

# Investment Territory

## 2022-2023 Progress and Outlook

May 2023



## Acknowledgment of Country

Investment Territory acknowledges the Traditional Custodians of the lands of the Northern Territory. We acknowledge their continuing and unique cultural and spiritual connections to the lands, waters and communities.

We pay our respects to all Aboriginal and Torres Strait Islander peoples, their Ancestors and Elders, past and present, and to future generations of Aboriginal and Torres Strait Islander peoples.

With thanks to our private sector project partners\* including:





Image - West MacDonnell Ranges from Alice Springs.

Front cover - Uterne Solar Power Station, Alice Springs.

Back cover - Darwin Waterfront and City Skyline.

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# Message from the Chief Minister

**To achieve our targets of reaching a \$40 billion economy by 2030 and net zero by 2050, we know we need to attract and win private investment.**

Our Government has already done a ton of heavy lifting to show the world that the Territory is the best place to invest and we are beginning to get traction.

In 2021-22 private investment increased by 26% to \$4.9 billion, this report outlines many of the key steps we have supported to ensure this increase in investment.

And we aren't stopping there. The Investment Territory team is currently chasing down an additional \$33 billion in private investment over the next 5 years across 29 projects. Unlike the boom and bust cycles of the past we aren't relying on one big project, these projects are in each and every region across the Territory.

Yes, we still have our challenges. Right now all across the globe companies and Governments are working through the implications that ongoing supply chain disruptions, increased costs of living and doing business (including labour, equipment and materials) and changing geopolitical realities will have on sustainable growth ambitions.

One thing is clear to all, without private investment, strong co-design and partnership between government, industry, community, with First Nations people at the centre, our goals cannot be achieved.

This is why the Investment Commissioner, Major Projects Commissioner and the team at Investment Territory have such an important role to play. They work to ensure we are partnering with likeminded companies that have bold aspirations to build projects at scale, built using renewable energy and with a commitment and action to support the Territory's pathway to net zero emissions by 2050.

In 2023, the diversity of projects being supported by Investment Territory reflects how structural changes taking place across the global economy are enabling us to lean into the renewable energy future through the generation, storage and transmission of solar, wind and geothermal energy.

A decarbonising world needs the Territory's resources and our ingenuity to achieve its 2050 goals. Our excellent solar irradiance is needed to support electrification of economies here and abroad. Our critical minerals are needed to maintain lifestyles and support the energy transition, to build everything from smart phones to wind turbines.

We are balancing careful management of the Territory's emerging onshore gas industry, which is now subject to a much stronger regulatory framework making industry far more transparent and accountable, with our strong support for the

green hydrogen and cable-based energy export value chains. We are backing pathfinder projects capable of bringing industrial scale hydrogen electrolysis to fruition, and charting the complexity associated with turning our critical minerals into renewable energy storage.

There is so much to be excited about right now.

We've built some great momentum and our hard work continues.

Join us.

**The Hon. Natasha Fyles**

Chief Minister of the Northern Territory



*"We're even closer to our commitment of a clean energy future for future generations of Territorians and it is invigorating to see business get behind low carbon emission and technical innovation."*

# Message from the Major Projects Commissioner

**Investment Territory helps drive the investment to create a sustainable and diversified \$40 billion economy by 2030. Much progress was made this year: near term, we expect significant investments in renewable energy, critical minerals, energy transition, tourism and defence.**

The projects in our investment portfolio continue to advance. This is consistent with our natural advantages that match well with a global economy increasingly driven by geopolitics, energy security and transition, supply chain security, and sustainability imperatives.

As an export-oriented economy, we have opportunities in all these areas. An example is the recent Darwin Dialogue. Sponsored by the Territory and convened by the Australian Strategic Policy Institute, the Darwin Dialogue was established to respond to strong interest from countries like Japan, the United States, India, and the Netherlands in our critical minerals sector. This interest will drive further investment in the Territory, particularly in minerals processing and the energy infrastructure needed to drive this industry. Policy actions by Australia and other governments - including the National Reconstruction Fund, the United States Inflation Reduction Act, and the EU New Green Deal - will create further opportunities.

This progress has been slowed, but not stopped, by global challenges. While the Territory's economy has performed strongly over the past three years, pandemic disruptions are being replaced by new economic headwinds. Rising inflation and interest rates, increasing geopolitical tensions, and disruptions to supply chains

and labour supplies have been noticed by investors. Consequently, risk appetites have declined, challenging greenfield projects exposed to global markets.

These challenges land even harder in the Territory, as so much of our potential is wrapped up in 'pioneering investments' that must build new industries and ecosystems from scratch. So it is unsurprising that a few projects experienced challenges in 2022-23.

While we do not plan for difficulties, we do work with proponents to accommodate changes in project direction and pace. Sun Cable, the developer of the Australia-Asia PowerLink (AAPL), provides an example of our adaptability.

Earlier this year, Sun Cable entered voluntary administration. Investment Territory has supported the voluntary administrators by continuing to progress key project facilitation activities, including environmental approval for AAPL. We also ensured bidders for Sun Cable were clear on the Territory's requirements. Recently it was announced that a consortium led by Grok Ventures has been successful in the bid process. We are working with the administrators and the Grok Ventures-led consortium to complete the transaction and progress the AAPL.

Another critical issue is scale. The majority of the Priority Investment Portfolio comprises investments greater than \$100 million. With a small population, our projects must look to markets elsewhere in Australia or overseas for customers. This in turn demands national or world-scale investments and it takes considerable time to pull projects of that scale together, and it introduces a higher degree of complexity.

Investment Territory has recently expanded its focus to include Defence and energy transition. Our approach in these areas is informed by recent changes to the investment environment, including:

- a. the Federal Government's Defence Strategic Review that puts a strong focus on Darwin and the Northern Territory



*"The Darwin Dialogue was established to respond to strong interest from countries like Japan, the United States, India, and the Netherlands in our critical minerals sector. This interest will drive further investment in the Territory, particularly in minerals processing and the energy infrastructure needed to drive this industry."*



- b. the Final Report of the Northern Territory Mineral Development Taskforce that delivers a roadmap to accelerate mining and minerals processing investment
- c. the Territory's Final Implementation Report in response to the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory, signalling a shift in focus to managing the development of the onshore gas industry under a strengthened regulatory framework.

To secure investment more effectively, Investment Territory continues to refine its approach through dialogue with current and potential investors. The Investment Showcase held in Sydney and Melbourne in February 2023 was an important forum. The showcase highlighted the benefits of doing business in the Northern Territory and targeted investment attraction efforts into key projects. Co-hosted by the Deputy Chief Minister Nicole Manison and Mr John Wylie AC, from the Territory's Investment Advisory Group, this event facilitated face-to-face meetings between six key projects and over thirty representatives from venture capital and private equity firms, and infrastructure and industry funds.

The showcase included many inspiring examples of Northern Territory achievements. One was Equatorial Launch Australia (ELA) and its Arnhem Space Centre (ASC) – Australia's first commercial space launch facility, near Nhulunbuy. The ASC made history in June-July 2022 with NASA's first launches from a commercial spaceport outside of the United States. NASA's three rocket campaigns generated substantial economic benefits for the local community. ELA's plans to further develop the ASC as a multi-user spaceport are on track. ELA has recently announced an MOU with US company Phantom Space Corporation and is working together to

orchestrate multiple launches from the ASC.

