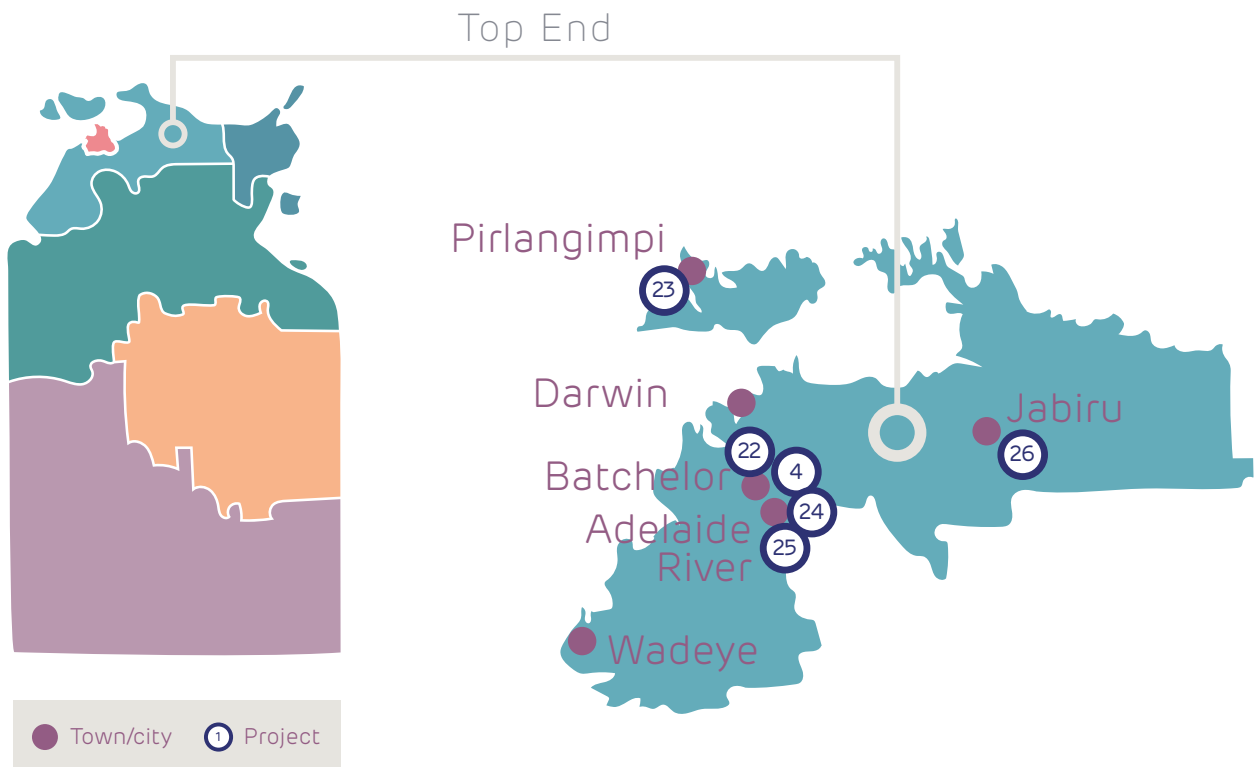
The Territory's unique military history draws people down Stuart Highway through Litchfield to the airstrips, military huts and railway sidings and the historic township of Adelaide River.

## Challenges and opportunities

- There is a lack of enabling infrastructure in the region. Addressing these key infrastructure issues could potentially transform life in this region.
- Provide access to reliable, safe and affordable water, energy and telecommunications services that are vital to the economic development of the region.
- Improve access and connectivity between communities and regional centres to enable essential economic and social development in the region year round.
- 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 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.
- Identify parcels of land within the region's communities that can be fast tracked as future sites for development.



Above: Kakadu Crocodile Hotel. Credit: Salty Wings.



## Key projects, programs and proposals

### Core Lithium – Finnis Lithium Project (22)

Core Lithium owns 100% of the Finnis Lithium Project, located 88 kilometres' trucking distance by sealed road to Darwin Port.

The flagship Finnis 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 Finnis 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 Finnis Lithium Project, is currently undergoing its environmental impact assessment process. If approved, this stage of the Finnis Lithium Project will start once mining at the Grants site finishes.

This will be the first new significant mine in the Northern Territory in more than a decade and will create 250 jobs during construction and operation.

### Global Energy Ventures – Tiwi Hydrogen Project (Tiwi H2) (23)

The Tiwi Hydrogen Project Tiwi H2 is located on plantation land on Melville Island, 30 kilometres north of Port Melville, and will be developed by Global Energy Ventures.

Global Energy Ventures will be using its innovative compressed hydrogen ships to transport its product.

The project will scale up to 2.8 gigawatt solar generation to produce 100 000 tonnes per annum of green hydrogen for export to the Asia-Pacific region.

## PNX Metals Limited – Fountain Head gold and Hayes Creek gold silver zinc <sup>24</sup>

PNX Metals Limited (PNX) is proposing to reopen the historic Fountain Head gold mine approximately 55 kilometres from Pine Creek, which has been a historically productive mining area.

The preliminary feasibility study envisages gold mining and processing at Fountain Head for the

first five years of operation, then mining gold, silver and zinc at Hayes Creek from year four onward.

The combined projects have a mine life of 10 years.

## Primary Gold – Mt Bundy Gold project <sup>25</sup>

The Northern Territory has a long history of gold mining. The Mt Bundy Gold Project, which was awarded major project status in January 2022, proposes to reopen three mines – Toms Gully, Rustlers Roost and Quest 29 – which are approximately 100 kilometres south-east of Darwin.

Preliminary construction commenced in the fourth quarter of 2021 with the construction of the Mt Bundy Creek culvert bridge. Mining construction is expected to commence in 2023. The proposed plant and mining operation will produce gold doré ingots.

It is estimated the \$412 million project will generate \$1.78 billion in operating expenditure over the life of the project. Construction will create 150 jobs over 18 months, and operations are expected to create 300 full time jobs for 10 years.

## Sustainable future of Jabiru and Kakadu <sup>26</sup>

The Territory and Australian governments are committed to a strong and sustainable future for Jabiru and are investing \$411.5 million to transition it from a mining town to a vibrant and sustainable tourism hub and service centre for Kakadu National Park and the West Arnhem region.

The Government has committed the \$411.5 million to:

- maintain essential services to infrastructure, such as local roads, electricity, water and sewerage
- construct a Bininj Resource Centre to support Aboriginal education and cultural preservation
- construct new power generation infrastructure for Jabiru
- construct new town infrastructure, including a Government Business Centre and retail centre
- secure air access for Jabiru
- improve education and health facilities
- guarantee government services at current levels for five years (education, health, police and fire and emergency services)
- continue to negotiate with stakeholders to secure financial or in-kind contributions to the future of Jabiru and Kakadu.

## Investment portfolio

The 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 Top End region, subsequent jobs, accommodation needs and population growth.



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.

## 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 through improved 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
Across the region - upgrade access road network to homelands	2	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-5
Adelaide River fire station	5	Strengthen emergency support services in remote communities	0-10
Adelaide River - new police complex	15	Support the continued delivery of quality police services in remote communities	0-10
Adelaide River Off-Stream Water Storage (AROWS)	1200	Support economic and population growth through a secure, reliable and cost-effective water supply	0-10
Adelaide River School - new preschool building	2	Contemporary educational infrastructure to support growth in early years learning enrolments	0-15
Adelaide River Showground - develop Equestrian Centre of Excellence	40	Develop Adelaide River as the equestrian centre for the Top End	15+
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)	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	10-15

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)
Batchelor Airport upgrade	•	Support connectivity and improve all weather access to improve community safety and 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 - community 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
Batchelor aged care accommodation facility - independent living	10	Provide a variety of contemporary, affordable and sustainable housing options for older Territorians	15+
Coomalie Community Government Council infrastructure - solar installations	1	Improve liveability and improve energy efficiency by increasing renewable energy	0-5
Cox Peninsula - bike path/boardwalk from Mandorah Jetty along beachfront to De Lissa Drive, including new beach access	2	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Cox Peninsula - bike/pedestrian access path (Wagait Tower Road) linking civic spaces	2	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 - reseal 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
Daly River regional town development - residential and commercial/industrial land release	3	Enable economic development and population growth by increasing land availability	5-10
Daly River - new NT Emergency Services (NTES) volunteer and storage facilities	3	Strengthen emergency support services in remote communities	0-5
Daly River - new police station	12	Support the continued delivery of quality police services in remote communities	5-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Daly River - police housing	3	Support the continued delivery of quality police services in remote communities	0-10
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
Gunbalanya - 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
Gunbalanya - council plant shed workshop	2	Support council operations and 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	10	Strengthen liveability through improved infrastructure to support council services	0-10
Gunbalanya - new NTES volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Gunbalanya - new police complex	9	Support the continued delivery of quality police services in remote communities	0-15
Gunbalanya - police housing	5	Support the continued delivery of quality police services in remote communities	0-10
Gunbalanya School - replace administration building and upgrade ageing facilities	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	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-15
Heathers Lagoon Road upgrades	1	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-15
Jabiru - additional council staff accommodation	10	Generate local jobs and skills training to enhance liveability, health and community outcomes	0-5
Jabiru - new grandstand at Brockman Football Oval	2	Strengthen a healthy active lifestyle by improving recreation and youth facilities	0-5
Jabiru - upgrade pool facilities, asbestos removal in council buildings and replace all street lights with LED lighting	1	Support council operations, community services, generate local jobs and skills training	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Jabiru - waste transfer station	7	Support council operations, community services, generate local jobs and skills training	0-5
Kakadu Mobiles Co-investment Program	8	Enabling connectivity and creating digital opportunity	0-5
Kakadu road upgrades	53	Improve year round accessibility supporting the tourism industry	5-10
Litchfield National Park upgrades - improve access, camping facilities and amenity	•	Value, preserve and expand historic, cultural meeting places, increase visitation opportunities and visitor experience	0-15
Maningrida - asbestos removal in council buildings	4	Ensure a safe and healthy work environment and best practice in managing asbestos containing materials for council controlled buildings	0-5
Maningrida - concrete batching plant	2	Support council operations and generate local jobs and skills training	0-5
Maningrida - council sporting oval	4	Strengthen a healthy active lifestyle by improving recreation and youth facilities	0-5
Maningrida - council staff accommodation	2	Strengthen liveability through improved infrastructure to support council services	0-5
Maningrida - council visitor accommodation	1	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	9	Build resilient communities and enhanced liveability by improving community facilities	0-5
Maningrida Football Oval - new grandstand	2	Strengthen a healthy, active lifestyle by improving recreation and youth facilities	0-5
Maningrida new 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 and support accessibility, connectivity and amenity	0-10
Maningrida - stage 2 - additional police housing	13	Support the continued delivery of quality police services in remote communities	0-10
Maningrida - storm water drainage and road reconstructions	4	Improve community safety and reduce the damage, disruption and costs associated with major flood events	0-5
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

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
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 - waste transfer station	9	Support council operations, community services, generate local jobs and skills training	0-5
Marindja Road - flood immunity improvements, lift pavement through floodplain and upgrade to two lane seal for priority sections	10	Support economic development of the cattle industry and improve community connectivity	0-10
Mary River National Park - three new composting ablution blocks	•	Increase visitation opportunities and visitor experience	0-10
Milikapiti - council workshop renovations	1	Support council operations, community services, generate local jobs and skills training	5-10
Milikapiti - police housing	3	Support the continued delivery of quality police services in remote communities	0-15
Minjilang - council staff accommodation	1	Strengthen liveability through improved infrastructure to support council services	0-10
Minjilang - council visitors accommodation	4	Strengthen liveability through improved infrastructure to support council services	0-5
Minjilang - reseal internal roads	3	Road improvement to increase safety, support accessibility, connectivity and amenity	5-10
Minjilang - upgrades across staff housing, visitor accommodation and council facilities	1	Support council operations by providing housing for local government employees in remote communities	0-10
Minjilang - waste transfer station	9	Support council operations, community services, generate local jobs and skills training	5-10
Minjilang (Mamaruni) School - replace preschool	2	Contemporary educational infrastructure to support growth in early years learning enrolments	0-10
Murganella Road upgrade including drainage upgrade	9	Improve community safety and reduce the damage, disruption and costs associated with major flood events	0-5
Palumpa School - integrated early learning facility	3	Contemporary educational infrastructure to support growth in early years learning enrolments	0-10
Peppimenarti community hub	6	Support council operations, community services, generate local jobs and skills training	0-5
Peppimenarti - new police complex	15	Support the continued delivery of quality police services in remote communities	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Pirlangimpi - council workshop renovations	1	Support council operations, community services, generate local jobs and skills training	5-10
Pirlangimpi - new 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	0-10
Port Keats Road upgrade - complete unsealed sections of Port Keats Road and widen Daly River Bridge	130	Support economic development of the region, improving connectivity	0-15
Robin Falls Recreation Area - day visit eco-infrastructure	2	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 project of all community and outbound roads in Wurrumiyanga, Milikapiti and Pirlangimpi	2	Support economic development of the region, improving safety and connectivity	0-10
Wadeye - new NTES volunteer and storage facilities	3	Strengthen emergency support services in remote communities	0-10
Wagait - replace Centre Yard Zone Substation	•	Asset renewal to support growth, compliance and improve service efficiency	10-15
Wagait Beach - Cloppenburg Park Master Plan - new skatepark and shade roof, rebuild pump track and resurface tennis courts	2	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Waruwi - 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
Waruwi - construct council office	2	Support council operations, community services, generate local jobs and skills training	0-5
Waruwi - construct council visitors accommodation	2	Support council operations, community services, generate local jobs and skills training	0-5
Waruwi - council amenities	1	Strengthen liveability through improved infrastructure to support council services	0-5

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Warruwi - reseal internal roads	2	Road improvement to increase safety, support accessibility, connectivity and amenity	0-10
Warruwi - waste transfer station	9	Support council operations, community services, generate local jobs and skills training	0-5
Wildman River Agricultural Precinct - develop roads, three phase power and telecommunications	20	Underpin the development of the agribusiness, fisheries and aquaculture industry if land and water is sustainable	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	5-10
Wurrumiyanga - additional housing for regional council staff	5	Support council operations by providing housing for local government employees 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 - new police complex	16	Support the continued delivery of quality police services in remote communities	0-15

## 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

Progress Kakadu road upgrades

## 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	2022-23	2023-24	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 dwellings	176.8	43.0	37.2	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region - housing headworks scoping, design and construction	11.0	11.0			Enable economic development and population growth through expanded utilities networks for new land development
Across the region - housing subdivision planning, design and construction	38.3	12.8	7.7		Enable economic development and population growth through expanded utilities networks for new land development
Across the region - Room to Breathe - dwelling extensions	41.4	11.4	16.1	•	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	2.3			Support population growth through improved access to quality water
Arnhem Highway Adelaide River Floodplain Stage 2, Beatrice Hill	31.6	20.2	•		Improve flood immunity at the Adelaide River crossing
Arnhem Link Road - improve road standard	11.0		9.5	•	Improve regional and remote community connectivity
Batchelor Solar Power Station connections	•	•			Asset renewal to support growth, compliance and improve service efficiency
Bathurst Island - mortuary upgrade	0.3	0.3			Improve infrastructure for essential services
Daly River (Nauiyu) - new car park at boat ramp	3.5	3.5			Improve access and recreation opportunities to enhance visitor experience
Darwin River Dam - new pump station	32.2	16.8	15.3	•	Support population growth through improved access to quality water

