



NT Infrastructure Plan and Pipeline **2023** **EAST ARNHEM**

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: Umbakumba community. Credit: East Arnhem Regional Council.

Cover: Nhulunbuy. Credit: Developing East Arnhem Limited (DEAL).



East Arnhem

Home to one of the world's longest continuing cultures with a history of trade and entrepreneurship and a vision for a growing, diverse and sustainable regional economy.

The East Arnhem region:

- > is home to Yolŋu and Anindilyakwa people who have a history of strong Aboriginal economic leadership
- > is home to the Arnhem Space Centre where Equatorial Launch Australia is developing the first commercial equatorial launch facility in Australia
- > has strong, sustainable homelands that can enable economic opportunities
- > is strategically located between Darwin and Cairns
- > has an underutilised labour market with approximately 47% of working age people not in the labour force in 2021
- > has the Territory's second deep water port serviced by a deep water marine wharf.

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Major industries and growth sectors in East Arnhem



Tourism



Aerospace

The East Arnhem region is home to the Yolŋu and Anindilyakwa people, both of which represent some of the oldest living cultures on earth. Yolŋu and Anindilyakwa people make up more than 64% of the region's 14 602 population as at 2021.

East Arnhem spans 33 328 square kilometres. The town of Nhulunbuy is located approximately 600 kilometres from Darwin by plane and 1000 kilometres by road and serves as the region's economic hub.

The Groote Archipelago of Groote Eylandt and Bickerton Island, home to the Anindilyakwa people, is just off the coast.

The region is entirely Aboriginal freehold land with 11 main communities: Nhulunbuy, Yirrkala and Gunyarrara (collectively referred to as the Gove Peninsula), Galiwin'ku, Gapuwiyak, Ramingining, Milingimbi and the Groote Archipelago communities of Alyangula, Angurugu, Umbakumba and Milyakburra. There are also more than 50 homelands and satellite communities across the region.

East Arnhem is a highly prospective and emerging regional economy. The region boasts world class mineral deposits, a quality solar resource, a strategic location for defence, a deep water port, proximity to Asia Pacific markets and vast Aboriginal estates with Traditional Owners actively seeking to increase their economic participation.

Against a cultural landscape, industries such as tourism, human services, arts and culture, agribusiness and regional sea freight continue to expand alongside exciting new opportunities in aerospace, resources projects, renewable energy and manufacturing.

Agribusiness in the region encompasses aquaculture, forestry and agriculture. In 2020–21 the agribusiness sector contributed approximately \$10.3 million to the region's economy.

In the aquaculture sub-sector there are opportunities to explore the international seafood market with a variety of aquaculture products including mullet, barramundi, oyster and mackerel found in the region. In the forestry and agriculture sub-sectors there are several pilot projects underway including the opportunity for sustainable local production in the region.

Mining is the largest employer in the region, directly employing approximately 1000 people as at 2021 and contributing in excess of \$420 million in value to the region's economy. Although Rio Tinto and GEMCO's mines are approaching their end of life, Aboriginal-led mining opportunities are emerging in the region, including Gulkula and Winchelsea mines.

Tourism added approximately \$7 million in value to the region's economy in 2020–2021. Of the 53 tourism businesses operating in the region, 24 (45%) are Aboriginal owned. The majority (60%) of these businesses operate from the Gove Peninsula.

Aerospace in East Arnhem is an emerging player in the global space industry. Supported by the Yolŋu-owned Gumatj Corporation Ltd, Equatorial Launch Australia developed the Arnhem Space Centre, the first commercial equatorial launch facility in Australia. In 2022, NASA launched 3 projectiles from the Arnhem Space Centre, which is located on the Dhupuma Plateau about 30 kilometres east of Nhulunbuy.

The land surrounding Nhulunbuy provides an opportunity for a large scale solar and renewable hydrogen developments due to the abundance of solar irradiance. There is also an opportunity to utilise natural assets in communities to produce renewable energies.

East Arnhem is entering a period of transition from a long established resources-based economy to a diverse economy which supports greater regional participation and broader distribution of jobs. The region is one of the Territory's most prospective regions. With pristine waters, stunning landscapes, abundant natural resources and rich, unbroken cultures, East Arnhem is set to become one of the Territory's growing regions in the decade to come.



Resources



Agribusiness



Advanced
Manufacturing



Defence



Renewables



Above: Gove Port. Credit: Rio Tinto.

