



NORTHERN TERRITORY

Industry Outlook

NORTHERN TERRITORY ECONOMY

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Industry outlook

The Territory's economic output is predominantly concentrated in construction, government and community services, and the mining industry. These industries account for over half of the Territory's total economic output. In contrast, the main contributors to total employment are construction, government and community services, and retail and wholesale trade. This industry outlook provides a descriptive view of the Territory's key industries, the current trend of each sector in terms of share of gross state product (GSP) and resident employment in the Territory, as well as opportunities for and risks to growth in these industries.

Table 1: Territory industry contribution to and growth in GSP and employment, 2017-18¹

	GSP				Employment ⁴			
	Value \$M ²	Change % ³	Share % ⁴	10-year average	Number	Change % ³	Share %	10-year average
Government and community services	6 117	2.4	23.0	5 505	52 043	0.4	37.9	46 709
Public administration and safety	3 156	0.7	12.0	3 036	18 614	-15.9	13.6	19 936
Health care and social assistance	1 749	5.9	6.6	1 355	20 926	24.1	15.2	15 282
Education and training	1 212	1.8	4.4	1 114	12 504	-2.7	9.1	11 491
Service industries	5 060	1.5	19.4	4 329	46 349	-0.4	33.7	42 605
Accommodation and food services	663	2.5	2.5	585	9 524	-7.3	6.9	8 329
Transport, postal and warehousing	862	-2.3	3.3	695	6 722	1.4	4.9	6 418
Information and media telecommunications	116	-1.7	0.4	110	1 501	19.5	1.1	1 621
Financial and insurance services	628	4.0	2.5	575	1 847	7.6	1.3	1 750
Rental, hiring and real estate services	378	0.8	1.4	325	2 358	-7.0	1.7	2 247
Professional, scientific and technical services	792	2.3	3.1	628	7 059	-5.2	5.1	6 583
Administrative and support services	440	6.3	1.7	414	4 272	-5.0	3.1	4 118
Electricity, gas, water and waste services	437	1.2	1.7	375	2 382	-14.3	1.7	2 212
Arts and recreational services	299	-2.6	1.1	240	4 111	20.7	3.0	3 429
Other services ⁶	445	3.5	1.7	384	6 574	9.8	4.8	5 898
Mining and manufacturing	4 131	-0.2	16.4	4 022	9 211	-3.5	6.7	9 077
Mining	3 166	0.8	12.9	2 942	5 027	-13.4	3.7	4 946
Manufacturing	965	-3.1	3.5	1 080	4 184	11.9	3.0	4 131
Construction	2 945	1.4	11.0	2 357	14 487	2.4	10.5	13 525
Defence⁷	2 130	4.2	8.2	1 919	5 336	-4.5	5.2	6 258
Retail and wholesale trade	1 265	2.2	4.9	1 113	13 514	-4.5	9.8	13 808
Retail trade	709	0.4	2.8	652	11 222	-2.6	8.2	11 016
Wholesale trade	556	4.5	2.1	461	2 292	-12.6	1.7	2 792
Tourism^{7,8}	1 203	3.9	4.6	989	9 040	-1.5	6.5	9 055
Agriculture, forestry and fishing	735	-0.9	2.9	764	1 743	-8.9	1.3	2 516

GSP: gross state product

1 Excludes non-industry components of GSP such as ownership of dwellings, taxes less subsidies and statistical discrepancy.

2 Inflation adjusted.

3 Compared to 2016-17.

4 Current prices.

5 Annual average.

6 Other services components of GSP include personal services and general repair and maintenance activities, however excludes units engaged in providing buildings or dwelling repair and maintenance services.

7 Tourism and defence are not separate industries for the purpose of reporting by the ABS in the national accounts, rather industry contributions are captured across multiple industries.

8 Direct contribution, 2016-17.

Source: ABS, *Australian National Accounts: State Accounts*, Cat. No. 5220.0, *Labour Force, Australia*, Cat. No. 6291.0.55.003, ABS unpublished defence data; Department of Defence, *2016-17 Annual Report*; Tourism Research Australia, *State Tourism Satellite Accounts, 2016-17*

Over the forward estimates, the Territory will continue to undergo a structural shift in the contribution by the construction sector to GSP and employment and towards a range of smaller service industries. Currently there is no major project in the forward estimates period that compares in scale to the recently completed Ichthys liquefied natural gas (LNG) project. The construction phase of this single project included up to 10 000 workers, historically high levels of non-dwelling construction activity and other forms of business investment.

The Territory Government's Economic Development Framework (EDF) has identified industries with significant global growth and demand where the Territory has a comparative advantage to strengthen and diversify the Territory economy. The sectors identified for future growth include energy and minerals, tourism, agribusiness, and international education and training. International students and their greater dispersal to regional universities across Australia, along with scholarships and visas tied to regional residency, have been announced in the recently released *Commonwealth Planning for Australia's Future Population*.

There are also several other developing industries presenting significant growth and development opportunities that will contribute to diversifying the economy and creating jobs across the Territory as identified in the EDF. These sectors tend to be smaller than the main growth industries, however present an upside to the economic growth outlook, and include creative industries, tropical health, environmental services and renewable energy. The first progress report for October 2018 on the EDF has been released, presenting a summary of progress and key achievements.

The outlook for many industries remains subdued including: retail and wholesale trade; construction; agriculture, forestry and fishing; and service industries. However, the mining and energy industry will experience strong growth supported by LNG, liquefied petroleum gas (LPG) and condensate from the recently completed Ichthys LNG project and traditional metals. Over the medium term, growth in government and community services will be constrained as the Territory Government implements a range of budget repair measures, however contributions from the Commonwealth and local governments are expected to be stable.

Historically, defence is an important contributor to the Territory economy and will continue to provide opportunities in the future with national investments in defence and an increased presence from the United States (US) in the Territory. There are a number of defence infrastructure projects in progress or expected to be executed in the near term and proposed projects seeking approval from the Commonwealth Parliamentary Works Committee.

Tourism and defence are not separate industries for the purpose of reporting by the Australian Bureau of Statistics (ABS) in national accounts. Rather, the contributions made by these sectors are included across other industries. Tourism and defence are, however, included individually in this section due to their relative importance in the Territory.

Government and community services

Recent activity

The government and community services industry includes Commonwealth, Territory and local government activity and accounted for 23.0 per cent of GSP and 37.9 per cent of total resident employment in 2017-18, remaining a significant industry and employer for the Territory.

Outlook

Over the medium term, growth is expected to be constrained due to the Territory Government implementing budget repair measures, in conjunction with a stable contribution from Commonwealth and local governments and non-government providers.

The government and community services industry 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. This also involves output from non-government providers of education, health, aged care and other community services as well as defence.

In 2017-18, the government and community services industry contributed \$6.1 billion which accounted for 23.0 per cent of the Territory's GSP, compared to the national average of 16.7 per cent. The government and community sector employed over 52 000 Territorians accounting for 37.9 per cent of employment. Of these, 18 614, or 35.8 per cent were employed in public administration and safety, 20 926, or 40.2 per cent were employed in health care and social assistance, and 12 504, or 24.0 per cent were employed in education and training.