Another first is planned for Q3 with the completion of Vocus' Darwin-Jakarta-Singapore Cable. This \$100 million, 1,000km subsea cable will connect Darwin to the existing Australia Singapore Cable. The new cable will help unlock Darwin's potential as Australia's digital gateway to Asia. The new connectivity will reduce latency in data transmission between Darwin and Singapore and underpin further investment in data centres and digital services.

I want to thank Mr Andy Cowan for his work as the Territory's first Investment Commissioner and I confirm that we are finalising recruitment of a new Investment Commissioner.

Finally, I would like to thank Investment Territory, the Infrastructure Commissioner and her team, the Local Jobs Fund Investment Committee, the Investment Advisory Group, department CEO's and their teams and our proponents and investors for their hard work, confidence and continued trust in the Northern Territory.

**Jason Schoolmeester**

Major Projects Commissioner

## Our core purpose: Win Investment and grow the Territory Economy



### Gross State Product

\$40 billion economy by 2030



### Sustainable

Net zero economy by 2050



### Economic base

Diversifying our sectors and markets



### Employment

Creating 35,000 more jobs



### Population

Boosting our population beyond 300,000

# The Territory's Economic Project Portfolio comprises \$53+ billion capital investment over the next 5 years

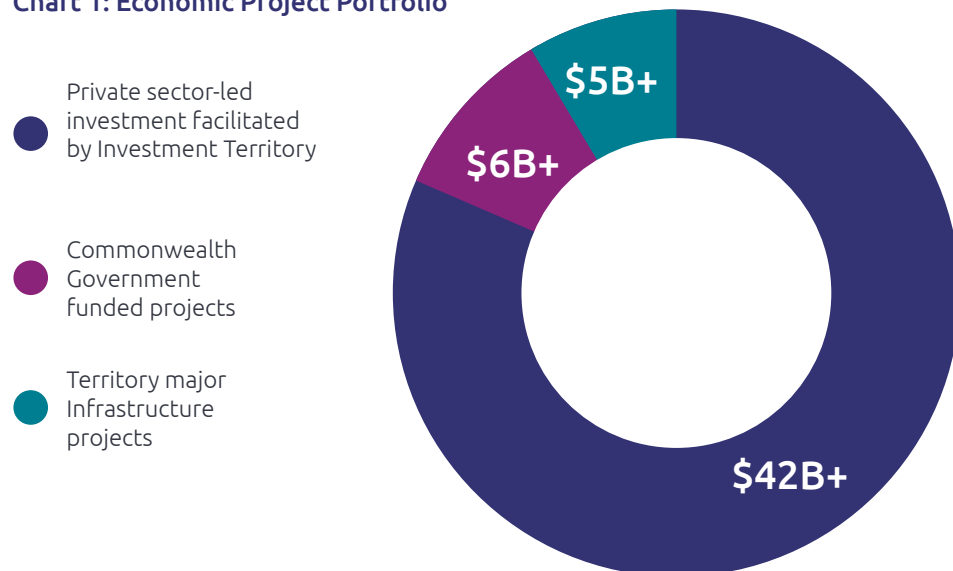
The 'Economic Project Portfolio' consists of a variety of private sector-led projects, Commonwealth funded projects and Territory major infrastructure projects.

The size and breadth of the economic portfolio demonstrates the growing interest and ongoing investment into the Northern Territory.

All analysis of private sector projects in the portfolio is based on company estimates provided to Investment Territory.

## \$42+ billion private sector investment helps to inform prioritisation of government investment in infrastructure

Chart 1: Economic Project Portfolio



Investment Territory works with private sector-led major and significant projects worth

# \$42B+

The current portfolio of projects includes:

Renewable energy

## \$8B

Hydrogen

## \$14B

Energy transition

## \$8B

Minerals

## \$7B

Digital technologies

## \$3.5B+

Agribusiness

## \$650M

Projects in other sectors

## \$1B+

# The Investment Portfolio remains strong

The nature of the investment portfolio is changing in important ways. The mix of the portfolio increasingly reflects the types of opportunities that are a priority for the Territory, including:

- renewable energy
- supply chain security
- large or significant privately funded projects
- defence projects
- energy transition
- critical minerals and minerals processing

The current investment portfolio includes:

**\$42B+**

capital investment

**18,000 jobs**

in construction

**\$3B+**

operational investment

**5,600 jobs**

in operations

Image - Middle Arm.



## Investment Showcases

The Showcases were held in Sydney and Melbourne and were hosted by the Hon. Nicole Manison, Deputy Chief Minister and Mr John Wiley AC, member of the Investment Advisory Group and CEO of Tanarra Limited.

The Showcases promoted the strategic advantage of operating in the Territory, increasing awareness of and potential investment in Territory-based projects seeking private equity investment.

Reflecting strong interest in the Territory, over 30 senior representatives from Australia's leading venture capital and private equity firms, as well as industry and infrastructure funds attended the Showcases.

Senior representatives from Equatorial Launch Australia Pty Ltd, SPEE3D, Amphibian Aerospace Industries, Verdant Minerals Pty Ltd, Avenir Limited and Tivan Limited presented. Strong leads were established, with further discussion and negotiations underway.



# Over the past 12 months solid progress has been made by the Priority Portfolio

Our Priority Portfolio currently includes 29 projects worth more than \$33.9 billion.

Investment Territory is supporting Priority Portfolio projects to navigate an increasingly competitive investment environment as they work towards final investment decisions in the next 3-5 years. This includes progressing required regulatory approvals, offtake, financing arrangements, Territory Benefit Plans and Aboriginal participation strategies.

A number of these projects have recently, or are currently moving through voluntary administration processes. While these processes do cause project delays, they do not necessarily mean projects will not progress. Investment Territory continues to actively case manage these projects and will work with existing or new owners as the formal processes are finalised.

The Priority Portfolio remains diverse in sector, size and location (see Appendix 1). Projects are taking place in every region and project investment size ranges from \$28 million to greater than \$8 billion as demonstrated by Chart 2 and Chart 3.

Beyond size, the value and nature of the portfolio is always changing. Increasingly, the portfolio is reflecting global attitudes pivoting towards projects that can support the clean energy transition.

Projects are seeking greater integration through precinct engagement such as the Middle Arm Sustainable Development Precinct (MASDP) with supportive infrastructure and supply chain security.



**12** projects commenced operations in the last 12 months

We congratulate our partnering proponents on the successful delivery of their projects in the Territory.

This progress has delivered

**\$298M+** capital investment

**464 jobs** in construction

Investment Territory works closely with all Northern Territory Government agencies to assist project proponents in reaching operational status.