Challenges and opportunities

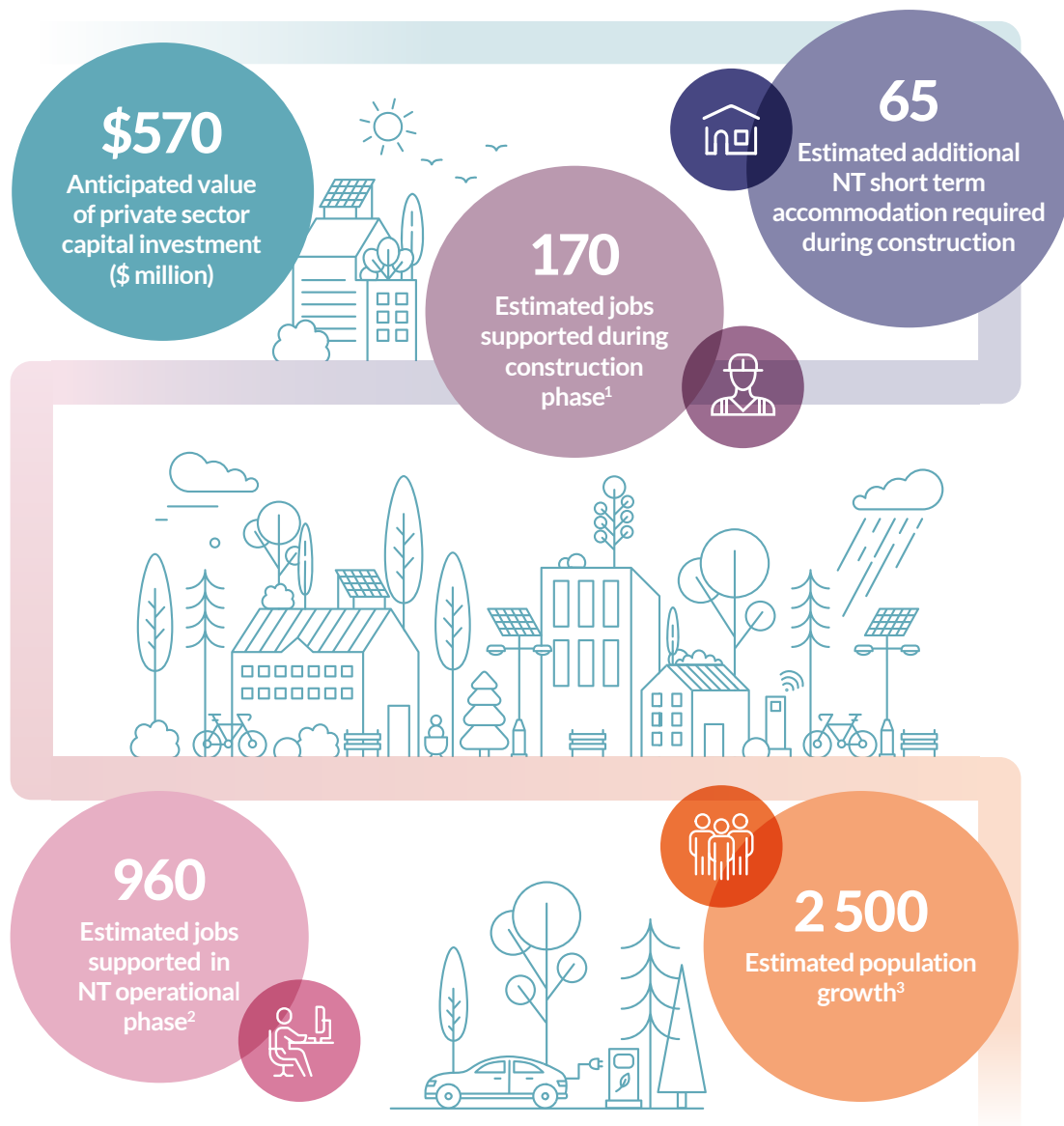
- Around 150 to 200 additional houses are required to meet current industry demands on the Gove Peninsula. Up to 80 more houses are needed for industry on Groote Eylandt. Scarcity of housing is a significant barrier to attracting and growing new industry and supporting existing private sector employers to grow or diversify.
- Additional housing to address overcrowding in communities.
- Improved all weather and year round road connectivity is critical to both social and economic development in the East Arnhem region to improve food security and freight and logistic services. The first order priority is the Central Arnhem Road, a 675 kilometre road connecting the Stuart Highway to Nhulunbuy, the majority of which is unsealed.
- Improve digital connectivity in homelands to support economic growth and support improved safety outcomes.
- Connecting communities such as Gapuwiyak and Ramingining and homelands through all-weather access to the main arterial network to support tourism aspirations of communities and homelands.
- Expand the existing Gove commercial port to support a diverse range of marine industries including tourism, fisheries and aquaculture and regional sea freight.
- Secure land tenure for investment in Nhulunbuy and Alyangula post mining and support pathways for land tenure and Traditional Owner partnerships with investors throughout the region.

Investment portfolio

The total East Arnhem investment portfolio has a direct impact on economic and population growth. It is important to understand the magnitude of economic and population growth to inform the enabling infrastructure plan.

Infrastructure NT has worked closely with Investment Territory to determine the total investment portfolio. This analysis determined the following total investments anticipated for the East Arnhem region, subsequent jobs, accommodation needs and population growth.

Analysis is based on Investment Territory 2022–2023 Progress and Outlook: May 2023

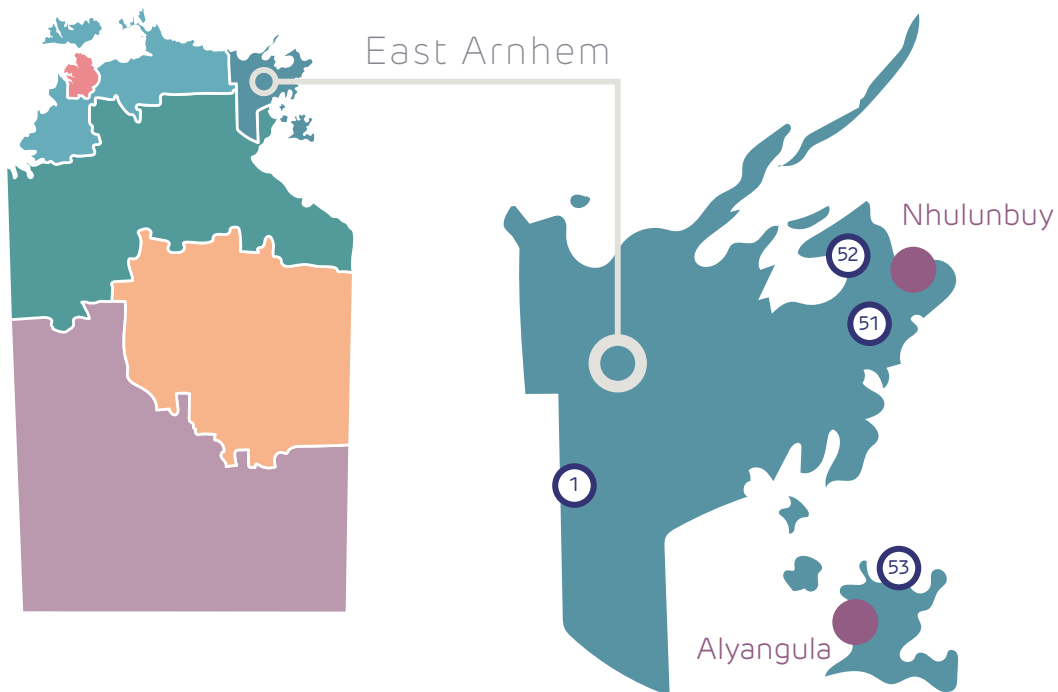


Note 1: Includes direct and indirect where provided by proponents

Note 2: Includes direct and indirect where provided by proponents in the NT only

Note 3: Based on 2.6 multiplier (ABS average persons per household NT regional)

Note: Numbers are approximate over 10 years. Further refined analysis is ongoing.