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

Outlook

Over the last three years, the Territory has faced challenging economic conditions with contracting population and employment growth along with declining levels of private investment and construction. These conditions are likely to be most acute in 2018-19 and 2019-20. The Territory Government has implemented counter-cyclical economic support such as stimulus measures, record infrastructure programs, job creation initiatives and a population growth strategy to help offset these deteriorating conditions. However, the Territory Government's ability to continue increasing its efforts to offset these impacts is being constrained by revenue capacity and escalating demand for frontline service delivery.

On 16 April 2019, the Territory Government released the Fiscal Strategy Panel's final report: *A plan for budget repair*, and announced the government's response to the report, including its plan to return the budget to balance/surplus over the medium term and the implementation of the root and branch (program) review.

As a result of these budget repair initiatives, growth in the government and community services industry is forecast to remain constrained in the medium term. However, the Territory Government remains committed to investing in health, education, public administration and safety as well as the broader public sector, along with stable contributions from Commonwealth and local governments.

For the 2019-20 Budget, the Territory Government is delivering several infrastructure projects including continuation of the Territory Government's \$1.1 billion Remote Housing Investment Package over 10 years from 2016-17 and a further Commonwealth commitment of \$550 million over five years from 2018-19. Other significant projects include stage 2 of Zuccoli Primary

School, the new Palmerston fire and emergency services complex, the John Stokes public housing redevelopment, new marine facility at Mandorah, the Katherine Logistics and Agribusiness hub, upgrades at Litchfield National Park and stage 2 of the Kilgariff development in Alice Springs.

The Territory Government is continuing the rollout of the Building Better Schools program which will provide a one-off grant of \$300 000 to every public and private school in the Territory to implement new and upgraded facilities.

The Territory Government is establishing an \$89 million Local Jobs Fund to accelerate major and significant projects in the Territory which seeks to help local businesses increase exports of goods and services both interstate and internationally, creating new job opportunities and contributing to GSP.

In addition, the Commonwealth Government has also made co-contributions in some longer term projects to help improve facilities in the Territory as part of its plan to ensure the Territory has the facilities and infrastructure it requires to support economic growth. Some of these infrastructure projects include:

- The Darwin City Deal, which is a combined investment of \$200 million (\$100 million from Commonwealth and \$100 million from the Territory Government), which seeks to build a new Charles Darwin University campus, a redeveloped State Square, a new art gallery, new shade structures and landscape to lower temperatures in the central business district (CBD), develop a Larrakia Cultural Centre and redevelopment of Darwin harbour and waterfront.
- The Alice Springs City Deal, which is a \$20 million project to revitalise the Alice Springs CBD through upgrades to meeting places, a water play area and shading.
- The Barkly Regional Deal involving a 10 year commitment of \$78.4 million (\$45.4 million from the Commonwealth, \$30 million over 5 years from the Territory Government and \$3 million from the Barkly Regional Council to address local priorities that reflect Aboriginal cultural values to improve educational, employment and social outcomes.
- The Territory Government is also investing in the future of Jabiru and Kakadu National Park providing an additional \$131.5 million from 2019-20 to 2022-23 with the Commonwealth contributing \$216.2 million over 10 years from 2018-19.

Australia and US has agreed to \$2 billion of infrastructure investment and defence related spending between the two countries. In accordance with the 2016 Defence White Paper about \$20 billion in defence construction projects will be invested in the Territory over 20 years as well as further projects committed over the medium term, pending approval from the Parliamentary Works Committee. The Integrated Investment Program, includes capital and related investment which will bring new and upgraded defence infrastructure to the Territory in the short-term.

Service industries

Recent activity

The value of service industries increased by 1.5 per cent in 2017-18, driven by growth in administrative and support services, financial and insurance services, professional, scientific and technical services, and other services. However, employment in service industries decreased by 0.4 per cent in 2017-18.

Outlook

With the Ichthys LNG project now operational, there will be declines across some of the professional and technical services industries; however these will be partly offset by growth in tourism-related industries over the medium term.

The service industries category covers a broad range of discrete industries and makes up a large proportion of Territory's GSP and employment. Service industries include: accommodation and food services; transport, postal and warehousing; information, media and telecommunications; financial and insurance services; rental, hiring and real estate services; professional, scientific and technical services; administrative and support services; electricity, gas, water and waste services; arts and recreation services; and other services. The outlook for the service industries category is mixed, reflecting the diverse nature of the industries within this category.

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

Outlook

Several industries in this category are forecast to improve as tourism-related initiatives and projects are rolled out over the forecast period including:

- the Territory Government's Turbocharging Tourism marketing and infrastructure stimulus program rolled out over 2018-19 and 2019-20
- a \$69.1 million commitment for the Turbo2 extension of the Turbocharging Tourism program directed towards tourism marketing, festivals and events, across 2019-20 and 2020-21
- the \$200 million luxury hotel in Darwin (the Westin Darwin Hotel), which commenced construction in 2019
- the plan to transition Jabiru from a mining town into a tourism hub and upgrades to Kakadu National Park have been approved, comprising the Territory Government commitment of \$131.5 million from 2019-20 to 2022-23 as well as the Commonwealth's planned commitment of \$216.2 million over 2018-19 to 2027-28.

These initiatives and projects are expected to support the accommodation and food services, arts and recreation services, and other services sectors.

With the Ichthys LNG project now operational, the demand for labour and goods from some service industries is expected to reduce, such as transport, postal and warehousing, and professional, scientific and technical services. This will offset some of the growth expected in other areas of the service industries category.

An increase in the number of first home buyers, supported by more affordable prices and government incentives, could help conditions in real estate related industries, which remain soft due to moderate population growth.

In 2017-18, service industries accounted for 19.4 per cent of the Territory's GSP and 33.7 per cent of the Territory's employment. A notable discrepancy exists between the share of GSP and share of employment in the Territory, which is indicative of high employment in labour-intensive industries, such as accommodation and food services. While there are disparate outlooks across the different sectors of the service industries, the outlook remains positive over the medium term, with an expected increase in share of GSP and employment.

As part of the EDF, the Territory Government is committed to growing emerging industries in the services sector such as tropical health and research, creative industries, renewable energy, environmental services and human services. Development of service industries will diversify the Territory economy and promote stable, sustainable economic growth. These will complement the traditional commodity industries that are less reliant on labour and heavily influenced by external factors such as exchange rates, market prices and foreign investment.

Mining and manufacturing

Recent activity

The value of the mining and manufacturing industries decreased slightly by 0.2 per cent in 2017-18, driven by decreased production of construction materials, partly offset by increased production of manganese, zinc-lead concentrate and gas.

Outlook

The mining and manufacturing industries are expected to grow rapidly over the coming years, largely driven by growth in LNG production and positive price and market conditions for many of the Territory's other resources.