Chart 2: Number of Priority Portfolio projects by key sector

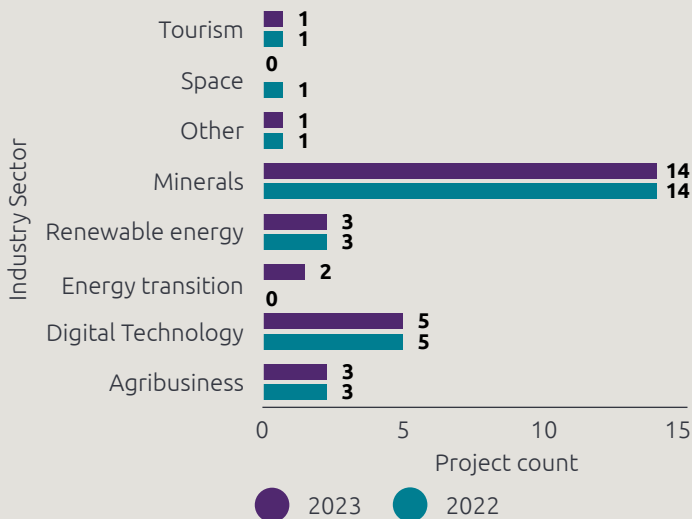
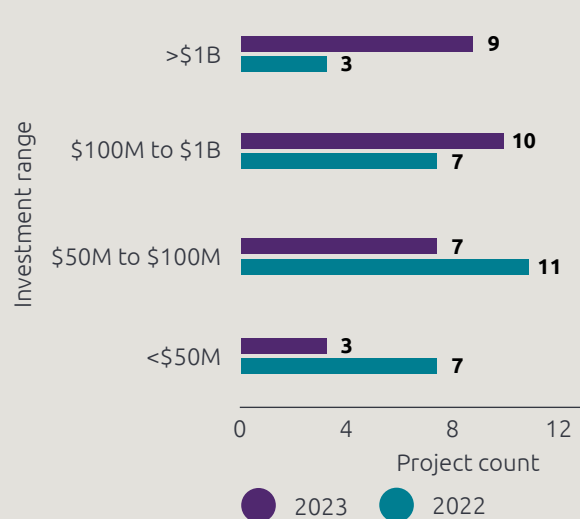


Chart 3: Priority Portfolio Project investment range



# 14 Major Projects in the Investment Portfolio

**\$25B+**  
capital investment

**7,900 jobs**  
estimated in construction

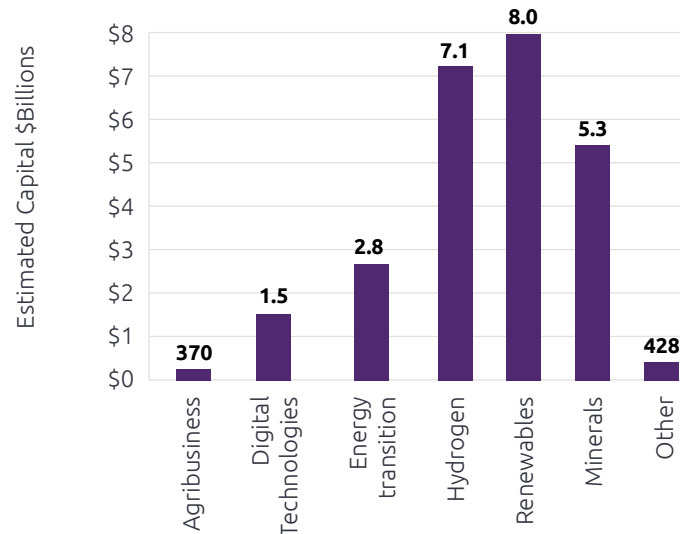
**\$1B+**  
operational annual spend

**2,400 jobs**  
estimated in operations



Major Projects make up an estimated 60% of the overall anticipated capital value of the entire portfolio

Chart 4: Major Projects anticipated capital investment



**11** of the **14** Major Projects are located regionally

**7** Major Projects are valued at more than \$1B+ per project

**6** projects are currently working towards Major Project status

# Our Financing Portfolio continues to diversify and grow its impact



**\$66.7M**

now available through our partnership with the Northern Australia Infrastructure Facility (NAIF), under the Territory Infrastructure Loans Program.



**\$8M+**

invested from the Local Jobs Fund in an additional 3 projects over the last 12 months.

These new investments are expected to create 37 direct jobs over the life of the financial agreements.

The Territory's Advanced Manufacturing Ecosystem Fund (AMEF), administered by the Advanced Manufacturing Growth Centre (AMGC), continued to make key investments in the Northern Territory's Advanced Manufacturing Ecosystem.



**\$2M+**

invested from the Advanced Manufacturing Ecosystem Fund into 6 projects.

This investment is supporting \$11M+ in new advanced manufacturing capability in the Territory.

As a collaborative endeavor, these projects include new businesses coming to the Territory and the expansion of local capability.

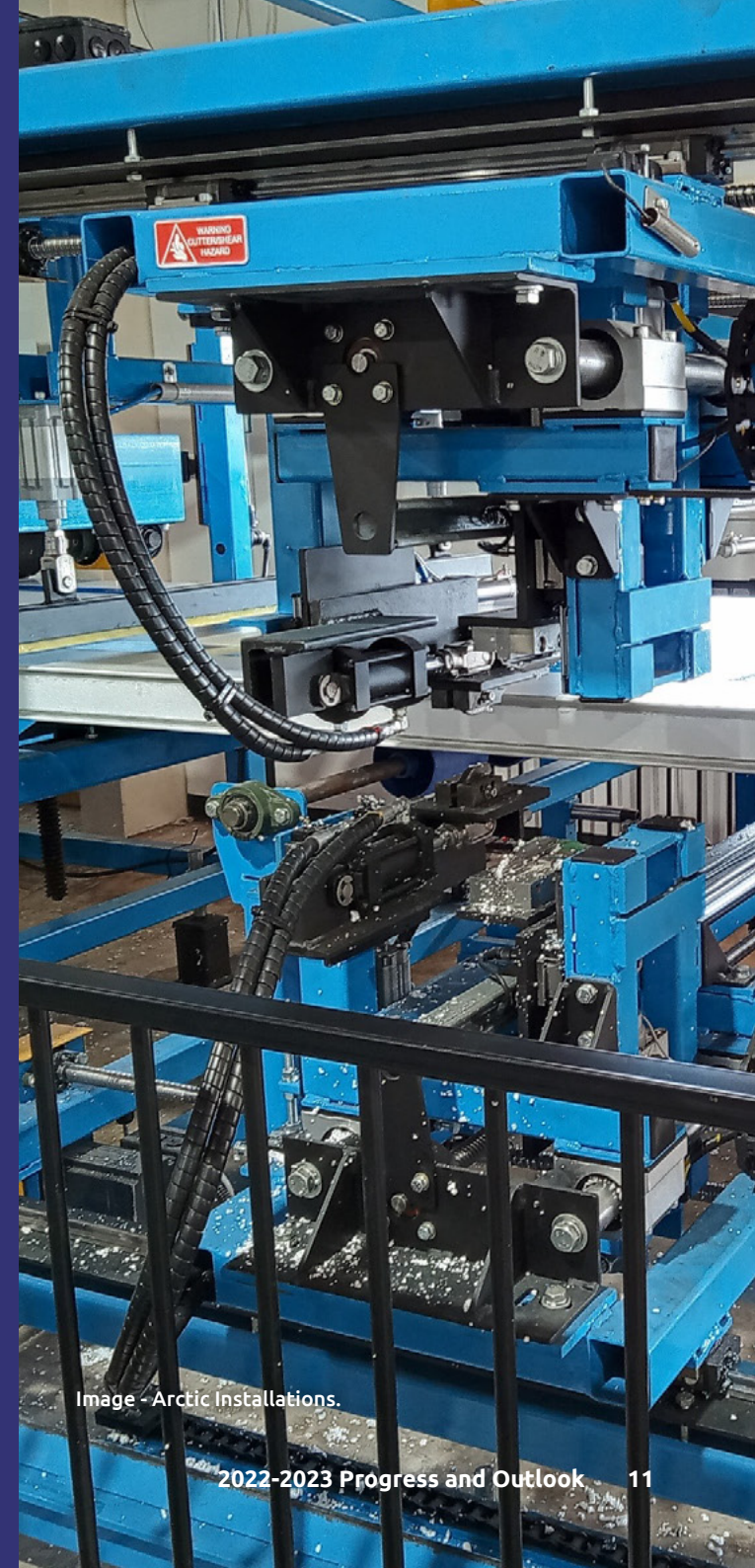


Image - Arctic Installations.