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Djomi Museum upgrades - Maningrida Arts and Culture	5.0	•	•		Value, preserve and expand art and cultural places, through the Arts Trail Gallery Extension Program
Dundee Beach - recreational fishing infrastructure	7.0	7.0	•		Enhance recreational fishing and the Territory's reputation as a world class fishing destination
Finniss Lithium Project - Core Lithium Ltd - Stage 1 Grants deposit - open cut mine with onsite beneficiation to produce a spodumene concentrate	89.0	•	•		Part of Core Lithium's Finniss Lithium project, developing lithium and diversified metals used for new and emerging technologies
Frances Creek - NT Bullion - reopen the iron ore mine to extract remnant ore from existing open cut pits	13.0	•			Meet global demand for minerals
Future of Jabiru and Kakadu - health, education, roads, government, national broadband network (NBN) and tourism facilities	411.5	86.0	•	•	Infrastructure to position Jabiru post-mining as a tourism and regional services hub
Jabiru - distribution network upgrade	•	•			Asset renewal to support growth, compliance and improve service efficiency
Kakadu National Park - various road upgrades	68.6	16.5	52.1	•	Improve access to iconic tourism product to grow visitation, the economy and increase liveability
Mandorah new marine facilities	50.0	47.2	•		Enhance infrastructure to support connectivity and development
Maningrida School - undercover walkways	0.6	0.6			Contemporary educational infrastructure to support growth in population and student enrolments
Maningrida - new police station, housing and visiting officer quarters	15.8	15.5	•		Support the continued delivery of quality police services in regional communities
Manton Dam return to service including Strauss to Middle Arm pipeline project to support industry development and provide water security to the Darwin region	300.6	•	•	•	Support economic and population growth by improving access to quality water
Manton Dam - upgrade pump station intake and transmission main	5.1	1.1	3.9		Support population growth by improving access to quality water

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Manton Solar Photovoltaic Station connection	•	•			Expand and diversify the Territory's power grid to improve efficiency and meet Northern Territory renewables target of 50% by 2030
Milikapiti waterpark	0.8	0.8			Strengthen a healthy, active lifestyle by improving recreation and youth facilities
Palumpa School - upgrade canteen and staff ablution facility	0.6	0.6			Contemporary educational infrastructure to support growth
Peppimenarti - upgrade waste management facilities	0.2	•			Support improved waste management and recycling processes
Peppimenarti library and community space	0.4	•			Support community services
Point Stuart - recreational fishing infrastructure	7.5	2.7			Strengthen a healthy, active lifestyle by improving recreation opportunities and enhancing visitor experience
Port Keats Road - upgrade	75.0	59.9	•	•	Economic enabler for the extractive industry and key national freight route between the Territory and the rest of Australia
Primary Gold Mt Bundy Gold Project - develop Tom's Gully, Rustlers Roost and Quest 29 sites	412.0	•	•		Meet global demand for minerals
Ranger mine rehabilitation - remove infrastructure	•	•	•	•	Rehabilitate the Ranger mine in consultation with stakeholders
Rum Jungle - rehabilitation	500.0	•	•	•	Rehabilitate the area in consultation with stakeholders
Tiwi Islands - road upgrades	75.0	73.5	•	•	Support economic and social development of the region, improving connectivity
Wadeye - Airport Road upgrade and seal	0.8	•			Enhance infrastructure to support accessibility, connectivity, safety and amenity
Wadeye - replace swimming pool	3.0	2.0			Support an active healthy lifestyle, engaging youth and communities
Wadeye - Starting Early for a Better Future - child and family centres	0.5	0.5			Strengthen early years learning and engagement of students and parents
Wadeye - upgrade waste management facilities	0.7	•			Support improved waste management and recycling processes

Project	Estimated \$m			Outer Years	Challenges/opportunities
	Total	2022-23	2023-24		
Wadeye - upgrade barge landing and hardstand	2.5	1.2			Improve all weather access to support accessibility, growth and community safety
Wadeye aerodrome - airstrip pavement and seal widening	3.0	2.5	•		Support connectivity and improve all weather access to improve community safety and support future growth
Wadeye pedestrian bridge and walkway	1.3	•			Enhance infrastructure to support accessibility, connectivity, safety and amenity
Wagait Beach - Cloppenburg Park Master Plan - repurpose existing compound for community recycle and re-use program	0.1	0.1			Support improved waste management and recycling processes
Wurrumiyanga - Starting Early for a Better Future - child and family centres	0.5	0.5			Strengthen early years learning and engagement of students and parents



Above: Damian Bahr Kelly and Aden Plummer. Credit: Northern Territory Government.



Above: Baruwei Lookout. Credit: Department of Infrastructure, Planning and Logistics.



## Big Rivers

A fertile hub rich with natural resources and direct connections to the national highway network puts the Big Rivers region at the centre of building a sustainable and diverse \$40 billion Territory economy, a population of 300 000 and 35 000 more jobs by 2030.

### The Big Rivers region:

- > has one of the highest average daily solar exposure rates in Australia
- > is located at the crossroads of two of Australia's key national highways – Stuart Highway to South Australia and Victoria Highway to Western Australia
- > is home to the Keep Plains Agricultural Precinct development, one of the largest agriculture land releases in the history of the Northern Territory delivering 67 500 hectares into production in the coming years
- > has 25 national parks and more than 56% of the land mass is pastoral property
- > is a critical service hub for the development of the Beetaloo Sub-basin and defence.

## Major industries and growth sectors in Big Rivers



### Resources



### Agribusiness

Spanning from the Territory's border with Western Australia across to the Queensland border, the Big Rivers region is 200 kilometres from Darwin and stretches 500 kilometres to the south.

About 20 900 people live in the Territory's second biggest region in land mass, with almost half living in the main centre of Katherine. The average age of people in the region is 30.8 years.

The region has 12 major and 11 minor communities, nine town camps and 110 homelands. About 57% of residents are Aboriginal or Torres Strait Islander people.

The Big Rivers region includes the remote Roper Gulf and Victoria Daly regions based on three major rivers – Daly River, Victoria River and Roper River – as well as the pioneering gold town of Pine Creek, Timber Creek, Borroloola and Mataranka.

Katherine sits upon the Katherine River and is strategically located at the intersection of the Darwin to Adelaide north-south transcontinental rail route, the Stuart Highway – the Territory's main arterial highway – and the Victoria Highway connecting to Western Australia.

The region is home to RAAF Base Tindal, located just outside Katherine, making Katherine a key service centre for Defence.

Of the 353 000 visitors to the region in 2016–2018, 90% were Australians, of which 78% were the self-drive market.

The region covers 344 843 square kilometres with about 33% of the region Aboriginal freehold, 10% is made up of 25 national parks and more than 56% is pastoral property.

Up to 1150 millimetres of rain falls each year in the northern part of the region. The region is characterised by vast rivers, tropical forest, rocky escarpments and savannah plains.

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.

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. The basin contains 70% of the Territory's shale gas resources and has the potential capacity to extract more than 500 trillion cubic feet of liquefied natural gas in one layer.

The Keep Plains land release is a 67 500 hectare parcel of land with 6000 - 8000 hectares suited to intensive irrigation development as agricultural land in the Northern Territory outside of Kununurra in Western Australia.

Central to the main trade routes and agricultural land, Katherine is being developed into a logistics and agribusiness hub and a new industrial precinct will be built as part of this project on Manbulloo Station.

More than 270 000 people visit the Nitmiluk National Park and its famous Nitmiluk Gorge each year.

The Nitmiluk Mountain Bike Trails offer locals and tourists the chance to ride two looped trails for over 10 kilometres through the culturally rich National Park in a tourism partnership with the Jawoyn people.

The Big Rivers region is also home to the second and third largest national parks in the Territory, Judbarra/Gregory and Limmen national parks.

Katherine hosts the Big Rivers Sporting Precinct, which includes the Henry Scott Recreation Centre and Katherine Aquatic Centre. It is home to a 60-bed public hospital that provides emergency services, surgical and medical care for the region.

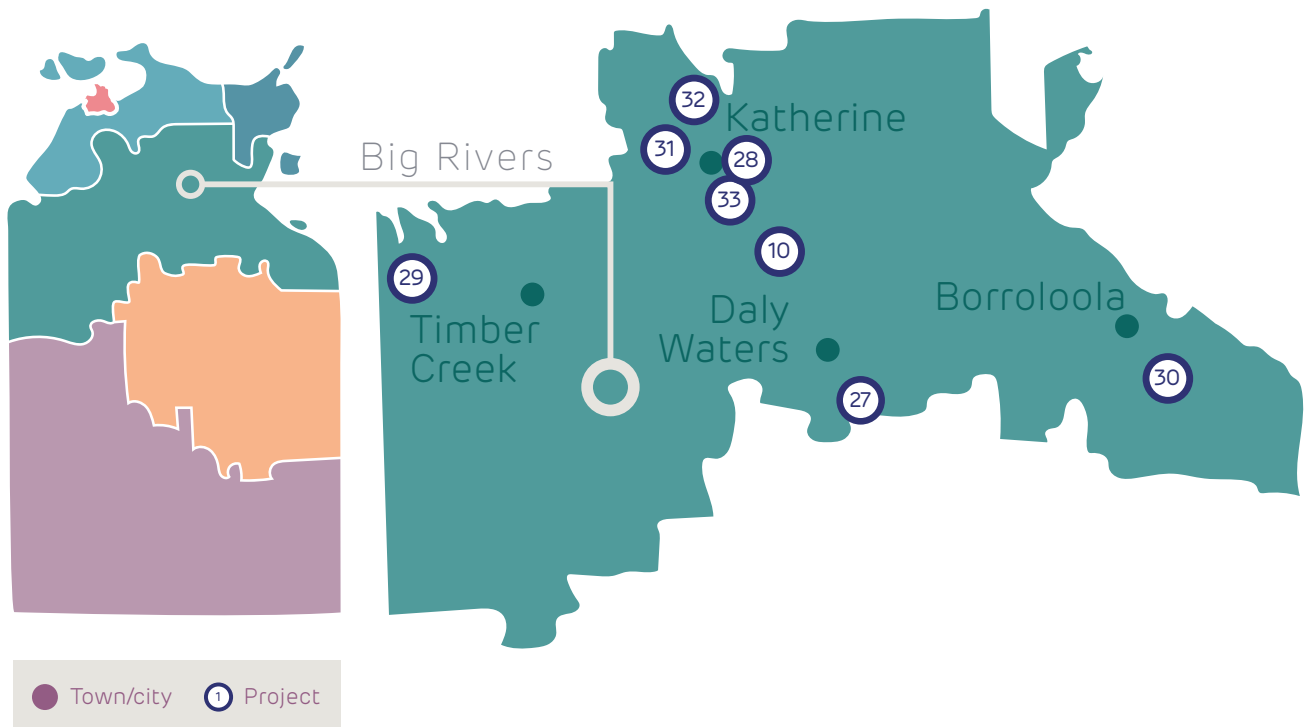


## Challenges and opportunities

- Grow the population and workforce to service several major projects coming to fruition in the region, such as Defence and Beetaloo Sub-basin.
- 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.
- Improve the mobile network coverage, which is primarily through 4G and 3G networks and limited to population centres and rural and remote satellite connectivity to access the national broadband network (NBN) services.
- Assist rural industries to have significant links to other sectors of the Territory economy such as manufacturing, transport and storage, retail and wholesale trade.
- Increase the availability of titled general and light industrial land to meet future industry demands.
- Grow Aboriginal enterprises and corporations to deliver key services.
- Diversify and intensify pastoral and Indigenous owned lands for agricultural development.
- Develop the workforce skills to capitalise on the region's economic development opportunities.



Above: A Royal Australian Air Force F-35A Lightning II operated by No. 75 Squadron taxis to the runway at RAAF Base Tindal, Northern Territory. Credit: SGT Pete Gammie. © Commonwealth of Australia, Department of Defence.



### Key projects, programs and proposals

#### ALEDA (Aboriginal Land Economic Development Agency) 27

The ALEDA Project is a pilot program to validate an economic development model for Aboriginal land.

The project proposes to establish agribusiness developments at six sites located within the Mataranka (Sturt Plateau) and Ali Curung (southern Barkly) and produce a range of horticultural crops.

The six 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.

## Katherine Logistics and Agribusiness Hub 28

A network of regional logistics hubs will be part of an efficient supply chain across the Territory to support trade and industry growth and the associated freight volume increases. Each of these hubs will be adapted to support the community, industry and trade in that specific region.

One of these hubs will be located at Katherine. The Katherine Agribusiness and Logistics Hub will support the supply chain as a whole, moving freight to and from Darwin Port for import and export, but 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. A materials recycling facility will be co-located with the Katherine Logistics Hub.

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.

## Keep Plains Agricultural Development 29

The Keep Plains Agricultural Development is an extension of the iconic Ord Irrigation Scheme, with Stages 1 and 2 located in Western Australia. Irrigation channels will be extended from Western Australia to the Territory providing for staged farming development for the production of food and fibre.

The Northern Territory Land Corporation holds Perpetual Pastoral Lease 1200 over the area along the Northern Territory/Western Australia border that includes the 67 500 hectare Keeps Plains Agricultural Development. NT Portions 1584 and 3221 located along the Keep River and adjoining Western

Australia's Ord developments have been earmarked for large scale agricultural development since the 1990s.

A call for Expressions of Interest closed in February 2021 and AAM Investment Group was selected as the successful proponent to develop this highly prospective agricultural land.

This is one of the Territory's largest land holdings that has been enabled for agricultural development.



Above: Lambells Lagoon melon farming NT. Credit: Steve Strike.

### Lucapa Diamond Company Limited – Merlin Diamond Project 30

The Merlin Diamond Project is located approximately 80 kilometres south of Borrooloola. The Merlin diamond field comprises 13 kimberlite pipes of which eight 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 Ltd. 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) (2012) compliant Mineral Resource with significant exploration upside or blue-sky potential.

Merlin is complementary to Lucapa's existing asset portfolio and provides Lucapa with the opportunity to develop its third producing mine and build what Lucapa expects will be the largest commercial diamond mine in Australia.

The largest diamond in Australia (104 carats and valued at the time at US\$525 000) was recovered in 2002 from the Gareth pipe at Merlin.

### Northern Cotton Gin Development Group – cotton processing facility 31

Until now Territory cotton growers have been trucking cotton 3500 kilometres to Queensland for processing. This is about to change with the construction of the Territory's first cotton processing facility well under way and on track to start operating in July 2022 following the next cotton harvest.

The cotton processing facility is located in cattle country 20 minutes north of Katherine in an area that currently runs cattle at one beast per 50 hectares. The return on that one beast is minimal compared to 50 hectares of cotton, and offers agriculturalists the opportunity to increase their income, diversify their business activities and create new employment opportunities in the agricultural and related supply sectors.

Cotton production will diversify agricultural business in the region. The crop will produce fibre and deliver about 100 tonnes of high protein, high oil cotton seed. This seed can be used as a cattle feed supplement, which was previously imported.

It is expected that the gin will produce 40 000 to 50 000 cotton bales in its initial year of operation, and options to expand will be considered when output reaches 60 000 to 70 000 bales per annum.