The Territory's mining and energy industry is reported with the manufacturing industry for the purposes of this publication. Although manufacturing encompasses a wide range of products for both domestic and overseas consumption such as concrete, wood and food products, the majority of manufactured goods in the Territory are by-products of the mining industry, such as helium from gas production. Non-mining components of manufacturing are discussed in their respective sections. Mining and energy activities in the Territory include mining of metal ores, oil and gas production, quarrying and mining of non-metallic minerals. The Territory's mining industry data also includes offshore oil and gas production in Territory waters.

Analysis of the components of this industry is informed by a number of different sources, including information published in company reports and data provided by the Department of Primary Industry and Resources. Therefore, some sections are reported on a financial-year basis and others on a calendar-year basis.

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

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

Outlook

The outlook for the mining and energy industry is expected to be dominated by production at the INPEX LNG plant, which commenced in late 2018 and will continue to ramp up to full production through 2019-20. This will dramatically increase the value of the resources industry over the coming years. Strong growth is expected for the non-LNG components of mining and energy, with a number of mines expected to reopen in 2019 and several mines approaching final investment decision. The lifting of the moratorium on unconventional gas extraction has the potential to provide substantial upsides to mining and energy in the Territory, although these developments predominantly lie beyond the forward estimates.

The value of the Territory's mining and manufacturing industries decreased slightly by 0.2 per cent in 2017-18, to \$4.1 billion in inflation-adjusted terms. The decline reflects decreased production of non-metallic construction materials (gravel, sand and soil) and construction-related manufactured goods, partly offset by increased manganese, lead-zinc concentrate and natural gas production.

The mining and manufacturing industries' share of total GSP contracted over 2010-11 to 2016-17, largely due to the rapid expansion of the construction industry. Despite this trend, growth in the construction industry was largely driven by resource-related projects which are expected to

contribute to the mining and energy industry over the outlook period, particularly the Ichthys LNG project.

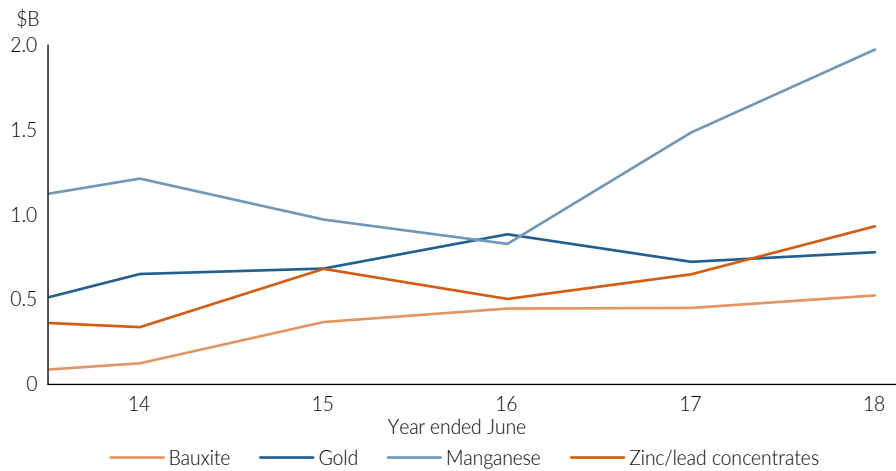
In 2017-18, the mining and manufacturing industries contributed 16.4 per cent of total GSP in the Territory, compared to a high of 33.5 per cent of GSP in 2008-09. Compared to 2016-17, the contribution from the mining sector increased by 0.7 percentage points to 12.9 per cent, overtaking public administration and safety (12.0 per cent) as the largest single industry contributor to the Territory economy.

Minerals production

The majority of mineral commodities produced in the Territory are metallic, including gold dore (a mixture of gold and silver), manganese, zinc-lead concentrate (including individual concentrates), bauxite and uranium. The Territory also produces a range of non-metallic mineral resources, such as crushed rock, sand and gravel.

The Territory's mineral producers sold \$4.5 billion worth of commodities in 2017-18, a 23.8 per cent increase from the previous year in current prices. This increase was largely driven by a 33.0 per cent increase in the value of manganese production and a 73.0 per cent increase in the value of lead-zinc concentrate production. This is due to an increase in global manganese, lead and zinc prices (Chart 1).

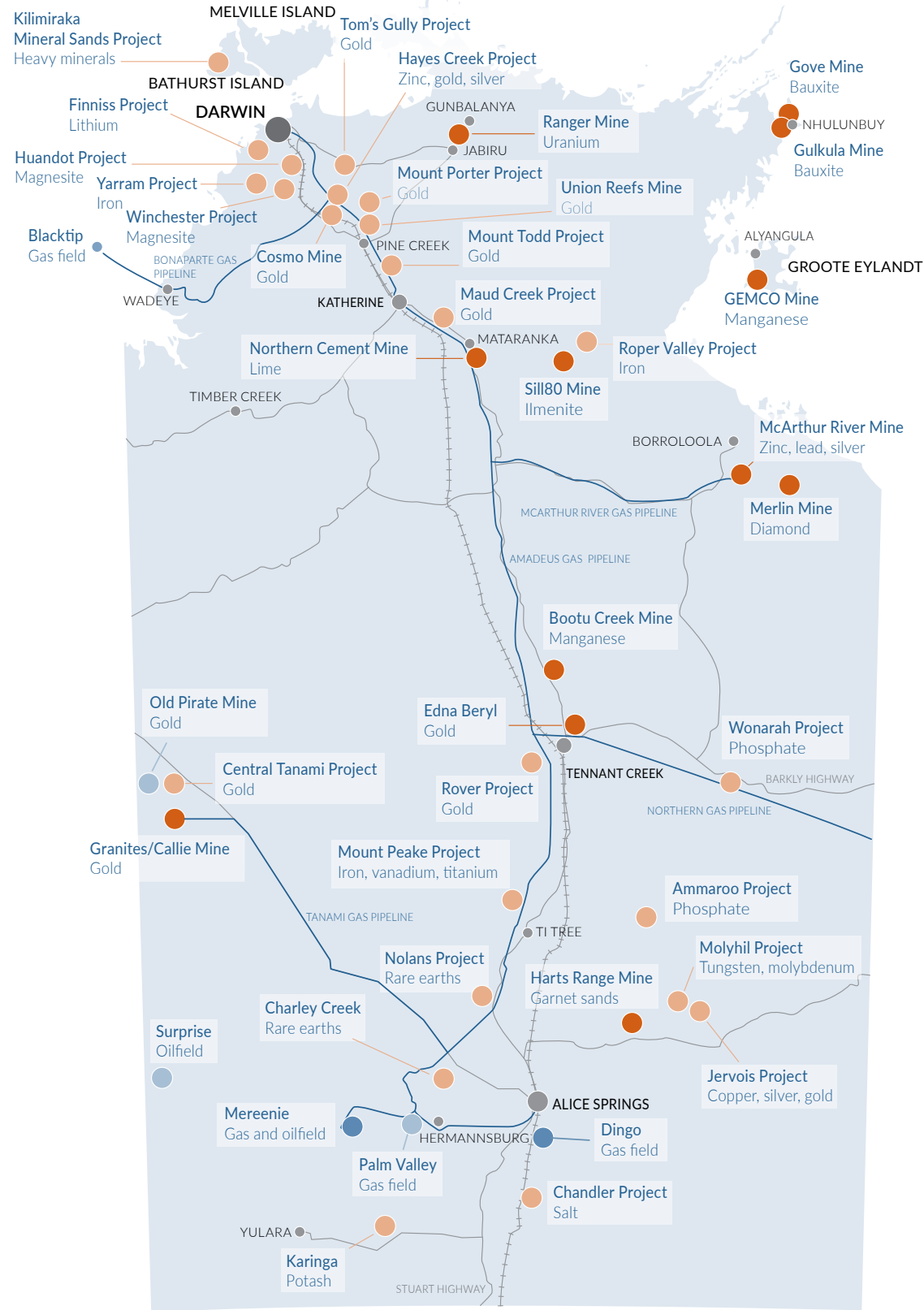
Chart 1: Value of selected Territory mineral production



