



NORTHERN TERRITORY

BUDGET 2022-23

INDUSTRY OUTLOOK

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Industry outlook

The Northern Territory's economic output is concentrated in the mining and manufacturing, and government and community services. The main contributors to employment are government and community services, retail and wholesale trade, and the construction industries. This publication provides an overview of the Territory's key industries and discusses opportunities and risks to growth in these industries.

Table 1: Gross state product and employment, Territory 2020-21¹ (chain volume measure)

	GSP				Employment			
	Value \$M	Change %	10-year CAGR %	Share of GSP %	Number	Change %	10-year CAGR %	Share %
Government and community services	6 539	3.7	2.6	26.4	57 210	2.8	3.2	43.7
Public administration and safety	3 125	3.9	1.4	12.5	22 151	0.7	1.9	16.9
Health care and social assistance	2 124	5.4	6.1	8.7	22 640	8.6	5.6	17.3
Education and training	1 290	0.6	1.3	5.2	12 419	- 2.9	2.0	9.5
Service industries	5 069	2.1	2.8	20.6	41 564	- 2.4	0.3	31.8
Accommodation and food services	610	8.5	1.2	2.4	8,125	7.2	- 1.1	6.2
Transport, postal and warehousing	798	- 6.1	3.5	3.4	5,136	- 13.4	- 0.3	3.9
Information and media telecommunications	119	3.5	2.8	0.5	1,161	- 11.9	- 5.3	0.9
Financial and insurance services	615	4.1	1.8	2.5	1,153	- 23.4	- 1.3	0.9
Rental, hiring and real estate services	346	0.3	1.7	1.4	1,934	- 5.7	- 1.3	1.5
Professional, scientific and technical services	866	6.5	5.9	3.5	7,357	- 0.7	2.2	5.6
Administrative and support services	425	- 7.4	0.4	1.8	5,060	10.5	2.9	3.9
Electricity, gas, water and waste services	465	0.9	1.9	1.8	1,938	8.2	0.3	1.5
Arts and recreational services	321	4.9	4.7	1.3	3,126	- 5.5	- 0.7	2.4
Other services	504	9.1	3.3	2.0	6,573	- 7.7	1.6	5.0
Mining and manufacturing	7 439	- 10.6	4	24.1	6 412	6.4	- 2.6	4.9
Mining	6 446	- 12.1	5.5	19.9	3,050	37.8	- 3.0	2.3
Manufacturing	993	0.4	- 2.3	4.2	3,362	- 11.9	- 2.2	2.6
Construction	1 464	0.4	- 0.6	6.0	10 343	- 4.3	- 1.7	7.9
Defence²	2 201	- 0.9	- 0.6	8.8	5 444	0.2	- 2.2	5.1⁴
Retail and wholesale trade	1 578	10.1	3.2	6.5	12 955	- 8.8	- 1.4	9.9
Retail trade	741	8.2	2.2	3.0	11 220	- 3.7	- 0.5	8.6
Wholesale trade	837	11.9	4.2	3.5	1 735	- 32.2	- 5.7	1.3
Tourism³	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Agriculture, forestry and fishing	924	23.7	- 0.5	3.6	2 401	- 0.5	- 2.8	1.8

CAGR: compound annual growth rate; GSP: gross state product; n/a: not available

1 Excludes non-industry components of GSP (ownership of dwellings, taxes less subsidies and statistical discrepancy). Numbers may not add due to rounding. Tourism and defence estimates are indicative. These sectors are not discrete industries in Australian Bureau of Statistics (ABS) reporting, and activity for these sectors is captured across multiple industries in ABS state accounts data. Therefore, figures in the table do not sum to ABS-reported GSP and employment data due to double counting related to the separate reporting of the tourism and defence sectors in this table.

2 ABS labour market statistics exclude defence personnel.

3 State Tourism Satellite Account numbers produced by Tourism Research Australia are not available for 2020-21 at time of publication.

4 This is the Territory's share of the Australian Defence Force.

Source: ABS, *State Accounts*, Cat. No. 5220.0, *Labour Force*, Cat. No. 6291.0.55.003, unpublished defence data; Department of Defence Annual Reports; Tourism Research Australia *State Tourism Satellite Accounts*; Department of Treasury and Finance

After a decline in the domestic economy in 2020-21, economic growth is forecast to average 2.9% per annum in the 5 years to 2025-26, stronger than average annual growth of 1.5% in the 5 years to 2020-21.

Gross state product (GSP) is estimated to increase by 4.4% in 2021-22. This is stronger than the -0.6% reported in 2020-21, reflecting an increase in private investment of 36.6%, supported by large scale projects such as the Barossa Project and the Finnis lithium project. There are also several large scale resource and technology projects proposed that are not included in the forecasts and, if they proceed during the outlook period, will contribute to growth. Public consumption (6.7%), investment (8.3%) and household consumption (0.8%) are also expected to contribute to growth to a lesser extent.

While business confidence in the Territory remained positive over 2021 and early 2022, supported by the Territory's successful response to COVID-19 and hardship measures for Territory businesses, the tourism and hospitality sectors continued to be impacted by lockdowns across Australia, and international and domestic border restrictions. The vaccine program and removal of border restrictions in early 2022 is expected to lead to a gradual recovery for these industries.

Global demand and prices for minerals are expected to recover over the outlook period as industrial production increases and supply chain issues are resolved following the pandemic, although risks from geopolitical tensions remain. Locally, mining and manufacturing activity will be heavily influenced by liquefied natural gas (LNG) production from the Darwin LNG plant, which is expected to temporarily pause production in 2023-24 as the source of gas transitions from Bayu-Undan to the Barossa field.

Public investment in water, land and housing infrastructure by the Territory Government, large construction projects and population growth is expected to support the government and community services sector over the outlook. As Australia's northernmost jurisdiction, the Territory is integral to the operational capability of the Australian Defence Force and is also expected to benefit from increased defence spending over the outlook as the Commonwealth looks to maintain Australia's strategic presence in the Indo-Pacific region. Much of the benefit of increased defence and infrastructure spending across different levels of government will be felt in the construction industry as facilities and capability are upgraded.

Over the short term, dwelling investment is set to decline following record growth in 2020-21 due to low interest rates and a range of Territory and Commonwealth initiatives. Over the longer term, dwelling investment will be supported by improved land supply and housing construction as population growth picks up, leading to positive downstream impacts for the service, retail and wholesale trade industries.

Agriculture is expected to grow modestly over the outlook period, with the expansion of agricultural land and trialling of new crops in other regions, and investment in infrastructure and logistics hubs.

The reopening of borders, relaxation of domestic and international border restrictions, and the vaccine rollout is supporting the recovery of the Territory's tourism industry over the outlook period, however the path to recovery is likely to vary within the industry. Domestic travel is expected to recover at a much faster pace than international travel.

Government and community services

Outlook

The government and community services sector's output is expected to decrease over the short term as Commonwealth and Territory governments' spending on the vaccine rollout and other COVID-19 measures decreases. Over the medium term, the sector's output will be moderated by the Territory Government's commitment to return the budget to surplus but will increase in line with population growth.

In 2020-21, the government and community services sector accounted for 26.4% of the Territory's GSP, significantly larger than the national contribution of 17.8%. The sector is the largest employer in the Territory, accounting for 43.7% of residential employment in 2020-21, comprising 16.9% in public administration and safety, 17.3% in health care and social assistance, and 9.5% in education and training.

Expenditure in the government and community services sector has been strong since 2019 as the Territory Government implemented a range of expansionary fiscal policies to offset deteriorating economic conditions associated with the completion of construction of the Ichthys LNG project. Growth in the sector is expected to continue in 2021-22 due to the Territory Government's COVID-19 response and vaccination program, however it is expected to reduce over the short term as spending on these measures lessens.

While the Territory Government has committed to return the budget to surplus, targeted program funding and infrastructure investment will continue in areas of strategic need and in line with population growth, which will support output in the government and community services sector over the outlook period. Key program funding and investments include:

- \$102.2 million to upgrade the Royal Darwin Hospital and the Alice Springs Hospital
- \$52.3 million to upgrade Territory schools and other educational facilities
- \$24.2 million to upgrade police complexes across the Territory
- \$24.2 million in additional funding to support the Aboriginal Justice Agreement and Domestic, Family and Sexual Violence Action Plan including grants to assist with primary and secondary prevention, provide Aboriginal-led specialist sexual assault response, establish alternatives to custody in Alice Springs and Groote Eylandt, and establish community courts.

As part of the 2022-23 Budget, the Commonwealth also announced funding and co-contributions to support program delivery in the Territory including:

- a 2-year extension to the Northern Territory Remote Aboriginal Investment until 2023-24 with an additional \$173.2 million to fund programs to improve outcomes for remote Aboriginal people in the areas of health, schooling, community safety and justice, tackling alcohol abuse, child, youth, family and community wellbeing, housing, municipal and essential services, and remote engagement and coordination
- \$30.6 million from the Commonwealth and \$13.3 million from the Territory over 2021-22 to 2025-26 towards the National Mental Health and Suicide Prevention Agreement.

In addition, the Territory Government will also continue to improve the quality and quantity of economic and community infrastructure, through its long-term urban and regional infrastructure programs including:

- the \$200 million Darwin City Deal, a 10-year (2018–2028) agreement with the Commonwealth and the city of Darwin
 - construction has commenced on the Darwin Education and Community Precinct, and is expected to be completed by 2024
 - ongoing work towards the Civic and State Square Redevelopment to cool the city and increase space for outdoor events and festivals, with a tender for the construction of the State Square Art Gallery to be released in 2022
 - planning for future development of a Larrakia Cultural Centre at Stokes Hill
- the \$84.7 million, 10-year (2019–2029) Barkly Regional Deal to stimulate economic growth to reduce overcrowding and improve child safety through economic and social development, and culture and place-making projects, including:
 - construction has commenced on the Barkly Business Hub, and the Barkly Mining and Energy Service Hub, to support regional business creation and growth
 - the construction tender for the youth justice facility has been awarded, with off-site construction underway, and the youth recreation centre in Tennant Creek is expected to be completed by mid 2022
 - the installation of a new weather radar to provide real-time weather information and improve road and air travel safety is due to be completed by mid 2023
 - further investment to construct a boarding facility for secondary school children in Tennant Creek, safe places and accommodation for crisis youth support, a visitor park to increase housing supply and reduce overcrowding, and investment in aged care services, community sports and childcare places
 - 7 grants totalling about \$1.3 million under the Local Community Projects Fund, ongoing funding for community mediation and a feasibility study for an arts centre in Elliott
- \$23 million for Alice Springs with \$15 million allocated for the central business district (CBD) revitalisation and \$5 million directed to the Breaking the Cycle of Crime plan, including:
 - lighting upgrades and additional CCTV cameras within the CBD
 - cooling and landscaping initiatives, with trees planted and shade structures placed strategically around the CBD to provide cooler pathways for pedestrians
 - construction of the River Activation Space, including providing shade structures with a view of the Lhere Mparntwe (Todd River), seating, drinking water, water misters, lighting, USB charging points and free wi-fi during the day
 - development of the Kwatja (water) play space and car park masterplan.

For the latest data on the Territory's government and community services sector, refer to the [Territory Economy](#) website.

Service industries

Outlook

The output of the Territory's service industries is expected to increase in the short term with the reopening of interstate and international borders and the return of domestic and international tourists.

Following COVID-19 border closures in 2020 and 2021, the reopening of interstate and international borders is expected to lead to the gradual return of tourists over the outlook period, increasing demand for service industries with strong links to tourism such as accommodation and food, transport, and arts and recreation services.

The return of international tourism and international migration is also expected to boost labour supply for these industries, which have faced shortages over 2020-21 as result of closed borders. The tourism industry will be supported by a range of Territory government initiatives over the outlook period that are expected to help increase output for tourism-related service industries. For more information on these initiatives refer to the *Tourism* section.

Large construction projects are also expected to increase output in service industries over the outlook period. In particular, output for professional, scientific and technical services is expected to increase during the design and construction phase of large projects, such as:

- Darwin ship lift project
- Darwin Education and Community Precinct
- National Aboriginal Art Gallery in Alice Springs
- Civic and State Square Redevelopment, including the State Square Art Gallery in Darwin
- Finniss lithium project
- D1 (NEXTDC) data centre in Darwin
- Lasseters Hotel Casino Redevelopment in Alice Springs.

These services are also expected to benefit from the Commonwealth 2022-23 Budget announcements to support low emission LNG and clean hydrogen production in Darwin, and development of the Middle Arm Sustainable Development Precinct and new logistics hubs in the regions.

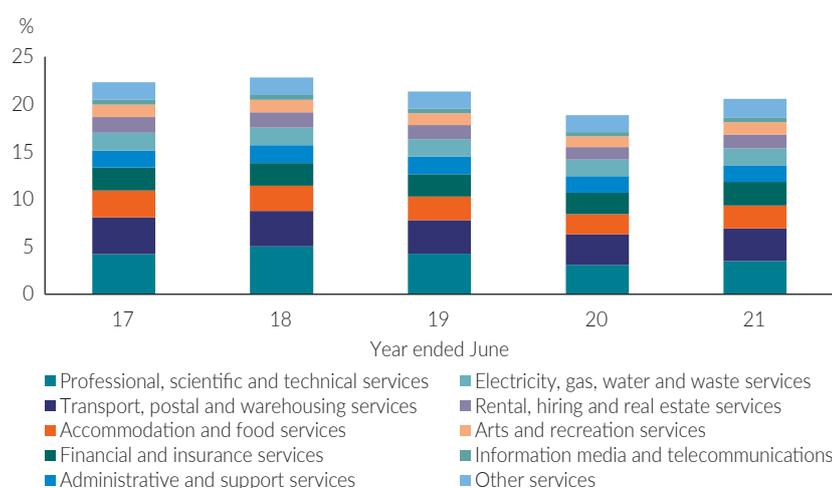
Additionally, there are a number of large construction projects proposed that, if final investment decisions are achieved, will boost and sustain service industries in the Territory in the future. For further information on these projects refer to Chapter 2 *Major projects and investment opportunities* in the [2022-23 Northern Territory Economy](#) publication.

Large construction projects are also expected to lead to population growth with significant workforce demand. Population growth will support greater demand for a wide range of services across the Territory such as electricity, gas, water and waste services, and rental real estate services.

Gross state product

Service industries generated 20.6% of the Territory's GSP (\$5.1 billion) in 2020-21, an increase of 2.1% from the prior year. The value generated by each respective service industry ranged from \$119 million in information, media and telecommunications to \$866 million in professional, scientific and technical services (Chart 1). Most service industries generated greater value in 2020-21 except for transport, postal and warehousing, and administrative and support services (which includes tour and travel bookings), which reduced by 6.1% (\$52 million) and 7.4% (\$34 million), respectively, due to lower international visitor numbers compared with 2019-20. The industries contributing the greatest to growth in GSP were professional, scientific and technical services, and accommodation and food services, contributing 0.2 and 0.18 percentage points, respectively.