A 2020 report by PricewaterhouseCoopers suggested northern Australia's cotton industry could potentially be worth at least \$200 million within a decade and capable of producing more than 400 000 cotton bales annually. This suggests that there may be opportunities to further expand ginning capacity within the region in line with increases in cotton production.



Above: Bindaroo Pastures. Credit: NT Farmers Association, Chris and Amanda.

### Vista Gold Australia Pty Ltd – Mt Todd Gold Project 32

Located approximately 50 kilometres northwest of Katherine, the Mt Todd Gold Project is Australia's largest undeveloped gold project.

With approximately \$120 million invested, the project contains more than 9.5 million ounces of gold in the ground. Results of recent exploration work demonstrate the continuity of gold mineralisation along a 5.4 kilometre strike length between the Batman and Quigleys deposits.

The Mt Todd Gold Project is expected to produce an average of 479 000 ounces of gold per year over the first seven years of a 16-year mine life.

### RAAF Base Tindal, Bradshaw and Delamere upgrades 33

RAAF Base Tindal is 15 kilometres outside Katherine and 320 kilometres by road south-east of Darwin. RAAF Base Tindal is part of a chain of airfields stretching across northern Australia from Learmonth in Western Australia to Townsville in northern Queensland.

Although the airfield was constructed in 1942, it is the Air Force's youngest operational base (excepting bare bases) and one of Australia's most important Defence installations. RAAF Base Tindal is very much part of the Katherine community with Australian Defence Force personnel and their families making up almost 20% of Katherine's population.

A \$1.1 billion program of works at the RAAF Base Tindal, Bradshaw Field Training Area and Delamere Air Weapons Range has commenced. The package is part of the Australian Government's \$8 billion in planned spending on Northern Territory Defence facilities under Developing Northern Australia initiatives.

As part of Australian commitments under the US Force Posture Initiatives, the \$737 million RAAF Tindal Airfield Works and Associated Infrastructure project will upgrade the airfield, increase aviation fuel storage, re-invest in ageing base engineering services and provide additional living-in accommodation for posted Air Force personnel.

These works will continue to provide strong economic benefits for the Big Rivers region over an extended delivery phase, with significant opportunities for the local construction industry to tender for sub-contract packages.

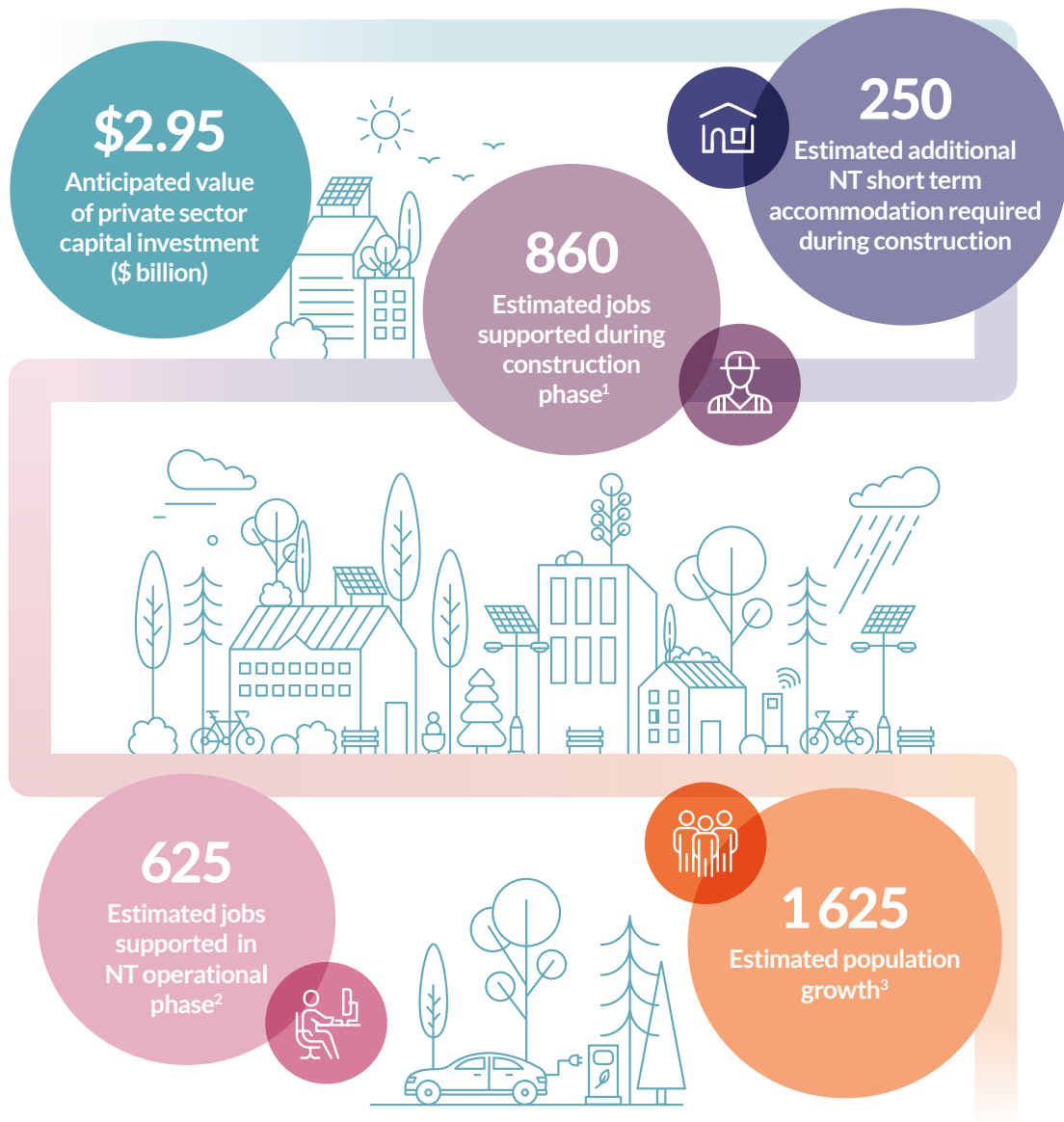


Above: Royal Australian Air Force No. 4 Squadron Combat controller team members free a quad bike from its pallet after a parachute insertion into the Mosquito Flats Drop Zone in the Bradshaw Field Training Area during Exercise Diamond Storm. Credit: CPL Colin Dadd. © Commonwealth of Australia, Department of Defence.

## Investment portfolio

The 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 Big Rivers region, subsequent jobs, accommodation needs and population growth.



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.

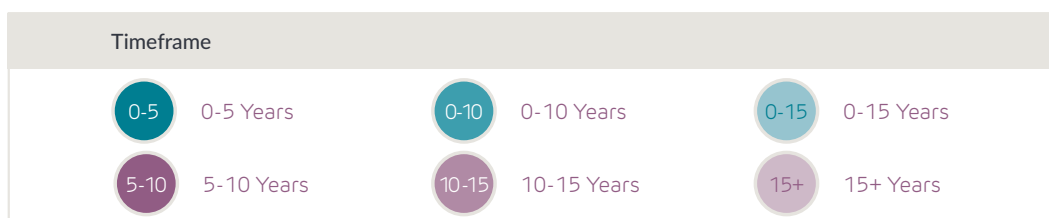
## Enabling infrastructure plan

The enabling infrastructure plan for the Big Rivers region lists the infrastructure proposals that are not yet funded, are in the planning phase 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 - 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
Beetaloo Sub-basin to Darwin common user gas pipeline and corridor	•	Supply long term, competitive, stably priced gas to the southern market	0-5
Beetaloo to Queensland gas pipeline	•	Supply long term, competitive, stably priced gas to the southern market	0-5
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	0-5
Borroloola - regional town development - residential and industrial land release	7	Enable economic development and population growth	0-15
Buntine Highway - improve the road standard and extend the seal towards Western Australia	315	Increase road capacity, safety, support accessibility, connectivity and amenity	0-15
Casuarina Street Primary School - 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	200	Improve all weather access to support accessibility, growth and community safety	0-15
Clyde Fenton Primary School - upgrade ageing facilities	1	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Cutta Cutta Caves - refresh entrances	•	Value, preserve and expand historic, cultural meeting places, increase visitation opportunities and visitor experience	5-10

• 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 two lane seal on selected sections	33	Support economic development of the cattle industry and improve community connectivity	0-15
Douglas Daly Connector Road	•	Support agriculture and tourism industry and the community	5-10
Eley National Park - new and upgraded facilities	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Giwining/Flora River Nature Park - viewing platforms at Djarrung Falls	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
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	2	Support economic development of the cattle industry and improve community connectivity	5-10
Judbarra/Gregory National Park - campground and walking track upgrades	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-15
Kalkarindji School replacements - administration block, library, canteen and lower primary block	5	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Kalkarindji - oval lighting	2	Enhance youth engagement by improving community facilities at the school	0-5
Kalkarindji - new police complex plus refurbishment of existing houses	15	Support the continued delivery of quality police services in remote communities	0-15
Katherine Airport - cold stores, warehousing and loading facilities	6	Support economic development by improving goods handling facilities	0-10
Katherine Airport - tourist facilities - upgrade 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 and support accessibility, connectivity and amenity	0-10
Katherine Aquatic Centre - 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 Business Park - staged land release of 19 industrial lots	8	Enable economic development and population growth by increasing land availability	0-5
Katherine Court House upgrade	7	Strengthen equitable access by improving infrastructure to support judicial services	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Katherine hotel development	•	Provide quality, affordable accommodation	0-5
Katherine - new NT Emergency Service facilities and tri-service visiting officer quarters	12	Strengthen emergency support services in remote communities	0-15
Katherine - new police station and visiting officer quarters	40	Support the continued delivery of quality police services in remote communities	10-15
Katherine - seniors village and aged care facilities	11	Provide a variety of contemporary, affordable and sustainable housing options for older Territorians	0-5
Katherine - upgrade bicycle path network	2	Strengthen a healthy, active lifestyle by improving sporting opportunities, and enhance visitor experience	0-5
Katherine East Neighbourhood Centre - retail and commercial precinct	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 support accessibility, connectivity, safety and amenity	10-15
Katherine High School - upgrade blocks P and R	14	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Katherine Hospital upgrades	•	Strengthen liveability by improving infrastructure to support health services	0-15
Katherine Hot Springs revitalisation - stage 2 and 3	4	Improve access to iconic tourism product to grow visitation, the economy and increase liveability	5-10
Katherine Museum - upgrades	2	Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience	0-5
Katherine netball courts, football oval and main street improvements	2	Enhance community engagement by improving facilities	0-10
Katherine Power Station upgrades and replacement works	17	Asset renewal to support growth, compliance and improve service efficiency	0-5
Katherine regional arts facility	•	Value and expand access to cultural activities, increase visitation opportunities and improve visitor experience	5-10
Katherine Sportsground - camping facilities	2	Strengthen a healthy, active lifestyle by improving sporting opportunities and enhancing visitor experience	0-5
Katherine Waste Management Facility - upgrade transfer station and recycled goods shop	1	Support improved waste management and recycling processes	0-5
Keep River, Judbarra, Gregory national parks visitor experience development - implementation	15	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Keep River National Park - improve northern boundary access	•	Improve accessibility and enhance experience for visitors and Territorians	10-15
Lajamanu Road - progressive sealing and upgrades	10	Enhance road infrastructure to support accessibility, connectivity, safety and amenity	0-15
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	0-10
Leliyn (Edith Falls) Master Plan	34	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	3	Enable economic development and population growth by increasing land availability	5-10
Mataranka - construct new fire and emergency response group facility and visiting officer quarters	4	Strengthen emergency support services in remote communities	0-10
Mataranka - new police complex	15	Support the continued delivery of quality police services in remote communities	0-10
Minyerri - new police complex	15	Support the continued delivery of quality police services in remote communities	0-10
Nathan River Road - improve flood immunity	60	Improve year round accessibility, supporting the tourism industry	15+
New Katherine Hospital (with a Medical Centre of Excellence)	•	Strengthen liveability by improving infrastructure to support health services	15+
Nitmiluk National Park upgrades	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Numbulwar - new 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
Numbulwar Road Phelp River crossing	20	Support delivery of essential services to regional and remote communities	0-5
Numbulwar School - replace elevated classroom and canteen	4	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Pine Creek - new police station, visiting officer quarters and associated infrastructure	15	Support the continued delivery of quality police services in remote communities	0-10
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
Seven Emu Road - upgrade gravel crossing of Seven Emu Creek	1	Support economic development of the cattle industry and improve community connectivity	0-10
Supported Accommodation	5	Provide safe, affordable and sustainable temporary housing options for mobile Territorians	0-10
Timber Creek regional town development - residential and commercial/industrial land release	10	Enable economic development and population growth by increasing land availability	0-10
Timber Creek - new NTES volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Timber Creek - new police complex	14	Support the continued delivery of quality police services in remote communities	0-15
Timber Creek - police housing	2	Support the continued delivery of quality police services in remote communities	0-5
Tjuwaliyn (Douglas Daly) Hot Springs - revitalise campground and establish a new bore	•	Strengthen a healthy, active lifestyle through improved recreation opportunities and enhance visitor experience	0-10
Wollogorang Road - improve the road standard	15	Support economic development of the cattle industry	0-15
Wugularr School (Beswick) - secondary education classrooms	3	Contemporary educational infrastructure to support growth in population and student enrolments	5-10

## 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

Continue to progress the Katherine Logistics and Agribusiness Hub

Undertake infrastructure planning for major private sector projects

Identify actions to alleviate accommodation pressures

Identify infill opportunities for accommodation, including consolidating existing government footprints by co-locating government services to free up land for development in Katherine

## 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	2022-23	2023-24	Outer Years	
Across the region - HomeBuild - new dwellings	108.3	41.9	8.8	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region - housing headworks scoping, design and construction	37.0	3.2	20.3	•	Expand utilities networks to support land development
Across the region - housing infill lots - power and water asset upgrades and network extensions to service nominated infill lots	2.5	2.1	0.4		Enable economic development and population growth by expanding utilities networks for new land development
Across the region - Room to Breathe - dwelling extensions	16.6	15.9			Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Big Rivers Government Centre - redevelopment and refurbishment	10.0	1.0			Support contemporary work practices and environments to attract and retain people
Borroloola - multi-purpose sporting complex (cyclone shelter)	6.9	•			Build resilient communities and enhanced liveability by improving community facilities
Borroloola - regional town development - residential land release	3.5			•	Enable economic development and population growth
Borroloola - Starting Early for a Better Future - child and family centres	0.5	0.5			Strengthen early years learning and engagement of students and parents
Buchanan Highway, Western Creek Road and Gorrie Dry Creek Road - upgrade gas industry roads	217.0	55.0	49.6	•	Roads of Strategic Importance - support economic development of mining, gas, cattle and tourism industries and improve community access
Buntine Highway - improve the road standard and extend the seal towards Western Australia	125.0	40.0	43.1	•	Increase road capacity, safety, support accessibility, connectivity and amenity