Source: Department of Primary Industry and Resources

The value of the Territory's mineral production is expected to increase by 9.3 per cent in 2018-19 as the value of gold and uranium rises, while prices for bauxite, manganese, lead and zinc stabilise.

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 Primary Industry and Resources; Department of Treasury and Finance

Manganese

Manganese is one of the raw ingredients used in the manufacturing of steel and production is largely driven by global steel demand. It is produced at the Groote Eylandt Mining Company (GEMCO) mine and at the Bootu Creek mine near Tennant Creek.

Following a 33.0 per cent increase in the value of manganese in 2017-18 due to the reopening of the Bootu Creek mine, the value of production is expected to stabilise in 2018-19 after two years of price rises. Global steel supply is expected to fall during 2019, reflecting declining demand for steel, resulting in decreased demand for manganese.

Gold

Gold is currently produced in the Tanami region (the Granites gold mine) and in the Barkly region (Edna Beryl mine). Gold has also historically been produced around the Pine Creek region in the Top End (Map 1).

The value of gold production increased by 7.9 per cent in 2017-18, which can be attributed to a mine expansion completed in May 2017 at the Granites gold mine. The price of gold is expected to increase gradually over 2018-19, with production remaining at current levels. Kirkland Lake Gold is expected to reopen both the Cosmo and Union Reefs mines in late 2019, located 160 km south and 170 km southeast of the city of Darwin respectively, which will increase gold production in 2019-20. The recently constructed Tanami gas pipeline, running off the Amadeus gas pipeline to Granites gold mine, is expected to bring efficiency gains due to increased reliability of power generation.

Zinc and lead

Zinc and lead are produced at the McArthur River mine, located 65 kilometres southwest of Borroloola, in the form of a combined zinc-lead and silver concentrate as well as individual lead and zinc concentrates.

The value of zinc and lead concentrate increased by 28.8 per cent in 2016-17 and 43.5 per cent in 2017-18, reflecting increased global prices. Lead and zinc prices are expected to stabilise in 2018-19, with McArthur River mine maintaining current levels of production subject to changes in global demand. Glencore, the operator of the McArthur River mine, proposed the Overburden Management Project in 2014. If the proposal is implemented, it will extend the mine's life by one year to 2037 plus 10 years to reprocess tailings. This is expected to increase ore production from 2018 by 2 million tonnes to 92 million tonnes by 2037. The project received approval from the Northern Territory Environmental Protection Authority in August 2018.

Bauxite

Since late 2017 there have been two bauxite mines operating in the Territory. The Gulkula mine project agreement was signed by Rio Tinto Alcan 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 the Rio Tinto Gove mine where it is processed and exported to Asian markets, predominantly for use in the production of aluminium. As production from the Gulkula mine increases, production at the Rio Tinto Gove mine will reduce by a similar amount.

The value of bauxite production in the Territory increased by 16.2 per cent to \$524.9 million in 2017-18, reflecting an increase in production to meet strong global demand, partly offset by a fall in prices. The price of bauxite is expected to stabilise in the short term, with increased production dependent on continued global demand.

Uranium

Uranium is produced at the Ranger mine, located in Kakadu National Park, with the site leased from traditional owners. The current lease is due to expire in January 2021 and traditional owners have not approved extending the lease beyond this date. Open-cut mining at the site was curtailed in 2012 and since then all production from the mine has been attributed to running down existing stockpiles.

Ranger mine is expected to process 2000 tonnes per annum in 2018-19 and 2019-20, and 1000 tonnes in 2020-21 before its scheduled closure in December 2020. Global uranium prices are expected to increase over the next few years. Japan has begun reactivating its dormant nuclear reactors, seven years after the Fukushima disaster curtailed demand for nuclear power. China is also constructing more nuclear reactors, with Russia and India planning to expand nuclear power production.

Energy Resources of Australia, the operator of Ranger mine, is continuing to work with traditional owners and other stakeholders, including the Territory and Commonwealth governments, to support the transition of Jabiru from a mining town to a tourism hub for the Kakadu National Park.

Other minerals

Non-metallic mineral production decreased by 5.5 per cent in 2017-18, with declines in production of sand, gravel, crushed rock, quicklime and soil. This was partly offset by an increase in garnet sand production, and the first sale of diamonds from Merlin diamond mine since recommencing mining operations in 2017-18. Production of non-metallic minerals is expected to remain subdued over the next few years due to a lack of major construction projects over the outlook period. These materials are produced predominantly for Territory consumption and are responsive to changes in construction activity.

Despite the slowdown in the construction industry in the Territory, there are several developments that contribute to the outlook for other minerals. In 2017-18, production of other minerals was boosted by the reopening of the Sill80 ilmenite mine. Up to \$6.0 million of mineral sand was generated by the mine in 2017-18 and this is expected to increase in 2018-19. The Merlin diamond mine is reportedly scaling up mining activities, having ordered new capital equipment to double its diamond processing capacity. Harts Range garnet sands mine closed in late 2017, however was reopened in late 2018 after securing domestic investors. Demand for garnet sands is affected by construction activity as it is mainly used as an abrasive.

There are also a number of other projects in the pipeline that, if realised, could provide a boost to mineral production in the Territory. These projects include the new Mount Peake vanadium, titanium and iron-ore mine in central Australia, the Nolans rare earths mine, Chandler salt mine and Jervois copper mine near Alice Springs, and the Ammaroo phosphate mine near Tennant Creek. The Mount Peake, Nolans and Ammaroo mines have received environmental approval and are approaching final investment decision. In March 2019, a foreign takeover bid was announced for Verdant Minerals, owners of the Ammaroo phosphate project, which has the potential to increase capital for the new project.

Demand for rare earths and other materials used in manufacturing technology products such as mobile phones and electric cars is expected to continue to increase in the future, which may increase the potential viability of many of these projects. In January 2019, a mineral lease was granted to the Finniss lithium project located south of Darwin. Lithium is a core component of lithium-ion battery technology used in electric cars and energy storage.

In April 2019, the Territory Government announced the Territory Critical Minerals Plan to help position the Territory as a provider of critical minerals important to the advanced technology,

battery and defence sectors. The plan is expected to support a number of the aforementioned mining projects currently progressing in the Territory.