# Central Australia housing demand

## Tender processes underway to facilitate residential housing development in Alice Springs and Katherine through the Accelerated Regional Accommodation Program.

The residential accommodation sought represents an important element of the Northern Territory Government's vision of attracting and retaining people to the regions and will be key to enable Major and significant project delivery.

Analysis undertaken by Investment Territory and the Departments of Infrastructure, Planning and Logistics; Treasury and Finance; and Industry Tourism and Trade has identified that action is required now in key regional areas to meet the identified current and projected demand for housing as a result of anticipated investment and population increases. This analysis is based on data provided for projects within the Investment Portfolio, known Territory Government employee dwelling demand and current housing supply.

To facilitate this, the Territory Government released a Request for Tender (RFT) seeking submissions from interested parties to deliver new residential dwellings

*\*See Appendix 2 for Regional Data*

in Alice Springs and Katherine. These dwellings will support the ongoing delivery of services in the region and also provide residential accommodation. As part of this project the Territory Government requires, and will commit to, a minimum of 10 year head-leases for up to 90 dwellings in Alice Springs and 120 dwellings in Katherine.

The residential dwellings may include low and medium-density offerings that provide secure, comfortable and modern residential accommodation; as well as maximising the opportunity for broader social and economic benefits for Alice Springs and Katherine. The Territory Government will pay rent for each of the key worker dwelling leases but does not intend to provide any funding or financial contribution towards the project outside of the rent payable.

In Alice Springs, the Land Development Corporation (LDC) has allocated land in Kilgariff Estate to support the project. The estate is a greenfield development designed to provide a diverse range of housing products and future amenities.

Budget 2023-24 continues significant investment in residential headworks to support Stage 2 of the Kilgariff Estate, consisting of 87 residential lots (including social and affordable housing) and community sports facilities. A further \$11 million has been allocated to fast-track release of an additional 362 residential lots to support future population growth in the region, with works expected to start in the second quarter of 2024.

## Mineral Development in Central Australia

# \$4B+

capital investment

# 3,900 jobs

in construction

# 1,200 jobs

in operations

## Significant progress has been made across mining projects based in Central Australia over the past 12 months

- **Arafura Rare Earths Pty Ltd** secured a Mining Authorisation approving mining and processing operations for the Nolans Project. The project now has all necessary government approvals to proceed to a Final Investment Decision.
- **KGL Resources Ltd** completed a feasibility study in November 2022, delivering a 11.75 year mine life. KGL will now focus on a targeted exploration program to expand reserves and extend the mine life as well as preparing for tendering of key contracts.

Image - Nolans Project.



# The Territory is rapidly expanding its role in the critical minerals supply chain

**Global demand is rapidly growing for critical minerals driven by the energy transition, presenting a substantial economic and strategic opportunity for the Northern Territory to partner with Traditional Owners, the Commonwealth Government and other key stakeholders in the Territory.**

## **Mining is critical for our net zero future.**

- The energy transition, safe and secure critical mineral supply chains, and national security are linked, requiring a comprehensive response by government and industry to accelerate investment. The pathway to a cleaner, greener, renewable energy future will take more mining.
- Addressing our collective climate change goals requires more renewable energy and electrification. This in turn requires more critical minerals such as lithium, vanadium, cobalt, manganese, titanium and rare earths for the production of solar panels, wind turbines, electric motors, electrolysers, and other clean energy technologies.

## **The mining sector is the Northern Territory's largest industry sector by value, and is a critical driver of regional economic development and employment opportunities in the Territory.**

- The Territory has six operating mines for critical minerals, nine critical minerals projects at various stages of regulatory approvals or project financing, and a pipeline of earlier stage projects with defined resources.
- The Territory is already the world's largest producer of manganese with more than 15 percent of global supplies and has Australia's only lithium mine outside of Western Australia.

## **The development of new critical minerals projects and further downstream processing and associated manufacturing is priority.**

- Most projects are actively looking at options for further downstream processing and value adding, including as far as metallisation. Examples include, lithium hydroxide, vanadium electrolyte, magnet metals, and cathode materials.
- There has been significant progress in advancing downstream processing of critical minerals in the Territory. Approvals are in place for Australia's first integrated mine and rare earth separation plant that has the potential to be a globally significant supplier of 'magnet-feed' rare earths.
- There is high potential to further grow our pipeline of critical minerals projects, given that much of the Territory remains relatively underexplored for most.
- The highest potential critical minerals to commence or increase production over the coming decade include rare earths (NdPr), vanadium, lithium, phosphate, cobalt, copper, titanium, tungsten, bismuth and magnesium.

## **Financing support is available for the right projects.**

- Support is available from Export Credit Agencies, including Export Finance Australia, and Northern Australia Infrastructure Facility. Over the past 12 months there have also been multiple Commonwealth grant rounds with several successful Territory project recipients.

## **The Northern Territory is committed to growing our minerals and minerals processing sector**

The Department of Industry Tourism and Trade Mineral Development Taskforce 2023 investigated the mine-to-market value chain of key minerals, and recommended increasing private sector investment by:

1. Introducing targeted initiatives to encourage increased exploration and mining activity.
2. Securing co-ordinated, transparent and efficient land access processes that respect land-owners and recognise co-existing uses.
3. Developing targeted regulations focussed on outcomes to deliver improved project economics.
4. Updating the Territory's royalties regime to make it more competitive and not a deterrent to investment.
5. Capitalising on economically sustainable downstream mineral value-add opportunities.

The Northern Territory Government has accepted in-principle all recommendations and is now seeking feedback from key stakeholders.



Image - Tanami gold lead sample.

# Mining and Critical Minerals

## 12 month industry highlights

### Arafura Rare Earths Pty Ltd

- The Nolans Project is on track to be the nations first integrated mine and rare earths separation plant, fulfilling up to 5 percent of global NdPr demand.
- Signed binding offtake agreements with Hyundai Motor Company and Kia Corporation and with Siemens Gamesa Renewable Energy. Approximately 53% of the targeted 85% annual production secured under long-term sale arrangements now contracted.
- The project now has all necessary government approvals to proceed to a Final Investment Decision.