A lesser figure in the 2022-23 and 2023-24 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	2022-23	2023-24	Outer Years	
Carpentaria Highway upgrades	142.8	142.8	•	•	Roads of Strategic Importance - support economic development of the mining, cattle and tourism industries and improve community access
Casuarina Street Primary School - convert library to early learning centre	0.5	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	110.0	20.0	20.0	•	Support economic development of the mining, cattle and tourism industries and improve community access
Delamere Air Weapons Range upgrades (Growler)	298.0	•			Enhance defence capability and operations
Godinymayin Yijard Rivers Art and Culture Centre (GYRACC) - Katherine	5.0	1.0	•		Value, preserve and expand art and cultural places through the Arts Trail Gallery Extension Program
Kalkarindji - Families as First Teachers Building - security upgrade	0.1	0.1			Strengthen early years learning and engagement of students and parents
Kalkarindji - regional town development - residential, commercial and industrial land release	4.0		3.9	•	Enable economic development and population growth by increasing land availability
Katherine Crisis Centre upgrades	3.0	3.0			Support the vulnerable by improving community service facilities
Katherine - new infrastructure to mitigate flooding (southern levee)	9.4	•	•		Improve community safety and reduce the damage, disruption and costs associated with major flood events
Katherine - PFAS Water Treatment Plant	7.4	•	•		Support population growth by improving access to quality water
Katherine East - infrastructure to support residential land release	26.0	14.0	12.0		Enable economic development and population growth by increasing land availability
Katherine East - infrastructure to support the neighbourhood centre and new infrastructure to mitigate flooding (northern levee)	22.0	•	•	•	Enable economic development and population growth by increasing land availability
Katherine Hospital - Central Sterilising Department	2.1	2.1			Strengthen liveability by improving infrastructure to support health services
Katherine Logistics and Agribusiness Hub	35.0	33.5	•	•	Enable economic development by improving supply chains, processing and transport
Katherine Materials Recovery Facility	7.2	2.6	3.0	•	Support improved waste management and recycling processes

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Katherine Power Station - black start generator and 22 kilovolt (kV) and 11 kV cables	5.0	1.5	3.5		Asset renewal to support growth, compliance and improve service efficiency
Katherine - cotton processing facility	15.0	•			NT cotton processing facility to support the emerging cotton industry
Katherine regional Integrated Service Centre	0.1	0.1			Enhance services and liveability, health and community outcomes in regional towns and remote communities
Katherine Solar Power Station connection	•	•			Expand and diversify the Territory's power grid to improve efficiency and to meet Northern Territory renewables target of 50% by 2030
Katherine Transit Hub	0.6	•			Provide public transport facilities and depot in Katherine
Keep Plains Agricultural Development	20.0		•	•	Develop production area to take advantage of good quality agricultural land and available water resources
Ngukurr Police housing - finalise housing associated with the completed Ngukurr Police Station	2.1	2.1			Support the continued delivery of quality police services in remote communities
Pine Creek - water source augmentation	0.3	0.1	0.1	•	Support population growth by improving access to quality water
RAAF Base Tindal - US Air Force bulk fuel facility	•	•	•		Enhance facilities for US Air Force operations at RAAF Tindal
RAAF Base Tindal - USFPI/ KC 30A Tankers - extend, strengthen and widen runway and taxiway	702.0	•	•	•	Upgrade infrastructure to enhance defence capability and operations
RAAF Base Tindal redevelopment - stage 6	422.0	•	•	•	Enhance defence capability and operations
Savannah Way - Roper Highway sealing selected sections	56.0	8.5	•		Support economic development of the cattle, mining and mineral exploration industries
Sill 80 Ilmenite project - upgrade process plant and water supply	•	•			Meet global demand for critical minerals used for new and emerging technologies
Stuart Highway duplication in Katherine	17.6	17.6	•		Increased road safety and support further development of Katherine East
Tindal Zone Substation - third 22 kV line and upgrade capacity	•	•			Asset renewal to support growth, compliance and improve service efficiency
Victoria Highway - Newman to Katherine corridor upgrades	47.9	13.0	12.6	•	Roads of Strategic Importance - economic enabler and key national freight route between the Territory and the rest of Australia



*Above: Alice Springs town centre under the Milky Way. Credit: Max Rittner.*



## Central Australia

Central Australia, the heart of our nation, is the epitome of Australia's iconic assets – stunning desert landscapes, Aboriginal culture, Uluru-Kata Tjuta National Park, outback adventure and historic discoveries.

### The Central Australia region:

- > is home of the Larapinta Trail, listed by *National Geographic* as one of the top 20 trekking experiences on earth
- > boasts a rich fossil site preserving the bones of 30 species of animal, including megafauna, that lived in Central Australia eight million years ago
- > has a population of 39 390 people, of which 43% are Aboriginal
- > covers 543 080 km<sup>2</sup> of land – 40% of the Northern Territory.

## Major industries and growth sectors in Central Australia



Tourism



Mining

Like veins across our country, the Outback Way, Red Centre Way or Explorers Way and Tanami Road connect Queensland, the Territory's Top End, Western Australia and South Australia through the Central Australia region.

The region's core is Alice Springs – home to 25 000 people located 1500 kilometres south of Darwin and 1500 kilometres north of Adelaide.

The Central Australia region covers three local government areas, including Alice Springs Town Council, Central Desert Regional Council and the MacDonnell Regional Council.

There are 22 major and four minor communities, 19 town camps and 208 homelands in the region.

Central Australia is home to the outstanding natural wonder of Uluru-Kata Tjuta National Park – a bucket list experience for starry-eyed domestic and international travellers. The small town of Yulara provides accommodation and services to support the tourism industry at the park.

The East and West MacDonnell Ranges stretch 150 kilometres to the east and west of Alice Springs offering visitors and locals a range of experiences including hiking, camping and mountain biking.

The Larapinta Trail is a 223 kilometre walking trail starting in Alice Springs and winding through the Tjoritja-West MacDonnell National Park – tipped as one of the best trekking experiences in the world.

Lured by a sense of adventure, the region offers visitors larger than life sporting and cultural events including the Finke Desert Race that sees people on motorbikes, cars and buggies competing in Australia's greatest desert race. Or there is Parrtjima – A Festival in Light that creates an immersive and interactive art and light show against the backdrop of the iconic red centre and the West MacDonnell Ranges.

Reminders of the harsh pioneering life in Central Australia remain, including the 1870s Telegraph Station that connected southern and northern Australia for the first time and the nostalgic Ghan train journey.

The region's history is as diverse as its flora and fauna.

In Alcoota, 150 kilometres north-east of Alice Springs, is a 200 metre fossil site with 3000 individual animals that lived eight million years ago when Australian deserts were just beginning to form. Included is the world's largest bird, monster crocodiles, marsupial 'lions', marsupial 'wolves' and herds of giant wombat relatives, which are featured at Megafauna Central in Alice Springs as part of the Museum and Art Gallery of the Northern Territory.

Abundant sunshine, low humidity, cool winter temperatures and freedom from most pests and diseases supports a wide variety of crops including table grapes, dates, melons, figs, olives, bush foods and vegetables.

The low humidity and low rainfall typical of an arid desert environment provide the perfect conditions for preserving aircraft. The Asia Pacific Storage Facility, located within the Alice Springs Airport, is the first purpose-built aircraft storage, maintenance and recycling facility in the Asia Pacific region.

Energy and minerals is the most productive sector with metal ore mining, exploration and mining support services creating local jobs and boosting the economy. There are six mining projects in Central Australia with major project status, evidence of the region's mineral exploration and development potential. Central Australia has a number of onshore energy projects in the region including the Mereenie oilfield, conventional gas at Amadeus Basin, Dingo and Mereenie gas fields and petroleum at the Amadeus Basin.



Defence



Agribusiness



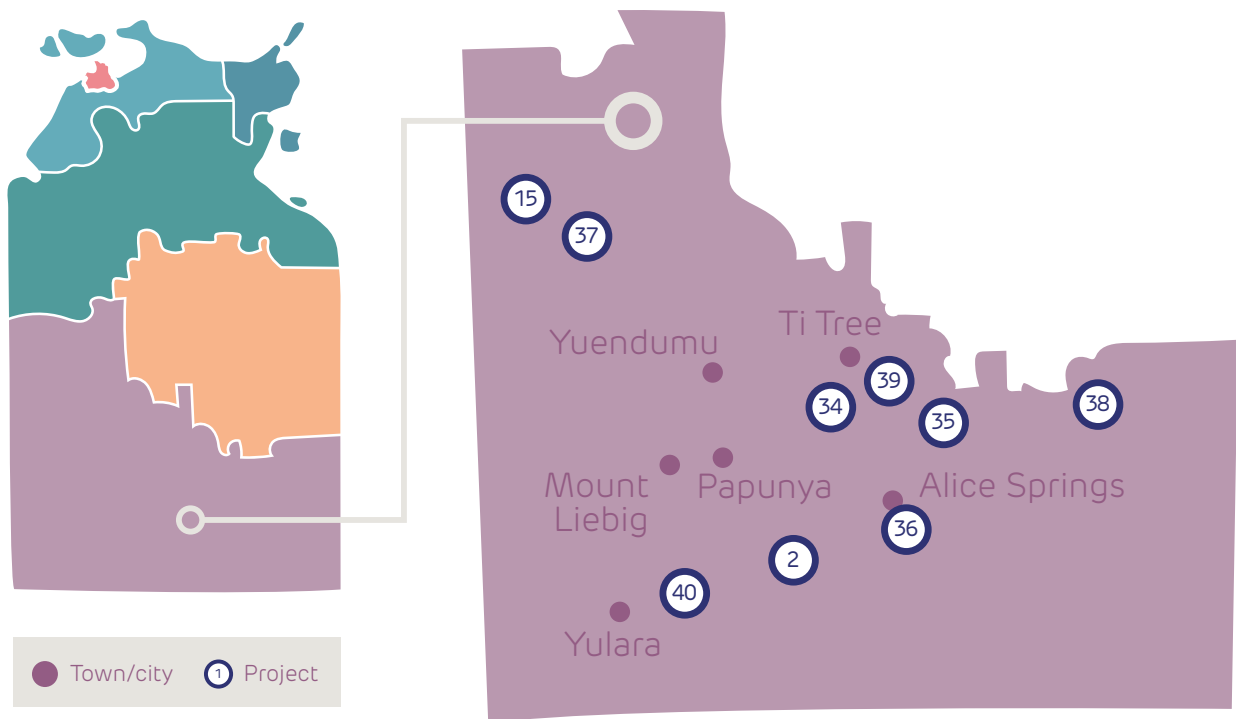
Renewable energy generation



Above: MacDonnell Regional Council offices. Credit: Simon Murphy.

## Challenges and opportunities

- Work with the Central Land Council and Traditional Owners to coordinate land access to develop Aboriginal owned land in the region.
- 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 sectors 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 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.
- Develop business capacity and capability and a suitably qualified workforce to meet the demands of a growing economy.
- Develop a Seniors Lifestyle Village to increase the number of Territorians choosing to retire in Central Australia.
- Revitalise Alice Springs to attract people to live, work and stay in the region.
- Capitalise on Central Australia's ideal location and competitive advantages for stratospheric ballooning/high altitude pseudo-satellite launch and recovery.



### Key projects, programs and proposals

#### Arafura Resources – Nolans Project 34

Arafura Resources Ltd is developing the Nolans Project approximately 135 kilometres north of Alice Springs.

Nolans will consist of a rare earth mine and an advanced downstream manufacturing facility to produce Neodymium and Praseodymium (NdPr) oxide.

NdPr oxide is essential for the electrification of transport and other renewable energy initiatives, central to the future of the world’s major and emerging economies. With demand forecast to grow six to 15 times over the next two decades, there is a looming supply imbalance that Nolans is perfectly placed to feed into when production is planned to commence in late 2024.

Nolans offers international customers rare earth supply chain diversification and security

by producing separated oxides at a single site that will meet their sustainability expectations. The company also has plans to maximise the involvement of local businesses and workforce and provide sponsorship in education and 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.

It is estimated that up to 650 jobs will be created during the construction phase over a 26 month period and 280 jobs during the operational phase.

### KGL Resources Limited – Jervois Copper Project 35

KGL Resources Limited proposes to develop and operate the Jervois Copper Project that is located approximately 380 kilometres north-east of Alice Springs and 18 kilometres north-east of Orrtipa-Thurra (Bonya) community. The proposed project includes high grade copper resource and processing facilities, including mine infrastructure, processing plant, tailings storage facility, water supply from a borefield and pipeline, water dams

and an accommodation village – all within a 402 hectare footprint.

The proposed mine is expected to produce copper concentrate with gold and silver credits over 10 years.

The Jervois Copper Project has the potential to support 300 jobs during peak production.

### Lasseter’s Casino and Resort redevelopment 36

One of Australia’s fastest growing hospitality outfits, Iris Capital, plans a major \$70 million redevelopment of its newly purchased Lasseter’s Hotel Casino, with plans to create a world-class tourism resort in Alice Springs including construction of a hotel, upgraded convention centre and a residential offering.

The Sydney-based company acquired the \$105 million Alice Springs casino resort in late 2021 and announced plans for a major transformation of the property to capitalise

on a travel-hungry domestic tourist market as interstate and international borders reopen.

The proposed development will beef up Lasseter’s residential offering, with Alice Springs having limited residential accommodation for locals as well as the mining community.

The group generates annual revenue of \$500 million and employs more than 1200 people across Australia.

### Newmont – Granites Gold Mine expansion 37

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 and the 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 1460 metres below surface. The shaft will be used to transport ore and personnel and accommodate support services and cooled ventilation air to support developing the mine to about 2140 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 1162 jobs in the Territory in 2019 with 632 people directly employed.

### Thor Mining – Molyhil Tungsten-Molybdenum-Copper Project <sup>38</sup>

Located 220 kilometres north-east of Alice Springs, the Molyhil deposit, which is 100% owned by Thor Mining PLC, occurs in two adjacent skarn bodies that includes outcropping molybdenite, chalcopyrite and scheelite mineralisation.

The resource has been the subject of systematic test work since mid-2004, including geophysical exploration, diamond and reverse circulation (RV) drilling programs, surface and underground bulk sampling, metallurgical test work and a geotechnical study.

An updated feasibility study was completed in August 2018, confirming the project is technically and economically viable based on a seven year life, with strong financial returns and rapid capital payback.

In July 2020, the Northern Territory Government announced the Molyhil project had been awarded Major Project Status.

An additional 13 deposits 30 kilometres to the north-east at Bonya are expected to add further resource inventory and extend the operational life of Molyhil.

### TNG Limited – Mount Peake Vanadium-Titanium-Iron Project <sup>39</sup>

TNG is in the final stages of planning to develop the Mount Peake Vanadium-Titanium-Iron Project, an advanced critical minerals project located 230 kilometres north of Alice Springs.

The project will comprise an open pit mining operation that will feed ore to a beneficiation plant to produce a magnetite concentrate.

The magnetite concentrate will then be further processed using TNG's proprietary TIVAN<sup>®</sup> technology, to produce three high-purity products for export to global markets – vanadium pentoxide (for high strength steel and vanadium electrolyte for vanadium batteries), titanium dioxide pigment (for paints and outdoor coatings) and iron (for steel).

### Verdant Minerals Limited and Parkway Corporate Limited Joint Venture – Karinga Lakes Potash Project <sup>40</sup>

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 over pastoral land.