Oil and gas production

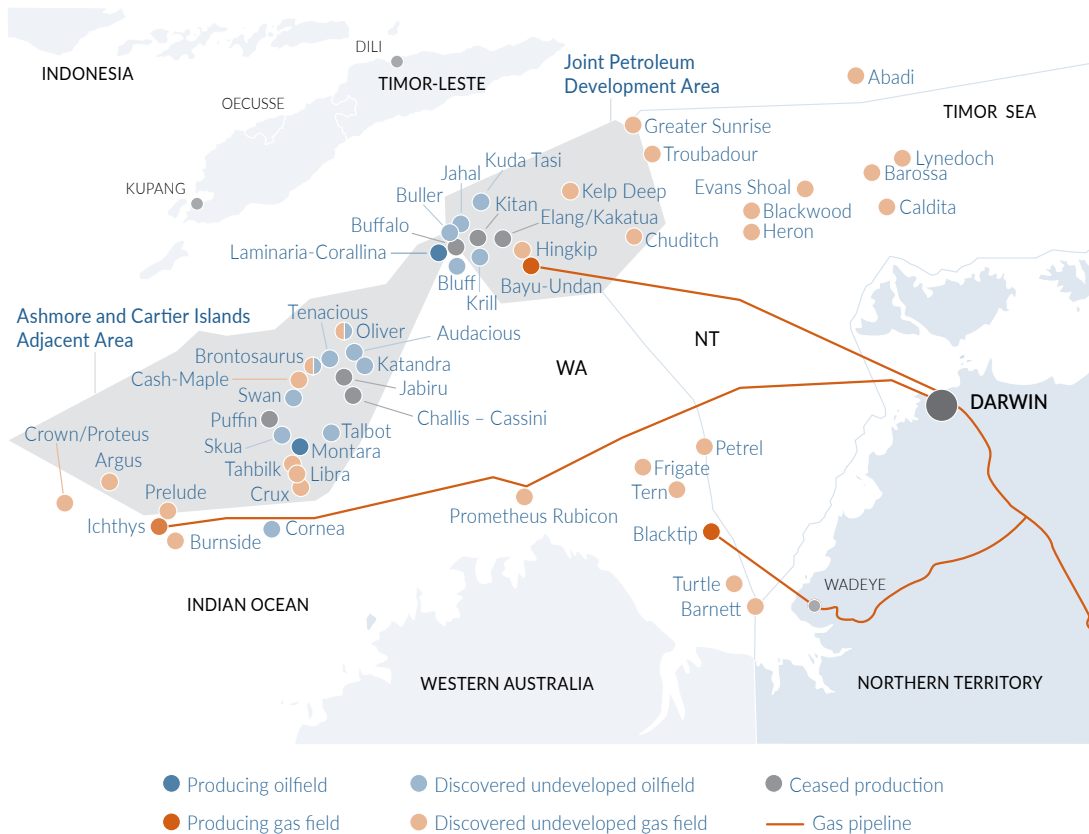
The Territory's onshore conventional gas is produced from the Amadeus basin, at the Dingo, Palm Valley and Mereenie gas fields, located in the Central Australian region. The Territory's onshore gas production increased by 23.5 per cent in 2018.

Production is expected to increase over the outlook period due to several developments in the Mereenie and Palm Valley gas fields as a result of the Northern Gas Pipeline. The Mereenie facility, in partnership with Macquarie Mereenie, was upgraded in late 2018 to increase its gas capacity to 44 TJ/d, compared to its average of 14.7 TJ/d over the December 2018 quarter. Palm Valley gas field resumed operation in late 2018 and is expected to increase production with an additional well to be brought online.

The majority of the onshore oil produced at the Mereenie oil field in the Territory is transported to South Australia for storage prior to export by tanker. In 2018, total onshore oil production volumes decreased by 10.2 per cent compared to the previous year.

The Territory has a number of offshore gas reserves in Territory waters and in the Joint Petroleum Development Area (JPDA) (Map 2). Current offshore Territory gas production is located at the Bayu-Undan gas field in the JPDA, the Blacktip gas field near the Territory and Western Australia border and, as of late 2018, the Ichthys gas field, 220 km off the coast of Western Australia. Although the Ichthys offshore facility is not in Territory waters, it is piped onshore, via a 890 km subsea pipeline, for processing in Darwin.

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 Treasury and Finance

Offshore oil production attributed to the Territory in 2017-18 was at the Montara and Laminaria-Corallina oil fields. Oil produced offshore is exported directly from the fields for overseas trade. The value of the Territory's offshore petroleum oil exports decreased by 17.9 per cent to \$175.4 million in 2017-18.

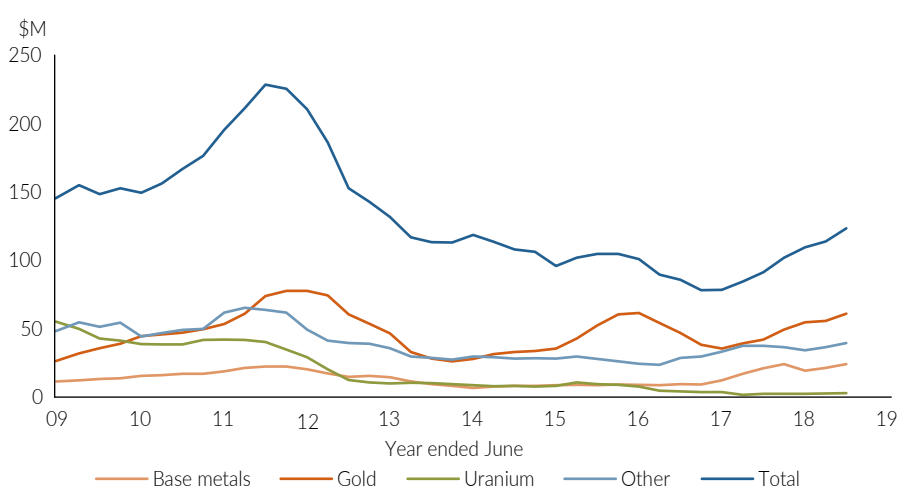
The Territory's oil and gas production is expected to increase significantly in the short term, driven predominantly by LNG production but also LPG and condensate from the Ichthys LNG plant. The facility commenced exports in late 2018 and is expected to reach full production capacity by early 2020, after which growth in the production of offshore oil and gas is expected to stabilise over the rest of the outlook period. However, the possibility exists for additional offshore gas and oil fields to be developed, increasing production in the long term.

The Bayu-Undan gas field, which supplies gas to the ConocoPhillips LNG plant, is expected to be exhausted by 2023. The operator is currently exploring options to provide backfill gas to extend the life of the plant. The leading candidate is the Barossa project, which proposes a permanently moored floating production storage and offloading facility in the Barossa gas fields to send gas to ConocoPhillips LNG plant via a subsea pipeline. Construction is scheduled for 2020-21, with production to begin in 2023. The Barossa project is currently in the front-end engineering design phase, and is yet to achieve final investment decision.