### Avenira Limited

- Wonarah Phosphate deposit is a world scale phosphate resource.
- Mineral leases granted provide exclusive rights to the Wonarah phosphate deposits in the Barkly region. This will enable Avenira to conduct bulk testing and if successful, it will commence a direct shipping ore (DSO) operation.
- Progressing plans for lithium-ferro-phosphate (LFP) cathode facility and thermal phosphoric acid plant.

### Core Lithium Ltd

- Initiated production at the Finnis Lithium Project in late 2022, marking the Territory's first lithium mine. The first direct shipping ore was exported in January 2023. At full capacity, the mine will generate 173,000 tpa of spodumene concentrate with a 5.8 percent Li<sub>2</sub>O content.
- Currently, ore is extracted from the Grants open pit, with Board approval for BP33 early works being announced in May 2023.

### Primary Gold Pty Ltd

- Mount Bundy Gold Project announced receipt of their project environmental approvals for Rustlers Roost and Quest 29.
- The approval puts Primary Gold another step close to being able to develop the Mount Bundy Gold Project; a job creation project located 100km south east of Darwin.

### Tivan Limited

- January 2023 Tivan Limited changed its name from TNG Limited, and has since announced relocation of its corporate headquarters to Darwin.
- February 2023 Tivan acquired the Speewah Vanadium-Titanium-Iron Project near Wyndham, WA, and announced its plans to construct the TIVAN Processing Facility at the Middle Arm Sustainable Development Precinct.
- April 2023 Tivan entered into a Letter of Intent with Sun Cable for the potential provision of 200-300MW of dispatchable renewable energy to the planned TIVAN Processing Facility.
- May 2023 Tivan entered into a Memorandum of Understanding with Charles Darwin University to further collaborative pathways in critical minerals and renewable energy.
- The Mount Peake Vanadium-Titanium-Iron project is located 230km north of Alice Springs and will play a lead facilitation role for the company's planned TIVAN Pilot Plant, to be located at East Arm in Darwin.

### Vista Gold Corp

- Mt Todd Gold project announced positive findings on their internal, scoping-level study to evaluate the viability of a smaller-scale Mt Todd. By leveraging previous work undertaken in the 2022 feasibility study to improve project viability and move towards final investment decision.



Image - Loading Core Lithium's maiden spodumene shipment, May 2023. Darwin Port.

**\$7B+**  
mining capital investment

**14**  
mining projects

**9**  
critical mineral projects

**5**  
mineral processing projects

**5,800 jobs**  
in construction

**3,000 jobs**  
in operations

**1st\***  
best practice minerals  
potential index

**6th\***  
investment attraction index

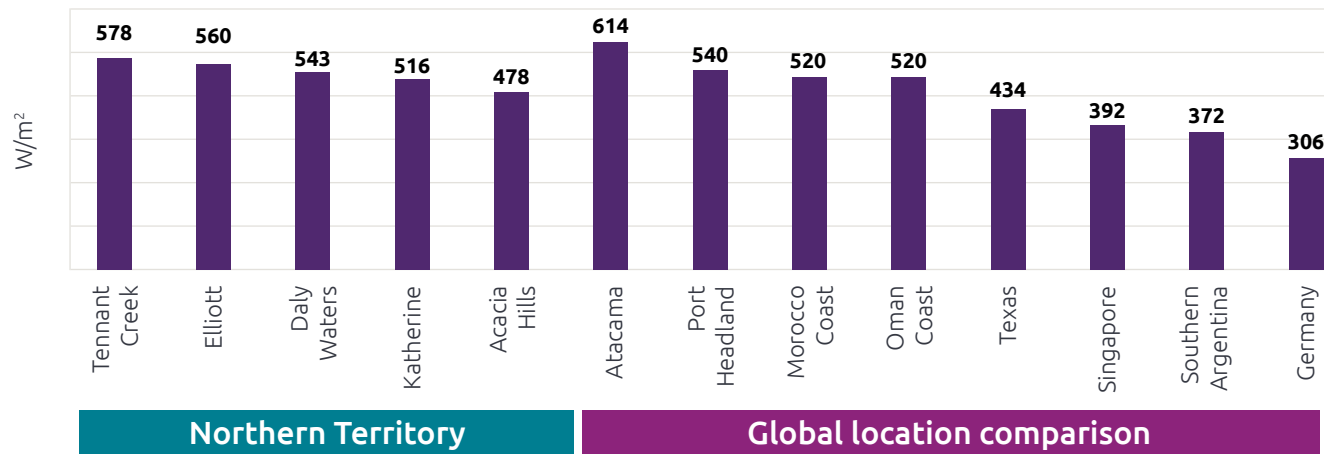
\*Source: The Fraser Institute Annual Survey of Mining Companies (2022) <https://www.fraserinstitute.org/sites/default/files/annual-survey-of-mining-companies-2022.pdf>

# The Northern Territory is central to Australia's renewable energy future

The Northern Territory has globally significant solar irradiance. Investigations into wind and geothermal power potential are underway.

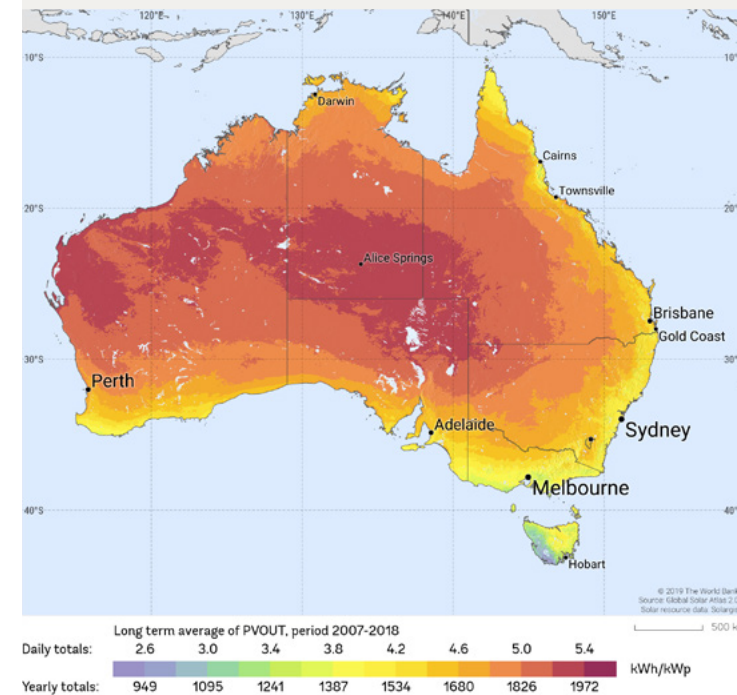
- The Middle Arm Sustainable Development Precinct, powered by renewables and lower-emissions energy, is being developed to attract industries that reflect what the Territory's future economy will look like.
- Multiple renewable energy studies are underway to plan for accelerated development, including port, road, rail networks and de-risking activity for sites and transmission corridors.
- Four critical minerals hubs are nearing development, with potential for further downstream activity.
- Major project support for Sun Cable and all Middle Arm Sustainable Development Precinct proponents.
- As land owners of over 50 percent of the Northern Territory (including 85 percent of the coastline), there are an increasing number of opportunities for First Nations people and business to become equity owners in renewable projects.