The system consists of a chain of dry salt lakes located within the Central Australian

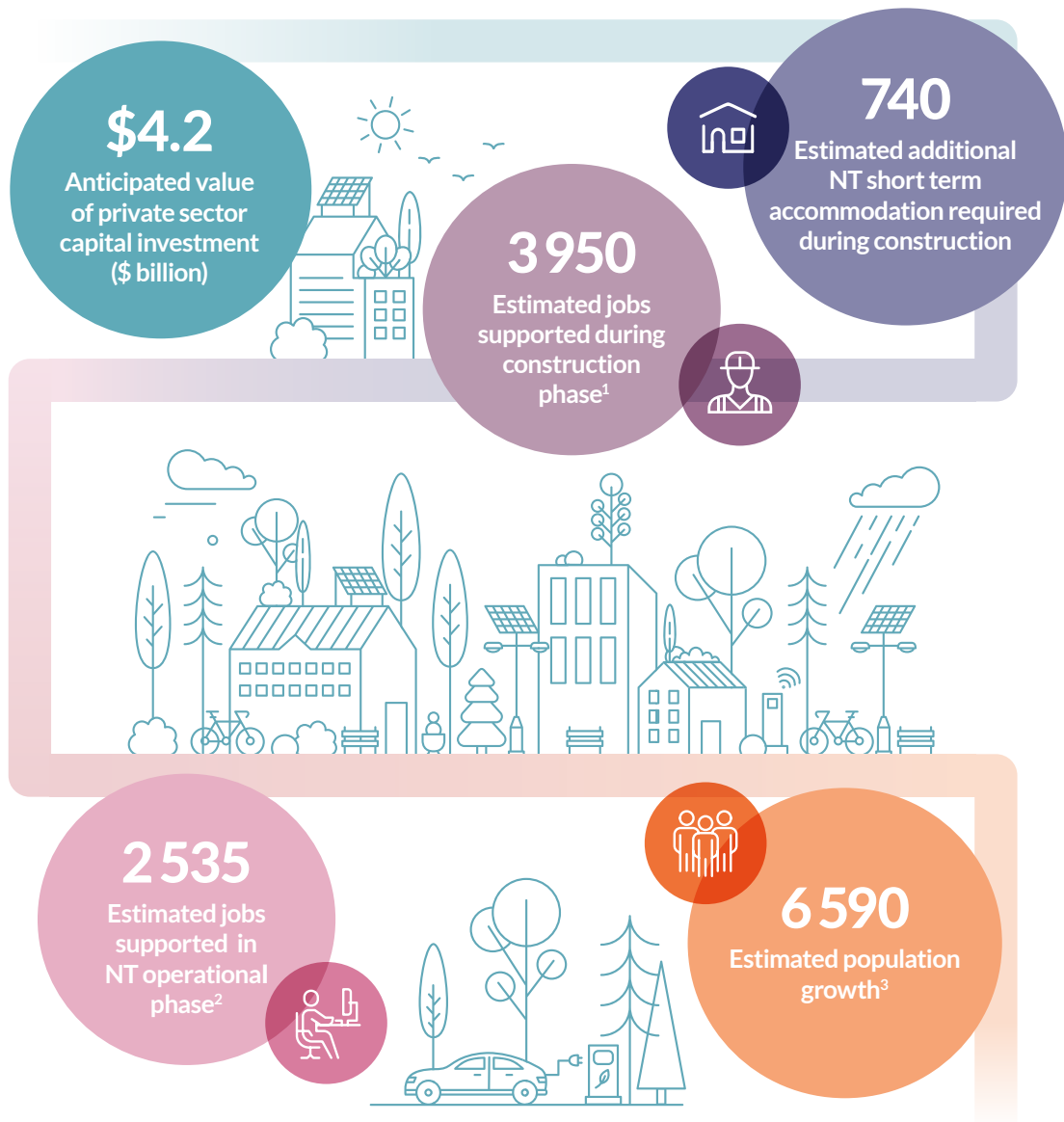
Groundwater Discharge Zone. The potential resource is ideally located with major road and rail infrastructure located close to the project, with regional gas options also available.

Verdant Minerals, one of the joint venture partners, has undertaken extensive resource appraisal since 2010.

## Investment portfolio

The 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 Central Australia region, subsequent jobs, accommodation needs and population growth.



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.

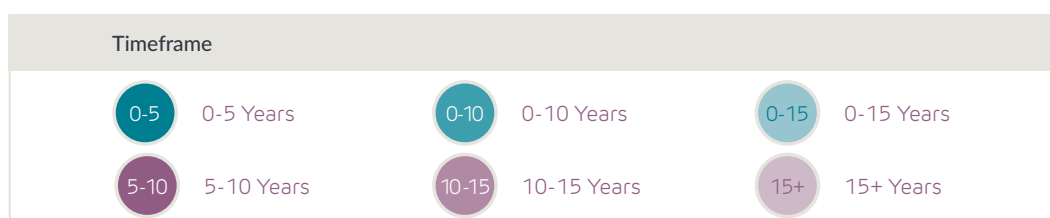
## Enabling infrastructure plan

The enabling infrastructure plan for the Central Australia region lists the infrastructure proposals that are not yet funded, are in the planning phase 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 - alcohol and other drugs rehabilitation facilities	•	Strengthen liveability by improving infrastructure to support mental health services	0-15
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 various youth infrastructure	2	Support youth engagement through sport and recreational facilities	0-5
Alcoota School - replace preschool transportable	1	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
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 - aged care facilities	•	Provide a variety of contemporary, affordable and sustainable housing options for older Territorians	0-5
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	12	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
Alice Springs police station upgrades - training area and visitor officer quarters	6	Support the continued delivery of quality police services in regional communities	0-10
Alice Springs - regional Creative Industries Hub	•	Grow businesses and develop supply chains in the creative industries	10-15
Alice Springs School of the Air - new school with tourist facility	15	Contemporary educational infrastructure to support students and increase tourism opportunities	0-15

• indicates value is either commercial in confidence or to be confirmed.



Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
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
Arumbera land development	40	Enable economic development and population growth by increasing land availability	10-15
Bradshaw Primary School - four 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
Brewer Estate - general industry development	•	Enable economic development and population growth by increasing land availability	0-10
Central Australia multi-purpose sports and culture complex	18	Showcasing art, performance and sporting events and be the new home to rugby	0-10
Central Desert region - expand visitor accommodation	•	Support construction works within the community	0-5
Centralian Middle School - upgrade to STEM (Science, Technology, Engineering and Mathematics)	3	Master planned infrastructure to provide contemporary educational facilities 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	Master planned infrastructure to provide contemporary educational facilities to support growth in population and student enrolments	0-10
Defence housing - construct new houses	•	Provide supportive housing for defence personnel and their families	0-5
Disaster recovery - Central Australia floods, November 2021	3	Support communities affected by flooding under the Federal Government's Disaster Recovery Funding Arrangements	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 car park and paths	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-5
Ernest Giles Road upgrades	4	Enhance road infrastructure to support accessibility, connectivity, safety and amenity	5-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
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	0-5
Gap Road Clinic renovations	2	Strengthen liveability by improving infrastructure to support health services	0-5
Glen Helen Gorge - revitalise riverbank path, boardwalk and viewing platform	•	Improve facilities and visitor experience on an iconic hiking track	0-5
Harts Range - new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Hermannsburg - police housing	1	Support the continued delivery of quality police services in remote communities	0-10
Hermannsburg to Finke Gorge National Park walking track	•	Improve facilities and visitor experience on an iconic hiking track	0-10
Hermannsburg - lighting at community oval	2	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Hermannsburg - new NTES volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Hermannsburg - new police complex	15	Support the continued delivery of quality police services in remote communities	0-15
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 and upgrades	3	Asset renewal to support growth, compliance and improve service efficiency	0-10
Kintore - new NTES volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Kulgera - police housing	2	Support the continued delivery of quality police services in remote communities	0-10
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	20	Enhance road infrastructure to support accessibility, connectivity, safety and amenity	15+
Larapinta Drive traffic management improvements Bradshaw Terrace to Albrecht Drive	8	Enhance road infrastructure to support accessibility, connectivity, safety and amenity	0-15

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Larapinta Primary School - extend and upgrade administration building	1	Contemporary educational infrastructure to support growth in population and student enrolments	0-10
Larapinta Trail - remote amenities	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-5
Lasseter Highway - improve the road standard	10	Support economic development of the tourism, cattle and resource industries	10-15
Luritja Road - improve flood immunity - construct bridges over Kings and Kathleen creeks	15	Support tourism and local cattle industry	0-15
Maryvale Road upgrades	107	Improve all weather access to support accessibility, growth and community safety	5-10
Mutitjulu - establish a cultural campground/camping with custodians within the Mutitjulu lease	•	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhancing visitor experience	0-15
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 Art Gallery	30	Value, preserve, exhibit and celebrate Aboriginal art and culture, improving sense of place and tourism opportunities	0-15
Namatjira Drive - seal access into Redbank Gorge	1	Improve accessibility, supporting the tourism industry	5-10
National Aboriginal Art Gallery - stage 2	150	Value, preserve, exhibit and celebrate Aboriginal art and culture, improving sense of place and tourism opportunities	0-10
Nturiya Road upgrades	1	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Outback Way - upgrade Tjukururu Road and Plenty Highway to two lane sealed standard	250	Enable mining, pastoral, cattle and tourism growth by connecting Queensland through the Northern Territory to Western Australia	10-15
Owen Springs Power Station upgrades and replacement works	11	Asset renewal to support growth, compliance and improve service efficiency	0-10
Papunya - new police station and visiting officer quarters	10	Support the continued delivery of quality police services in remote communities	0-15
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
Papunya - police housing	3	Support the continued delivery of quality police services in remote communities	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Ross Highway to Trepkina Gorge - extend the seal on access road	2	Improve access to support the tourism industry	5-10
Ross Park Primary School - refurbish upper primary four classroom block	2	Upgrade 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+
Sandover Highway - sealing selected sections	•	Improve all weather access to support accessibility, growth and community safety	0-15
Santa Teresa Clinic renovations	2	Strengthen liveability by improving infrastructure to support health services	0-5
Santa Teresa - road upgrades	•	Progressive seal and upgrade to support accessibility, growth and community safety	0-15
Santa Teresa - new police complex	15	Support the continued delivery of quality police services in remote communities	5-10
Simpsons Gap - improve disability access - 400 metre path and amenities	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-5
Strehlow Research Centre upgrades	10	Value, preserve, exhibit and celebrate Aboriginal art and culture, improving sense of place and tourism opportunities	0-10
Ti Tree airstrip upgrade and new terminal	2	Enable economic development and population growth and community safety	0-5
Ti Tree regional town development - residential and commercial/industrial land release	8	Enable economic development and population growth by increasing land availability	0-10
Ti Tree - football oval lights	1	Support youth 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
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
Todd Street Health Hub	22	Strengthen liveability by improving infrastructure to support health services	0-5
Uluru-Kata Tjuta National Park - enhance the cultural centre facilities including contemporary interpretations	•	Increase visitor numbers and length of stay in the Territory and enhance experiences with improved cultural facilities	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Uluru-Kata Tjuta National Park - walking trail and accommodation project	•	Increase visitor numbers and length of stay in the Territory and enhance experiences with improved cultural facilities	0-10
Watarrka National Park - complete Kings Creek interpretive project	•	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-5
Willowra - new police shopfront	2	Support the continued delivery of quality police services in remote communities	0-15
Willowra School - replace classroom block	3	Upgrade ageing infrastructure to support the continued delivery of quality education	5-10
Yuelamu - new dental clinic within health centre	1	Strengthen liveability by improving infrastructure to support oral health services	0-5
Yuelamu School - replace senior classroom	1	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Yuendumu - new 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
Yulara Power Station - black start and upgrades	11	Asset renewal to support growth, compliance and improve service efficiency	0-10
Yulara - establish a new visitor centre and accommodation experience	25	Increase visitor numbers and length of stay in the Territory and enhance experiences with improved cultural facilities	0-10

## 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

Accelerate design and delivery of further Kilgariff stages

Identify and take immediate action to alleviate accommodation pressures

Identify infill opportunities for accommodation, including consolidating existing government footprints by co-locating government services to free up land for development in Alice Springs

## 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	2022-23	2023-24	Outer Years	
Across the region - expand housing for council staff	5.0	1.0		•	Support council operations by providing housing for local government employees in remote communities
Across the region - HomeBuild - new dwellings	179.1	84.6	51.9	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region - housing headworks scoping, design and construction	3.4	3.2	0.2		Enable economic development and population growth through expanded utilities networks for new land development
Across the region - housing infill lots: power and water asset upgrades and network extensions to service nominated infill lots	5.4	5.2	0.2		Enable economic development and population growth by expanding utilities networks for new land development
Across the region - Room to Breathe - dwelling extensions	25.8	10.8	4.2	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Alice Plaza - office refurbishment	10.0	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 Correctional Centre - stage 3 security upgrades	0.9	0.4			Meet community expectation and need through additional correctional infrastructure
Alice Springs cultural infrastructure upgrades	19.4	19.4			Value, preserve and celebrate Aboriginal culture, improving tourism opportunities and experience
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	0.1	4.0	•	Strengthen liveability by improving infrastructure to support health services
Alice Springs Hospital - hybrid operating theatre	4.4	4.3	•		Strengthen liveability by improving infrastructure to support health services

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Alice Springs Hospital - ward wet areas	1.9			•	Strengthen liveability by improving infrastructure to support health services
Alice Springs - new and upgraded infrastructure to mitigate flooding	10.0		•	•	Improve community safety and reduce the damage, disruption and costs associated with major flood events
Alice Springs - revitalising infrastructure in the town centre	20.0	13.2	•		Unlock business and industry development opportunities and create a safe and vibrant place for people to enjoy
Alice Springs - service commercial and light industrial development	7.0			•	Enable economic development and population growth by increasing land availability
Alice Springs - Starting Early for a Better Future - child and family centres	0.5	0.5			Strengthen early years learning and engagement of students and parents
Alice Springs - upgrade bus stops and <i>Disability Discrimination Act (DDA)</i> compliance upgrades	0.8	0.8			Enhance infrastructure to support accessibility, connectivity, safety and amenity
Alice Springs power network - replace corroded poles	12.0	4.0	4.0	•	Asset renewal to support growth, compliance and improve service efficiency
Alice Springs power network - Sadadeen replace 22 (kilovolt) kV switchboard	4.8			•	Asset renewal to support growth, compliance and improve service efficiency
Alice Springs power network - upgrade Lovegrove power transformers	4.4			•	Asset renewal to support growth, compliance and improve service efficiency
Alice Springs - public housing accessibility and electrical upgrades	0.9	0.9			Provide safe, secure and affordable housing for people on low incomes
Alice Springs Youth Justice Centre - upgrades and fitout	26.0	13.5			Improve outcomes for young people in detention, their families and the community
Arrernte Living Cultural Centre	5.0	•			Support Arrernte families to share and maintain their culture
Aviation Museum upgrades	0.1	0.1			Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
Brewer Estate - general industry development	26.0		•	•	Enable economic development and population growth by increasing land availability
Centralian Senior College - upgrade study and open learning areas	0.4	0.4			Upgrade ageing infrastructure to support the continued delivery of quality education