Exploration activity

Though mining exploration does not always lead to the development of new mines, levels of exploration activity provide a leading indicator of potential future mining developments.

Chart 2: Value of mineral exploration expenditure in the Territory



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

Total mineral exploration expenditure in the Territory increased by 35.1 per cent in 2018 to \$123.2 million, significantly higher than the 10-year average annual expenditure growth of 0.7 per cent. This increase was largely driven by a 45.3 per cent increase in the value of gold exploration to \$60.9 million, reflecting the exploration activity at the Cosmo and Union Reefs gold mines (Chart 2). Total petroleum exploration expenditure in the Territory increased by 71.1 per cent to \$149.5 million in 2018, largely due to onshore gas developments by Central Petroleum.

Nationally, mineral exploration increased by 23.9 per cent in 2018, while petroleum exploration decreased by 4.5 per cent over the same period. Mineral and petroleum exploration in the Territory is expected to continue to be supported over the coming years by the Territory Government's Resourcing the Territory program, with \$26 million committed over four years from 2018-19 to help stimulate resource exploration and attract investment.

In March 2019, Geoscience Australia released the results of its airborne electromagnetic survey of a large region of northern Australia as part of its Exploring for the Future program, in partnership with Northern Territory and Queensland Geological Surveys. The survey indicated potential new mineral deposits including gold, copper, nickel, lead, zinc, manganese, cobalt, platinum group elements, and rare earth elements.

Hydraulic fracturing in the Territory

Following an inquiry into the environmental, social and economic risks and impacts of hydraulic fracturing and associated activities, the Territory Government lifted the moratorium on hydraulic fracturing of onshore unconventional gas reservoirs in April 2018. The Territory Government accepted all 135 recommendations from the final report, and is currently delivering the recommendations through the Hydraulic Fracturing Implementation Plan announced in July 2018.

The economic implications of this decision are dependent on the results of onshore exploration in the Beetaloo sub-basin, where significant reserves of gas have been identified. Approximately \$160 million of exploration expenditure is expected for the Beetaloo sub-basin in 2019-20. The discovery of higher-value hydrocarbons would improve the commercial feasibility of unconventional gas extraction, although the presence of such petroleum products is yet to be determined. Another important consideration is competition with US imports, which have low overhead costs due to the scale of their operations, partly offset by shipping costs. In March 2019, the Commonwealth Government announced \$8.4 million to support feasibility studies for the exploration and development of the Beetaloo sub-basin.

Due to the uncertainty surrounding the development of the Beetaloo sub-basin, the future economic implications of this decision (other than exploration activity in the forward estimates) have not been factored into forecasts.

The development of onshore gas sources presents significant downstream opportunities for the Territory. The size of the potential onshore gas reserves is estimated to be sufficient to accommodate new gas-based processing and manufacturing industries in the Territory while meeting demand in the eastern gas markets. These industries would be well placed to benefit from ample industrial land, access to important infrastructure such as a transcontinental rail network and an international airport, and a growing service and supply industry.

Manufacturing

The Territory's manufactured goods production contributed \$965 million to GSP in 2017-18, a 3.1 per cent decrease in real terms compared to the previous year. The outlook for mining-related manufacturing in the Territory is subdued over the outlook period, driven by lessening demand for construction-related manufactured goods. Hydraulic fracturing in the Beetaloo sub-basin has the potential to establish a significant downstream gas-based processing and manufacturing industries beyond the outlook period, however it is contingent on the results of future gas exploration and feasibility studies.

Pipelines

Northern Gas Pipeline

The Northern Gas Pipeline was completed in late 2018 and is expected to encourage onshore gas production by providing greater access to gas markets in eastern Australia for Territory gas producers. The pipeline commenced interstate exports of gas in January 2019. Up to 80 per cent of the pipeline's capacity has been filled for its first year, although its capacity may be expanded in the long term. Central Petroleum, which operates the Mereenie and Palm Valley gas fields, in partnership with Macquarie Mereenie, expanded its gas production capacity in 2018, with some of the gas supplied into the pipeline. The Northern Gas Pipeline also has significant implications for

potential unconventional gas extraction in the Beetaloo sub-basin, positioning the Territory as a major gas supplier for the east coast.

Tanami Gas Pipeline

The Tanami Gas Pipeline, including the installation of two power stations and an interconnected powerline, was completed in early 2019 as part of the Tanami Power Project. The project was commissioned by Newmont Mining to provide a gas-fuelled power source for the operation of its gold mines in central Australia. The pipeline runs off the Amadeus gas pipeline to the Granites and Dead Bullock soak gold mines in the Tanami Desert, providing a safe and reliable energy source while reducing carbon emissions. Prior to its completion, diesel was originally delivered over the Tanami Road, which can be impaired by poor weather. The pipeline is expected to reduce power costs by removing the need to use vehicles, and establishes the groundwork to potentially extend the life of the mine.

Renewable energy

The Territory Government has committed to a 50 per cent renewable energy target by 2030, supported by the Roadmap to Renewables report released in November 2017. A number of renewable energy projects are now planned over the outlook period.

The \$43 million solar projects at Batchelor and Manton Dam are scheduled to be completed in late 2019. In conjunction with the \$40 million Katherine Solar Farm announced in late 2018, this is expected to progress the share of renewable energy generation in the Territory from 3 per cent to 10 per cent from 2019-20. Other initiatives include:

- \$2 million Energy Efficiency and Sustainability Grant for 2018-19 to assist local government councils to reduce energy use and greenhouse emission costs.
- \$8.3 million Alice Springs Battery Storage System
- Territory Government's and Australian Renewable Energy Agency's \$59 million Solar Energy Transformation Program to roll out solar power stations across 25 remote communities
- Territory Government's \$5 million Rooftop Solar Schools from 2018-19 to 2020-21.

In late 2018, the Northern Australian Infrastructure Fund (NAIF) approved a loan up to \$150 million to fund \$300 million worth of airport expansions across the Territory. Of the planned expansions, the construction of solar energy farms at Darwin, Alice Springs and Tennant Creek airports are included.

Construction

Recent activity

Major projects continue to have an impact on the construction industry, which was reported to be the third largest contributor to the Territory's GSP, and remained the Territory's third largest employer in 2017-18. Since then, construction activity has declined significantly, largely impacted by the completion of private investment and works associated with major resource projects.