Chart 1: Territory service industries share of gross state product



Source: ABS, *Australian National Accounts: State Accounts*, Cat. No. 5220.0

Employment

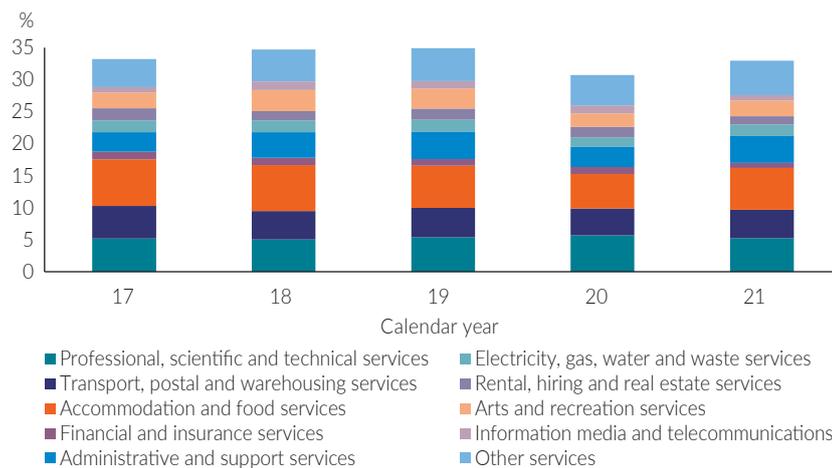
Service industries were significantly impacted by COVID-19 with employment decreasing by 2.4% in 2020-21, however recovered in the second half of 2021, with employment growing by 6.4% (2,585) over 2021.

In the year to 2021, the service industries sector employed around 42,905 people across the Territory, accounting for 33% of the total employed (Chart 2). The high share of employment relative to GSP reflects the labour intensity of service industries. The largest employer within the service industries sector is accommodation and food services, employing around 8,515 people.

The greatest contributors to growth in service industries employment over 2021 were accommodation and food services, and administrative and support services, contributing 3.64 and 3.21 percentage points, respectively. This is likely a result of the casual work force in these industries returning to work as the Territory was relatively unaffected by COVID-19 lockdowns and restrictions, and as interstate travel and tourism resumed. Professional, scientific and technical services, and information media and telecommunications were the largest detractors from employment, detracting 1.56 and 1.38 percentage points respectively.

The employment growth in each respective service industry was mixed over the year. Individual service industry employment growth ranged from a 31.1% (1,300) increase in administrative and support services to a 34.5% (525) decrease in information media and telecommunications. Other decreases were recorded in financial and insurance services (down by 31.1%), rental, hiring and real estate services (down by 20.5%), and professional, scientific and technical services (down by 8.4%), with the remaining service industries categories recording a yearly increase.

Chart 2: Territory service industries share of total employment



Source: ABS, *Labour Force, Australia, Detailed*, Cat. No. 6291.0.55.003

For the latest data on the services industries, refer to the [Territory Economy](#) website.

Mining and manufacturing

Outlook

The value-adding activity of the mining and manufacturing sector is expected to recover over 2021-22 and 2022-23 as the Territory transitions from the pandemic, followed by a temporary drop over 2024 as the Darwin LNG plant transitions to a new source of gas.

In 2020-21, the mining and manufacturing sector contributed 24.1% to Territory GSP, the second highest contributing sector. On an industry-by-industry basis, the mining industry is the largest contributor to the Territory economy, accounting for 19.9% of GSP.

Mining and manufacturing employed 6,412 persons over 2020-21, accounting for 4.9% of total Territory employment.

The value-adding activity of the Territory's mining and manufacturing sector declined by 10.6% in 2020-21 to \$7.4 billion in inflation-adjusted terms. Mining declined by 12.1% to \$6.4 billion, while manufacturing increased by 0.4% to \$993 million.

Mining and manufacturing output is dominated by LNG and metallic minerals. Production from the Ichthys LNG plant is expected to remain broadly steady at 2020-21 levels, whereas the Darwin LNG plant is expected to temporarily suspend production in 2024 as it transitions its source of gas from the depleting Bayu-Undan gas field to the Barossa field.

Global demand and prices for minerals are expected to recover over 2021-22 and 2022-23 as COVID-19 becomes endemic and industrial production increases in line with consumer confidence. Energy demand will increase as a consequence, particularly low-carbon energy, as countries across the world ramp up their efforts to reduce greenhouse gas emissions. This includes demand for LNG, which is regarded as a transition fuel. Critical minerals are also vital for clean energy, encouraging projects that explore for and mine these minerals. This increased demand for LNG and critical minerals is likely to benefit the Territory, where a number of projects to evaluate the commercial viability of extracting these resources are underway.

Mining and manufacturing contributes to the Territory economy through international trade, private investment and employment. The mining industry also has a significant impact on the Territory's construction industry, as mining development projects generally generate significant levels of construction activity.

There are a number of projects pending final approvals, which if realised, will boost mineral production in the Territory. These projects include:

- Jervois copper mine
- Mount Peake iron, vanadium and titanium mine
- Nolans rare earths mine
- Mount Todd gold mine
- Warrego, Frances Creek and Roper Valley iron ore mines
- Merlin diamond mine
- Mount Bundy project.

Some of these commodities are listed as critical minerals, considered vital for the world's economies, though with limited supply.

The Territory Government's Critical Minerals Plan seeks to focus private sector attention on the Territory's mineral resources and encourage private investment in the Territory.

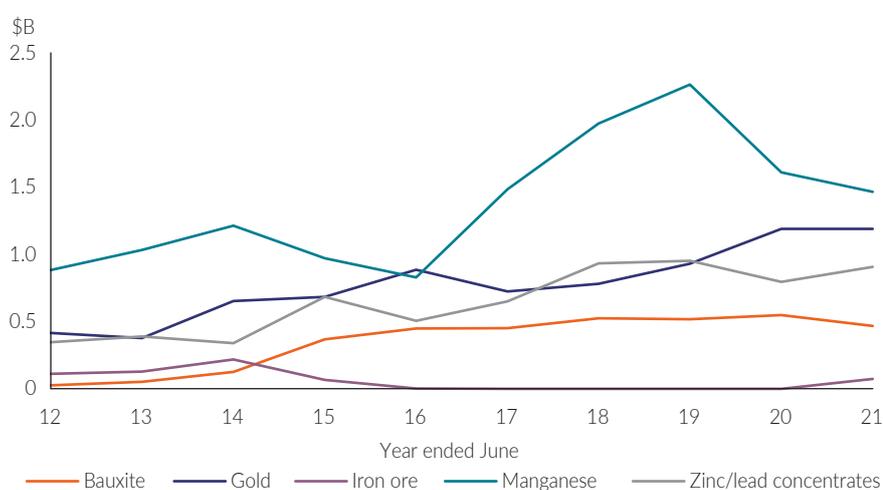
Risks remain as a new COVID-19 variant or an extended Russia-Ukraine conflict could still disrupt the global economy, affecting global commodity demand and prices in unpredictable ways.

Minerals production

The majority of minerals produced in the Territory are metallic, including gold, manganese, zinc, lead and bauxite (Map 1). The Territory also produces non-metallic minerals, such as crushed rock, sand, quicklime and gravel.

The value of the Territory's mineral output was \$4.3 billion in 2020-21, a 2.7% decrease from the previous year in current prices, largely caused by a decrease in the value of manganese and bauxite produced (Chart 3).

Chart 3: Value produced of selected Territory minerals



Source: Department of Industry, Tourism and Trade

Globally, there was no clear trend in the price of most minerals over 2020-21, reflecting the patchy nature of economic recovery from the effects of COVID-19 across different countries and over time as different variants of the virus emerged and spread. Gold prices remained high because of its status as a safe asset.

Manganese

Manganese is an input to steel manufacturing and production is largely driven by global steel demand. In the Territory, manganese is produced at the Groote Eylandt Mining Company (GEMCO) mine, the largest manganese mine in the world, and previously at Bootu Creek near Tennant Creek (Map 1).

In 2020-21, the value of manganese produced declined by 9% (Chart 3), caused by a decline in the global price for the commodity. Manganese accounted for 34.2% of the value of all minerals produced by the Territory, the highest for any mineral.

Manganese prices are expected to increase slightly over 2021-22 and 2022-23 with an expected increase in global steel demand. With demand high, the GEMCO mine is expected to operate at capacity. Mining at Bootu Creek ceased in December quarter 2021 due to a drop in ore grade. The option of reprocessing the tailing dams to extract manganese fines is being assessed.

Gold

Gold is produced at the Granites mine in the Tanami region and Mount Tymn mine, just south of Adelaide River (Map 1). The value of gold produced was unchanged in 2020-21 relative to the previous year, accounting for 27.8% of the value of all minerals produced by the Territory. While the quantity of gold produced decreased by 6.7% in 2020-21, it was offset by an increase in the price of gold.

The gold price reached a high of around \$2,800 per ounce in the second half of 2020, moderated to about \$2,400 per ounce over 2021, started rising again in 2022, and was in the vicinity of \$2,600 per ounce in early May 2022.

The price of gold is expected to increase over 2022 and 2023, and gold production from the Granites mine is forecast to increase over the same period as ongoing expansion activities at the mine are completed in 2022-23, resulting in an increase in value of gold produced over 2021-22 and 2022-23.

With strong gold prices a number of gold mines in the Territory are proposing to open or reopen including Mount Todd and the Mount Bundy project.

Zinc and lead

Zinc and lead are produced at the McArthur River mine located 65 kilometres south-west of Borroloola (Map 1). The value of zinc and lead produced increased by 14.2% to \$907.3 million in 2020-21 due to an increase in price and quantity produced.

Demand and prices for zinc and lead are expected to remain steady over 2021-22, increasing slightly over 2022-23.

Bauxite

Two bauxite mines operate in the Territory – Rio Tinto's mine at Gove and Gulkula's mine on the Dhupuma Plateau (Map 1). The Gulkula mine project agreement was signed by Rio Tinto and Gumatj Corporation in August 2017, becoming the first Aboriginal-owned mining company operating on traditional land. Bauxite from this small-scale mine is sold to Rio Tinto.

The value of Territory bauxite produced decreased by 14.5% to \$468.1 million in 2020-21, reflecting decreases in price and quantity produced. Bauxite price and quantity produced are expected to remain steady or slightly increase over the short term due to an increase in global demand for aluminium.

Iron

In 2020-21, the value of iron ore produced in the Territory was \$73.7 million, the first since the Territory last produced or sold ore in 2015-16. Favourable prices, caused by increasing demand for the ore from China and elsewhere as the world recovers from the effects of COVID-19, has encouraged mining activity in the Territory. Nathan River mine reopened in October 2020 and immediately commenced production and export. The Frances Creek mine (Map 1) also processed some low grade stockpiles and exported 1 shipment in June 2021.

The Nathan River mine ceased operations in October 2021 following a drop in iron ore prices. The Peko mine in Tennant Creek (Map 1) reopened in the second half of 2021, and production is scheduled for the first half of 2022. The mine is expected to expand production over its 5 to 7 year life.

With a return to favourable prices in early 2022, a number of iron ore mines are proposing to open in the second half of 2022, including the Warrego mine in Tennant Creek, the Frances Creek mine in Pine Creek and the Roper Valley mine (Map 1).

Lithium

Lithium is an important mineral for the production of lithium-ion batteries which are used in a range of electronic devices such as mobile phones and laptops, and larger scale energy storage systems and electric vehicles. As such, lithium is crucial in the transition to net zero carbon emissions, and global demand for electric vehicles and battery systems will remain strong over the outlook period.

Construction on the Finiss lithium project commenced in late 2021, with first production expected in late 2022. This new mine is presently expected to be productive for about 7 years. In March 2022, Core Lithium, the mine owners, signed an agreement to supply Tesla with lithium from 2023.

Uranium

Uranium mining at Ranger ceased in 2012 and processing of stockpiles ceased in January 2021. Remaining inventory holdings are expected to be sold over 2021-22 and 2022-23. Existing sale contracts, of about 621,000 kilograms, are expected to be met over 2021-22, with the balance progressively sold on the spot market.

Spot prices for uranium have been rising since the second half of 2020 and are expected to continue increasing over the next few years. The closure of 2 major overseas uranium mines and a growing number of nuclear reactors restarting since the Fukushima disaster has increased mineral demand and prices.

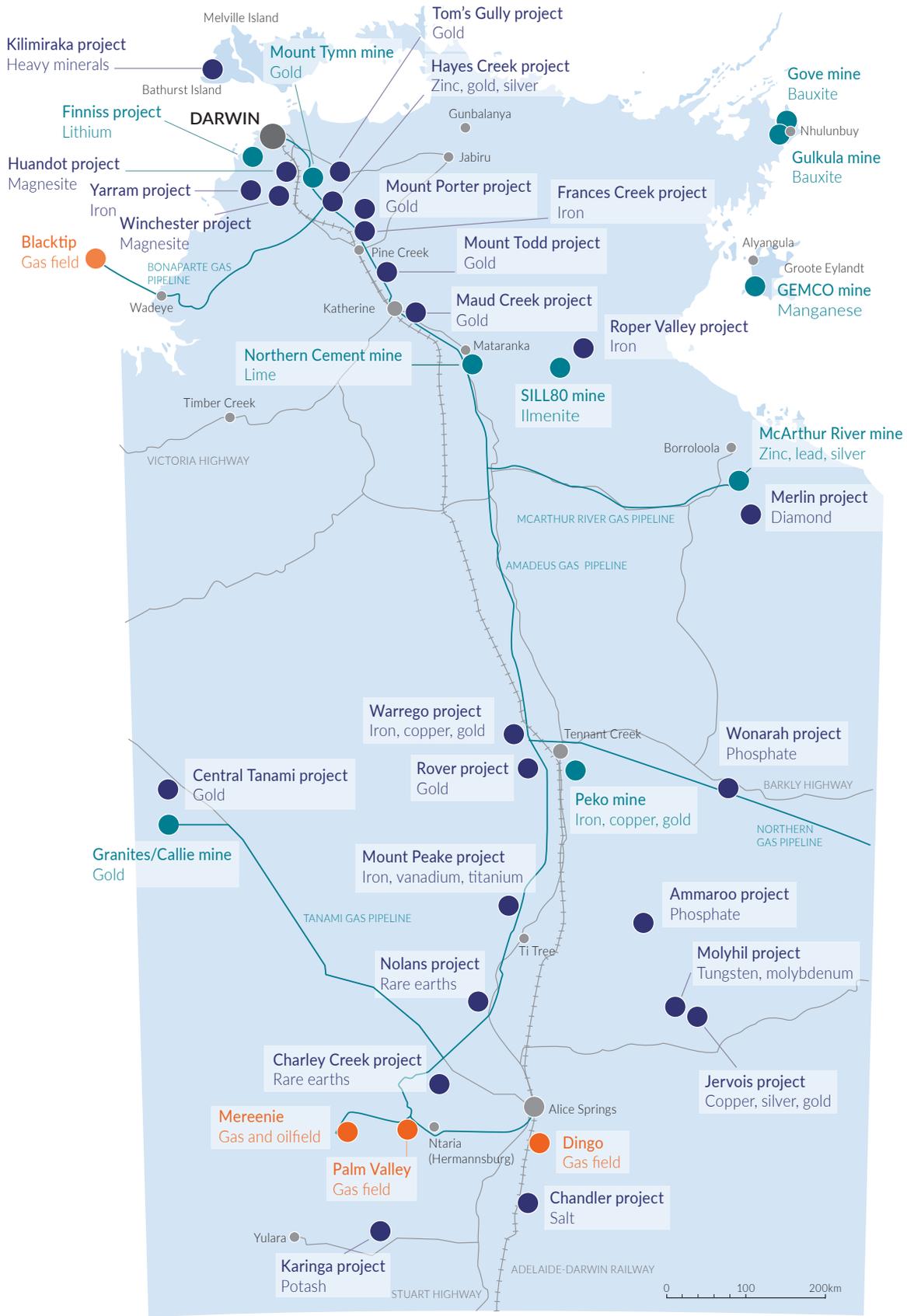
Energy Resources of Australia Limited's rehabilitation of the Ranger mine site has commenced. Jabiru, the township built to service the mine which has doubled as a key service point for the surrounding Kakadu National Park, is transitioning to a tourism and regional service hub following the release of a masterplan for the town in mid 2018. The plan includes investment in essential services and infrastructure, including a hybrid diesel and solar power station, which commenced operation in January 2022.