Chart 5: average daytime ground level solar irradiance



The Northern Territory's solar irradiance is globally competitive across significant tracts of land. Potential demand for renewable energy in the Territory is now in the tens of gigawatts. The below map demonstrates the levels of irradiation across the Territory, with the highest levels of solar irradiance being across the Barkly and down into Central Australia.

Chart 6: Photovoltaic power potential Australia



© 2019 The World Bank Source: Global Solar Atlas 2.0 Solar resource data: Solargis

This map is published by the World Bank Group, funded by ESMAP, and prepared by Solargis. For more information and terms of use, please visit <http://globalsolaratlas.info>.

Staffell, Iain and Pfenninger, Stefan (2016). Using Bias-Corrected Reanalysis to Simulate Current and Future Wind Power Output. Energy 114, pp. 1224-1239. doi: 10.1016/j.energy.2016.08.068. <https://www.renewables.ninja/>

# Renewable Energy

## 12 month industry highlights

### Sun Cable's Australia-Asia PowerLink

- Will initially provide 800 megawatts (MW) of electrical capacity to the Darwin region and will facilitate the electrification of new and existing industries, supporting large-scale economic development, while reducing greenhouse gas emissions.
- In December 2022, Sun Cable lodged the Supplement to the Environmental Impact Statement for the Australian portion of the Australia-Asia PowerLink
- Working with Sun Cable to progress the development of its Territory Benefit Plan, including local workforce engagement and development.
- Late May 2023 a consortium led by Grok Ventures was announced as the successful bidder. The Territory is now working with the administrators and the Grok Ventures-led consortium to complete the transaction and progress the AAPL.

### Avenira Limited's Lithium Cathode Battery Manufacturing project

- Will produce lithium-ferro-phosphate (LFP) battery cathode material. This product will be used in electric vehicle, agricultural, and industrial chemical markets. In stage one of the project, 10,000 to 30,000 tonnes per year of battery grade LFP powder will be produced, which will be scaled up in future stages.
- Territory Government has signed a Memorandum of Understanding with Avenira, and their technology partner ALEEES, to develop and operate the Territory's first battery cathode manufacturing project.

### Provaris Energy Ltd's Tiwi H2 project

- Provaris are engaging with Traditional Owners on land access arrangements for project investigations.
- Leveraging the Front End Engineering Design (FEED)-level engineering, safety studies, and Design Approval for the H2Neo carrier received in December 2022, the American Bureau of Shipping has since provided 'Approval in Principle' for Provaris' H2Leo compressed hydrogen floating storage solution, the first of its kind to receive this level of approval.
- Following NT Environmental Protection Authority publication of the draft terms of reference for public consultation in March 2023. Provaris is working towards an Environmental Impact Statement submission in the fourth quarter of 2023.

### Total Eren's TEH2 Hub Project

- Total Eren's and Territory Government signed Memorandum of Understanding to work together to progress the TEH2 Hub Project. This project will see more than 2GW of solar PV generation capacity on 4,000 hectares of land with the capability of producing more than 80,000 tonnes of renewables-based hydrogen per annum.

**\$22B**

renewable & hydrogen  
capital investment

**2**

renewable projects

**4**

hydrogen projects

**3**

other renewable  
enabling projects

**9,800 jobs**  
in construction

**1,100 jobs**  
in operations



# Energy transition – Creating new opportunities for the Territory

The Northern Territory is an ideal place for developing and sustaining projects as part of efforts to transition to clean energy.

The Territory's Final Implementation Report in response to the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory signals a shift in focus to managing the development of the onshore natural gas extraction industry under a strengthened regulatory framework.

- Global energy demand continues to grow and the Northern Territory is an ideal place for developing and sustaining projects as the world transitions to clean energy.
- Over 30 trillion cubic feet in proven offshore gas reserves awaiting development.
- The Darwin and Ichthys LNG facilities have three LNG trains with combined production capacity of 12.6 million tonnes per annum and at full capacity supply more than 10 percent of Japan's and Taiwan's annual global LNG imports.
- Importantly these facilities have land available for five additional brownfield LNG trains.
- Gas from the Beetaloo Sub-basin has the potential to help Australia avoid gas shortfalls expected due to rising demand.

Carbon Capture Utilisation and Storage (CCUS) is an important emissions reduction technology, recognised by the International Energy Agency and the Intergovernmental Panel on Climate Change as a critical component of global actions to achieve net-zero emissions targets.

- The Territory is partnering with the CSIRO and industry to progress CCUS development and establish one of the world's largest multi-user facilities in Darwin.
- Building off our world class gas, minerals and solar resources the Territory in collaboration with the Commonwealth Government are developing the Middle Arm Sustainable Development Precinct as a development ready location, especially for renewables and low-emission energy and fuels, advanced manufacturing and low-emissions minerals processing.
- LNG expansion and production of decarbonised fuels or zero emission fuels such as hydrogen or ammonia would deliver billions of dollars of capital investment and thousands of new jobs.



Image - Natural gas exploration.

**Beetaloo Sub-basin is expected to produce over 25 years:**

**13,000+ jobs\***

**\$17B+ economic activity\***

*\* Source: The economic impacts of a potential shale gas development in the Northern Territory - Acil Allen Consulting*

# Energy transition

## 12 month industry highlights

### INPEX

- INPEX Corporation is leading the Bonaparte CCS Project as a joint venture with Woodside Energy and TotalEnergies.
- The INPEX operated Ichthys LNG facility celebrated its 500th LNG cargo in April 2023, less than 5 years after it commenced operation.

### Santos Limited

- Following Final Investment Decision on key projects in the Northern Territory, including the development of the Barossa Gas Field, the duplication of the existing offshore pipeline infrastructure and the life extension of Darwin LNG, Santos Limited is preparing to utilise existing infrastructure and the soon to be depleted Bayu-Undan offshore natural gas field to permanently store carbon dioxide.

### Empire Energy

- A 270 percent increase in its 2C contingent resource to 1,739 petajoules at its EP187 acreage with commercial gas flows. During recent appraisal testing, Empire's Carpentaria C-2H well flowed 323 terajoules of gas over 127 days, equating to 2.4 million cubic feet per day over 1,000 metres.

### Tamboran Resources

- In April 2023 Tamboran welcomed the arrival of Helmerich & Payne's super spec FlexRig® drilling rig in Australia from the United States and is expected to bring significant improvement in drilling efficiency and production capacity.