KEY

● Town/city

① Project

Locations are indicative

TERRITORY-WIDE PROJECTS

④ DCI data centres

⑤ Inlingo Network Unite

⑥ HyperOne

⑦ NEXTDC

⑪ Northern Territory remote community power generation program

Nationally significant

The following projects, programs and proposals identify and articulate the infrastructure investment that will impact the national economy or achieve national policy objectives and outcomes.

Central Arnhem Road upgrade ①

Transport and
Logistics



Tourism



The Central Arnhem Road is a critical piece of infrastructure that enables social and economic development in the East Arnhem region and the Northern Territory.

The Central Arnhem Road is located predominantly on Aboriginal land, it spans 685 kilometres including the Central Arnhem (645 kilometres), Dhupuma Road (17.3 kilometres) and Melville Bay Road (23.2 kilometres).

The Central Arnhem Road links the Stuart Highway (national network) to Nhulunbuy and communities in East Arnhem Land, connecting over 12 000 residents and supporting multiple industries including agriculture, tourism and mining.

Nhulunbuy remains the only large regional centre in the Northern Territory not connected to the National Highway network via a sealed road. The road quality is poor, with over 568 kilometres (88%) of the road unsealed. Road users experience frequent restrictions or closures throughout the wet season from December to May each year. Although 77 kilometres (12%) is sealed, the majority of this seal is narrow and only 4 metres wide (old Beef Road standard).

Upgrading and sealing the Central Arnhem Road will further help unlock the economic potential of the region and open a range of new long term economic and social opportunities. This will be achieved through reduced transit times, improved reliability of supply chains, safer road conditions and overall improved accessibility to and in the region. It will contribute to Closing the Gap by improving access to health and

educational services, facilitating social and cultural connections and reducing barriers to development, including operating costs for business.

Additional benefits to sealing the Central Arnhem Road include:

- increased liveability
- economic development
- increased tourism and trade
- land tenure
- access to gravel
- access to water
- Aboriginal employment.

Although not included on the National Infrastructure Priority List, the Australian Government committed \$180 million in its 2019-20 Budget to upgrade the Central Arnhem Road. This funding is matched by a 20% co-contribution of \$45 million from the Northern Territory Government. The Northern Territory Government also invested a further \$5 million to upgrade approximately 4 kilometres near Bulman, taking the initial funding to \$230 million to upgrade the Central Arnhem Road over 10 years.

The Australian Government committed a further \$100 million in its 2023-24 Budget, with the Territory co-contributing \$25 million. This brings the total current funding program to \$355 million.

To date, a total of 24.7 kilometres has been upgraded for sections near Beswick, Goyder and Bulman.



Connectivity in northern Australia will be faster and more reliable and resilient following the launch of Darwin's first ever direct connection to the global network of high-capacity subsea telecommunications cables.

Vocus' Darwin-Jakarta-Singapore Cable (DJSC) system is a major leap forward in Australia's global connectivity, bridging the digital divide and unlocking new opportunities for growth, innovation and development in the Northern Territory.

The 7700 kilometres DJCS cable system was completed following deployment of a final 1000 kilometre cable, which linked Vocus' existing North-West Cable System, running from Port Hedland to Darwin, to its Perth-based Australia-Singapore Cable – resulting in the first international submarine cable connection into Darwin.

The cable was supported by a \$7.9 million investment from the Northern Territory Government as part of its Terabit Territory strategy.

The project is a significant milestone towards Darwin becoming a major digital hub for the region. It will provide substantial direct and indirect benefits for northern Australia by supporting the connectivity needs of local businesses and communities with more reliable communications. This will benefit a wide range of stakeholders from remote Indigenous communities through to resource operators in the Pilbara by providing low-latency connectivity directly into Asia and enable locals to connect on a global scale.

The cable will also enhance the resilience and security of Australia's international cable network, ensuring uninterrupted and reliable connectivity, including during natural disaster and faults on other cables. This will provide businesses, governments, and individuals with greater confidence and assurance that their communication needs will be met – even in challenging circumstances.

The launch of the Darwin-Jakarta-Singapore Cable will deliver 40 terabits per second of internet capacity between Australia and Asia and pave the way for new data centres in Darwin to put us on the map as a key digital hub.

Further large scale networks are in development.

HyperOne's \$1.5 billion data super highway will be Australia's first hyper scale national fibre network, currently proposed to incorporate 3 routes connecting Darwin to:

- Adelaide, stage 1, (through the spine of the Northern Territory)
- Brisbane (along the Barkly Highway via Townsville)
- Perth (via a subsea connection).

HyperOne's planned network, once complete, will comprise over 20 000 kilometres of new high speed fibre cable across Australia including approximately 2200 kilometres through the Territory, capable of carrying over 10 000 terabits per second.

Hawaiki Nui is a 26 000 kilometre submarine cable connecting New Zealand, Australia, Indonesia, Singapore and the United States.

With a design capacity of 240 terabits, the Spatial Division Multiplexing (SDM) cable system will include up to 20 fibre pairs and link Singapore, Jakarta, Darwin, eastern Australia, the South Island of New Zealand, Hawaii and Los Angeles. The cable is intended to be ready for service in 2027.



Inligo Network Asia Connect (ACC-1) Cable 1 is a privately funded international subsea cable connecting Darwin to South East Asia (Singapore, Medan, Jakarta, Makassar, Dili, Manado and Guam), Japan and the United States. The ACC-1 Cable has 16 fibre pairs with a combined capacity of circa 256 terabits per second. The network will support a minimum of 40×400 gigabit per second wavelengths per fibre pair. This new system will provide an alternate, low latency, high capacity transmission service path between customers in Sydney, Canberra, Melbourne, Adelaide and Darwin with connections into South East Asia and the north Pacific, all delivered on a unified optical platform across the terrestrial and subsea cable systems.

Inligo Network Unite Cable System (Unite) is a private terrestrial fibre network, which will provide additional links:

- Phase 1 is a new link between Darwin and Adelaide
- Phase 2 will extend links from Adelaide to Melbourne, Canberra and Sydney
- Possible subsequent phases are a branch connecting to Papua New Guinea (with potential opportunities to connect Nhulunbuy and Groote Eylandt).