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Central West region - Starting Early for a Better Future - child and family centres	0.5		0.5		Strengthen early years learning and engagement of students and parents
Jindalee Operational Radar Network (JORN) facilities	55.0	•			Enhance defence capability and operations
Kilgariff Area Plan - new estates - stage 2 and community land	21.2	11.0		•	Enable economic development and population growth by increasing land availability
Kilgariff - headworks to support land release (residential, commercial, community purpose and rugby park)	40.0	29.0	11.0		Enable economic development and population growth by increasing land availability
Kings Canyon Power Station - upgrades	0.3	0.3			Asset renewal to support growth, compliance and improve service efficiency
Kings Canyon Resort - upgrades	15.0	•			Re-establish Kings Canyon as one of the most exciting resorts in Australia
Kings Canyon - replace and augment water tanks	6.3	2.6	3.7		Support visitor growth by improving access to quality water
Lasseters Casino and Resort - upgrades and 30 new apartments	70.0	•	•	•	Support growth in luxury tourism, visitor and corporate travel markets
Maryvale Road upgrades	19.4	11.2			Support connectivity and improve all weather access to improve community safety and to support future growth
M'Bunghara School upgrades	0.5	0.5			Upgrade ageing infrastructure to support the continued delivery of quality education
National Aboriginal Art Gallery	50.0	45.9	•	•	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	1000.0	•	•	•	Meet global demand for minerals
Nyirripi Road upgrades	2.3	2.3			Increase road capacity, safety, support accessibility, connectivity and amenity
Outback Way - upgrade Tjukururu Road and Plenty Highway to two lane sealed standard	243.6	74.2	•	•	Enable mining, pastoral, cattle and tourism growth by connecting Queensland through the Northern Territory to Western Australia
Owen Springs Power Station - upgrades and back up power supply	4.0	4.0			Asset renewal to support growth, compliance and improve service efficiency

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Red Centre Way - Mereenie Loop Road - seal outer loop to better connect Watarrka and West MacDonnell National Park	165.0	1.2	•	•	Increase visitor numbers and length of stay in the Territory and enhance experiences with access to national parks and cultural facilities
Ron Goodin Power Station decommission, disposal and rehabilitation	3.6	2.0			Transitioning to Owen Springs as Alice Springs' main generation source
Santos - Amadeus Basin - Dukas exploration well	15.0	•			Enable economic development
Schwarz Crescent intersection upgrade	8.0	7.6	•		Economic enabler and key national freight route between the Territory and the rest of Australia
Stirling (Wilora) School - universal access ablutions	0.5	0.5			Infrastructure to support Students With Additional Needs (SWAN)
Tanami Road - complete the upgrade and seal	400.0	87.3	•	•	Economic enabler for the mining industry and key national freight route between the Territory and the rest of Australia
Ti Tree - softball oval upgrades	0.2	0.2			Support community engagement through sport and recreational facilities
Ti Tree - water supply upgrade - equip one bore	0.6			•	Support population growth by improving access to quality water
Tjoritja/West MacDonnell National Park - adventure cycling track	11.9		11.3		Expand tourism product to develop the economy and increase liveability
Tourism Central Australia - new information centre	5.0		5.0		Increase visitation opportunities and visitor experience
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
Yuendumu School - new play equipment, outdoor eating area and amphitheatre	4.4		4.4	•	Upgrade ageing infrastructure to support the continued delivery of quality education
Yuendumu - softball oval lights	0.7	0.7			Support community engagement through sport and recreational facilities
Yulara Power Station - capacity replacement	6.0	4.0	2.0		Asset renewal to support growth, compliance and improve service efficiency
Yulara Power Station - micro grid	4.0			•	Asset renewal to support growth, compliance and improve service efficiency



Above: Cattle yards in the Barkly Tablelands. Credit: Department of Industry, Tourism and Trade.



## Barkly

The Barkly is known for its million acre cattle stations, gold mining heritage, iconic rock formations and strong Aboriginal culture.

### The Barkly region:

- > is larger than the United Kingdom, covering an area of 322 725 square kilometres
- > is home to Tennant Creek, known as the site of the last gold rush in Australia during the 1930s
- > has some of the Northern Territory's largest and most productive cattle stations operating on the Barkly Tablelands, making the region a key contributor to the Territory's pastoral industry.

## Major industries and growth sectors in the Barkly



Mining



Agriculture

The Barkly region is the second largest local government area in Australia centred around the junction of two great highways – the Stuart and Barkly. The region stretches from south of the old Telegraph Station at Barrow Creek in the south to the historical droving township of Newcastle Waters in the north.

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.

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.

Aboriginal people represent 71% of the region's population of 7453, with strong Aboriginal leadership and representation by land councils, Aboriginal organisations, Traditional Owners and native title groups.

The Barkly region has a young population, with about 39% aged 24 years or younger.

The Barkly region is known for its million acre cattle stations, gold mining heritage, iconic rock formations and strong Aboriginal culture.

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 Highway intersects with the Stuart Highway north of Tennant Creek and is a significant national and regional freight route connecting Queensland and the Northern Territory. The Tennant Creek Airport supports flights to and from Tennant Creek.

The Alice Springs to Darwin railway connecting the Top End to the rest of Australia through the Barkly region, provides travellers with a different viewpoint of the region and creates further opportunities for economic growth.

The Barkly Regional Deal, the first regional deal in Australia, will see a combined commitment of \$78.4 million funding over 10 years from the Australian Government, Northern Territory Government and Barkly Regional Council.

The Deal, which includes 28 initiatives, has a 'housing first' approach and will support the liveability and economic productivity of the Barkly region by investing in projects that improve social outcomes, support Aboriginal leadership and boost the economy.

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.

The Barkly region has opportunities for future economic growth in sectors such as mining and gas, renewable energy, agribusiness and tourism, supported by a growing service sector. Capitalising on the region's strong mining and onshore gas exploration activity and future potential, Tennant Creek is emerging as a mining and mineral services centre.

An agribusiness hub is being developed in Tennant Creek to generate additional economic opportunities from the region's pastoral activity.

Capitalising on the region's strong mining and onshore gas exploration activity and future potential, Tennant Creek is emerging as a mining and mineral services centre.

The 622 kilometre Northern Gas Pipeline between Tennant Creek and Mount Isa in Queensland, transports gas from the Territory's gas fields to the eastern gas market, stimulating economic activity in the Barkly region.



The proposed Australia-Asia Powerlink project by Sun Cable will see 12 000 hectares of solar arrays established in a solar farm in the region, which will feed solar energy through a 5000 kilometre cable to Darwin and Singapore.

The project will introduce thousands of jobs to the region that will generate flow-on economic benefits.

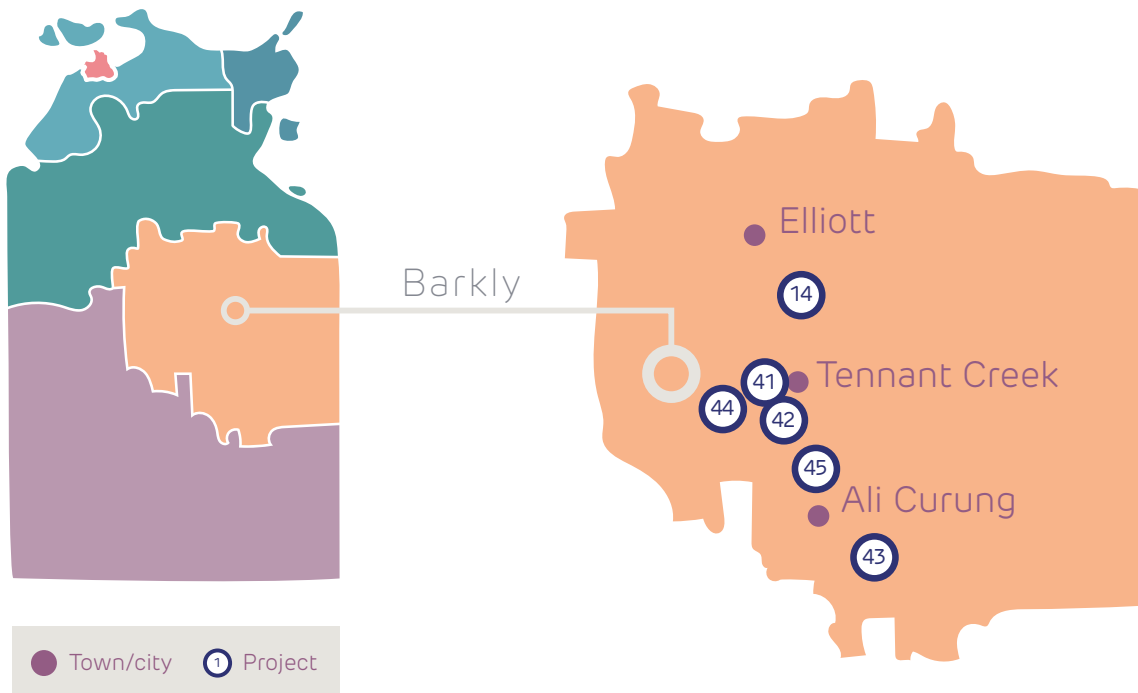
Aboriginal cultural experiences include Nyinkka Nyunya Art and Culture Centre while the Karlu Karlu (Devil's Marbles) intrigue travellers who are also drawn to the harsh pioneering experiences showcased at the Battery Hill Mining Centre.

## Challenges and opportunities

- 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.
- Developing the workforce skills to capitalise on the region's economic development opportunities.
- Managing natural resources, including water, with increased industry and development.
- Maintaining and improving 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 economic growth across a broad range of industries.



Above: Gold mining infrastructure Tennant Creek.  
Credit: Efsta Konidaris.



## Key projects, programs and proposals

### Aqua Aerem – Desert Bloom Hydrogen 41

Aqua Aerem Desert Bloom Hydrogen project is focused on developing technology that captures water from the atmosphere in arid environments, and uses renewable solar energy to produce renewable hydrogen for the domestic and export markets.

The project uses proven technology in innovative ways to produce commercial quantities of green hydrogen without impacting water resources, significantly reducing the capital and operating costs associated with green hydrogen production.

The Desert Bloom Hydrogen project is strategically located in Tennant Creek with access to the world’s highest solar irradiation, access to key pipeline and transport infrastructure and the Darwin Port, which is close to Asian markets.

The Desert Bloom Hydrogen project is based on a series of modular units, each generating water, heat, electricity and hydrogen. Aqua Aerem’s

air-to-water technology, powered by off-grid solar, will enable Desert Bloom to overcome the water supply problem that has held back global renewable hydrogen production for many years.

The project includes a series of modular and portable two megawatt (MW) hydrogen production units (HPUs) to provide hydrogen for power generation in the Territory within two years.

The project is a staged \$15 billion green hydrogen project with potential to deliver about 410 000 tonnes of hydrogen per annum for international export and domestic use through atmospheric water capture technology and a modular design, supporting remote application across the Territory.

## Castile Resources Limited – Rover Project <sup>42</sup>

The Rover Project is located 80 kilometres south-west of Tennant Creek and includes a large scale copper and gold resource that could produce gold, copper, cobalt and magnetite from three separate deposits: Rover 1, Explore 108 and Explorer 142. Environmental, geotechnical and metallurgical studies are in progress. A pre-feasibility study is expected to be completed in June 2022.

## Fortune Agribusiness Funds Management Pty Ltd – Singleton Station <sup>43</sup>

Fortune Agribusiness Funds Management Pty Ltd is an Australian agribusiness that has acquired Singleton Station, a 294 900 hectare pastoral lease in the Western Davenport region, about 380 kilometres north of Alice Springs, and approximately 150 kilometres south of Tennant Creek.

The Western Davenport region covers almost 24 500 square kilometres and with suitable access to water it could support 8000 to 10 000 hectares of irrigated agricultural land over the next 10 to 15 years for irrigated high value horticulture and broadacre agriculture.

Studies are currently being undertaken to assess infrastructure requirements in the region and how the development can enhance existing services.

Singleton Station is well located with access to key infrastructure, such as power, road and rail. Fortune Agribusiness Funds Management plans to develop 3300 hectares of intensive irrigated horticulture over the first 10 years of the project, including shared support infrastructure.

Development of the region will create one of the largest fruit and vegetable developments in Australia, which could drive economic development, create new employment options for neighbouring Aboriginal communities and attract workers into the region.

### Tennant Consolidated Mining Group (TCMG) – Tennant Creek Gold Project 44

TCMG is planning to develop a sustainable gold production company focused on fast tracking development of low-cost production in the Tennant Creek region.

TCMG intends to leverage its control of the majority of gold bearing tenure and infrastructure in the Tennant Creek region, combined with a centralised processing strategy.

The combined resource is estimated to include existing high-grade mineral inventory in excess of 500 000 ounces (oz), with an initial Joint Ore Reserves Committee (JORC) reserve of an estimated 250 000oz being targeted.

### Verdant Minerals Ltd – Ammaroo Ammonium Phosphate Fertiliser Project 45

The Ammaroo Project is 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 JORC compliant phosphate resource in Australia and one of the largest undeveloped phosphate resources in the world. (The JORC Code is the Australasian code for reporting of exploration results, mineral resources and ore reserves).

Over the past two years, Verdant Minerals Ltd has been working on the feasibility and engineering design components for an integrated ammonium phosphate fertiliser production operation at Ammaroo.

The project will incorporate the necessary infrastructure to connect into the existing Darwin to Adelaide standard gauge railway line and Amadeus gas pipeline. The project will explore the world class solar and wind resources available at Ammaroo.

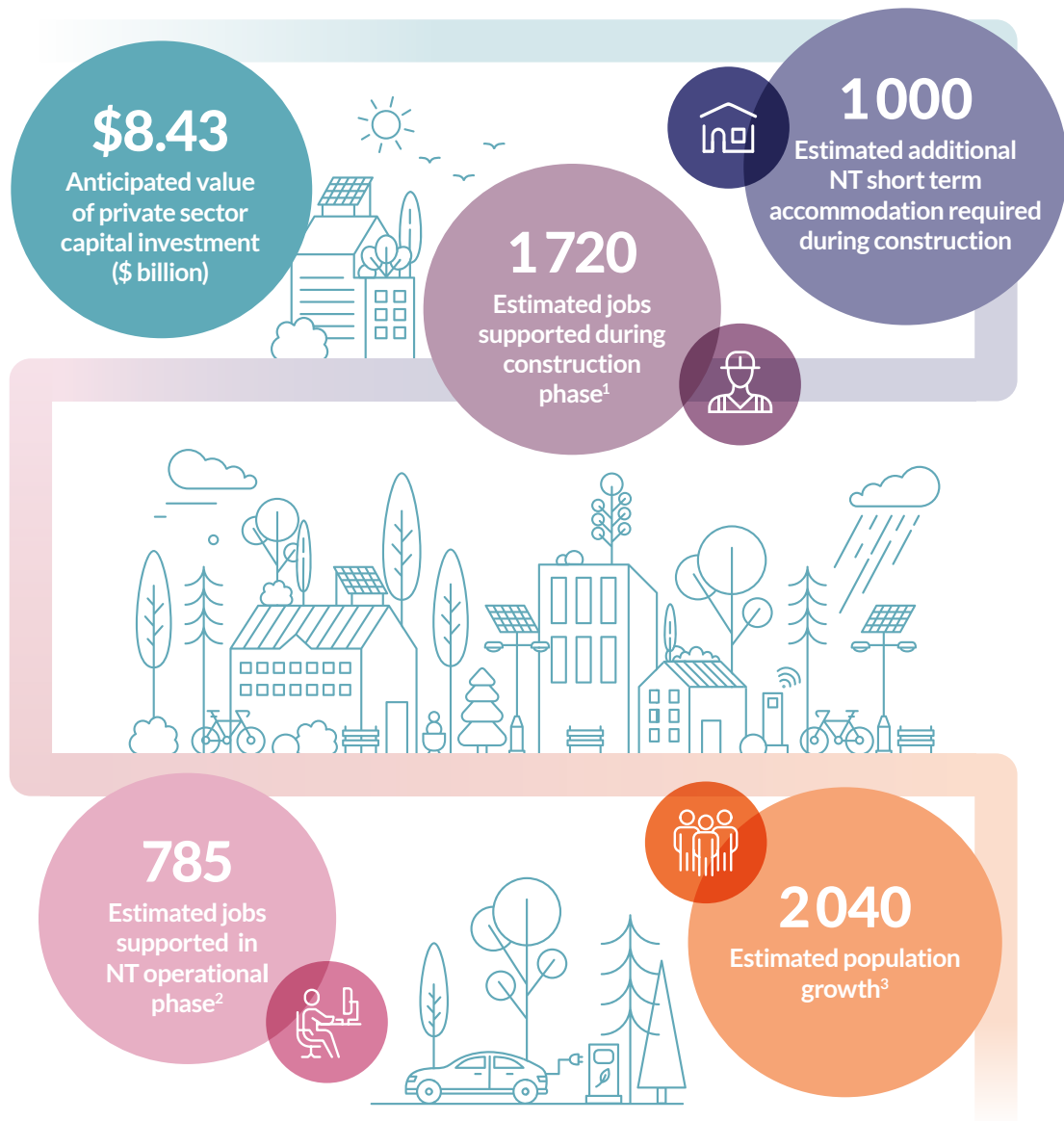
Ammaroo is well located to supply a significant portion of the southern Australian domestic market and regional export markets through the Darwin Port, with proximity to India, South East and North East Asia.