# \$9B+

combined capital and operational expenditure

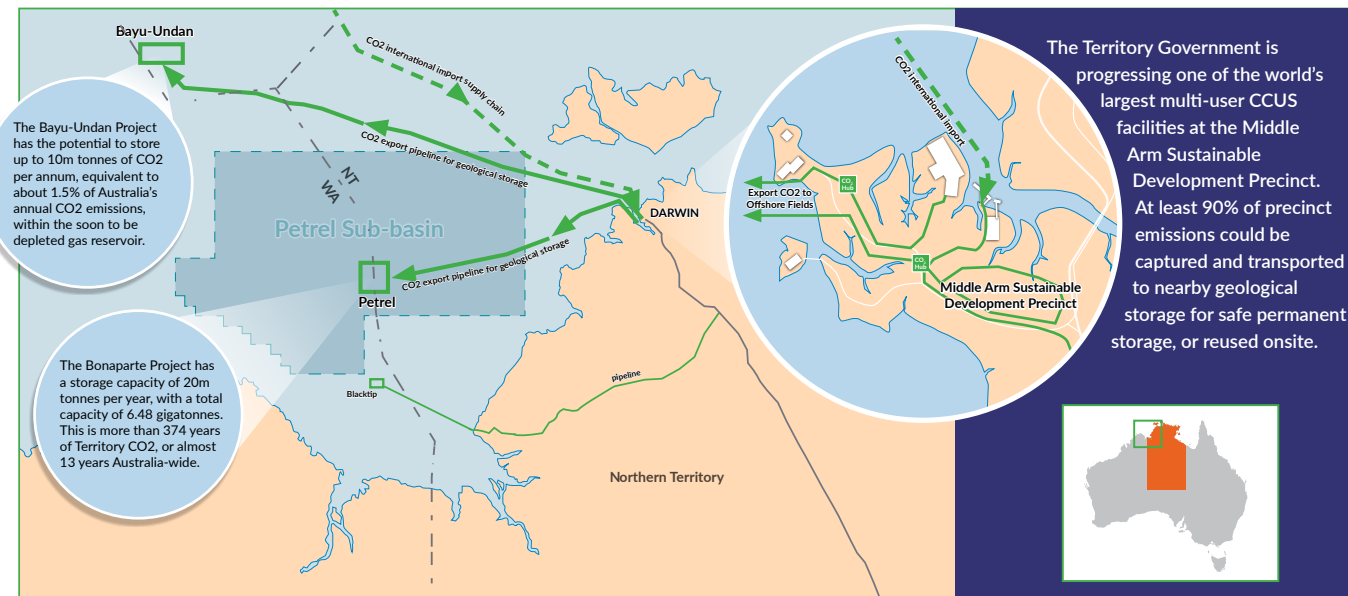
# 2

Offshore energy projects in the Priority Portfolio\*

# 30 MTPA

CCUS Hub capable of storing 30 Million Tonnes of CO<sub>2</sub> pa

Onshore energy projects are advancing through 'Early Stage' development.



\* no onshore gas projects are currently included in the Investment Portfolio

Source: Energy News Bulletin articles 24 and 29 May 2023. Empire has significant additional acreage in addition to EP187.

Source: Tamboran 22 March 2023 presentation to Australian Domestic Gas Outlook Conference.

# Defence has grown to 11 percent of the Territory economy, with potential for even greater infrastructure investment

The Northern Territory's proximity in the Indo-Pacific makes it a focal point for Australia's national security, including: energy, resources, maritime, biosecurity, trade, immigration, and border control.

## The Northern Territory has a critical role in supporting Australia's defence and national security objectives.

Increasingly this role has extended to allies and regional partners with the Territory serving as an alliance hub with a growing capacity to host, fuel, replenish and repair visiting ships and aircraft, as well as provide unique training, exercise and test and evaluation opportunities.

## Increasing sophistication of platforms based in the Territory will drive new supply chain opportunities.

A growing number of defence and national security platforms are either based in or operate from the Northern Territory, many of which will be replaced as part of the major acquisition programs currently underway.

## The Northern Territory is a training hub.

The Territory hosts major land, air and sea biennial training exercises with Australian and international defence forces. Bradshaw Field and Delamere training ranges together form one of the largest military training spaces in the world.

## Defence Strategic Review 2023

Most significant re-tasking of Defence since the Second World War. The reform to Defence's posture and structure reflects changes in the last few decades both here at home and abroad.

The Review recommends significant reforms to the way Defence is structured, postured and operates, to respond to our current strategic circumstances – including reprioritisation of the Defence Integrated Investment Program.

The focus on projection necessarily means an increased focus on Northern Australia, in particular Darwin and the Northern Territory. Significant opportunities exist to support Army littoral manoeuvre vessels, long range strike systems, as well as storage and logistics for Guided Weapons and Explosive Ordnance.

## Projects for delivery in the next 12-18 months:

- Defence Industry Development Strategy
- Reviews: Navy surface fleet, and Defence estate audit
- National Defence Strategy in 2024 (updated biennially)
- Defence Integrated Investment Program (IIP)



Image - F35 Fighter at RAAF Base Tindal.

# Defence & Defence Industry

## 12 month industry highlights

### Defence estate

- Larrakeyah Defence Precinct; RAAF Base Tindal major upgrades progressed.
- \$747 million training areas and ranges upgrades commenced across four major training areas.

### US Fuel Storage

- \$270 million Crowley Bulk Fuel Storage Project Caymus continues construction.

### US Force Posture Initiative

- 2022 Marine Rotational Force – Darwin (MRF-D), the eleventh annual rotation of United States Marines Corps (USMC) through the Northern Territory with approximately 2,200 US Marines and 300 US Army personnel.
- Nova Nacap, a United States/Australian joint venture awarded \$120 million contract to build a bulk fuel facility at RAAF Base Tindal.
- Saunders International awarded a \$8.5 million sub-contract from Nova Nacap to construct bulk fuel storage tanks.

### Exercises

- Kakadu 2022 - more than 15 vessels, more than 30 aircraft and around 3,000 personnel from more than 20 countries participated in the exercise.
- Pitch Black 2022 - 17 nations, including Australia, with approximately 100 aircraft and 2,500 personnel.
- Koolendong 2022 – over 2,200 personnel from the Australian and US Armed Forces participated in the combined arms littoral combat scenario.

### Research, Development and Training

- Commonwealth and Northern Territory Governments partnered to invest \$2 million to establish the Defence and Aerospace Industry 4.0 Testlab at Charles Darwin University.

### Veterans Affairs

- The Territory Defence Veterans Strategy released, focusing on employment opportunities; health and wellbeing; and respect and recognition.

### Growing and promoting local industry

- Largest Territory maritime industry delegation to date exhibited at Indo Pacific 2022 International Maritime Exposition in Sydney.
- Over 20 Territory businesses showcased their defence industry capability at Land Forces Exposition 2022 in Brisbane.
- Largest Territory aerospace industry delegation to date exhibited at Avalon Aerospace and Defence Exposition 2023 in Avalon, Victoria.
- Local business, Life h2o recipient of \$2.5 million Local Jobs Fund investment to assist with the development of their purpose build manufacturing facility to develop military grade water purification and desalination systems.

**\$4B+**  
capital investment

**5,500+**  
Australian Defence personnel

**2,500\***  
US Marines rotating  
through Darwin

**13**  
Major defence sites and  
training areas

\* Source: <https://www.minister.defence.gov.au/media-releases/2023-03-22/australia-welcomes-united-states-marines-back-darwin>

Image - Combined military exercise.