Unite will connect directly into Inligo's ACC-1 Cable system.

The total integration between the international ACC-1 Cable system and the domestic Unite terrestrial system will provide customers seamless connectivity between Darwin, South East Asia, Japan and the United States while also enabling connectivity to the southern capitals, all on the one, fully integrated platform. This functionality will provide Darwin based data centre operators and their customers the shortest routes available into South East Asia and southern Australia, opening up new industries supported by the leading edge connectivity provided by ACC-1 and Unite.

NEXTDC will construct its \$80 million premium grade (D1) data centre in the Darwin CBD. This centre is the key enabler of the Territory Government's Digital Territory Strategy that is aimed at positioning Darwin as a highly competitive location to maximise growth and investment in the local digital economy.

DCI is developing a TIER-Ready III, secure cloud edge data centre, called DRW01, able to support an IT load of up to 10 megawatt with the initial development on a 2.7 hectare site in the Darwin, Palmerston and Litchfield region with an option to expand to 5 hectares. DCI recognises the Northern Territory's position as the digital gateway to Australia's forward-facing defence and space industries, as well as Asia to the north. Darwin is a strategic location in Australia and has already created a digital ecosystem with key elements such as a renewable energy, international and Australia-wide network connectivity.

“All digital highways lead into or through Darwin and that will equal jobs of the future, while growing our digital industry. Driving digital investment in the Territory will open the door to new opportunities for advanced manufacturing, data-centres and cloud-based computing services for Territorians and investors.”

Northern Territory remote community power generation program ¹⁷

Renewables



Solar



Lifestyle



Major Project



The Northern Territory Government, through the Power and Water Corporation's not-for-profit subsidiary Indigenous Essential Services (IES), provides electricity to 72 remote communities and 66 outstations across the Northern Territory.

Power and Water delivers these services through the Department of Territory Families, Housing and Communities on behalf of the Northern Territory Government. This network includes 9093 customer connections across 51 power stations.

Diesel engines are the main technology used to generate electricity for regional and remote communities, with about 25 million litres of diesel used each year.

With the operating costs of transporting diesel to remote communities continuing to increase, the Office of Sustainable Energy is working on strategies to deliver 70% renewable energy penetration to all 72 remote communities.

As the largest isolated off-grid solar program in remote communities, the Solar Energy Transformation Program (SETuP) is a world-first.

Delivery of this strategy is also an action under the Territory Government's Climate Change Response and a recommendation of the Territory Economic Reconstruction Commission to transition Indigenous Essential Service communities to renewable-based systems by 2030.

The strategy builds on the success of the Solar Energy Transformation Program (SETuP). The \$60 million program is co-funded by the Territory Government and the Australian Renewable Energy Agency (ARENA) and delivered 10 megawatts of solar generation to 25 remote communities.

Planning activities are underway to facilitate external investment in renewable remote power systems in communities to maximise opportunities for local industries, create jobs for Territorians and strengthen local skills and expertise.

The Northern Territory Government is progressing detailed analysis of each community to map the optimal renewables development pathway, considering existing energy assets, community aspirations, electricity demand profiles and forecast growth.

In addition to the community focused detailed analysis, the project will identify available land for solar development in each community. It will also include pilot projects and studies to facilitate greater levels of distributed energy supplies and emerging technologies, such as hydrogen and microgrids.

Implementation pathway

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

Implementation pathway	Prioritisation action	Progress
Nationally significant projects, programs and proposals		
Submit Stage 1 submission (Early Stage Proposal) to Infrastructure Australia for Central Arnhem Road	Reform	In progress
Accelerate planning for and delivery of residential, commercial and industrial land	Reform	In progress
Support job creation and business growth across the economy through developing waste recycling facilities in the network of regional logistics hubs, reducing the reliance on interstate waste processing and waste going to landfill	New	New 2023 in progress



Above: Remote houses delivered in Yirrkala. Credit: Department of Infrastructure, Planning and Logistics.

Territory-wide

The following projects and proposals identify and articulate the infrastructure investment that will have a Territory-wide impact including an impact on the East Arnhem region.

Enabling infrastructure plan

The enabling infrastructure plan for across the Territory lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Access road upgrades to barge landings and all-weather aerodromes	50	Improve all weather air and sea access to support accessibility, visitor growth and community safety	0-15
Across the Territory upgrade and new bores	•	Support improved water management	0-10
Aerodrome and airstrip upgrades	30	Support connectivity and improve all weather access to improve community safety, accessibility and support future growth	0-15
AFLNT facilities upgrade to support growth in girls and womens football	1	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Barge landing upgrades	150	Support economic development by improving all weather access and goods handling facilities	0-15
Football ovals install lighting	4	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-5
Mobile and/or broadband services	33	Enable connectivity and create digital opportunities	0-10
National highways bridge upgrades	40	Improve flood resilience and support accessibility, connectivity and amenity	0-10
Network of fast charging points for electric vehicles at key tourist and rural locations	5	Enable economic development and population growth through tourism led economy	0-10

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

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

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Park facilities to enhance experience and access for visitors with limited mobility	•	Support accessibility, connectivity and amenity for all visitors	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
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 mechanical and electrical upgrades	50	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Upgrade roads to communities	•	Improve all weather access to support accessibility, growth and community safety	0-15

Implementation pathway

The suggested implementation pathways outline actions that can be taken to respond to anticipated economic and population growth challenges and opportunities.

Implementation pathway	Prioritisation action	Progress
Territory-wide		
Plan for regional waste facilities	 Reform	 In progress
Develop options to ensure that entry level and affordable housing are in the market, including options to accelerate market participation by community housing providers	 Reform	 In progress
Complete Infrastructure Audit	 Reform	 Achieved

Infrastructure pipeline

The following is a list of committed Territory-wide projects, funded by either government or the private sector.