The phosphate project is expected to create about 1000 jobs during construction and about 265 ongoing jobs when in full production. It is expected that a definitive feasibility study will be completed and the environmental approvals for the project in place by the end of 2022.

## Investment portfolio

The 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 Barkly region, subsequent jobs, accommodation needs and population growth.



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.

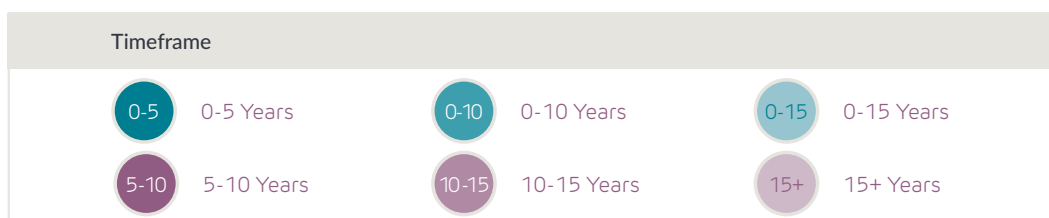
## Enabling infrastructure plan

The enabling infrastructure plan for the Barkly region lists the infrastructure proposals that are not yet funded, are in the planning phase 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 - additional health staff accommodation	•	Strengthen liveability through improved infrastructure to support health services	0-10
Across the region - new or refurbished health clinics	•	Strengthen liveability through improved infrastructure to support health services	0-15
Across the region - new remote health education facilities	•	Strengthen liveability through improved infrastructure to support health education services	0-10
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	15	Support the continued delivery of quality police services in remote communities	0-10
Ali Curung - police housing	2	Support the continued delivery of quality police services in remote communities	0-5
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, barbecue, fencing and playground with shade	1	Enhanced liveability through improved community facilities	0-5
Alpurrurulam - new police complex	15	Support the continued delivery of quality police services in remote communities	0-5
Alpurrurulam - short term safe house	1	Support the vulnerable by improving community service facilities	0-5
Alpurrurulam School - replace classrooms	2	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10

• indicates value is either commercial in confidence or to be confirmed.



Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
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 - 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
Barkly Stock Route - improve the road standard	6	Support economic development of the cattle industry	0-10
Battery Hill Mining Centre - establish state-of-the-art facilities at Battery Hill Mining Centre site	•	Strengthen a healthy, active lifestyle through improved recreation opportunities and enhance visitor experience	0-15
Canteen Creek - new dental clinic within health centre	1	Strengthen liveability through improved 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	15	Support the continued delivery of quality police services in remote communities	0-10
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	4	Enable economic development and population growth through increased land availability	0-5
Elliott School - integrated early learning facility	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Karlu Karlu/Devils Marbles - upgrade to campground and overnight visitor amenities	12	Value, preserve and expand access to parks, increase visitation opportunities and visitor experience	0-10
Karlu Karlu/Devils Marbles - seal access	7	Improve accessibility, supporting the tourism industry	5-10
Newcastle Waters - develop off-highway campground facilities with historic/cultural product offering	•	Strengthen a healthy, active lifestyle through improved recreation opportunities and enhance visitor experience	5-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Tablelands Highway - continue widening the seal from one lane to two lanes in conjunction with pavement rehabilitation works	80	Support economic development of the cattle industry	0-15
Tennant Creek - animal management facility	1	Support council operations	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 through improved infrastructure to support judicial services	0-10
Tennant Creek High School - Science, Technology, Engineering, Arts and Mathematics (STEAM)	8	Contemporary educational infrastructure to support growth in population and student enrolments	0-5
Tennant Creek Hospital upgrades	•	Strengthen liveability through improved 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 upgrades and alternative energy	14	Asset renewal to support growth, compliance and improve service efficiency	0-10
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 and parents	0-10
Tennant Creek - regional Creative Industries Hub	•	Grow businesses and develop supply chains in the creative industries	0-10
Tennant Creek Speedway upgrades	3	Strengthen a healthy, active lifestyle through improving recreation opportunities and enhancing visitor experience	0-15
Tennant Creek - Starting Early for a Better Future - child and family centres	1	Strengthen early years learning and engagement of students and parents	0-5
Tennant Creek tourism accommodation	•	Enable economic development and support growth in tourism and visitor travel markets	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Wutunugurra - new women's centre	1	Support the vulnerable by improving community service facilities	0-5
Wutunugurra (Epenarra) - new dental clinic within health centres	1	Strengthen liveability through improved infrastructure to support oral health services	0-5
Wutunugurra football oval - ablution block	1	Enhanced liveability through improved community facilities	0-5

## 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

Continue to progress the Mount Isa to Tennant Creek rail link planning

Undertake infrastructure planning for major private sector projects



Above: Tingkarli/Lake Mary Ann. Credit: Efsta Konidaris.

## 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	2022-23	2023-24	Outer Years	
Across the region - HomeBuild - new dwellings	38.5	24.8	8.3	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region - housing infill lots: power and water asset upgrades and network extensions to service nominated infill lots	2.2	1.8	0.2	•	Enable economic development and population growth through expanded utilities networks for new land development
Across the region - Room to Breathe - dwelling extensions	8.8	5.7		•	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 support future growth
Ali Curung - Starting Early for a Better Future - child and family centres	0.5	0.5			Strengthen early years learning and engagement of students and parents
Ampilatwatja - refurbish basketball court	0.4	0.4			Enhanced liveability through improved community facilities
Barkly Business Hub fit out	3.6	1.6			Enhance liveability by improving community facilities
Barkly Highway upgrades - Tennant Creek to Townsville corridor	45.1	20.3	24.8	•	Roads of Strategic Importance - economic enabler and key national freight route between the Territory and Queensland
Barkly Regional Deal - Back on Track in the Barkly	3.6	2.0			Improve outcomes for young people in detention, their families and the community
Barkly Regional Deal - Government Employee Housing	•	•			Increase housing options for government employees in regional areas in partnership with private sector
Barkly Regional Deal - new weather radar	15.0	•			Improve road and air travel safety and support agricultural, pastoral, transport and mining industries
Barkly Regional Deal - renovations to the Tennant Creek watchhouse	3.4	3.4			Support the continued delivery of quality police services in remote communities

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Barkly Regional Deal - student boarding accommodation at Tennant Creek High School	16.0	6.0	10.0		Contemporary educational infrastructure to support rural and remote students
Barkly Regional Deal - Tennant Creek visitor park	5.0	5.0			Provide safe, affordable and sustainable temporary housing options for mobile Territorians
Murray Downs School - upgrade ablutions	0.5	0.5			Upgrade ageing infrastructure to support the continued delivery of quality education
Nyinkka Nyunyu Art and Culture Centre - Tennant Creek	10.0	7.0	•		Value, preserve and expand art and cultural places through the Arts Trail Gallery Extension Program
Purkiss Sporting Reserve upgrades	7.9	4.0			Improve amenity for sporting participants and attendees
Tennant Creek gold ore processing facility	•	•			Develop a common user processing facility to support small scale, high value mines in the region
Tennant Creek Hospital staff accommodation	3.2	3.2			Strengthen liveability through improved infrastructure to support health services
Tennant Creek - industrial land release	10.0		10.0	•	Enable economic development and population growth through increased land availability
Tennant Creek - new bike path with lighting	2.0	2.0			Enhance liveability through improved community facilities
Tennant Creek - weighbridge and office at landfill site	0.4	0.4			Support council operations and community services
Tennant Creek Power Station upgrades	3.6	1.7	1.4	•	Asset renewal to support growth, compliance and improve service efficiency
Tennant Creek Residential Area Plan - infrastructure plan and delivery	5.0		5.0		Enable economic development and population growth
Tennant Creek visitor experience upgrades	5.5	3.5			Value, preserve and expand historic and cultural places, increase visitation opportunities and visitor experience
Warrego Tailings Project - reprocessing old tailings dams to produce magnetite concentrate	48.0	•	•		Meet global demand for minerals



Above: Equatorial Launch Australia – Arnhem Space Centre. Credit: Department of Infrastructure, Planning and Logistics.



## East Arnhem

An ancient world collides with the new world of technology in the East Arnhem region to create an explosion of opportunities for future growth.

### The East Arnhem region:

- > has a natural deep water port for vessels including cruise ships, superyachts, pleasure craft and commercial vessels
- > is home to the Arnhem Space Centre where Equatorial Launch Australia is developing the first commercial equatorial launch facility in Australia
- > has the fourth largest town by population in the Territory (3291 people)
- > has \$970 million total gross regional product
- > is strategically located between Darwin and Cairns.

## Major industries and growth sectors in East Arnhem



Mining



Forestry and agriculture

The East Arnhem region is just over an hour's flight to Darwin and Cairns and a day's drive to Katherine across the Central Arnhem Road and the Stuart Highway.

The region spans 33 328 square kilometres and centres on Nhulunbuy on the Gove Peninsula, which also includes Yirrkala and Gunyangara, Galiwinku on Elcho Island, Ramingining, Milingimbi and Gapuwiyak. Further east in the Gulf of Carpentaria, Groote Eylandt and Bickerton Island sit within the Groote Archipelago.

Built in the 1960s to service a bauxite mine, Nhulunbuy and the Gove Airport are managed by the Nhulunbuy Corporation – a subsidiary of mine owner Rio Tinto. Alyangula is the other main centre, located on Groote Eylandt, and hosts the GEMCO manganese mine.

The region is home to the Yolngu and Anindilyakwa people. Aboriginal people are 73% of the 14 600 population and own 100% of the region's land and intertidal zones. There are eight major Aboriginal communities, 10 minor Aboriginal communities and 87 recorded homelands across the region.

The clear, aqua blue waters, white sand and rust red dirt of the region's coast have attracted commercial activity since the Macassan Trepang (sea cucumber) fishers from Sulawesi glided ashore in the 1700s to trade items such as hooks, sails, beads and metals.

The same sparkling waters and pristine coastline have set the scene for new economic ventures and opportunity to create sustainable growth in the resource rich region.

The region has the Territory's second deepest naturally occurring port and a deep-water marine wharf to suit a range of commercial and tourism vessels – all protected in the sheltered waters of Melville Bay. Due to limited road access, freight and access to East Arnhem region is mainly by air or sea.

East Arnhem has claimed its stake in the Territory's tourism market as one of the last pristine tropical paradises in Australia with over 60 000 years of Aboriginal cultural heritage on display in the natural landscape and two prominent art meccas – Buku Larrngay Mulka Centre and Gapuwiyak Culture and Arts Centre.

There is a strong local business community with 236 regional businesses registered in East Arnhem.

East Arnhem is one of the most digitally connected regions outside of the major centres in the Northern Territory. It has 4G mobile coverage in the major centres and regional communities, high-speed Fibre to the Premise broadband in Nhulunbuy via the NBN Co and regional backhaul connectivity through Arnhem Fibre Network between Jabiru and Nhulunbuy and the Groote Eylandt Fibre Network via the Roper River region.

Supported by the Yolgnu owned Gumatj Corporation Ltd, Equatorial Launch Australia is developing the first commercial equatorial launch facility in Australia – the Arnhem Space Centre – on the Dhupuma Plateau about 30 kilometres east of Nhulunbuy.

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.

## Challenges and opportunities

- Around 150-200 additional houses are required to meet current industry demands on the Gove Peninsula. Scarcity of housing is a significant barrier to attracting and growing new industry and supporting existing private sector employers to grow or diversify.



Tourism



Fishing and aquaculture

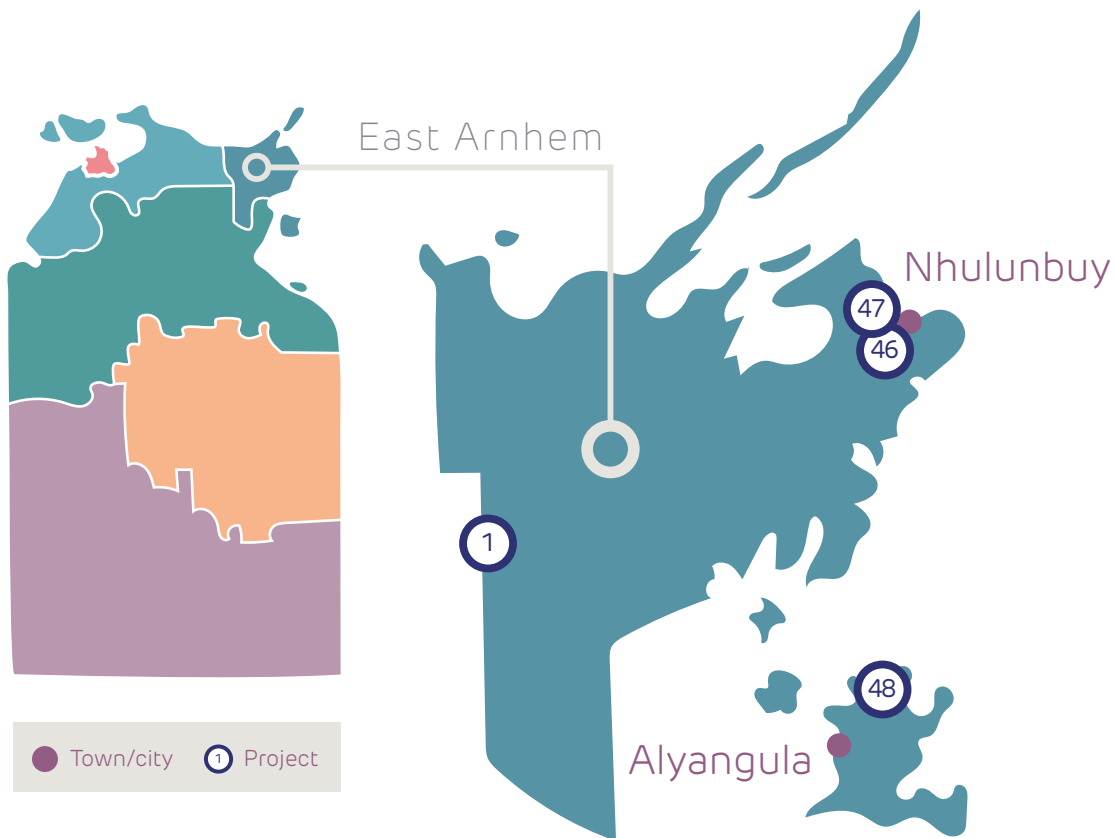


Space industry



Above: Fishing in East Arnhem. Credit: Shaana McNaught.