Other minerals

The value of production of non-metallic minerals declined by 9.6% to \$40.6 million in 2020-21. There were declines in the value of dimension stone, gravel, garnet sand, mineral specimens, quicklime, sand and soil, and increases in the value of crushed rock and limestone.

Most non-metallic mineral production is for Territory consumption and responsive to changes in construction activity. Production is expected to grow over the outlook period with the construction of the Darwin Education and Community Precinct, ship lift and defence projects.

Map 1: Current and pending mineral and onshore petroleum operations in the Territory¹



¹ This map is produced from various sources. Department of Treasury and Finance cannot guarantee the accuracy, currency or completeness of the information. To be used as a guide only.

Source: Department of Industry, Tourism and Trade; Department of Treasury and Finance

Oil and gas production

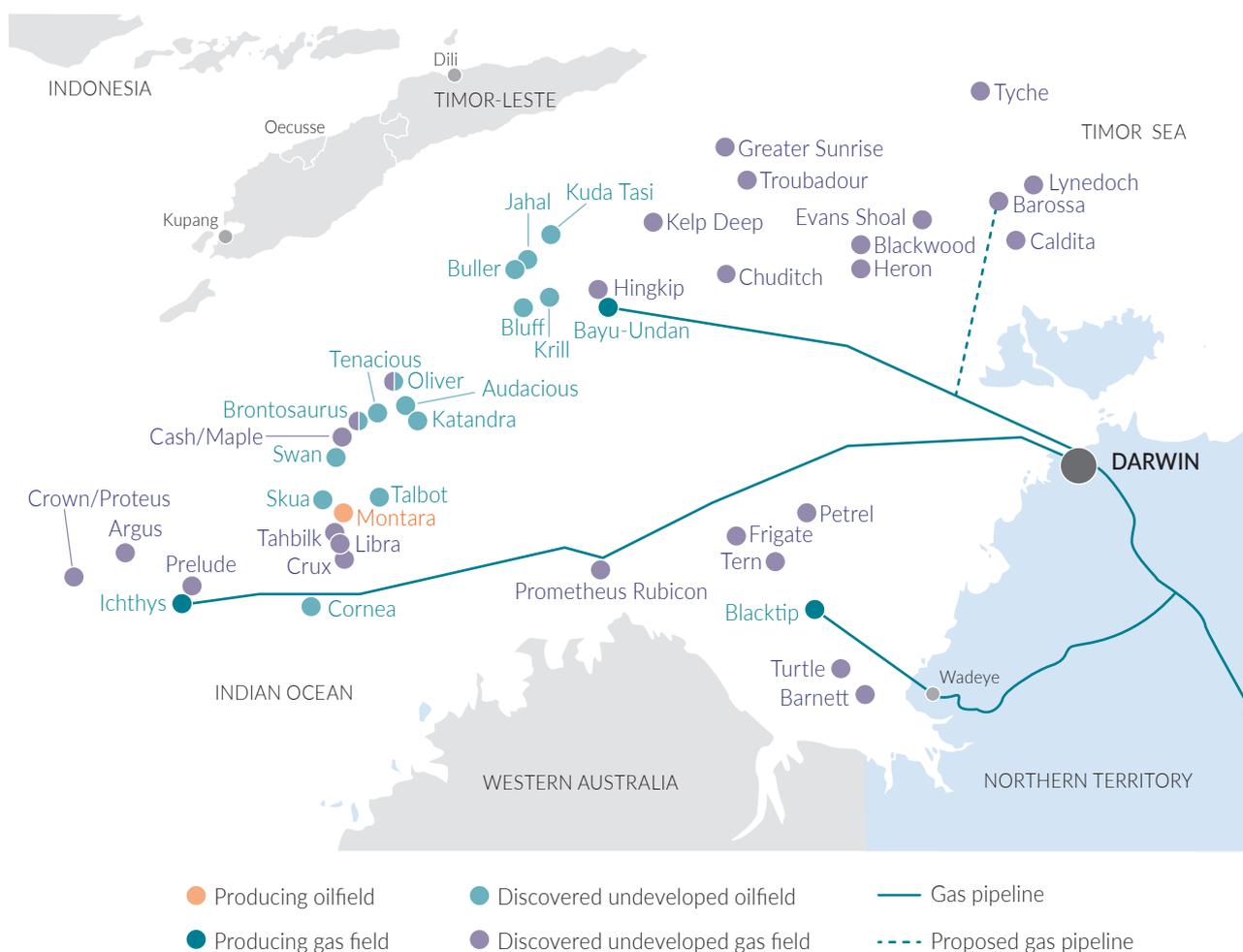
Presently all the Territory’s onshore oil and gas production is conventional in nature, sourced from the Amadeus Basin in Central Australia. Gas production occurs at the Mereenie, Palm Valley and Dingo fields, and the Mereenie field also produces oil. Central Petroleum Limited operates all these fields. The Dingo gas field supplies gas directly to the Owen Springs power station in Alice Springs.

Onshore gas production increased by 5.5% in 2021, from 13.7 billion cubic feet to 14.5 billion cubic feet, but remains below the 18.3 billion cubic feet produced in 2019, likely due to the persistence of lower demand from the east coast due to COVID-19.

A similar pattern was observed for onshore oil production, with production steady at 0.16 million barrels in 2021 and lower than the 0.21 million barrels produced in 2019. Most of the oil produced at the Mereenie oilfield is transported by road to South Australia for export.

There are a number of offshore reserves that supply gas to onshore facilities in the Top End (Map 2) for further processing or use. Current offshore gas production is from the Bayu-Undan gas field in Timor-Leste’s waters, and the Blacktip and Ichthys gas fields in Western Australian waters.

Map 2: Offshore petroleum activity near the Territory¹



1 This map is produced from various sources. Department of Treasury and Finance cannot guarantee the accuracy, currency or completeness of the information. To be used as a guide only.

Source: Department of Industry, Tourism and Trade; Department of Treasury and Finance

Offshore oil production attributed to the Territory in 2020-21 was primarily from the Montara field, following production ceasing at the Laminaria-Corallina field in July 2019. Oil produced offshore is exported overseas. The value of the Territory's offshore oil exports rose from \$5.1 million in 2019-20 to \$47.7 million in 2020-21. Caution is advised when interpreting this result as a large proportion of trade data has been confidentialised by the Australian Bureau of Statistics (ABS).

LNG prices and production levels decreased in 2020-21. LNG companies noted falls in production throughout the year as LNG prices fell due to poor market conditions. Production shutdowns for maintenance also impacted production output.

The Bayu-Undan gas field, which supplies gas to Santos' Darwin LNG plant, is expected to be depleted by 2023. The Barossa gas field, located about 300 kilometres north of Darwin, will replace Bayu-Undan, with gas expected to flow from Barossa in early 2025 to about 2045. Given the timing of gas from Bayu-Undan running out and Barossa coming online, the Darwin LNG plant is expected to temporarily cease production in 2024, resulting in decreased LNG production.

The Ichthys LNG plant commenced exports in late 2018 and reached peak production in 2019-20. The 2019-20 production levels are expected to be maintained going forward.

Exploration activity

Exploration does not always lead to the development of new mines, but levels of exploration activity can be a lead indicator of potential future development.

Chart 4: Value of mineral exploration expenditure in the Territory¹



¹ Moving annual total

Source: ABS, *Mineral and Petroleum Exploration, Australia*, Cat. No. 8412.0.

Total mineral exploration expenditure in the Territory increased by 38.4% to \$153.4 million in 2021, with exploration expenditure increasing across base metals, gold and other non-metallic minerals (Chart 4). Exploration expenditure for base metals recovered from its 2020 low of \$2.3 million to \$17.7 million in 2021 because of increased expenditure on copper exploration (\$7.9 million in 2021).

Petroleum exploration expenditure in the Territory increased by 61% to \$170.8 million in 2021, with the onshore gas exploration in the Beetaloo basin resuming (see below for more information).

Significant increases in mineral and petroleum exploration in 2021 signal an end to temporary pauses in exploration activity because of COVID-19. Exploration has been facilitated by the continuing support of the Territory and Commonwealth governments (see *Territory Economic Reconstruction Commission* section below).

Unconventional gas in the Territory

Following a temporary pause in exploration activities through 2020 due to COVID-19, gas exploration in the Beetaloo basin is ongoing, with miners drilling test wells to assess the commercial viability of the resource. The Beetaloo basin is the first of 5 strategic basins prioritised through funding from the Commonwealth to support recovery from COVID-19.

These exploration activities have also attracted the attention of several gas pipeline companies proposing projects to carry the gas to market.

At this stage, gas production in the Territory is not expected before 2025-26, and is therefore not reflected in the budget economic forecasts.

The development of onshore gas resources in the Territory presents significant downstream manufacturing opportunities for the Territory. Some of these opportunities are discussed in the *Territory Economic Reconstruction Commission* section below.

Manufacturing

In 2020-21, significant manufacturing industries in the Territory included fabricated metal products, helium, and transport equipment and repair.

The value-adding activity of the Territory's manufacturing industry increased slightly by 0.4% to \$993 million in real terms in 2020-21, but is lower than the \$1.1 billion recorded in 2018-19, in part reflecting the persistence of weaker demand caused by COVID-19.

The Territory is engaging with the Commonwealth's Modern Manufacturing Strategy, which includes \$1.3 billion for the Modern Manufacturing Initiative, aimed at assisting businesses to translate ideas into commercial ventures, scale up and integrate into supply chains. To support the Modern Manufacturing Strategy, the Commonwealth has established industry growth centres, including the Advanced Manufacturing Growth Centre (AMGC). AMGC signed a 5-year partnership with the Territory Government in 2021 and has appointed a Territory director. The Territory Government in turn has set up the Advancing the Manufacturing Ecosystem Fund, making \$8.75 million available as grants of \$25,000 to \$500,000 to help manufacturers in the Territory upgrade their equipment and support pilot research projects.

The Territory Government is also investing \$10 million in a joint venture to manufacture the amphibious Albatross aircraft at Darwin airport, with production expected to commence in 2025.

Progress towards meeting the Territory Economic Reconstruction Commission's recommendation to advance gas and renewables-based manufacturing in the Territory is presented in the next section.

Territory Economic Reconstruction Commission

Government is undertaking a range of actions relevant to mining, manufacturing, and energy transition and decarbonisation including:

- establishing a Mineral Development Taskforce to accelerate mining development in the Territory
- increasing annual funding to the Resourcing the Territory initiative from \$6.5 million to \$9.5 million, on an ongoing basis from 1 July 2022
- facilitating the development of the Beetaloo basin gas field through supporting the Commonwealth's Beetaloo Strategic Basin Plan, implementing recommendations from the independent Scientific Inquiry into Hydraulic Fracturing in the Northern Territory, working towards finalising the Strategic Regional Environmental Baseline Assessment and completing stage 1 of the Tennant Creek to Darwin infrastructure corridor study

- commencing planning to establish a Middle Arm Sustainable Development Precinct to support gas-based petrochemical manufacturing
- establishing a partnership with the Commonwealth's AMGC and funding advanced manufacturing business grants in the Territory, as noted in the previous section on manufacturing
- developing a Renewable Hydrogen Master Plan for emerging renewables-based hydrogen manufacturing
- assessing the feasibility of hybrid solar-hydrogen remote power generation under the Remote Power System Strategy, targeting 70% renewables in the communities serviced by Indigenous Essential Services Pty Ltd
- action on climate change, including developing the Northern Territory's Climate Change Response: Towards 2050, and the accompanying 3-year action plan, which identifies priorities for decarbonising the Territory, seizing opportunities presented by decarbonisation, building resilience in a changing climate, informing and involving all Territorians in delivering these priorities, and progressing towards developing a greenhouse gas emissions offset policy.

For the latest data on the Territory's mining and manufacturing sector, refer to the [Territory Economy](#) website.

Construction

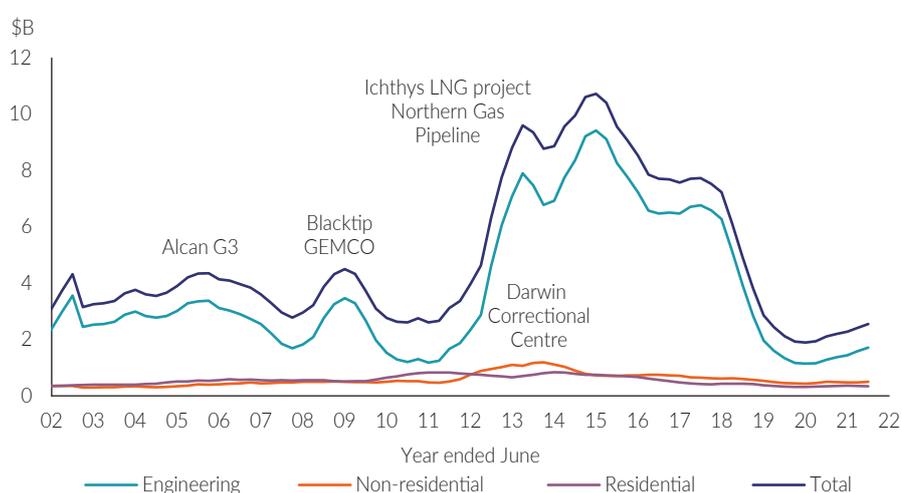
Outlook

Construction activity is expected to grow over the outlook period, supported by significant defence and gas-related projects.

In 2020-21, the Territory's construction sector had a modest increase of 0.4% to \$1.5 billion, partly constrained by COVID-19 which brought about economic and health uncertainties, labour shortages and supply chain issues. The construction sector was the fifth largest industry in the Territory, accounting for 6% of total GSP and employing about 10,300 people.

A strong pipeline of projects throughout the forecast period is expected to support the Territory's construction activity and help sustain recent growth in the sector post construction of the Ichthys LNG project (Chart 5), although a continuation of labour shortages and supply chain issues and the Russia-Ukraine conflict are likely to be temporary constraining factors on its growth.

Chart 5: Construction work done in the Territory¹



GEMCO: Groote Eylandt Mining Company; LNG: liquefied natural gas

¹ Moving annual total.

Source: ABS, *Construction Work Done, Australia*, Cat. No. 8755.0; Department of Treasury and Finance

In the near term, several major public projects are expected to commence, such as the Darwin ship lift and Mandorah marine facilities, which will add to the significant public works already underway in the areas of defence, education and recreation. The Territory Government's commitment to deliver land to meet future growth demands will also unlock considerable construction activity, as will other ongoing works in the Territory's \$3.3 billion infrastructure program.

In the private sector, mining and gas-related projects are expected to be the main drivers of construction activity. Works are continuing at the Finnis lithium project and the Granites mine expansion. Drilling of development wells is expected to commence in mid 2022 on the Barossa Project, with further works scheduled through to 2024. In addition to natural resources, investments in digital infrastructure are gaining traction in the Territory, with NEXTDC set to begin construction of its first data centre in late 2022 while also securing rights for a second centre.

Over the long term, the significant pipeline of works in the areas of defence, transportation and logistics, and public housing will continue to drive the Territory's construction sector. As part of the 2022-23 Budget, the Commonwealth has also committed \$2.6 billion in infrastructure investment under its Energy Security and Regional Development plan. There are also prospective private sector investment projects, including those with major project status that, if realised, have the potential to provide significant growth to the Territory's construction sector over the forecast period.