# The Year ahead

## Taking Territory investment opportunities to Australia and the world.

Exciting opportunities Investment Territory will continue to pursue in 2023 include:

- **Clean energy transition** – renewable energy and gas, critical minerals processing, battery supply chains, biofuels and decarbonisation technologies will be clear focus for new investment.
- **Partnerships with financiers** – having signed the first partnership with the North Australian Infrastructure Facility, Investment Territory will seek to explore further partnerships to support projects in the Territory.
- **International investment attraction** – we will continue our strong in country engagements with proponents, including in Japan, Korea and the United States working closely with the Department of Industry Tourism and Trade, Austrade and other key partners.
- **Advanced manufacturing** – is an important way we are working to diversify the economy and capture more value for Territorians. Incentives remain available through the \$7.5 million Advanced Manufacturing Ecosystem Fund.
- **Continue to work with Aboriginal corporations and businesses** – to pursue investment, support services and supply chain opportunities. This work will leverage the Ministerial Council on Trade and Investment's focus on supporting the First Nations economic uplift through unlocking the productivity and connectivity benefits brought by trade and investment.

Moving further towards a sustainable \$40B economy

## Targeting emerging opportunities

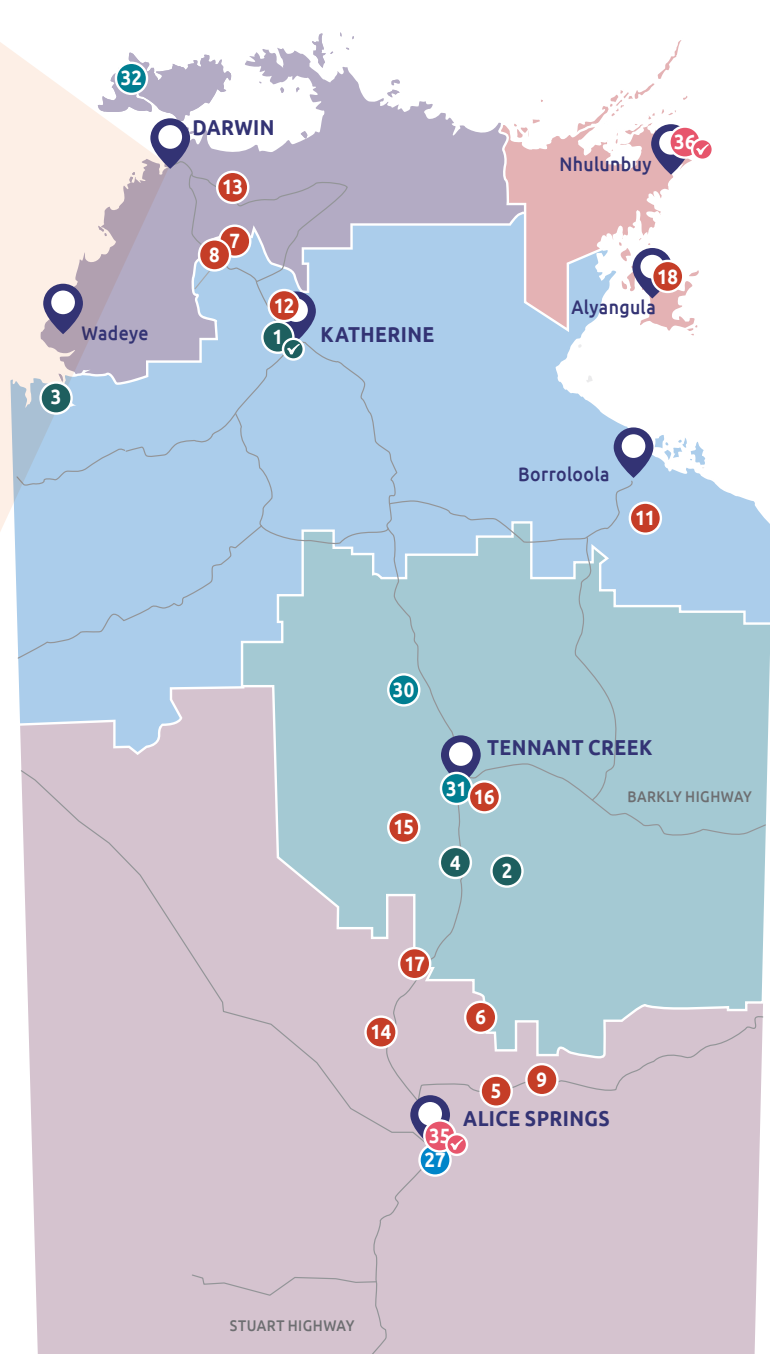
- 14 projects worth an estimated \$20B under due diligence
- Potential for 2,500 operational jobs
- Potential for 4,400 construction jobs
- Opportunity for 8 new renewables projects estimated at \$13B



Image - LNG Platform.

# Appendix 1 – The Investment Portfolio (Priority & Committed Projects)

- **Agribusiness**
  - 1. NT Cotton Gin
  - 2. ALEDA
  - 3. Project Sea Dragon (PSD)
  - 4. Singleton Farm Project
- **Minerals**
  - 5. Molyhil
  - 6. Ammaroo Ammonium Phosphate Fertiliser Project
  - 7. Fountain Head Gold
  - 8. Hayes Creek Gold Silver Zinc Project
  - 9. Jervois Base Metal Project
  - 10. LFP Battery Cathode Manufacturing
  - 11. Merlin Diamond Project
  - 12. Mount Todd
  - 13. Mt Bundy (Toms Gully, Rustlers Roost & Q29)
  - 14. Nolans Project
  - 15. Rover Project
  - 16. Tennant Mining Gold Processing
  - 17. Tivan Mount Peake
  - 18. Winchelsea Manganese Mine
- **Digital Technologies**
  - 19. D1 Data Centre
  - 20. Darwin-Jakarta-Singapore Cable (DJSC)
  - 21. Asia Connect Cable-1 (ACC-1)
  - 22. DRW01 Data Centre
  - 23. Hawaiki Nui
  - 24. HyperOne
  - 25. Unite Darwin-Adelaide Terrestrial Digital Cable
- **Defence**
  - 26. Strategic Oil Reserve Darwin
- **Tourism**
  - 27. Lasseters Casino & Resort Redevelopment
- **Energy transition**
  - 28. Barossa
  - 29. Petrel Gas Project
- **Renewable Energy**
  - 30. Australia-Asia PowerLink (AAPowerLink)
  - 31. Desert Bloom Hydrogen
  - 32. Tiwi H2 Project
- **Other**
  - 33. Northcrest Property Development
  - 34. ALBATROSS G-111T Aircraft Manufacturing
  - 35. Alice Springs Hospital Accommodation
  - 36. Arnhem Space Centre
- ✔ **Committed Project**



## Appendix 2 – Regional progress\*

	Darwin, Palmerston and Litchfield		Top End		East Arnhem		Big Rivers		Barkly		Central Australia	
	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023	2022	2023
Portfolio Project Count	15	14	4	2	3	4	7	6	5	6	12	7
Anticipated Capital Investment	\$3.3B	\$12B	\$4.4B	\$7.55B	\$0.1B	\$0.57B	\$1.8B	\$1.775B	\$8.5B	\$8.5B	\$4.2B	\$4.05B
Anticipated Operational Investment	\$240M	\$637.5M	\$310M	\$180M	\$3M	\$39M	\$810M	\$1,190M	\$290M	\$247M	\$1.1M	\$841M
Anticipated Construction Jobs	1,000	9,500	900	650	170	170	1,200	1,110	2,000	2,000	4,500	4,500
Anticipated Operational Jobs	510	960	510	960	510	960	1,130	1,050	890	950	2,500	1,800

\* Does not include Offshore projects



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