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across all regions upgrade critical water tanks	15.2	1.5	6.0	•	Support population growth by improving access to quality water
Across all regions water main replacement	14.4	2.9	4.5	•	Support population growth by improving access to quality water
Across all regions water services minor works	33.0	13.0	15.0	•	Support population growth by improving access to quality water
Community Housing Provider housing projects	7.0	•			Provide safe, secure and affordable housing for people on low incomes
Community Housing Provider redevelopment projects	4.4	4.4			Provide safe, secure and affordable housing for people on low incomes
Digital Connectivity Program	7.5	•	•	•	Enabling connectivity and creating digital equality
Government Employee Housing Build Program	186.0	48.0	30.0	•	Provide Government employees with safe, secure and appropriate housing while performing duties in remote locations
Government managed Remote Women's Safe House upgrades and remote play equipment	1.4	1.0			Support vulnerable people by improving community service facilities
Homeland housing and infrastructure upgrade program	77.0	•	•	•	Capital grant to upgrade ageing infrastructure to support communities
Homeland Learning Centres infrastructure upgrades	1.0		1.0		Upgrade ageing infrastructure to support the continued delivery of quality education
Indigenous Essential Services asset replacement	84.0	21.0	21.0	•	Support remote communities by improving essential services efficiency
Indigenous Essential Services capital improvements	21.0	7.0	7.0		Support remote communities by improving essential services efficiency
Indigenous Essential Services headworks to support development	70.0			•	Support population growth by increasing land availability
Information communications technology (ICT) cabling upgrades in schools	8.0	1.0			Enable connectivity and create digital opportunity

A lesser figure in the 2023–24 and 2024–25 columns than in the Total column indicates either previous year expenditure or expenditure in outer years.

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

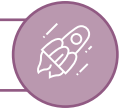
Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Infrastructure to support Territory Families, Housing and Communities remote services expansion	11.3	11.2			Improve outcomes for children and families
Mobile oral health dental unit replacement	0.7	0.7			Strengthen liveability by improving infrastructure to support oral health services
Planning works to support the development of land infrastructure planning, concept development and detailed design	41.0	4.0	4.0	•	Enable economic development and population growth by increasing land availability
Power Networks augmentation and capital projects	164.0	43.0	36.0	•	Asset renewal to support growth, compliance and improve service efficiency
Public Housing new builds	8.5	•			Provide safe, secure and affordable housing for people on low incomes
Remote Women's Safe House upgrades managed by Non-Government Organisation (NGO)	1.6	•			Capital grants to support vulnerable people by improving community service facilities
Replace critical asset elements in various hospitals, remote health clinics, schools and police stations	20.0	•	•	•	Ensure a safe and healthy work environment and best practice in the delivery of government services
Road Safety Program, including intersection upgrades, improvements for pedestrian safety, street lighting, truck parking bays, rest areas	267.0	15.0	80.0	•	Support connectivity, regional development and safety by improving key arterial and secondary roads
Roads to Recovery Program targeted local road upgrades	24.7	•	•		Enhance road infrastructure to support accessibility, connectivity, safety and amenity
Security enhancements to police facilities	9.0	2.0	2.0	•	Support the continued delivery of quality police services
Targeted road safety projects, local roads and community infrastructure shovel ready projects	67.5	20.0	7.6		Australian and Northern Territory governments supporting infrastructure construction jobs across the Territory
Territory Schools air-conditioning mechanical and electrical upgrades	4.0	2.0			Upgrade ageing infrastructure to support the continued delivery of quality education

Regionally significant

The following projects, proposals and programs identify and articulate the infrastructure investment that will have an impact on the East Arnhem region.

Aerospace

Equatorial Launch Australia – Arnhem Space Centre 51



The Arnhem Space Centre site is situated near the East Arnhem township of Nhulunbuy, approximately 12 degrees south of the equator on the land of the Yolngu people.

The space centre is positioned to pursue a significant share of the global small and medium launch market, expected to be worth US\$930 million over the next decade.

The space centre's equatorial proximity caters for all orbits and inclinations, providing sub-orbital and orbital access to space for commercial, research and government organisations.

Phase 1 launch facility developments saw 3 launch pads constructed to accommodate sub-orbital and small orbital satellite launch vehicles (payload 150 to 500 kilograms). Operations commenced in June/July 2022 with NASA conducting a sub-orbital launch campaign, it's first from a commercial launch facility.

Currently, Equatorial Launch Australia (ELA) is in its Phase 2 site expansion to support anticipated increased commercial and research launch demand for launch vehicles with payloads of up to 2000 kilograms.

Phase 2 will provide spacecraft manufacturers with an active and technologically advanced launch complex. The proposed new spaceport includes 14 new launchpad facilities suitable for larger and more complex rockets (increased capacity to launch 20 00 kilogram payloads compared to the 300 kilograms payloads NASA launched in 2022), advanced engine testing rigs (single engine static test rig and a full scale hot fire test rig), horizontal integration facilities, launch and mission control centre, range control centre, launcher lounge, fuel storage facility, on site accommodation, telemetry and a logistic centre. The new spaceport will also include a new radar tracking and telemetry station and multiple radars, a fuel farm, 20 tonne gantry crane, a man-made lake for in house water supplies and a water tower for water pressure on the site.

The new development provides an opportunity to design and build purpose-built facilities for resident launchers and allow for higher launch cadence and a wider range of rockets to launch from the site.

Equatorial Launch Australia has undertaken extensive consultation with key stakeholders in Australia and internationally to provide strong foundations for a growing spaceport in the Northern Territory. ELA continues to work closely with regulators, including the Australian Space Agency in alignment with their strategy, to provide reliable access to space. There is ongoing interest and opportunities for domestic and international launch operations, rocket and satellite operations and testing, space sciences, space education, related logistics and operational support, systems engineering and avenues for broader education in science, technology, engineering and mathematics (STEM) and support for government space related activities. The sector is set to be worth over \$1 trillion by 2040, and lead to 20 000 new jobs in Australia alone by 2030. The sector is of interest to investors, educators, and regulators alike.



Above: Arnhem Space Centre. Credit: Equatorial Launch Australia.

Gove Peninsula – A post mining future 52



With the Alcan Gove mine closure at Nhulunbuy, the legacy of industrial and town infrastructure creates the opportunity with infrastructure such as fuel tanks, the port, warehouses, roads and administration buildings available for new industry development.