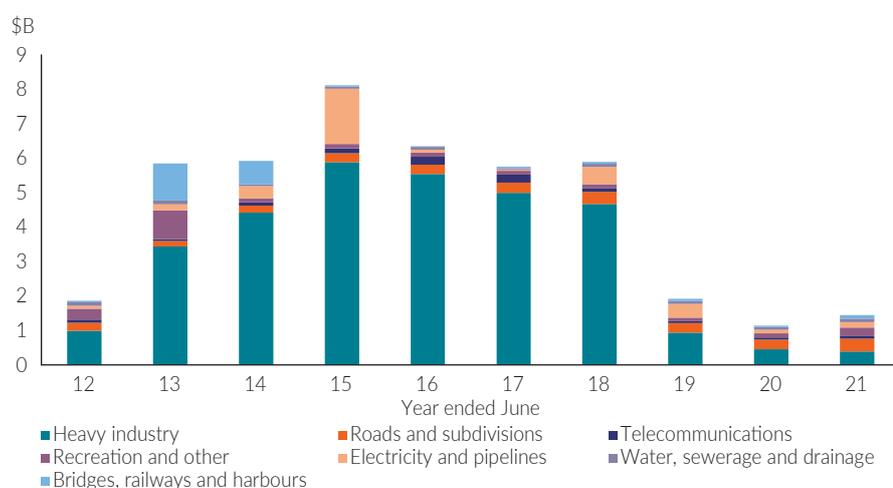
For an overview of committed and proposed major projects in the Territory, all of which will require varying degrees of construction work, refer to Chapter 2 *Major projects and investment opportunities* in the [2022-23 Northern Territory Economy](#) publication.

Engineering

The value of engineering construction work done increased by 33.9% in 2021 to \$1.7 billion, with an increase in public sector activity by 82.7% to \$595 million and in private sector activity by 21.7% to \$1.2 billion. Construction activity has fallen from a peak of \$9.4 billion in 2014-15 but is up from 2019-20. The peak was primarily associated with the Ichthys LNG project and the Northern Gas Pipeline which created significant heavy industry work in the Territory (Chart 6).

Engineering activity is expected to grow over the outlook period as large projects commence, particularly those in defence and the Darwin ship lift, investment in natural resources continues and work on road infrastructure supports construction across the Territory. Land developments across the Territory are also being brought forward to meet the current and growing market demand.

Chart 6: Value of Territory engineering construction work done by type¹



¹ Current prices.

Source: ABS, *Building Activity, Australia*, Cat. No. 8762.0; Department of Treasury and Finance

Defence's largest body of works in the Territory will be its \$1.1 billion RAAF Base Tindal upgrade, which is expected to continue through to 2027 and where a sizeable amount will be spent on runway extensions and new fuel storage facilities. Another \$711 million in defence spending will provide infrastructure upgrades across Robertson Barracks, Kangaroo Flats, Mount Bundey and Bradshaw Field training areas. Other defence projects with significant engineering construction activity include the \$520 million works at Larrakeyah Barracks and HMAS Coonawarra to improve services and provide new maritime facilities, and the \$245 million works at Larrakeyah Defence Precinct to support the Arafura-class offshore patrol vessels. The United States (US) Armed Forces also commenced construction of its \$270 million bulk fuel storage facility at East Arm in early 2022, which will support US defence activities in the Territory and Indo-Pacific region, with work on the facility expected to be complete by 2024. Refer to the *Defence* section for more information.

Defence operations will also be complemented by the Darwin ship lift, which is anticipated to commence in 2022 and be operational in 2024. When completed, the ship lift will be the largest in northern Australia, with capacity to service Australian Defence and Border Force vessels, as well as commercial and private vessels.

Construction of the ship lift and associated marine infrastructure will be partially financed by the Commonwealth's Northern Australia Infrastructure Facility (NAIF) which has already approved and executed about \$700 million in funding across 7 projects in the Territory. The largest of these are the Darwin ship lift and marine industry project, the Darwin Education and Community Precinct and Northern Territory Airports airport expansions. Other NAIF projects include the Humpty Doo Barramundi farm expansion, Voyages Indigenous Tourism Australia's Connellan Airport upgrade, and the Hudson Creek power station and associated Batchelor solar farm. The NAIF initiative has been extended to 30 June 2026, providing further opportunity for investment in the Territory.

Several gas, oil and mining activities are currently underway in the Territory with further exploration activities having the potential to unlock significant construction activity over the outlook period. Works at the Finnis lithium project commenced in late 2021 with site establishment and road access works as well as fuel and water supply infrastructure, while the ongoing Granites mine expansion will see the construction of new infrastructure in the Tanami region with the aim to increase the mine's life beyond 2040. The US\$3.6 billion Barossa Project will provide gas to replace the existing Bayu-Undan offshore gas supply, with a further US\$600 million planned to extend the Darwin LNG plant's life and pipeline tie-in project. This expansion project will increase construction activity in the Territory, contributing to economic growth and job creation.

Subject to exploration results and feasibility studies, unconventional gas extraction in the Beetaloo Sub-basin has the potential to create demand for significant engineering services for essential infrastructure works over the outlook period. Exploration and development of the Beetaloo Sub-basin is being accelerated by the Commonwealth's \$226 million Beetaloo Strategic Basin Plan and infrastructure priority listing that will, among other things, develop enabling infrastructure in the region.

Road infrastructure works is a consistent contributor to the Territory's engineering activity and is vital to connecting rural and remote communities in the Territory as well as supporting sectors like mining, pastoralism, agriculture and tourism. Large road related works on the Territory's capital works program include the Roads of Strategic Importance initiative; Road Safety Program and Outback Way as well as upgrades to the Carpentaria Highway, Central Arnhem Road, Buntine Highway and roads on the Tiwi Islands.

Following the release of the independent Bringing Land to Market review, actions are being undertaken by the Territory Government to improve the land development process and ensure there is timely and efficient availability of land. Land development is being brought forward and will support considerable construction activity. Commercial land developments to be brought forward include the Weddell industrial and renewable energy hub, Parnttali Road subdivision extension in Tennant Creek and Brewer Estate in Alice Springs. Residential land developments include Holtze, Katherine East, Chittock Crescent stage 3 and Kilgariff north of Harris Avenue, and will complement developments currently occurring at Lee Point, Northcrest, Zuccoli and Kilgariff.

There are also several other large scale projects that, if realised, could provide a significant boost to engineering construction, including the Mount Peake project and Nolans rare earths project; Jervois base metal project; Ammaroo phosphate project; Sun Cable's Australia-Asia Power Link project; Darwin Clean Fuels' condensate processing facility; and HyperOne fibre network.

Non-residential

The value of non-residential building work done in the Territory decreased 3.3% in 2021 to \$478 million, with public sector activity increasing by 29.1% to \$295 million and private sector activity decreasing by 31.2% to \$182 million. Public sector activity has been largely supported by defence works such as the Larrakeyah and Robertson Barracks redevelopment and the RAAF Base Tindal upgrade. The fall in private sector activity follows the cessation of several COVID-19 stimulus measures such as the business improvement scheme and Immediate Work Grants, as well as completion of large projects in 2020 such as Manunda Place and Darwin International Airport's multipurpose training, freight and cold storage facility.

Non-residential building activity is expected to remain elevated for some time, with building approvals indicating a significant amount of work on the horizon for the Territory (Chart 7). Recent approvals are mainly related to the Darwin Education and Community Precinct and various defence projects.

Chart 7: Value of non-residential building approvals in the Territory¹



¹ Moving annual total.

Source: ABS, *Building Approvals, Australia*, Cat. No. 8731.0

Construction on the \$250 million Darwin Education and Community Precinct will continue through to 2024 and forms part of the broader \$200 million Darwin City Deal project, which also includes the planned State Square Art Gallery currently under design.

Similar to engineering construction activity, defence work is expected to be a key driver of non-residential construction activity in the Territory with funding earmarked over and beyond the forecast period. The Larrakeyah and Robertson barracks and RAAF Base Darwin redevelopment will see the construction of various facilities such as the NORFORCE headquarters, shared user and fuel storage assets, and training infrastructure.

Non-residential works are also being carried out in the regions through various funding agreements between the Commonwealth and Territory governments as well as the private sector. The Commonwealth and Territory governments' masterplan to redevelop Jabiru into a tourism and services centre has seen the completion of the Jabiru hybrid renewable energy power station in early 2022 as part of the Territory Government's \$135.5 million commitment. Combined with the Commonwealth's \$276 million commitment, further investment will include an Aboriginal-led World Heritage Kakadu Centre, tourism and services infrastructure and remediation works.

The Barkly Regional Deal, a 10-year commitment of \$84.7 million by the Territory and Commonwealth governments and the Barkly Regional Council to improve the productivity and liveability of the region, has outlined among other works, a business, mining and energy services hub in Tennant Creek, youth infrastructure across the region and Alpururulam aerodrome upgrades. The mining and energy services hub is expected to support resource industry developments in the region and help develop Tennant Creek as a resource services hub and supply centre. The Territory Government has also committed to develop the Katherine Logistics and Agribusiness Hub, which will require significant construction work. This is being further complemented by the Commonwealth's announced investment in logistics hubs including in Alice Springs, Katherine and Tennant Creek.

There are a number of digital investment projects in the Territory planned over the outlook period, some of which involve the construction of several data centres. NEXTDC is expected to commence construction on an \$80 million data centre facility near the Darwin Education and Community Precinct in late 2022 and has secured land for a second centre. Similarly DCI Data Centres has also secured land in the Territory with plans to build a TIER-Ready III secure cloud data centre.

Residential

The value of residential building work done in the Territory increased by 2.8% to \$345 million in 2021, with private sector activity increasing by 12.1% to \$259 million and public sector activity decreasing by 17.7% to \$86 million. The low interest rate environment, as well as various Territory and Commonwealth government home owner and home improvement incentives have supported residential activity over the past year. Following strong residential building activity in 2020-21, growth is expected to moderate with rising input costs and labour shortages have been constraining factors.

Despite the expected moderation, there are several large residential construction projects expected to be completed including the \$45 million John Stokes Square redevelopment that will contain 78 public housing dwellings spread across 3 residential towers and the \$25 million Alice Springs hospital residential complex with 71 residential units. From 2021-22, the upcoming titling of new residential land across various developments such as Lee Point, Mirawood, Parkside Berrimah, Northcrest, Zuccoli and Kilgariff will help stimulate residential construction activity, as may the development of Sunbuild's 92 2-bedroom Seabreeze apartments.

Looking forward, the pipeline of projects in the Territory, particularly around defence, mining and the marine industries will continue to support residential construction activity over the forecast period. The construction of these projects span multiple years and involve sizeable workforces, which will support demand for residential dwellings in the Territory. This is in addition to the residential development opportunities expected in the Darwin CBD once the Darwin Education and Community Precinct is complete, with Charles Darwin University currently seeking expressions of interest for the development of purpose built student accommodation to support an additional 250 to 300 students by 2025 and a further 120 by 2028. The demand for residential construction will be supported by the government's work to improve the land development process and bring forward land development.

Residential construction activity across the Territory will also be supported by public housing, which includes a considerable proportion of dwellings in remote communities. Significant public housing activity is expected over the next several years under the Territory and Commonwealth governments' Remote Housing Investment Package. Major works currently underway include over 80 new houses on Galiwin'ku, 150 new and improved homes across the Groote Archipelago and a mixture of duplex, quadruplex and multiple bedroom homes in Maningrida.

For the latest data on the construction sector, refer to the [Territory Economy](#) website.

Defence

Outlook

Defence investment in the Territory is expected to increase over the outlook period as a result of increased geopolitical uncertainty and the Top End's important strategic location in the Indo-Pacific region.

The 2016 Defence White Paper and associated Integrated Investment Plan reinforced the growing strategic importance of the Territory to Australia's defence and regional stability. As the country's northernmost jurisdiction, the Territory will always be integral to the operational capability of the Australian Defence Force (ADF), Australia's military allies and partners, and regional neighbours.

Responding to geopolitical tensions in the Indo-Pacific, the Commonwealth released the 2020 Defence Strategic Update. This presents further opportunities for the Territory to play an even bigger role in supporting Australia's future defence capabilities that are critical to respond to evolving regional and global challenges. Alongside this are the associated investments in infrastructure, operational support, maintenance and technologies for equipment, and forces based in and deployed from the Territory.

The reinvigoration of the Quadrilateral Security Dialogue and the establishment of the Australia, United Kingdom (UK) and US agreement has seen a significant increase in the attention and resources of Australia and its allies into the Indo-Pacific. This is likely to generate a level of involvement by the Territory.

As a sparsely populated yet geographically large jurisdiction, defence personnel and operational decisions have a direct impact on the Territory's economy. Associated supply and maintenance activity supports local businesses and industry development, and relocating families contribute to population growth and increased demand for goods and services.

Defence training exercises with international partners, and deploying allied personnel and equipment to the Territory also brings additional revenue that extends beyond defence-related industries to reach a wide range of local industries including the hospitality, retail and tourism sectors.

The capability of the local defence service and supply industry, including the industrial infrastructure essential to this capability, continues to strengthen, expand and modernise the ongoing and future defence and national security requirements of Australia and the region.

Employment

The Territory's proportion of national defence expenditure was 4.6% in 2020-21, or \$2.2 billion, a 0.9% decrease from the previous year. Defence expenditure in the Territory is above the 10-year average of \$2.1 billion per annum (Chart 8). The share of the national defence expenditure was unchanged from the previous year and is down by 1.8 percentage points from the height of 6.4% in 2014.

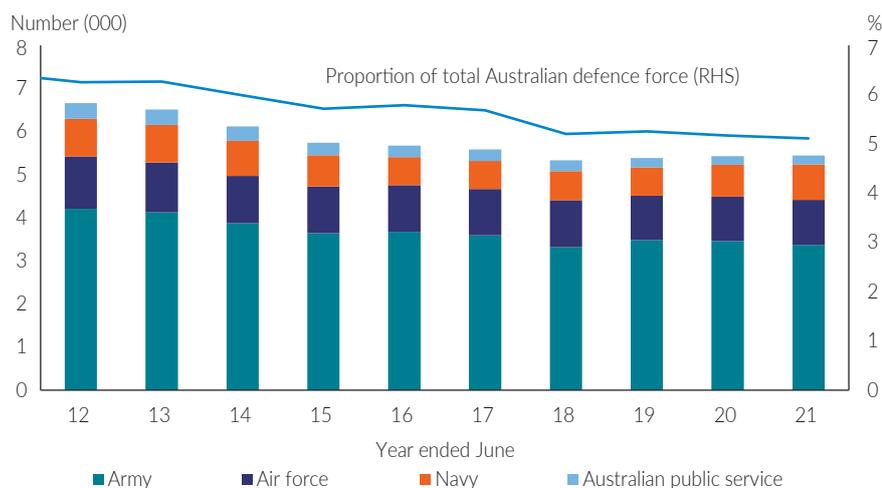
Chart 8: Defence expenditure in the Territory



Source: ABS unpublished data; Department of Treasury and Finance

The number of defence personnel stationed in the Territory increased by 0.2% (11) in 2020-21 to a total of 5,444. The growth was in the reserve forces (up by 2.6% to 858), with the number of permanent forces decreasing by 0.3% to 4,382. The number of Department of Defence public servants was unchanged at 204.

Chart 9: Defence employment in the Territory



RHS: right-hand side

Source: Defence Annual Report 2021

In the permanent forces, the army decreased numbers by 2.6% to 3,371, though this was partially offset by a 1.5% increase in air force personnel to 1,048 and an 11.5% increase of the navy personnel to 821 (Chart 9). The Territory's share of total defence personnel decreased by 0.1 percentage points to 5.1%.