Outlook

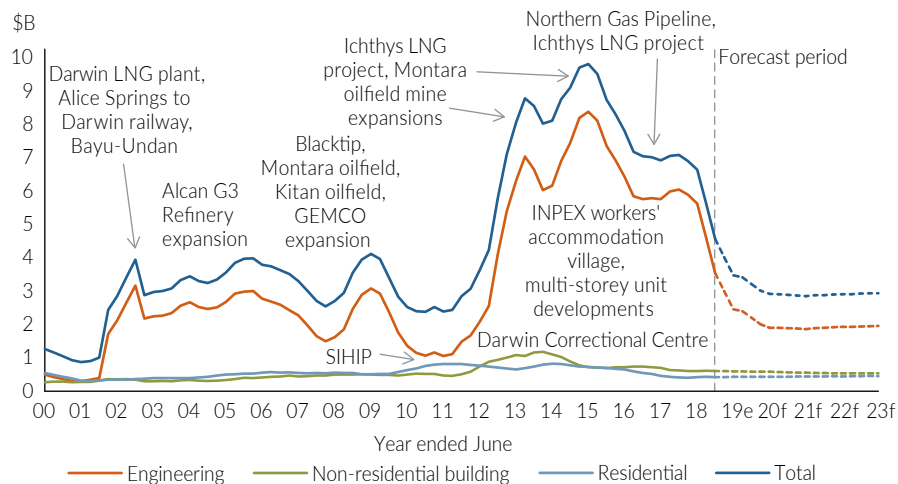
Construction activity is expected to significantly detract from economic growth in 2018-19 through to 2019-20, largely a result of weak private sector engineering investment and activity. A pipeline of projects, if realised, will provide stimulus to the industry and overall economy, helping to partially offset the significant construction downturn.

Analysis on construction activity and work done is based on monthly and quarterly data reported by the ABS through a number of surveys including engineering construction activity, building activity, building approvals and construction work done preliminary estimates. Construction industry gross value added and contribution to GSP are measured annually through the ABS national state accounts data. Industry contributions to employment are based on quarterly ABS labour force industry-related statistics.

For the latest data on the construction sector, including up-to-date activity on main construction and building indicators, refer to the [Territory Economy](#) website.

Outlook

Over the past seven years, the Territory's construction industry has been heavily influenced by works for the Ichthys LNG project, as well as other resource-related developments. During this period of strong economic expansion, the Territory also realised a surge in residential construction, which peaked at historically high levels in 2013-14. Following completion of the Ichthys LNG project, construction activity declined significantly and is expected to continue contracting through to 2019-20. The soft construction outlook reflects current weak activity across a range of construction-related indicators such as building activity and approvals (Chart 1).

Chart 1: Construction work done in the Territory^{1,2}

GEMCO: Groote Eylandt Mining Company Operation; LNG: liquefied natural gas; SIHIP: Strategic Indigenous Housing and Infrastructure Program; e: estimate; f: forecast

1 Construction work done preliminary data estimates.

2 Inflation adjusted.

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

In 2017-18, the construction sector was the third largest industry in the Territory, accounting for 11.0 per cent of total GSP, the highest share of GSP for this industry across all jurisdictions. Employment in the Territory's construction industry increased by 2.4 per cent to 14 490 people in 2017-18, remaining the third largest employer in the Territory. However, more recent data reports employment conditions have declined by 14.9 per cent to about 12 360 employed persons in the year to February 2019, reflecting the limited construction work available and the substantial demobilisation of construction workers from the Ichthys LNG project.

While the value of private sector non-residential and residential construction activity has been declining since 2013 and 2014, respectively, in contrast the public sector's contribution to overall construction activity has continued to grow, reflecting the government's effort to support the economy (Chart 2). Despite this positive contribution, the public sector does not have the scale or fiscal capacity to offset the economic downturn attributed to the sharp decline in private sector investment. This is due to the sheer dominance of private sector engineering projects in construction activity over the past two decades.

Chart 2: Building activity in the Territory, by sector



Source: ABS, *Building Activity, Australia*, Cat. No. 8752.0

Over 2018-19 and 2019-20, the Territory’s construction industry is expected to contract significantly, reflecting continued downward trends across all components including engineering construction, and residential building and non-residential building activity, largely driven by weak private sector investment. Following a loss of construction jobs due to the housing downturn and completion of major engineering projects, the construction industry’s contribution to the economy and workforce is moderating. This outcome will likely be more pronounced in the greater Darwin region, as there is no other project, current or planned, of a similar magnitude to help soften or offset the negative economic impacts from the completion of the construction phase of the Ichthys LNG project.

In response to the anticipated ongoing contracting levels of private sector construction activity, the Territory Government is continuing to support the construction sector through economic strategies, infrastructure programs and incentives. In February 2019, the Territory Government announced its plan to fast track several new construction projects expected to help support economic and employment growth in this industry. This has resulted in a pipeline of \$125.6 million in infrastructure projects to commence in the near term. These construction developments include the new Mandorah marine facilities including a jetty, the second stage of the Zuccoli Primary School, stage 2 of Kilgariff in Alice Springs, upgrades to Litchfield National Park, and a new Palmerston fire station.

The roll out of the Territory Government’s infrastructure program of \$1.45 billion in 2018-19 and \$1.45 billion in 2019-20 is expected to contribute to the local construction industry and stimulate economic activity over the outlook period through a variety of construction works on Territory roads, hospital and health facilities, school and education facilities, urban and remote public housing, community safety facilities, community infrastructure, and tourism facilities across all regions. The continued government assistance in remote communities and for regional development will support the construction industry through more employment opportunities in the remote and very remote regions of the Territory, providing new and upgraded infrastructure.

Engineering

The value of engineering construction has declined from the high of \$8.4 billion in 2014-15 to \$3.6 billion in 2018, and is now at its lowest level since 2012. This is largely due to decreases in activity related to heavy industry and electricity generation, transmissions and pipelines following the completion of several major projects such as the Ichthys LNG project and the Northern Gas Pipeline. Since the heavy industry component makes up the majority of private engineering

construction work done in the Territory (about 77 per cent), its decline will significantly impact the total value of activity. As a result, the outlook for engineering construction activity is expected to be lower than recent years, in line with project timelines and completions. From 2019-20 onwards, overall engineering construction activity is expected to slowly recover, with support provided from other components, likely through smaller projects identified in the Territory's pipeline.

Over the outlook period, the Commonwealth's NAIF is expected to provide support to the sector through facilitating and supporting new private sector infrastructure investment. In 2018-19, three project proposals were approved for a loan in the Territory, with a total NAIF investment of up to \$184.7 million. This will provide funding for new activity and upgrades to infrastructure for Humpty Doo Barramundi, Voyages Indigenous Tourism and Northern Territory Airports. The Northern Territory Airports project will fund infrastructure works across airport sites in Darwin, Tennant Creek and Alice Springs. This includes the construction of a freight and cold storage facility, and an export hub in Darwin International Airport, solar energy farms at Darwin, Tennant Creek and Alice Springs with an off-site multi-user battery, and the resurfacing of Alice Springs airport's runway, taxiways, as well as installation of new runway lighting.

Subject to front-end engineering, design and approval processes, the ConocoPhillips' Barossa project is expected to commence construction to provide a backfill gas source to replace the existing Bayu-Undan offshore gas supply from 2023. If realised, this expansion project will generate construction activity, contributing to Territory economic and employment growth. The potential construction of the Mount Isa to Tennant Creek railway project can further support regional economic development, creating rail connectivity between the Port of Townsville and the Port of Darwin.