The mine closure has provided the opportunity for Yolgnu businesses specialising in mine rehabilitation and mining services to develop. The clean-up of the mine is one of the largest environmental rehabilitation projects and demolition projects in the southern hemisphere.

There is an opportunity to focus on renewables based hydrogen manufacturing at relatively low cost. Critical components required for such a precinct already in place include multimodal transport (port, road and air) and plentiful access to both salt and fresh water. Local solar supplemented by bio-energy resources and

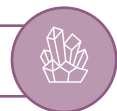
storage could today provide energy at reasonable costs, countering the challenges that led to the closure of the alumina refinery in 2014.

Any future development will be decided or led by Traditional Owners at a local level. A variety of proponents are demonstrating interest in significant investment at this site and are actively engaged in discussions with Traditional Owners and government.

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

The combination of a deep water port (including export facilities), existing industrial infrastructure, rich mineralisation and abundant marine resources make the site optimal for the production and use of biomass as well as processing of minerals, marine and agricultural products.

Winchelsea Mine 53



Winchelsea Mining Pty Ltd (Winchelsea Mining) is a joint venture between Anindilyakwa Advancement Aboriginal Corporation (AAAC) and AUS China International Mining, and is majority owned by the Traditional Owners of Akwamburrkba Island. The proposed manganese mine is located on Akwamburrkba Island (Winchelsea), north of Groote Eylandt, about 600 kilometres south-east of Darwin. It is proposed that mining using free digging and rock breaking would be undertaken to extract the ore. Mine infrastructure would include run-of-mine and ore stockpiling areas, a processing plant, workshops, haul and access roads, a product conveyor from the processing area to the wharf, a loading jetty and a boat ramp. Supporting infrastructure would be

located at the Little Paradise development area on Groote Eylandt, approximately 6 kilometres south-west of the mine site, and include a barge landing ramp and jetty, access roads, a logistics hub and a 100-person accommodation camp. A Joint Ore Reserves Committee (JORC) Reserve Estimate Statement has been completed while bankable feasibility studies and Environmental Impact Assessments are currently being finalised.

The revenue generated by the proposed Winchelsea Mine will be a critical enabler of a comprehensive economic strategy to generate long lasting economic benefits to maintain important health, education, cultural and community programs for the residents of the Groote Archipelago well into the future.

Enabling infrastructure plan

The enabling infrastructure plan for the East Arnhem region lists the infrastructure proposals that are not yet funded, are in the planning phase and have been identified as enabling an outcome.

Proposals listed respond to economic and/or population growth or address the cross cutting objectives in the NT Infrastructure Strategy 2022 – 2030.

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Across the region new or refurbished health clinics	•	Strengthen liveability by improving infrastructure to support health services	0-10
Across the region Remote School Renewal program	•	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Across the region, including on Groote Eylandt and the Gove Peninsula, various scale aquaculture enterprises	•	Produce high-quality and reliable supply of niche produce year round for domestic and export markets	0-5
Alyarrmandumanja Umbakumba School upgrade	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-15
Birritjimi Beach replacement housing development	17	Improve housing in remote locations	0-10
Central Arnhem Road upgrade remaining road within the East Arnhem region (Bulman to Nhulunbuy)	300	Improve all weather access to support accessibility, growth and community safety	0-15
Dhimurru Recreational Areas review and expand	•	Strengthen a healthy, active lifestyle by improving recreation opportunities and enhance visitor experience	0-10
Dhupuma Road upgrade and seal from Central Arnhem Road to Gove Airport	•	Increase road capacity, safety, support accessibility, connectivity and amenity	0-5
Galiwin'ku expand and renovate police station, construct new visiting officer quarters and 3 additional houses	8	Support the continued delivery of quality police services in remote communities	0-10
Galiwin'ku multi-purpose sporting complex/cyclone shelter	5	Build resilient communities and enhanced liveability by improving community facilities	0-10
Galiwin'ku new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
Galiwin'ku Shepherdson College upgrade or replace 2 elevated classrooms and canteen	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Gapuwiyak new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15

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



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

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Gapuwiyak Oval new public amenities/change rooms	1	Enhance liveability through improved facilities	0-5
Gapuwiyak Road seal additional sections of barge/access road	2	Improved community safety and connectivity	0-5
Gove District Hospital upgrades	•	Ensure health facilities are fit for purpose	0-15
Groote Eylandt construct up to 25 Government Employee Houses through long term lease back	•	Provide quality, affordable housing to attract a workforce	0-5
Gunyangara (Gove Port) commercial port development	20	Improve marine facilities to support growth of commercial marine sector	5-10
Gunyangara Oval new public amenities/change rooms/cyclone shelter	4	Enhance liveability through improved facilities	0-5
Gunyangara upgrade water infrastructure to support new projects	13	Support economic development and population growth by improving access to serviced land	0-10
Little Paradise biosecurity compound	3	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise key worker housing estate	20	Support services by key workers in remote communities through local decision making	0-5
Little Paradise marine harbour facilities	40	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise solar renewable power supply	35	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise timber industries precinct	7	Support industries of the future, increase and enhance services and job opportunities for remote communities	5-10
Little Paradise vehicle workshop for clan businesses	4	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise Winchelsea Marina	40	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise worker accommodation village	10	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-5
Little Paradise worker accommodation, sports, restaurant and community hospitality infrastructure	20	Support industries of the future, increase and enhance services and job opportunities for remote communities	0-10
Milingimbi cyclone shelter	10	Build resilient communities and enhanced liveability by improving community facilities	0-10