On 10 March 2022, the Commonwealth announced a national expansion of defence personnel of 18,500 by 2040. An additional 988 defence personnel will be stationed in the Territory. As a further 6,000 postings will be determined in the future, there is potential for a greater number to be stationed in the Territory.

Personnel numbers are not the only contributors to the Territory's population as numerous defence personnel relocate with their families. The total defence-related population is estimated to be about 9,000 or 3.6% of the Territory's population.

The number of Defence Housing Australia properties in the Territory decreased by 1.5% to 1,746 in 2020-21, continuing the downward trend from a peak of 2,638 in 2013-14. The Territory's proportion of total defence housing stock decreased by 0.6 percentage points to 9.2%. Defence Housing Australia is in the process of developing 131 hectares at Lee Point to produce 778 development lots in a mixed residential and retail community, with titling expected by June 2022. Between 20% and 50% of residential properties will be allocated to defence personnel.

International cooperation

Australia maintains international cooperation with a range of defence partners. Together with its main defence partner, the US, Australia participates in the United States Force Posture Initiatives (USFPI). The 10th anniversary of USFPI was held in 2021 and included the Marine Rotational Force – Darwin (MRF-D) of up to 2,500 US personnel, training throughout the Territory. In addition to the MRF-D, the Enhanced Air Cooperation element of the USFPI strives to strengthen the air cooperation between the 2 allies with air assets and personnel rotated through the Territory.

The US also sees strategic value in the Territory due to its location in the Indo-Pacific region. Therefore, it has partnered with Australia to improve infrastructure in the Territory to better secure its interest. As part of the Enhanced Air Cooperation, the US is upgrading infrastructure to support increased rotations of air and sea assets. One of these projects is the \$270 million bulk fuel storage facility to provide storage of 300 million litres of aviation-grade JP-5 turbine fuel and commercial grade Jet A-1 fuel in Darwin.

Australia regularly engages in military exercises with its defence allies to foster closer relations and upskill defence personnel. Due to its location in the Indo-Pacific, the Territory frequently hosts exercises with different international partners.

In 2021, these exercises included:

- the annual Exercise Crocodile Response with the US and Indonesia in May
- exercise Jackaroo with Japanese troops and US Marines in June
- the annual Exercise Wirra Jaya with Indonesia, where host duties switch between the 2 nations
- a 2,200-strong US Marine Corps contingent trained with the ADF in Exercise Koolendong 2021 – a high-end, live-fire warfighting exercise at the vast and remote Bradshaw Field training area
- in November 2021, Exercise Paradise, a regular naval exercise with Papua New Guinea, was hosted in waters off Darwin
- the Territory hosted for the first time AUSINDEX21, a naval exercise between Australia and India in September 2021.

The Territory is home to 2 large biennial defence exercises: an international maritime engagement exercise, Exercise Kakadu, and an international air combat exercise, Exercise Pitch Black. These exercises bring together numerous defence partners ranging from the US and UK to Malaysia and Singapore. Both exercises will be held in 2022, with Exercise Pitch Black to take place from 19 August to 8 September 2022 and Exercise Kakadu to follow on throughout September.

Besides military exercises, Australia's defence partners are welcomed in Darwin and regional port facilities to enable resupply, as was the case when Japanese vessels JS Kaga and JS Murasame docked in Darwin after exercises with India and the US in September 2021.

The engagement with international partners reaches a wide range of local industries including the hospitality, retail and tourism sectors.

Projects

Since 2016, the Territory economy has benefited greatly from an increase in Defence investment. The Commonwealth is in the midst of an \$8 billion major infrastructure investment commitment through to 2025, and a further \$12 billion is earmarked for 2026 to 2035, pending parliamentary approvals. Local industry capability plans and Indigenous procurement targets set by the Department of Defence have seen an uptake in Territory businesses, including Indigenous Business Enterprises, winning work across defence programs and projects since 2016. Nationwide, local industry participation in defence infrastructure projects is sitting at 75%. In the Territory, it is achieving 82% participation (as at late 2021).

Defence tenders offer the incentive for large international firms to invest in the Territory. These international firms bring with them expertise that can be skill shared across the Territory. Defence, by fostering links between international and local firms, allows for networking in the future or provides the opportunity to integrate into the global supply chain. For example, Territory companies (Fuel Calibration Services, Territory Instruments, RAM Services and RGM Maintenance) are subcontracted by Lockheed Martin to provide ground support equipment capability.

Projects under development across various facilities in the Territory include (Map 3):

- \$520 million on redeveloping Larrakeyah Barracks and HMAS Coonawarra to support naval operations in the north
- \$1.1 billion for the RAAF Base Tindal stage 6 redevelopment and USFPI airfield works to support the KC-30A platform
- \$711 million investment to upgrade Robertson Barracks' close training area, and Kangaroo Flats, Mount Bunday and Bradshaw Field training areas
- \$149 million to upgrade hangars and other facilities at RAAF Base Darwin to support the P-8A Poseidon aircraft
- \$245 million for infrastructure to support Arafura-class offshore patrol vessels
- \$49 million for upgrades to Larrakeyah Barracks Health Centre and RAAF Base Darwin health centres
- \$92 million for USFPI fuel storage at RAAF Base Darwin
- \$270 million bulk fuel storage facility at East Arm to provide storage of 300 million litres of aviation-grade JP-5 turbine fuel and commercial grade Jet A-1 fuel.

Projects proposed and subject to approval:

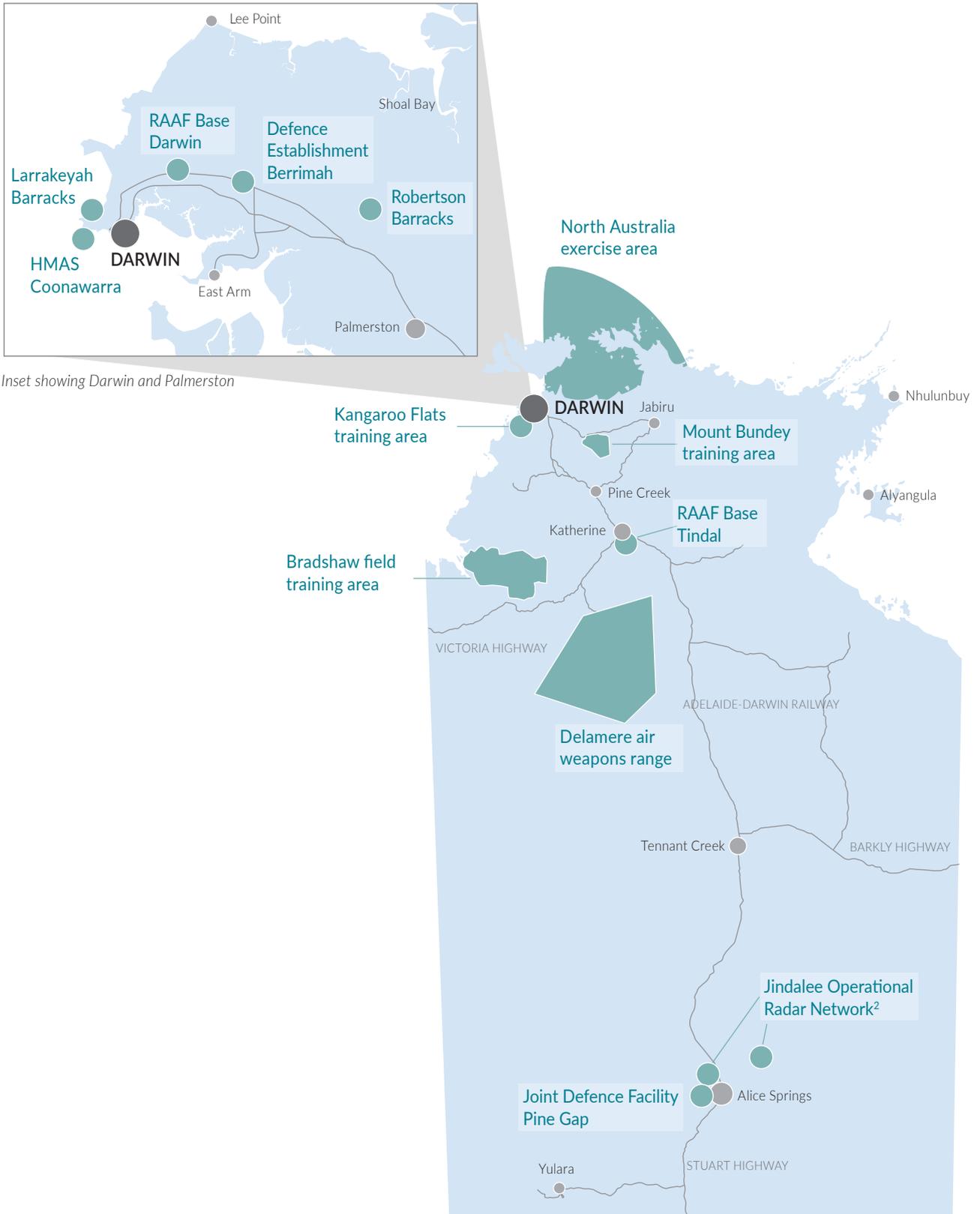
- USFPI Robertson Barracks infrastructure upgrades
- RAAF Base Darwin mid-term refresh
- MQ4C triton forward operating base at RAAF Base Tindal
- National airfields capital works at RAAF Base Darwin, Robertson Barracks and Mount Bunday.

In December 2021, RAAF Base Tindal accepted the first delivery of 4 F-35s that will operate from the base. The delivery of the F-35s followed the construction of new facilities at RAAF Base Tindal needed to store and operate the jets. The posting of the F-35 is integral to the ADF's plans for northern Australia and brings Lockheed Martin to the Territory to support aircraft maintenance at the base.

The Darwin ship lift project provides sovereign infrastructure which will enable the Regional Maintenance Centre North to conduct maintenance and sustainment to support the Royal Australian Navy's fleet of vessels.

For the latest data on the Territory's defence sector, refer to the [Territory Economy](#) website.

Map 3: Major defence sites in the Territory¹



Inset showing Darwin and Palmerston

1 This map is produced from various sources. Department of Treasury and Finance cannot guarantee the accuracy, currency, or completeness of the information. To be used as a guide only.

2 The Jindalee Operational Radar Network has 2 operating facilities within the Alice Springs region, at Harts Range and Mount Everard. Source: Department of Treasury and Finance; Department of Industry, Tourism and Trade; Department of Defence

Retail and wholesale trade

Outlook

Retail trade is expected to grow in 2021-22 and wholesale trade is anticipated to benefit from an improvement in private investment activity. The improved outlook for economic and population growth will support the industries over the forward estimates period, but will be constrained by expectations of modest wage growth.

In 2020-21, the Territory retail and wholesale trade sector increased by 10.1% to \$1.6 billion (Chart 10), accounting for 6.5% of the Territory's GSP. This increase was driven by consumers changing their shopping behaviour in response to COVID-19 restrictions, and businesses taking advantage of government incentives. However, the number of people employed in the sector decreased by 8.8% to around 13,000 persons in 2020-21, which was 9.9% of total employment in the Territory. The sector's contribution to GSP is relatively low compared with other jurisdictions and nationally (Chart 11), reflecting the dominance of the government and community services, mining and manufacturing, and construction sectors in the Territory.

It is anticipated that the retail and wholesale trade sector will return to modest growth over the medium term as more typical economic conditions prevail and activity becomes more aligned with the fundamental demand drivers such as interest rates, population, employment, disposable income, consumer sentiment and the level of household debt. Modest wages growth over the outlook period is also expected to constrain growth in household consumption and retail turnover. An ongoing challenge this sector faces is the shift by consumers to online purchases, which is expected to divert sales from domestic brick and mortar retailers to overseas merchants as the e-Commerce sector grows.

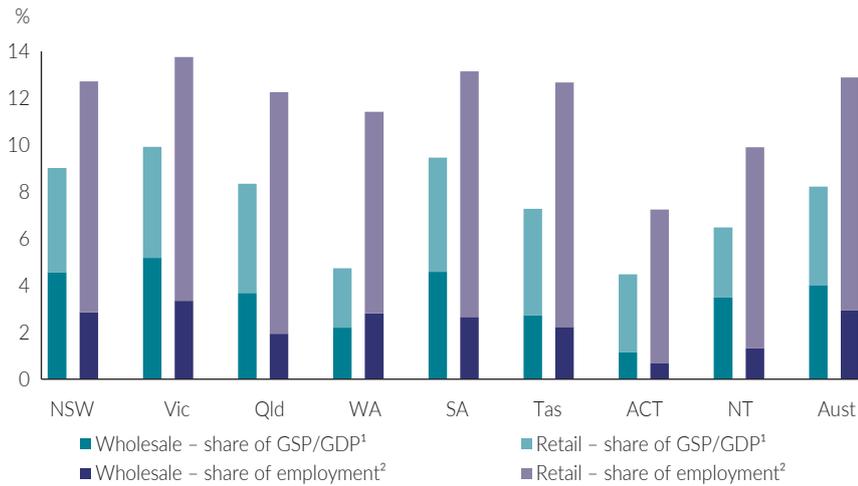
In 2021-22, household retail expenditure will be supported by the Commonwealth's temporary one-off cost of living tax offset and one-off cost of living payment. The impact of these measures is expected to be small as they offset increased cost of living pressures. Closed international borders limiting long-haul travel options for the majority of the year will continue to support some level of local spending.

Chart 10: Year-on-year change in the retail and wholesale trade sector



Source: ABS, *Australian National Accounts: State Accounts*, Cat. No. 5220.0

Chart 11: Retail and wholesale trade share of GSP, GDP and employment, 2020-21



GSP: gross state product; GDP: gross domestic product

1 Current prices.

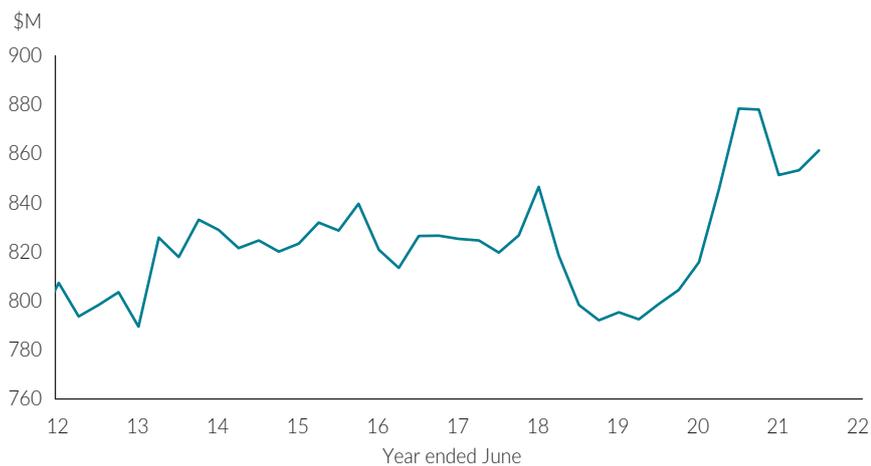
2 Annual average.

Source: ABS, *Australian National Accounts: State Accounts*, Cat. No. 5220.0, *Labour Force, Australia*, Cat. No. 6291.0.55.003

Retail trade

Retail trade's contribution to GSP increased by 8.2% to \$741 million in 2020-21 as consumers were restricted in their ability to spend on household services over the course of the pandemic. The introduction of measures to help curb the spread of COVID-19, such as the closure of international and interstate borders, periodic lockdowns and trading restrictions (such as capacity limits), primarily affected the ability of the services sector to trade as normal and restricted avenues for discretionary spending. At the same time, goods retailers were comparatively unaffected by these restrictions and benefited from households' inability to spend on services sector, leading to a sharp increase in spending on retail trade over the pandemic (Chart 12).