- Improved all weather and year round road connectivity is critical to both social and economic development in the East Arnhem region. 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.
- Increased bandwidth and redundancy in the network are essential to ensure sufficient regional digital connectivity to support economic growth across a broad range of industries.
- The Gove deep water port has significant capacity and opportunity for growth in tourism, fisheries and aquaculture and regional sea freight and marine services. Current constraints to growth can be addressed through the completion of the Gove Port Tourism Precinct upgrade and joint redevelopment of the commercial areas of the port.
- Expand the region's marine tourism facilities and expand cultural and recreational tourism experiences to increase visits from expeditionary cruise ships, superyachts and expand the self-drive market.
- Use existing expertise and supply chains to sustainably grow the agribusiness sector – fisheries and aquaculture opportunities include oysters, Barramundi, Trepang and rock lobsters and there are pilot projects underway in forestry and agriculture.
- Realise the low emissions manufacturing opportunities presented by the combination of a deep water port, high solar irradiation, existing industrial infrastructure, rich mineralisation and abundant marine resources.
- Developing the workforce skills to capitalise on the region's economic development opportunities.



## Key projects, programs and proposals

### Equatorial Launch Australia – Arnhem Space Centre 46

The Arnhem Space Centre site is in 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 Australian launch market, expected to be worth US\$930 million over the next decade.

The space centre's equatorial proximity caters for all orbits and all reliable technologies, providing sub-orbital and orbital access to space for commercial, research and government organisations.

In June and July 2022, approximately 80 personnel from NASA will support Equatorial Launch Australia in launching three sub-orbital rockets up to 300 kilometres into space from the Arnhem Space Centre.

These launches will be Australia's first ever commercial space launches. It will also be the first time NASA has ever launched from a fully commercial launch facility outside of the United States.

The facilities offer a technically advanced site to spacecraft manufacturers, government and research groups, with the capacity to continue to grow by building additional pads suitable for larger and more complex rockets. There is potential to add purpose-built facilities for ongoing and prioritised use. This supports Equatorial Launch Australia in the global challenge of providing timely and efficient and commercially attractive access to an efficient, world class launch 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. The organisation is working 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: Equatorial Launch Australia – Arnhem Space Centre. Credit: Department of Infrastructure, Planning and Logistics.

### Nhulunbuy – Sustainable Development Precinct 47

There is an opportunity presented by the Rio Tinto – Alcan Gove mine closure at Nhulunbuy to create a Sustainable Development Precinct.

The legacy of industrial and town infrastructure will enable a Sustainable Development Precinct to be established, focusing on renewables based hydrogen manufacturing at relatively low cost.

Critical components required for the 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 development will be led by traditional land owners at the 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. Decisions regarding use of the land and assets post-mining will be made soon.

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 Mining Pty Ltd 48

Winchelsea Mining Pty Ltd (Winchelsea) was established in 2018 and holds extensive exploration tenements around the Groote Archipelago, extending across the seas and islands to the western side of the Gulf of Carpentaria to the Australian mainland. These tenements include Winchelsea Island, which is approximately 60 square kilometres in size and lies less than 500 metres north of the much larger Groote Eylandt where GEMCO currently operates a world-class manganese mine.

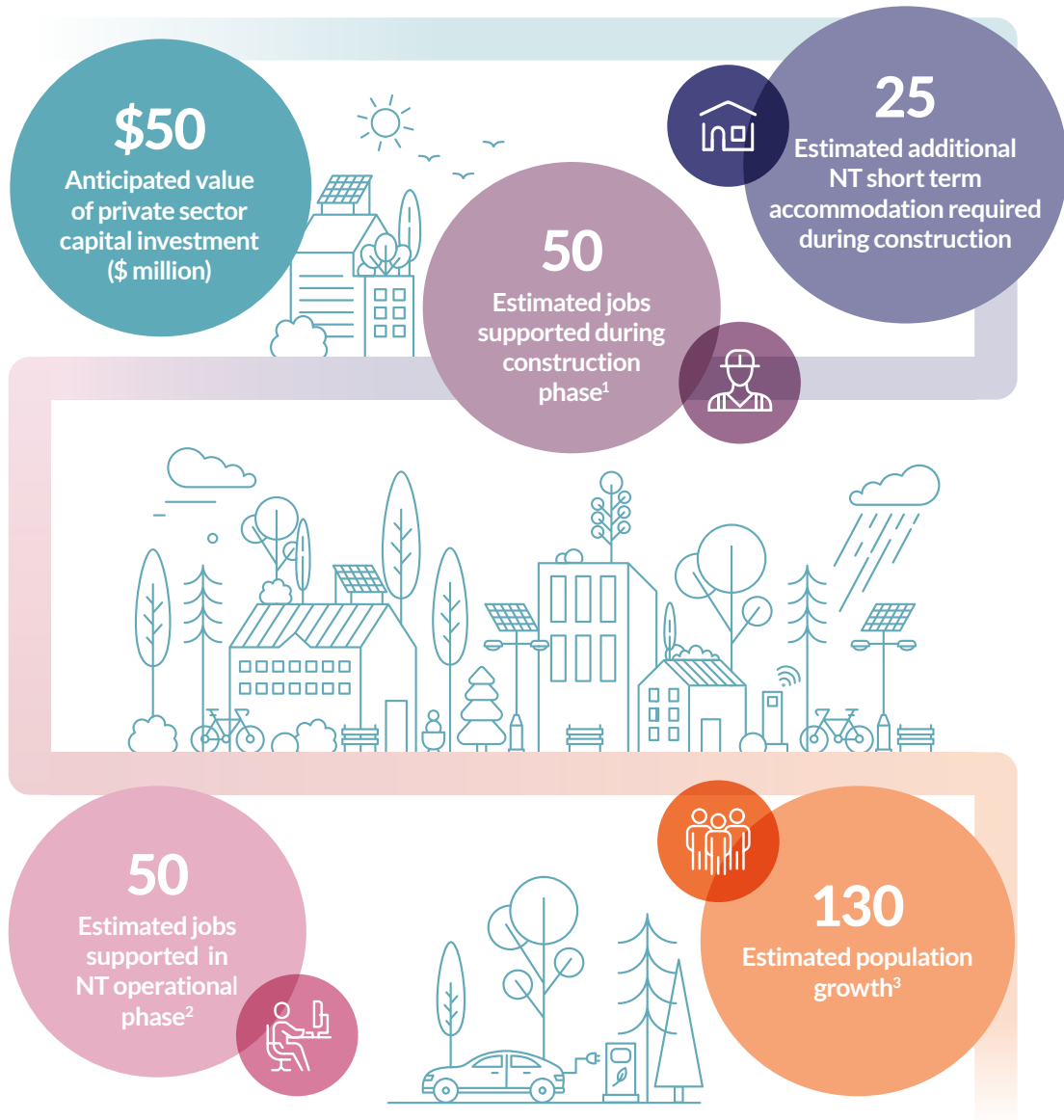
Winchelsea is a joint venture between the Anindilyakwa Advancement Aboriginal Corporation (AAAC) and AUS China International Mining Pty Ltd. It is majority owned by the Traditional Owners of Akwamburrkba.

The opportunity on Winchelsea Island is to develop the significant manganese deposit on the island as just one part of a comprehensive economic strategy to generate a long-lasting economic benefit to maintain important economic, cultural and community programs for the residents of the Groote Archipelago well into the future.

## Investment portfolio

The 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 East Arnhem region, subsequent jobs, accommodation needs and population growth.



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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.







## 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 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 - new or refurbished health clinics	•	Strengthen liveability through improved 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
Alyangula - rubbish tip remediation	1	Support council operations, community services, generate local jobs and skills training	0-5
Alyarrmandumanja Umbakumba School - upgrade	3	Replace ageing infrastructure to support the continued delivery of quality education	0-15
Angurugu - BMX tracks	1	Support council operations, community services, generate local jobs and skills training	0-5
Angurugu - east subdivision	1	Enable economic development and population growth through expanded utilities networks for new land development	0-5
Angurugu - new sports hall	2	Support council operations, community services, generate local jobs and skills training	0-5
Central Arnhem Road – upgrade remaining road within the East Arnhem region	300	Improve all weather access to support accessibility, growth and community safety	0-15
Galiwinku - new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Galiwinku Police Complex - expand and renovate police station, construct new visiting officer quarters and three additional houses	8	Support the continued delivery of quality police services in remote communities	0-10
Galiwinku - Shepherdson College – upgrade or replace two elevated classrooms and canteen	3	Replace ageing infrastructure to support the continued delivery of quality education	0-10
Gapuwiyak - new 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.

Timeframe					
	0-5 Years		0-10 Years		0-15 Years
	5-10 Years		10-15 Years		15+ Years

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 commercial port development	20	Improve marine facilities to support growth of commercial marine sector	5-10
Gove District Hospital upgrades	•	Improve health facilities and ensure they are fit for purpose	0-15
Gunyangara Oval - new public amenities/ change rooms/cyclone shelter	•	Enhance liveability through improved facilities	0-5
Milingimbi School - integrated early learning facility	2	Contemporary educational infrastructure to support growth in early years learning enrolments	0-10
Milingimbi - new police complex	17	Support the continued delivery of quality police services in remote communities	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 - new fire station	8	Strengthen emergency support services in regional communities	5-10
Nhulunbuy - new police station and visiting officer quarters	20	Support the continued delivery of quality police services in regional communities	0-15
Ramingining barge road - sealing for all weather access	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-5
Ramingining Oval - new public amenities/ change rooms	•	Enhance liveability through improved facilities	0-5
Ramingining - new NTES volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Ramingining Police Complex - additional police housing	1	Support the continued delivery of quality police services in remote communities	0-15
Umbakumba – alternative to custody facility	2	Provide community based options to detention	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 are actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

### Implementation pathway

Continue with Gove Futures Program to identify enabling infrastructure for economic sustainment and future growth, particularly Gove Port

## 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	2022-23	2023-24	Outer Years	
Across the region - headworks construction - bore field works, sewer pump stations, link infrastructures, water tanks, sewer pond works	29.1	12.1	•		Enable economic development and population growth through expanded utilities networks for new land development
Across the region - HomeBuild - new dwellings	150.6	25.8	25.8	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region - housing subdivision planning, design and construction	49.6	19.6	10.3	•	Enable economic development and population growth through expanded utilities networks for new land development
Across the region - Room to Breathe - dwelling extensions	37.4	13.6	11.9	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Angurugu Airport - new public amenities	•	•			Enhance liveability through improved facilities
Angurugu waste transfer station	•	•	•		Support council operations, community services, generate local jobs and skills training
Arnhem Space Centre - Equatorial Launch Australia	15.0	•			Provide access to space for commercial, research and government organisations

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Buku Larrnggay Mulka Centre - art centre upgrades - Yirrkala	2.5	2.0	0.5		Value, preserve and expand art and cultural places through the Arts Trail Gallery Extension Program
Central Arnhem Road - upgrade road within East Arnhem	115.0	5.0	20.0	•	Improve all weather access to support accessibility, growth and community safety
Elcho Island aerodrome - reseal and safety upgrades	4.9	4.9			Support connectivity and improve all weather access to improve community safety and to support future growth
Galiwinku Airport - new public amenities block	•	•			Enhance liveability through improved facilities
Galiwinku - improve barge landing	0.9		0.9		Improve all weather access to support accessibility, growth and community safety
Galiwinku - replace council staff housing	0.7		•		Support council operations by providing housing for local government employees in remote communities
Galiwinku Shepherdson College - access path to support students with additional needs	0.3	0.3			Contemporary educational infrastructure to support students with additional needs
Galiwinku Shepherdson College - expand preschool for Families as First Teachers	0.5	0.5			Strengthen early years learning and engagement of students and parents
Galiwinku Shepherdson College - new students with additional needs classroom	2.0	0.5			Contemporary educational infrastructure to support students with additional needs
Galiwinku Water Park and BMX	•		•		Enhance youth engagement by improving community facilities
Gapuwiyak Airport and centre town area - new public amenities	•	•	•		Enhance liveability through improved facilities
Gapuwiyak Culture and Arts Centre – new art centre building	2.0	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 - Starting Early for a Better Future - child and family centres	0.5	0.5			Strengthen early years learning and engagement of students and parents
Gapuwiyak – improve the barge landing and goods handling facilities	2.0		1.7		Improve all weather access to support accessibility, growth and community safety

Project	Estimated \$m				Challenges/opportunities
	Total	2022-23	2023-24	Outer Years	
Gove District Hospital - AS 4187 Compliant Central Sterilising Department (CSD)	2.8	•	•		Strengthen liveability through improved infrastructure to support health services
Gove Port Tourism Precinct development	8.0		•	•	Support existing tourism operators and attract new yacht and cruise tourism operators to the region
Groote Eylandt Bickerton Island Primary College	•	•			Support culture, language and leadership using a bilingual curriculum in an independent Primary Boarding College
Langarra Homeland Learning Centre upgrade	2.3	1.5		•	Improve infrastructure to support student enrolments
Milingimbi - cemetery at new site	0.2	0.2			Ensure communities have suitable and respectful facilities
Milingimbi central town area - new public amenities	•	•	•		Enhance liveability by improving community facilities
Milingimbi Water Park	•		•		Enhance community engagement by improving community facilities
Milyakburra Airport - new public toilet block	•	•			Enhance liveability through improved facilities
Milyakburra jetty pontoon	•	•	•		Support economic development by improving all weather access and goods handling facilities
Milyakburra - upgrade Outback Store	2.0	2.0			Support council operations, community services, generate local jobs and skills training
Ramingining - improve barge landing	0.9		0.9		Improve all weather access to support accessibility, growth and community safety
Ramingining Oval - lighting towers	1.0	•	•		Enhance liveability through improved recreation facilities
Telecommunication service to the Arnhem Space Centre	1.0	•			Support industries of the future, increase and enhance services and job opportunities for remote communities
Umbakumba jetty pontoon	•	•	•		Support economic development by improving all weather access and goods handling facilities
Yirrkala - replace council staff housing	0.7		•		Support Council operations by providing housing for local government employees in remote communities

Project	Estimated \$m			Challenges/opportunities
	Total	2022-23	2023-24 Outer Years	
Yirrkala aged care facility - replacement	2.2		•	Provide a variety of contemporary, affordable and sustainable housing options for older Territorians
Yirrkala School - roof and walkway replacement	3.3	0.7		Upgrade ageing infrastructure to support the continued delivery of quality education
Yirrkala School - upgrade Middle School and specialty areas	8.0		•	Upgrade ageing infrastructure to support the continued delivery of quality education
Yirrkala waste transfer station	•		•	Support remote communities by improving waste management and recycling processes

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