Proposals	Estimated Total \$m	Challenges/opportunities	Timeframe (Years)
Milingimbi new police complex with housing, visiting officer quarters and associated infrastructure	17	Support the continued delivery of quality police services in remote communities	0-5
Milingimbi School integrated early learning facility	2	Contemporary educational infrastructure to support growth in early years learning enrolments	0-10
Milingimbi School refurbish administration block, library and classrooms	3	Upgrade ageing infrastructure to support the continued delivery of quality education	0-10
Nhulunbuy develop up to 160 industry houses (up to 80 Government Employee Houses)	•	Provide quality, affordable housing to attract a workforce	0-5
Nhulunbuy office for Northern Land Council	•	Support NLC to consult with Traditional Owners and other Aboriginal and Torres Strait Islander peoples	0-5
Nhulunbuy short-stay visitor accommodation	•	Provide quality, affordable accommodation	0-10
Nhulunbuy sport and recreation hall/ cyclone shelter	15	Build resilient communities and enhanced liveability by improving community facilities	0-5
Nhulunbuy tri-services hub	40	Support the continued delivery of quality police, fire and emergency services	5-10
Numbulwar multi-purpose sporting complex/cyclone shelter	10	Build resilient communities and enhanced liveability by improving community facilities	0-10
Ramingining additional police housing	1	Support the continued delivery of quality police services in remote communities	0-15
Ramingining and Gapuwiyak sealing the connector roads from Central Arnhem Road	•	Improve all weather access to support accessibility, growth and community safety	0-15
Ramingining barge road sealing for all weather access	•	Enhance infrastructure to support accessibility, connectivity, safety and amenity	0-10
Ramingining new NT Emergency Services (NTES) volunteer and storage facilities	2	Strengthen emergency support services in remote communities	0-15
South East Arnhem Land track upgrade, connecting the Central Arnhem Road to the Savannah Way	•	Improve all weather access to support accessibility, growth and community safety	15+
Yirrkala School upgrade Middle School and specialty areas	8	Upgrade ageing infrastructure to support the continued delivery of quality education	0-5
Yirrkala recreation hall/cyclone shelter	8	Build resilient communities and enhanced liveability by improving community facilities	0-5

Implementation pathway

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

Implementation pathway	Prioritisation action	Progress
East Arnhem		
Continue with Gove Futures Program to identify enabling infrastructure for economic sustainment and future growth, particularly Gove Port	 Reform	 In progress



Above: ARRCs Nhulunbuy Aged Care Facility. Credit: Scope Building.

Infrastructure pipeline

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

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Across the region commercial roll out of digital connectivity solution to 10 priority Homelands	•		•	•	Enabling digital Territory and creating digital opportunity
Across the region HomeBuild new homes	127.8	25.8	30.0	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Across the region land servicing headworks scoping, design and construction	19.3	19.3			Enable economic development and population growth through expanded utilities networks for new land development
Across the region residential subdivision planning, design and construction	41.3	10.3			Enable economic development and population growth through expanded utilities networks for new land development
Across the region Room to Breathe home extensions	43.3	11.9	8.7	•	Reduce overcrowding and improve health outcomes while providing employment and training opportunities for local Aboriginal people
Alyangula Anindilyakwa Land Council head office upgrade	4.7	4.7			Support council operations, community services, generate local jobs and skills training
Alyangula construct new wing at Pole 13 Ranger base	0.7	0.7			Enhanced liveability by improving community facilities
Alyangula Groote Holdings Aboriginal Corporation office/ workers accommodation and community kitchen and meal service	8.0		•	•	Support industries of the future, increase and enhance services and job opportunities for remote communities
Angurugu airport new public amenities	0.4	0.4			Enhance liveability through improved facilities
Angurugu building upgrade and internal repaint of church	0.3	0.3			Enhanced liveability by improving community facilities
Angurugu construct 6 Groote Archipelago Housing Program houses at Angurugu East subdivision	8.0	8.0			Enhanced liveability by increasing housing availability through local decision making
Angurugu new sports hall	5.9	•			Support council operations, community services, generate local jobs and skills training
Angurugu renal clinic and staff accommodation	3.0	3.0			Strengthen liveability by improving infrastructure to support health services

A lesser figure in the 2023-24 and 2024-25 columns than in the Total column indicates either previous year expenditure or expenditure in outer years.

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

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Angurugu sports oval lighting upgrades	1.0	1.0			Enhanced liveability by improving community facilities
Angurugu waste transfer station	0.4	0.4			Support council operations, community services, generate local jobs and skills training
Angurugu water play park	1.4	1.4			Enhanced liveability by improving community facilities
Angurugu, Groote Eylandt Regional Connectivity Program Round 2 – deploy a small cell mobile base station	0.9	•	•	•	Enabling connectivity and creating digital equality
Arnhem Space Centre phase 2 commercial development	•		•		Support growth in the space sector for commercial, research and government organisations
Central Arnhem Road upgrade road within the East Arnhem region (Bulman to Nhulunbuy)	116.8	0.8	16.0	•	Improve all weather access to support accessibility, growth and community safety
Complete the upgrades to huts and exchanges on the Arnhem Fibre Network	8.0		•		Enabling digital Territory and creating digital opportunity
East Arnhem recycling infrastructure upgrade	0.2	0.2			Support improved waste management and recycling processes
Elcho Island aerodrome safety upgrades	4.3		4.0	•	Support connectivity and improve all weather access to improve community safety and to support future growth
Galiwin'ku Airport new public amenities block	0.4	0.4			Enhance liveability through improved facilities
Galiwin'ku improve barge landing	0.9			•	Improve all weather access to support accessibility, growth and community safety
Galiwin'ku replace council staff housing	0.7	0.7			Support council operations by providing housing for local government employees in remote communities
Galiwin'ku Shepherdson College access path to support students with additional needs	0.3	•			Contemporary educational infrastructure to support students with additional needs
Galiwin'ku Shepherdson College minor works upgrades	0.5	0.5			Strengthen early years learning and engagement of students and parents
Galiwin'ku Shepherdson College new students with additional needs classroom	2.0	•			Contemporary educational infrastructure to support students with additional needs