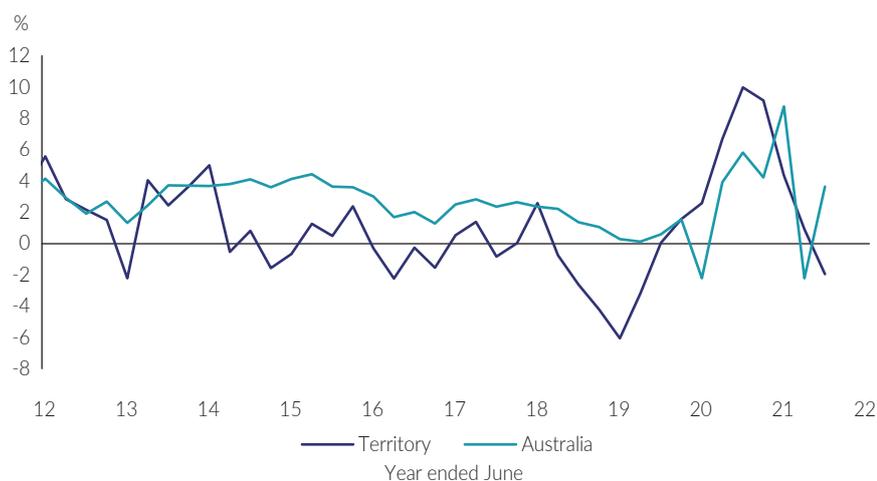
Chart 12: Quarterly Territory retail turnover (seasonally adjusted)



Source: ABS, *Retail Trade, Australia*, Cat. No. 8501.0

With the successful vaccine program over 2021 and early 2022, the removal of international and interstate border restrictions in early 2022, and positive business and consumer confidence, the short-term outlook for the services sector has improved. Consequently, it is anticipated goods retailing will revert to pre-COVID-19 output levels in the short term. ABS data reports that retail turnover is showing signs of this moderation, with growth of 2.8% in 2021 compared with growth of 5.8% in 2020, and a further slowdown in growth is anticipated in the near term. Nationally, retail trade turnover increased by 3.5% in 2021, compared with growth of 2.7% in 2020, with the larger eastern states being more adversely affected by the initial COVID-19 response in 2020. Weakness was particularly evident in recent quarters. In annual terms, retail turnover fell by 1.9% in the December quarter 2021, the first decline since the pandemic started (Chart 13).

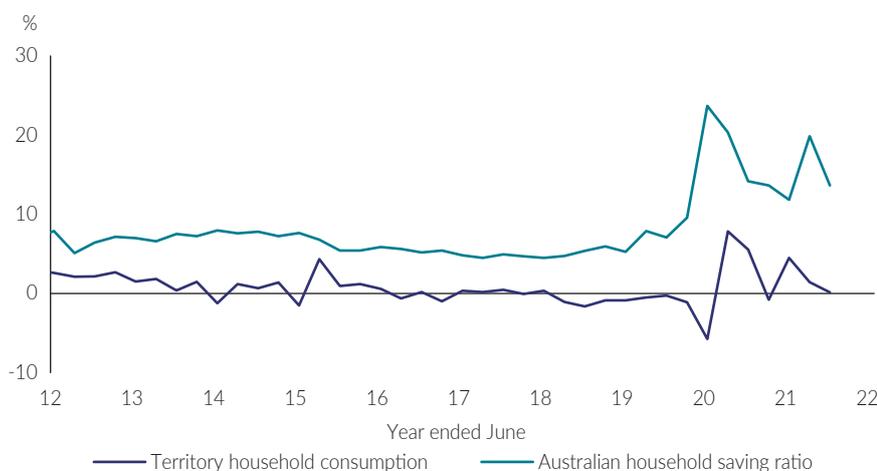
Chart 13: Annual change in retail turnover (seasonally adjusted)



Source: ABS, *Retail Trade, Australia*, Cat. No. 8501.0

It is anticipated that a return to pre-COVID-19 consumption patterns and the return of services spending will negatively affect the outlook for goods retailing in the Territory. However, should households draw down on high levels of household savings established over the course of the pandemic at a faster-than-expected rate, this could provide some support for retail trade (Chart 14).

Chart 14: Quarterly Australian household savings ratio and quarterly change in Territory household consumption (seasonally adjusted)



Source: ABS, *Australian National Accounts: National Income, Expenditure and Product*, Cat. No. 5206.0

Over the medium term it is expected that a return to population growth, supported by the Territory's pipeline of major project investment, will be the main driver of growth in retail turnover, although modest wage increases over the outlook period may constrain this to some degree.

Developments likely to support retail investment and turnover in the medium term include:

- the Territory and Commonwealth governments' \$200 million commitment to the Darwin City Deal project to revitalise the CBD including the Darwin Education and Community Precinct, Civic and State Square Redevelopment and State Square Art Gallery
- \$135.5 million to redevelop Jabiru into a tourism and regional service hub
- \$23 million to revitalise Alice Springs, focusing on heat mitigation and enhancing community safety through environmental design.

In 2022, Casuarina Square was acquired by Sentinel Property Group which plans to develop the centre with a refurbishment of Woolworths in the short term and, in the long term, turning it into a town centre by building on the existing retail facility with residential developments.

Online retailing has been growing gradually and COVID-19 accelerated this shift as consumers turned to online shopping to comply with social-distancing measures and minimise health risks of in-store purchasing. Spending was also supported by pay-later innovations offered by outlets. With consumers becoming more familiar with online retailing due to COVID-19, this could impact traditional brick and mortar stores with retailing being diverted to online stores. Online sales in the Territory grew by 11.2% in 2021, following strong growth of 28.4% in 2020. Nationally, year-on-year growth in online sales has slowed from 40.2% to 8.2% over the same period according to National Australia Bank's online retail sales index in 2021. Online retailing expenditure is only partially captured in the ABS data, as it only reflects online retail sales by Australian retailers. E-commerce shops can be located in other jurisdictions or overseas, and therefore growth in online retail expenditure does not directly translate to growth in the retail industry in the Territory.

Wholesale trade

Wholesale trade's contribution to economic output tends to move with major project investments, which require significant logistics support, particularly during construction. The outlook for wholesale trade is positive with increased private investment activity over the outlook period, and there is potential for greater growth if proposed major projects reach final investment decision.

Chart 15: Year-on-year change in wholesale trade

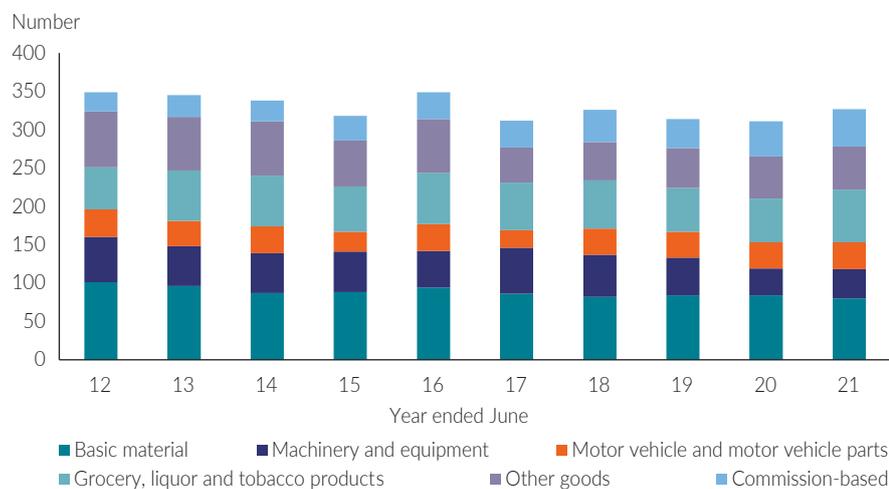


Source: ABS, *Australian National Accounts: State Accounts*, Cat. No. 5220.0

Wholesale trade's contribution to GSP increased by 11.9% to \$837 million (Chart 15) in 2020-21, and it represents a higher proportion (53.9%) of the retail and wholesale trade sector for the Territory than nationally (48.9%).

The number of wholesale businesses operating in the Territory at the end of June 2021 increased by 5.1% to 327 compared with June 2020. The growth was driven by a 21.1% increase in grocery, liquor and tobacco product wholesaling businesses, followed by an 8.6% increase in machinery and equipment wholesaling businesses (Chart 16).

Chart 16: Number of wholesale businesses, by type



Source: ABS, *Counts of Australian Businesses, including Entries and Exits*, Cat. No. 8165.0

For the latest data on the retail and wholesale trade sector, refer to the [Territory Economy](#) website.

Tourism

Outlook

The rollout of COVID-19 vaccines, relaxation of restrictions and reopening of international and interstate borders are expected to support a gradual recovery in the Territory's tourism industry over the outlook period.

While the Territory tourism industry is forecast to return to pre-pandemic levels, the path to recovery is likely to vary within the industry with domestic travel expected to return to previous levels at a much faster rate than international travel.

Before the pandemic, domestic tourism accounted for 85% of the Territory's visitor economy. Throughout 2021, domestic visitor numbers from interstate were down by 41% compared with pre-pandemic levels. Much of this decline was due to restrictions on travel from New South Wales and Victoria which are key source markets for the Territory's tourism industry and were significantly affected by COVID-19 outbreaks through the year.

With borders open and a successful vaccine rollout, pent-up demand, accrued leave and disposable income are expected to support strong interstate visitation to the Territory through 2022. Pre-booked daily occupancy rates for Darwin indicate strong visitation during the traditional peak season, however significant capacity remains outside of this period when the tourism industry is increasingly reliant on international visitors.

The return of international visitation to the Territory is expected to lag behind domestic travel as the prolonged pandemic has increased concerns for health and safety, reducing the appeal of travelling overseas for many. International travel is likely to be further inhibited by the Russia-Ukraine conflict, which has drastically increased the price of fuel, placing upward pressure on airfares and making long distance holidays less affordable.

Variation is also likely between the pace of recovery for different types of travel. Travel for the purpose of visiting friends and family and holidays is expected to rebound quickly as people seek to reconnect with their loved ones and indulge in new experiences following prolonged periods of lockdown. The business travel sector however is expected to recover at a much slower pace.

Business travel continued to fall in 2021 and was overall 44% below pre-pandemic levels. Travel for business purposes is expected to recover at a much slower pace than leisure travel as improvements in the availability and quality of online communication allowed businesses to continue working through the pandemic and reduced the need for travel. Many businesses are expected to maintain some of the practices that were adopted during the pandemic, such as virtual conferences instead of face-to-face meetings, making business travel less necessary.

Even with increased visitation, a challenge for many tourism businesses will be labour shortages, with an expected shortage of workers from overseas and a loss of employees during COVID-19 who have moved to work in non-tourism related industries.

The emerging signs of the recovery are promising, however this outlook may be impeded by a number of factors including the effect of future COVID-19 variants or a worsening geopolitical situation as a result of the Russia-Ukraine conflict.

Government initiatives

The Territory Government implemented a number of initiatives to support the tourism sector during the evolving challenges of 2021, and a number of new programs will be delivered over 2022 to regenerate the tourism sector.

- To encourage demand for intrastate travel within the Territory, 4 rounds of Territory tourism vouchers were released over 2020 and 2021. The vouchers worth up to \$200 when contributing a matching dollar amount, were redeemable on multiple tourism experiences throughout the Territory. Over the 4 rounds, about 92,000 vouchers were redeemed resulting in \$36 million of expenditure on tourism-related products.
- In response to successive impacts of COVID-19, tourism industry support packages worth \$12.5 million were announced in August 2021, co-funded by the Commonwealth and Territory governments. The programs aimed to support Territory tourism enterprises that suffered a significant decline in turnover due to interstate and international COVID-19 lockdowns and border closures, and were not supported by the Territory tourism voucher scheme. Between the Tourism Survival Fund and Visitation Reliance Fund, 213 individual applications were awarded over \$4 million in total funding.
- To improve the customer experience of the Territory's tourism industry, the Visitor Experience Enhancement Program provided businesses with a grant of up to \$50,000 when contributing a matching dollar amount. Round 5 of the program awarded 54 individual business applications in 2021.
- Round 3 of the Roadhouse to Recovery Grant program allocated \$2 million to assist regional and remote wayside inns, roadhouses and caravan parks to undertake projects to improve the on-ground visitor experience. Operators can apply for up to \$150,000, contributing a matching dollar amount.
- An additional \$500,000 for international marketing by Study NT will support increased in-market promotional campaigns to promote the Territory as a destination of choice for international education and training to audiences in China, Nepal, India and Vietnam. This includes partnerships with education agents that, prior to the pandemic, recruited up to 70% of international students to Australia.

The Commonwealth has committed:

- \$132 million towards Central Australian tourism roads, including sealing the Mereenie Loop. The Commonwealth has also committed \$50 million to upgrade the Alice Springs to Halls Creek corridor and \$678 million in additional funding to seal the Outback Way, \$124 million of which, will be spent in the Territory and is anticipated to create 442 local jobs.
- \$543.5 million over 2 years to continue to support the aviation sector as part of government's response to the sector's recovery from the pandemic including \$28.5 million to extend the Regional Airports Screening Infrastructure program.
- \$146.5 million over 3 years to support the recovery of the Australian Tourism industry as part of the THRIVE 30 Strategy. This includes \$76.7 million to support travel agents and tour service providers through the COVID-19 Consumer Travel Support Program, \$63 million to accelerate the return of international tourists and backpackers through targeted marketing initiatives, and \$6.8 million for increased data availability and analysis to improve planning and establish and employment platform.

The Territory's Tourism Industry Strategy 2030 remains the overarching framework that guides the Territory's long-term plans for the tourism sector. The first of the scheduled 3-yearly updates is being undertaken in the coming months, which will reset short-term targets and contextualise immediate actions within a COVID-19 recovery operating environment.

Visitors, visitor nights and expenditure

Visitor numbers to the Territory can vary significantly from year to year but have averaged 1.58 million per annum over the past 10 years. From 2009-10 to 2019-20, tourism accounted on average for 4.2% of Territory GSP and 6.2% of total employment.

The number of visitors to the Territory increased by 30% to 1.3 million in 2021, however remained 46% below pre-pandemic levels. Given international border closures and interstate travel was severely disrupted, 49.6% (636,000) of visitors were intrastate, 50% (642,000) came from interstate and 0.4% (5,000) were international visitors.

Intrastate visitors increased by 6% in 2021, as the Territory's successful health response to COVID-19, minimal lockdowns and interstate border closures allowed Territorians to travel relatively freely within the Territory while their ability to holiday elsewhere was restricted. The Territory Tourism Voucher scheme provided further incentives for Territorians to travel within the Territory, and people substituted interstate and international travel for intrastate travel. Following the opening of all borders, intrastate travel is expected to marginally fall to its pre-pandemic levels through 2022 as people are able to travel elsewhere.

Interstate visitors increased by 92% in 2021 from 2020 when interstate visitor numbers were highly restricted by border closures. However lockdowns in other jurisdictions continued to impact people's ability to travel to the Territory, particularly towards the end of the year with visitor numbers over 2021 still 41% below pre-pandemic levels. Interstate travel is expected to increase through 2022 as borders have opened across Australia.