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Galiwin'ku water park and BMX	0.9	0.9			Enhance youth engagement by improving community facilities
Gapuwiyak Airport and centre town area new public amenities	0.6	0.6			Enhance liveability through improved facilities
Gapuwiyak child and family centre (Starting Early for a Better Future)	0.5	•			Strengthen early years learning and engagement of students and parents
Gapuwiyak Culture and Arts Centre new building	2.0	•			Value, preserve and expand art and cultural places, through the Arts Trail Gallery Extension Program
Gapuwiyak footpath project	0.1	•			Enhance liveability through improved facilities
Gapuwiyak improve the barge landing and goods handling facilities	2.5		2.2		Improve all weather access to support accessibility, growth and community safety
Gove District Hospital AS 4187 Compliant Central Sterilising Department (CSD)	8.0		8.0	•	Strengthen liveability by improving infrastructure to support health services
Gove District Hospital fire remediation works	20.0		20.0	•	Ensure health facilities are fit for purpose
Groote Eylandt alternative to custody facility	10.0	10.0			Provide community based options to detention
Groote Eylandt Bickerton Island Primary College	67.0	22.0			Support Culture, Language and Leadership using a bilingual curriculum in an independent Primary Boarding College
Gunyangara (Gove Port) tourism precinct development	8.0	4.0	4.0		Support existing tourism operators, and attract new yacht and cruise tourism operators to the region
Gunyangara Garma Institute	•	•	•		Contemporary educational infrastructure to support growth in population and student enrolments
Gunyangara new Barker Dhupuma School	•	•	•		Contemporary educational infrastructure to support growth in population and student enrolments
Little Paradise land services to support vehicle workshop for clan businesses	4.2	•	•		Support industries of the future, increase and enhance services and job opportunities for remote communities
Little Paradise logistics basecamp workshop and aquaculture facilities, hatchery and cold stores	14.0	•	•		Support research and develop for future industries, increase and enhance services and job opportunities for remote communities

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Melville Bay common user facility	4.0		4.0		Capital grant to increase capacity and enable economic development
Milingimbi cemetery at new site	0.2	•			Ensure community facilities are a secure, respectful space
Milingimbi critical water infrastructure	11.4	11.4	•		Closing the Gap on access to safe and reliable water for First Nations communities
Milingimbi new public amenities in central town area	0.3	0.3			Enhance liveability by improving community facilities
Milingimbi water park	0.6	0.6			Enhance community engagement by improving facilities
Milyakburra Airport new public toilet block	0.4	0.4			Enhance liveability through improved facilities
Milyakburra building upgrade and internal repaint of church	0.3	0.3			Enhanced liveability by improving community facilities
Milyakburra cyclone shelter upgrades	1.8	1.8			Build resilient communities and enhanced liveability by improving community facilities
Milyakburra jetty pontoon	0.2	0.2			Support economic development by improving all weather access and goods handling facilities
Milyakburra Regional Connectivity Program Round 2 – deploy a new Telstra macro cell mobile site	1.6	•	•	•	Enabling connectivity and creating digital equality
Milyakburra upgrade Outback Store	2.3	•			Support council operations, community services, generate local jobs and skills training
Ramingining improve barge landing	0.9			•	Improve all weather access to support accessibility, growth and community safety
Umbakumba alternative to custody facility	4.7	2.0			Provide community based options to detention
Umbakumba building upgrade and internal repaint of church	0.3	0.3			Enhanced liveability by improving community facilities
Umbakumba Community Centre (music studio)	2.1	2.1			Enhanced liveability by improving community facilities
Umbakumba jetty pontoon	0.2	0.2			Support economic development by improving all weather access and goods handling facilities
Umbakumba men's shed	2.2	2.2			Enhanced liveability by improving community facilities
Upgrade radio tower links to Galiwin'ku, Milingimbi, Minjilang and Warruwi	4.0	4.0	•		Build a resilient and diversified digital network

Project	Estimated \$m				Challenges/opportunities
	Total	2023-24	2024-25	Outer Years	
Yirrkala ablutions refurbishment	0.3	•			Enhance community engagement by improving facilities
Yirrkala aged care facility replacement	2.2	2.2			Provide a variety of contemporary, affordable and sustainable housing options for older Territorians
Yirrkala Buku-Larrnggay Mulka Centre upgrades	2.5	1.0			Value, preserve and expand art and cultural places, through the Arts Trail Gallery Extension Program
Yirrkala NBN fibre-to-the-premise services to residents and businesses	3.7	•	•	•	Enabling connectivity and creating digital equality
Yirrkala replace council staff housing	0.7	0.7			Support council operations by providing housing for local government employees in remote communities
Yirrkala waste transfer station	0.5	0.5			Support council operations, community services, generate local jobs and skills training



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

NT Infrastructure Audit

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

In 2022 and 2023, Infrastructure NT conducted a strategic audit of Territory infrastructure to provide an evidence base to guide future infrastructure investment decision making. The outcomes of the audit focus attention on the investments and reforms that will improve our living standards and local and national productivity.

The audit revealed a number of potential infrastructure needs for the East Arnhem region. Where these needs were already in the planning phase, they have been included in the Enabling Infrastructure Plan or Infrastructure Pipeline tables in this document. The remaining East Arnhem region audit items are listed below. These potential infrastructure needs are for projects that could be considered for possible inclusion in the Plan and Pipeline over time as scoping, feasibility analysis and business case development determines viability. Industry, business and community stakeholders are encouraged to let Infrastructure NT know if they progress with planning and delivery of those needs and proposals.



Transport and Logistics

- Groote Eylandt helipad links to iconic rock art sites across the archipelago
- Nhulunbuy repurpose existing 160 million litres of fuel storage tanks



Utilities

- Commercially viable hybrid models for micro grids in remote communities and homelands throughout the region
- Gove Peninsula and Groote Eylandt alternative power generation and innovative grid solutions
- Groote Eylandt Little Paradise telecommunication facilities
- Groote-Gove subsea fibre link



Social Infrastructure

- Buthan recreation area upgrade, outdoor youth recreation facilities and BMX track
- Gapuwiyak playground upgrades
- Milingimbi combined change rooms, toilets, and showers, renovate and upgrade commentator box and water park
- Milyakburra multi-sport building with oval lighting, basketball court cover and seating, and BMX track
- Nhulunbuy manufacturing hub for housing
- Nhulunbuy synthetic golf green, bunker reconstruction project and driving range space
- Ramingining oval lights and shade shelter
- Umbakumba oval upgrades and equipment for recreation hall



Land

- Develop serviced land for industry growth in remote communities

The East Arnhem region is one of
6 regions in the Northern Territory.

To download the full NT Infrastructure Plan and
Pipeline or the NT Infrastructure Audit visit

<https://infrastructure.nt.gov.au>





Above: Ramingining Barge Road. Credit: East Arnhem Regional Council.

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.

Connect with us

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