International visitors fell by 90% in 2021 due to the closure of Australia's international border. The closure of international borders was particularly damaging to the Central Australian tourism market, which is more reliant on international visitors than the Top End. With the opening of Australia's borders in early 2022 international travel is expected to slowly recover, reaching pre-pandemic levels in 2025.

On average, visitors stayed in the Territory for 6.4 nights, spending an average of \$1,435 per stay (up 49%) with total expenditure of \$1.8 billion (up 94%) in 2021. Household savings increased substantially over the pandemic and therefore total expenditure per stay is expected to increase in 2022 as pent-up demand for travel, accrued leave and disposable income during lockdowns encourage people to take longer, more expensive trips.

Tourism is a significant sector for regional areas, contributing to business and employment opportunities. Prior to COVID-19, 1.2 million visitors spent at least 1 night outside the Greater Darwin region, with regional areas accounting for 62% of total visitation to the Territory.

In addition to leisure tourism, the lucrative business events sector as well as international students and working holiday makers are key targets for the Territory tourism industry. In 2021, 32% of visitors to the Territory came for business. Business visitation is particularly important to Central Australia as it represents a larger proportion of the visitor economy. The number of business visitors to the Territory increased by 8% in 2021, however remained 44% below pre-pandemic levels.

The outlook for international students is positive following the Australian border reopening to eligible visa holders from 15 December 2021. The Commonwealth estimates that 500 international student visa holders have arrived in the Territory since December 2021.

The cruise and expedition ship sector is traditionally a key part of the tourism industry in the Top End, particularly over the tropical summer period, generating an estimated \$60 million of annual expenditure within the Territory pre-COVID-19. A declaration under the *Biosecurity Act 2015* has prevented foreign cruise ships or large passenger vessels capable of carrying more than 100 passengers from entering Australian waters for the past 2 years. This restriction was removed on 18 April 2022, in time for the expedition cruising season in northern Australian waters, paving the way for the recovery of the sector.

Accommodation

Strong intrastate tourism and the use of accommodation properties for quarantine facilities supported the accommodation sector through 2021. As a result, occupancy rates increased by 13 percentage points to 54% over the year, however rates remained slightly below pre-pandemic levels.

Some businesses have started to report a slow recovery but Central Australian businesses continue to endure the brunt of the COVID-19 due to their high dependence on international and business visitors. The impact is further intensified in towns like Alice Springs and Yulara that do not have a critical mass of local residents to generate significant visitation from friends and relatives to support local businesses during the downturn.

Many hotels across the Territory are facing an industry-wide shortage of qualified hospitality workers, thereby reducing their full capacity available to the short-term market and inhibiting the sector's ability to cater to the recovering visitor numbers.

The accommodation sector in Central Australia is expected to see improvements from the second quarter of 2022, with the Mercure Alice Springs Resort reopening for business following the cessation of the Alice Springs Quarantine Facility in May 2022, increasing the supply of rooms, attracting visitors and having flow-on impacts to other businesses in the sector.

In Darwin, there was an average increase in the supply of 170 rooms in 2021 compared with 2020, due to the majority of accommodation suppliers recommencing operations. The outlook for the Darwin accommodation sector is positive with the monthly forward booking figures at April 2022 indicating occupancy peaking in June and July. Forward bookings around events also remain strong, with the weekend of the Darwin Cup Carnival currently at 76% occupancy for Darwin overall.

Aviation

Aviation services directly support the Territory's economic development and underpin essential services such as health care, education, social welfare and movement of time-critical freight, with the Territory's regional communities such as Nhulunbuy, Groote Eylandt and Maningrida depending heavily on flights to access essential services. The Territory's large area means air services form an integral part of sustaining intrastate, interstate and international connectivity.

Following 2 years of disruptions, lifting Australia's domestic travel restrictions coupled with the progressive easing of international travel requirements will lead to improved confidence in air travel and heightened demand. There is an optimistic outlook for aviation in 2022, and the Territory's domestic routes are expected to make a full recovery by the end of the year, as well as additional routes.

A new Qantas flight service between Darwin and Townsville began in March 2022, providing travellers with 3 additional weekly services between the 2 cities. It is expected to encourage business and holiday visitors to travel between the 2 destinations.

Internationally, the Territory has been reconnected to the global aviation hub of Singapore, where there are convenient onward flights to Europe and Asia, with international services by Jetstar Asia and Singapore Airlines recommencing. As a short-term opportunity, Qantas has operated non-stop flights between London and Darwin since November 2021, however this route will return to its original routing of London to Singapore and London to Perth in June 2022.

The Russia-Ukraine conflict has caused fuel prices to increase through the early months of 2022 and is likely to have an inflationary effect on airfares, particularly for long-haul flights. While increased prices for long-haul airfares are likely to further slow the return of international visitors to the Territory, this may encourage more domestic travel to the Territory as outbound travellers from other states within Australia choose to holiday domestically instead of abroad.

For the latest data on the tourism sector, refer to the [Territory Economy](#) website.

Agriculture, forestry and fishing

Outlook

The value of the Territory's agricultural output is expected to decrease in 2021-22, reflecting lower live cattle exports and the impact of labour shortages. The sector is forecast to grow over the outlook period, reflecting new investment in horticulture and aquaculture, and new crops coming into production.

In 2020-21, the Territory agriculture, forestry and fishing sector accounted for 36% (\$924 million) of GSP and 18% (2,400 people) of employment. The agriculture industry's contribution to GSP is expected to decrease in 2021-22 with the high price of Australian cattle and restricted supply due to restocking in northern Australia constraining livestock exports. Production of horticulture and aquaculture goods is expected to be positive through 2021-22, although challenged by the ongoing labour shortage.

The outlook for 2022-23 is more positive, with above-average rainfall in 2021-22 in southern parts of the Territory and low to average rainfall across the remainder leading to improved growing conditions in some areas, and investments in new crops and expanded aquaculture capacity contributing to growth in production.

Record fuel and fertiliser prices present significant downside risks through higher freight and production costs. The outbreak of lumpy skin disease, a viral disease that affects cattle and buffalo, in South-East Asia is also a serious threat to the northern Australian cattle industry, and there is no vaccine currently approved for use in Australia.

Recent trade agreements including the Regional Comprehensive Economic Partnership Agreement and Australia-United Kingdom Free Trade Agreement have the potential to improve access to markets in the Indo-Pacific and UK, respectively, for Territory agricultural products. Strong horticulture prospects exist over the outlook period including developments at Singleton Station for large-scale irrigated cropping.

Live cattle

The Territory's live cattle exports are expected to decrease in 2021-22 due to reduced demand from COVID-19 outbreaks, high Australian cattle prices flowing through to international markets and low herd numbers in the Territory after several years of downsizing. With above-average rainfall in southern parts of the Territory and southern states, pastoralists are expected to focus on rebuilding their herds throughout 2022, reducing the level of available stock for interstate and overseas exports.

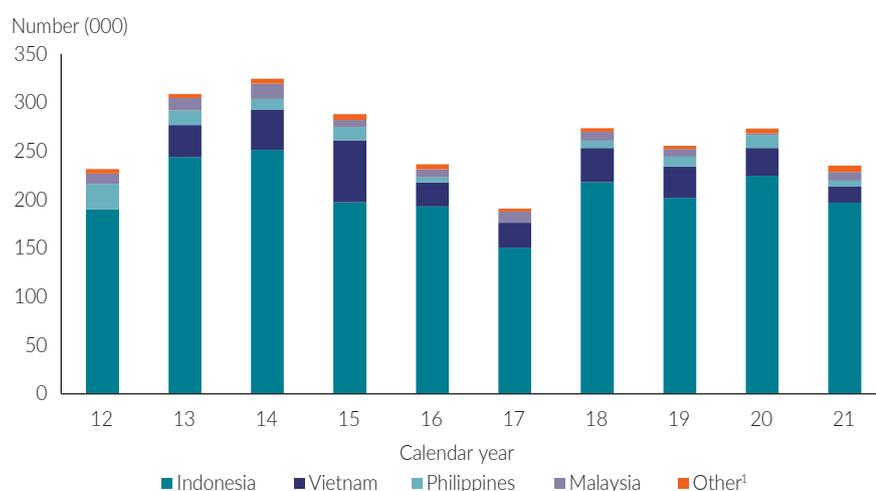
With a second year of favourable weather conditions, domestic live cattle prices have continued to climb to historic highs as farmers rebuild their herds during a national shortage. In February 2022, live export feeder steer prices out of Darwin reached a record high of \$5.55 per kilogram live weight, up by \$1.35 per kilogram from the year before. A high domestic price could negatively impact the supply of cattle to international markets. There is high uncertainty around the future trajectory of cattle prices due to climate variability with March 2022 reporting low rainfall despite strong conditions in the beginning of the year.

Indonesia is the Territory's largest live cattle export market, accounting for 84% (196,865 head) of cattle exports in 2021. India is Australia's major competitor in the Indonesian beef market, with its lower quality and cheaper priced frozen buffalo meat. This competition, along with higher Australian cattle prices and the Indonesian Government's policies to achieve self-sufficiency for major commodities, including beef, continues to have an impact on Australian live cattle exports.

Live cattle exports from the Territory decreased by 14% in 2021 (Chart 17). The decline reflects decreased live cattle exports to Indonesia, Vietnam (16,654 head) and the Philippines (6,070 head) by 12%, 42% and 55%, respectively. This was partly offset by increased exports to Malaysia (8,765 head) and Brunei (6,752 head).

Over the past few years, lumpy skin disease has spread through South-East Asia and disrupted live exports. In March 2022, lumpy skin disease was detected in Indonesia, raising concerns it could spread to northern Australia. A widespread outbreak would significantly impact Australia's live cattle and buffalo exports, as well as hides, meat and dairy products. Border restrictions would likely be introduced, which would disrupt interstate and intrastate movements. In response to the threat, the Commonwealth has announced \$61.6 million to boost biosecurity for northern Australia. The Territory Government is also providing about \$2 million of additional funding per annum for broader biosecurity measures.

Chart 17: Annual number of live Territory cattle overseas exports, by destination



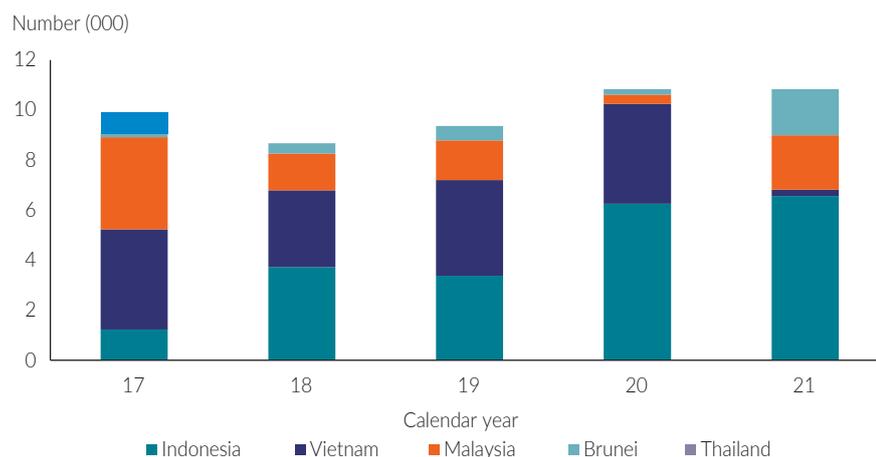
1 Other comprises Brunei, Cambodia, Egypt, Timor-Leste and Thailand.

Source: Department of Industry, Tourism and Trade

Live buffalo

The export of live buffalo is a small industry in the Territory with further growth potential. The high price and low stock of live cattle has made live buffalo a more attractive Territory import for South-East Asia. Indonesia is the largest export destination for Territory buffalo, accounting for 61% (6,560 head) of total buffalo exports in 2021, followed by Malaysia at 20% (2,185 head). This was largely offset by a 94% decline in Territory buffalo exports to Vietnam (from 3,994 head to 251 head) (Chart 18). Overall, buffalo exports were at elevated levels in 2021, with most major export destinations reporting stronger demand. Despite increased overseas demand, the industry is not expected to see any significant increase in production due to the challenges of harvesting wild buffalo.

Chart 18: Annual number of live Territory buffalo overseas exports, by destination



Source: Department of Industry, Tourism and Trade

Other livestock products

In December 2020, production ceased at Central Agri Group's meat processing facility in Batchelor, and did not resume operation until July 2021. According to data from the Commonwealth Department of Agriculture, Water and the Environment, overseas beef exports from the Territory declined from 875 tonnes in 2020 to only 146 tonnes in 2021. Conversely, due to the increased competitiveness of buffalo products, overseas buffalo meat exports from the Territory increased from 133 tonnes in 2020 to 185 tonnes in 2021. Beef production is expected to remain at current levels in 2022, with higher freight prices to move cattle, labour shortages and limited local supply constraining processing. The outlook for beef production is also expected to remain the same in 2023 as the northern herd rebuild continues.

Australia accounts for 65% of the global trade in saltwater crocodile skins, with about two-thirds farmed and exported by the Territory. Of the remaining third farmed interstate, the majority of eggs and juvenile stock are sourced from the Territory. Revenue from the Territory crocodile industry increased by 2% to \$24 million in 2020-21. The global market experienced an oversupply of crocodile skins in 2019-20, followed by retail disruptions due to COVID-19. Although demand for the high quality skins remains strong, there is still a surplus on the second grade market that is putting downward pressure on prices. Revenue is forecast to increase by 29% to \$31 million in 2021-22 as world markets continue to recover.

Horticulture

The outlook for horticulture production is positive for 2021-22 and 2022-23, with favourable weather conditions over 2021 underpinning growth for the rest of 2022. Despite this, there are several external factors that present significant downward risks to the sector. Due to rebounding demand and the Russia-Ukraine conflict, fuel prices have increased to record levels, which will significantly raise the cost of freight. Rising energy prices have also increased the price for synthetic fertilisers and is expected to impact future yields as farmers ration supplies during critical growing periods. Labour supply continues to be a challenge with fewer backpackers than before COVID-19, and higher labour overheads to accommodate workers. To partly alleviate the labour shortage, the Commonwealth is developing an Australian Agriculture Visa program in consultation with industry to support recruitment in the industry, with Vietnam being the first country to sign a memorandum of understanding. The new visa will supplement the Pacific Australia Labour Mobility scheme, which allows Australian businesses to hire workers from 9 Pacific island countries and Timor-Leste.

Mango production accounts for a large proportion of the Territory's horticulture sector (about 60% of total value, excluding forestry). Output is strongly influenced by seasonal conditions, and the value of

production is influenced by demand and prices in southern Australian markets. Despite solid rainfall in 2020-21, production has been mixed amongst different varieties, with decreased yields of the popular Kensington Pride variety but increased production of Calypso mangoes.

More than 50,000 mango trees have been planted in the Darwin and Katherine regions since 2018, and are expected to take 4 to 5 years to mature. The net impact on production from these plantings is expected to be minimal due to the scheduled replacement of older less productive trees. Beyond the forecast period, there is the potential for new, more productive varieties to enter the market. The Department of Industry, Tourism and Trade is currently testing 3 new varieties of mango that have a higher yield with the same inputs and are expected to extend the production window compared with existing varieties. Market testing will be critical to the success of any new and more productive varieties that are developed. Additionally, research, development and extension projects funded by the Commonwealth are improving the productivity and profitability of Territory mango growers.

Melon farming is the second-largest horticultural activity in the Territory. Though numbers are yet to be finalised, melon production has reportedly improved in 2021, despite COVID-19 outbreaks on the east coast affecting demand from hospitality businesses. Domestic demand is expected to grow in 2022 following the general easing of restrictions across Australia, with access to a secure and skilled agriculture workforce being vital to support this increase. International exports of melons were trialed in 2021, which may lead to new markets over the outlook period.

There are several additional new crops under consideration that are expected to increase the value of horticulture production over the outlook period. Among the emerging horticultural crops in the Territory are dragonfruit, jackfruit and rambutan. As part of the Commonwealth's Cooperative Research Centre for Developing Northern Australia and AgriFutures Australia's projects, research is being conducted to explore product diversification options and new production systems that will improve resilience of the tropical fruit crops to the Territory's extreme weather events.

Kakadu plums are a native bush food harvested within Kakadu National Park, Maningrida and western Top End, and sold on the expanding traditional medicine and health food markets. The Department of Industry, Tourism and Trade, in collaboration with Thamarrurr Development Corporation, is developing procedures for commercial propagation of better quality plants to support commercial production of this high value crop.

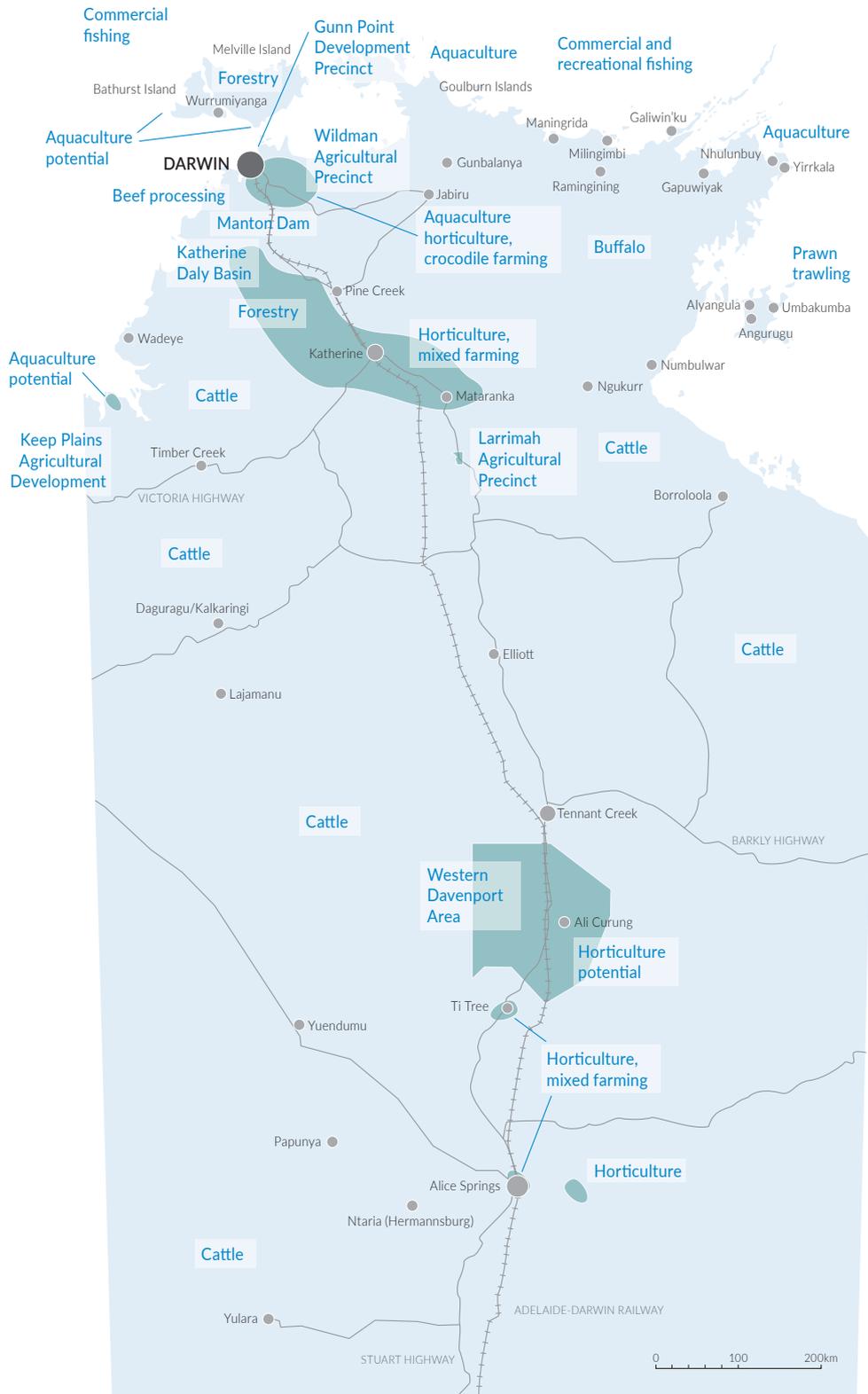
The Territory Government and a commercial entrepreneur in the Top End are conducting a 3-year project to grow greenhouse ginger in Darwin. Currently, the Australian ginger industry is valued at \$32 million at farm gate (wholesale value for farmers) and production is concentrated in Queensland.

Broadacre crops

Cotton production is a quickly emerging industry in the Katherine region, with over 3,000 hectares harvested in 2021, up from 1,000 hectares in 2020. Currently, up to 6,000 hectares of cotton is expected to be harvested in 2022, growing to 40,000 hectares by 2025. Studies suggest the value to production from the cotton industry could grow to be \$200 million per annum within 10 years, providing direct investment and employment opportunities, and supporting growth in the pastoral industry with a high protein feedstock as a by-product of the harvest. A grower-operated cotton gin in the Katherine region is expected to be operational in 2022, which will scale up with increased production. The collaboration between the Department of Industry, Tourism and Trade, Cooperative Research Centre for Developing Northern Australia, Grains Research and Development Corporation, Cotton Research and Development Corporation, and 14 industry partners has explored the potential for broadacre cropping across the Territory, with cotton and peanuts identified as prospective commercial crops for expanded production. Industrial hemp production is also being evaluated through projects funded by AgriFutures Australia.

Peanut production at commercial scale has continued in Central Australia. Trials of native rice cultivation commenced in November 2020, with 3 different species being grown at the Territory Government's Coastal Plains Research Farm and Charles Darwin University's Casuarina campus. The trials and research focus on producing high value grain that can be grown by Aboriginal communities and enterprises.

Map 4: Territory agriculture, forestry and fishing



1 This map is produced from various sources. Department of Treasury and Finance cannot guarantee the accuracy, currency or completeness of the information. To be used as a guide only.
Source: Department of Treasury and Finance; Department of Industry, Tourism and Trade

Forestry

The outlook for the forestry industry is generally positive, noting the longer-term nature of the activity means the economic return takes many years to realise. There are currently 42,000 hectares of plantations in the Territory that are expected to produce an average of \$100 million per annum over the next 10 years. In January 2022, changes to Commonwealth's Emissions Reduction Fund's methodology allows carbon credits to be collected for both new and existing plantations in the Territory, which may lead to more investment in this industry.

Trees from the *Acacia mangium* plantations on the Tiwi Islands are being harvested and sold on the international woodchip market. Due to reduced demand and supply chain disruptions caused by COVID-19, production fell from 122,000 green metric tonnes (GMT) in 2019-20 to 23,000 GMT in 2020-21. Despite this, production is expected to rebound strongly in 2021-22, with 40,000 GMT already exported in the second half of 2021.

African mahogany is grown as a high-value timber in the Douglas-Daly and Katherine regions. The trees have a rotation of between 18 to 25 years, with the first harvest expected in 2025-26. In 2020, the net present value of these trees was estimated at \$390 million.

Indian sandalwood is grown in the Douglas-Daly and Katherine regions, and used to produce high value oil and pharmaceutical products. The trees are currently in mid-rotation and will not realise the bulk of their value for another 3 to 4 years.

Fisheries

The outlook for fisheries production in the Territory is positive, reflecting a recovery in fishing stock following another year of favourable weather conditions.

In 2020-21, production from wild harvest fisheries increased by 2%, reflecting growth in offshore fisheries. Both wild barramundi and mud crab production are affected by environmental conditions, and after several years of below-average rainfall, 2020-21 and 2021-22 were favourable wet seasons. Mud crab production is expected to rebound in the short term while wild barramundi numbers will not recover for another year.

The gross value of aquaculture production increased by 12% to \$53 million in 2020-21, reflecting growth in barramundi, pearling and other smaller aquaculture development ventures. In the short term, aquaculture production is not expected to increase significantly due to several projects still under development.

Seafarms Group initiated a project review of Project Sea Dragon, a US\$1.5 billion aquaculture project in northern Australia that aims to produce over 150,000 tonnes of black tiger prawns each year. Seafarms Group remains committed to delivering on the promise of Project Sea Dragon, however the review found the Project cannot proceed in its current form. Therefore, Project Sea Dragon will be suspended pending:

- a successful farming pilot, which is expected to take up to 3 years to complete and assess the outcomes
- refinement of other key project elements, for example further development of the breeding strategy
- availability of sufficient funding.

Humpty Doo Barramundi is the Territory's largest producer and distributor of Australian saltwater barramundi. The company is investing to significantly expand production capacity, supported by NAIF loans. After completing stage 1 of its expansion, the business secured a second NAIF loan of \$24 million for stage 2.

Territory Government agribusiness development

There are several projects and opportunities mentioned in the Territory Government's 10-year Infrastructure Plan that focus on developing the agriculture, forestry and fishing sector in the Territory. Priority projects include the Katherine Logistics and Agribusiness Hub, the Keep Plains Agricultural Precinct, the Wildman Agricultural Precinct, the Gunn Point Development Precinct (which includes intensive agriculture), an improved regional road network and developing a infrastructure to increase export opportunities.

A co-designed Agribusiness and Aquaculture Strategy has been developed in 2021-22 by industry, Aboriginal land councils and the Territory Government. This strategy is due to be launched mid 2022 and will provide overall strategic direction to the growth of these industries over the next 10 years. An implementation plan will be collaboratively developed with industry and Aboriginal land councils in 2022-23 to ensure the actions contained in the strategy are progressed.

In the 2022-23 Budget the Commonwealth committed \$301 million towards the first stage of the Darwin Region Water Supply Infrastructure Program, which includes returning Manton Dam to service and pre-construction for the Adelaide River Off-Stream Water Storage project. Consistent with the findings of the detailed business case, investment in additional water supply will support a range of industries across the Darwin region including new agricultural development.

Land developments

In 2020, the Territory Government released expressions of interest for 3 large-scale agricultural land developments: the Keep Plains Agricultural Development (total area of 67,500 hectares with up to 15,000 hectares suitable for intensive irrigated agriculture); Wildman Agricultural Precinct (26,000 hectares); and Larrimah Agricultural Precinct (5,700 hectares). Collectively these developments provide an opportunity to significantly expand the Territory's agricultural production area and opportunities for new investment in a wide range of high value crops, including mangoes, bananas, melons and forestry, and broadacre crops such as cotton, sorghum and chia.

Another prospective region in Western Davenport is Singleton Station, which has been identified as having the potential to produce up to 150,000 to 200,000 tonnes per annum of various crops. This is further supported by a 30-year conditional groundwater extraction licence granted to Singleton Station in April 2021, although the decision is currently under judicial review. There has also been interest in further expanding the Douglas Daly region, with opportunities for several pastoral properties in the high rainfall zone to further develop land for intensive agriculture and horticulture production.

For the latest data on the agriculture, forestry and fishing sector, refer to the [Territory Economy](#) website.

Abbreviations and acronyms

ABS	Australian Bureau of Statistics
AMGC	Advanced Manufacturing Growth Centre
B	billion
Cat. No.	catalogue number
CBD	central business district
CCTV	closed-circuit television
GDP	gross domestic product
GEMCO	Groote Eylandt Mining Company Pty Ltd
GMT	green metric tonnes
GSP	gross state product
HMAS	Her Majesty's Australian Ship
JS	Japanese Ship
LNG	liquefied natural gas
M	million
MRF-D	Marine Rotational Force – Darwin
NAIF	Northern Australia Infrastructure Facility
NORFORCE	North-West Mobile Force
RAAF	Royal Australian Air Force
RHS	right-hand side
UK	United Kingdom
US	United States (of America)
USFPI	United States Force Posture Initiatives

Explanation of terms

Agriculture, forestry and fishing

The agriculture, forestry and fishing sector is a significant employer and source of economic activity in regional and remote areas. It also has important linkages to other industries of the economy, including retail and wholesale trade, manufacturing and transport. The sector's output can vary significantly from year to year due to changes in demand (including trade restrictions), seasonal conditions affecting production, and impacts of pest and disease incursions.

Construction

Analysis of construction activity and work done is based on monthly and quarterly data reported by the Australian Bureau of Statistics through a number of data releases including engineering construction activity, building activity, building approvals and construction work done. The sector's gross value added is measured annually and reported in Australian Bureau of Statistics state accounts data. Sector contributions to employment are based on quarterly Australian Bureau of Statistics labour force statistics.

Conventional gas

Conventional gas is found in geological formations which permits the gas to freely migrate below the surface and move to the surface when intercepted by a well.

Defence

Defence is not reported as a separate industry in the national accounts, rather it is reported against several industries, predominantly public administration and safety. Australian Bureau of Statistics does not report defence employment numbers. References to defence refer to both the Department of Defence and the Australian Defence Force. The Department of Defence and Defence Housing Australia annual reports are the sources of data.

Engineering construction

Construction work that does not have a roof.

Government and community services

The government and community services sector consists of public administration and safety; education and training; and health care and social assistance.

These services are mainly funded by the public sector, including the Commonwealth, Territory and local governments. However, non-government and private entities may also provide education, health, aged care and other community services as well as defence.

Mining and manufacturing

Mining and manufacturing activities in the Territory include mining of metal ores, oil and gas production, and quarrying, as well as the manufacture of fabricated metal, transport equipment and repair, and helium for domestic and overseas markets. The Territory's mining industry data also includes offshore oil and gas production in Territory waters.

Non-residential building

Buildings intended for purposes other than long-term residence.

Residential building

Buildings primarily used for the purpose of long-term residence.

Retail trade and wholesale trade

Retail trade captures the sale of goods in stores and online to predominantly households for personal consumption. Domestic online sales are attributed to the state in which the online retailer is based. This means, due to the relatively low number of Territory-based online retailers, published retail trade data does not provide a complete representation of the level of spending on retail goods by Territorians. Retail turnover data does not include purchases made directly from an overseas website.

Wholesale trade is the sale of new or used goods to businesses and institutional users. Wholesale trade is generally a smaller component of Territory gross state product than retail trade and a much smaller share of employment.

Service industries

The service industries sector covers a broad range of industries and makes up a significant proportion of gross state product and employment. The service industries are: professional, scientific and technical services; transport, postal and warehousing; accommodation and food services; financial and insurance services; administrative and support services; electricity, gas, water and waste services; rental, hiring and real estate services; arts and recreation services; information and media telecommunications; and other services.

Tourism

Tourism differs from other industries as it is defined by consumers' behaviour rather than the process of producing goods and services. Accordingly, standard Australian Bureau of Statistics measures of production in the national accounts are not available for tourism. Rather, tourism's contribution to the Territory economy is captured in a range of industries, including accommodation and food services, retail trade, culture and recreation, and transport. Tourism is sensitive to factors such as global and local economic conditions, exchange rates, tourism marketing activity, aviation access, changing consumer behaviour, visa regulations and competition amongst destinations.

Unconventional gas

Unconventional gas is found in geological formations which limits its ability to freely migrate below the surface and move to the surface when intercepted by a well. Horizontal drilling and hydraulic fracturing are often necessary for economic gas extraction.