Following the lifting of the moratorium on unconventional gas extraction, exploration of the Beetaloo sub-basin is expected to progress, subject to the regulatory framework being put in place, and will support engineering activity for essential infrastructure works. Other resource-based projects also have the potential to provide a significant boost to the Territory's construction and resource-related industries over the forward estimates. There are also several planned and potential projects in the pipeline, with three large mines based in the central Australian region achieving environmental approvals and likely to proceed in the near term, including the Mount Peake vanadium project, Nolans rare earths project and the Ammaroo phosphate project.

The defence industry will play a significant role in terms of investment and construction-related activity in the Territory with \$20 billion in infrastructure investment planned over 20 years, supporting the construction sector and local businesses with various defence contracts. Major defence projects such as the new air combat capability facilities project at the Royal Australian Air Force (RAAF) Base Tindal as well as major upgrades to facilities at RAAF bases and HMAS Coonawarra are expected to stimulate the sector, which could potentially extend beyond the outlook period. Refer to the Defence section for more information.

Major infrastructure investment by the Commonwealth and Territory governments for road upgrades and transport developments, such as the \$59.5 million Garramilla Boulevard project in Darwin CBD and the \$35.5 million jointly funded Victoria Highway upgrades, will continue to support engineering construction activity and industry employment. As part of the Northern Australia Beef Roads Program, the redevelopment of Tablelands Highway and the Barkly Stock Route will further support construction activity through to late 2019. In March 2019, the Commonwealth committed to a new \$500 million investment to upgrade priority Territory freight routes as part of a national initiative.

Furthermore, Equatorial Launch Australia is progressing the development of Australia's first commercial space launch facility in Arnhem Land, near Nhulunbuy. The Territory Government is

committed to supporting growth and development of this innovative sector, with local potential in the logistics and construction industries to deliver essential infrastructure works. Once in operation, ongoing career opportunities are expected to support jobs in the professional, scientific, technical and educational sectors, generating flow-on effects to the Territory economy.

Non-residential

In 2018, the value of non-residential building work done in the Territory declined by 3.8 per cent to \$598 million, driven by a contraction in private sector activity, which fell by 13.5 per cent to \$241 million, well below the 10-year average of \$459 million. The 10-year average includes significant levels of activity related to the completed construction of site offices and buildings for the Ichthys LNG project, new office buildings across Darwin and Palmerston, as well as completion of commercial and retail buildings, such as the Boulevard Plaza, Gateway, Coolalinga Central, and stage one of the Darwin Corporate Park. Public sector non-residential construction increased by 4.1 per cent to \$358 million in 2018, above the 10-year average of \$255 million. This reflects completed construction activity on health facilities and other public facilities including upgrades to the Royal Darwin Hospital, the new Palmerston Regional Hospital and the Alice Springs Supreme Court.

Building approvals can be used as a leading indicator to determine the trend of construction-related activity. Since 2015, the value of approvals for non-residential buildings has been trending downwards (Chart 3). Based on the current status of major projects and other private sector developments in the pipeline, the outlook for non-residential construction is expected to be subdued.

Chart 3: Value of residential and non-residential building approvals in the Territory¹



¹ Moving annual total.

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

An additional \$200 million as part of the co-funded Territory and Commonwealth governments' City Deals project to revitalise the Darwin CBD, as well as a \$20 million funding commitment towards revitalisation works in the Alice Springs CBD, has the potential to support construction activity through new and upgraded infrastructure and facilities. This funding deal will include a new Darwin CBD Charles Darwin University campus and civic precinct, and an art gallery in State Square precinct.

The Barkly Regional Deal, which involves a 10-year commitment of \$78.4 million by the Commonwealth, Territory Government and Barkly Regional Council, is expected to benefit the local construction industry through investment in local infrastructure projects and initiatives. It is also a

government priority to develop a new resource services hub and supply centre in Tennant Creek, to support the opening of the Edna Beryl gold mine and the Northern Gas Pipeline's operations.

The Commonwealth and Territory governments' masterplan to redevelop Jabiru and Kakadu National Park through new tourism facilities and infrastructure projects is further expected to support the construction industry by creating new regional growth and employment. The Territory Government's commitment of \$131.5 million from 2019-20 to 2022-23, in addition to the Commonwealth's planned investment of \$216.2 million over 2018-19 to 2027-28, will include the construction of an Aboriginal-led World Heritage Kakadu Centre in Jabiru, significant road upgrades, new tourism infrastructure, and the remediation of Jabiru. The Territory Government is working to develop the Katherine Logistics and Agribusiness Hub to drive economic development, create jobs and increase prosperity in the region. Significant funding of \$30 million has been committed for the medium term, which is expected to support growth in the construction, resource, agriculture, defence, transport and tourism sectors.

Other confirmed and proposed projects, such as the fast-tracked Palmerston fire station and second stage of Zuccoli Primary School, new police station and public housing in Nightcliff, Westin Darwin Hotel, Casuarina Shopping centre renovations, upgrades to current sporting infrastructure and educational facilities across the Territory regions, have the potential to provide stimulus to the local industry.

Residential

Key leading indicators, such as building approvals, housing finance approvals and building activity, suggest the outlook for residential construction activity will remain weak. A number of residential developments are expected to continue over the forward years, although current data indicates activity at more subdued levels relative to previous years. In 2018 there was an improvement in the value of residential building work done in the Territory, up by 2.2 per cent to \$422 million, driven by activity for units, townhouses, and alterations and additions. Despite this development, the level of investment remains well below the 10-year average of \$637 million.

Public housing makes up a considerable portion of the dwellings in many remote communities. In 2018, there has been a strong increase in the value of public sector residential construction work done (up by 17.1 per cent), reflecting ongoing work to improve the quality and volume of public housing stock in the Territory regions. The ongoing public housing stimulus programs of \$1.1 billion is expected to support the construction industry through upgrades, repairs and maintenance works to public housing across the Territory's remote and very remote regions, providing employment opportunities to the regional construction sector. Furthermore, the Commonwealth has committed an additional \$550 million to support remote housing in the Territory over the forward estimates, which will deliver new buildings, extensions and refurbishments. The Territory Government has also fast-tracked the revitalisation of John Stokes Square in Nightcliff, which will see the construction activity of three new public housing towers from October 2019.

The revised Territory Government home owner incentive schemes will also help stimulate construction activity following an expected increase in demand for new dwellings over the medium-term outlook, supporting private sector residential activity. The new \$12 million BuildBonus incentive, providing 600 construction grants valued at \$20 000 for people to build a new home in the Territory, including those who currently own a home, is expected to provide a timely stimulus during 2019-20 for the construction sector. In addition, continued land releases across Northcrest, Zuccoli, Katherine East and Kilgariff are also expected to help sustain jobs in a number of local construction and related industries over the outlook period. Refer to the Residential Property Market chapter in the [2019-20 Northern Territory Economy](#) publication for more information.

Defence

Recent activity

Defence continues to be a contributor to the Territory economy through major joint operations and exercises, and capital works projects, however personnel numbers have been declining in recent years.

Outlook

A continued long-term commitment by the Department of Defence in major infrastructure investment will strengthen the Territory's strategic position in the region and support the defence industry.

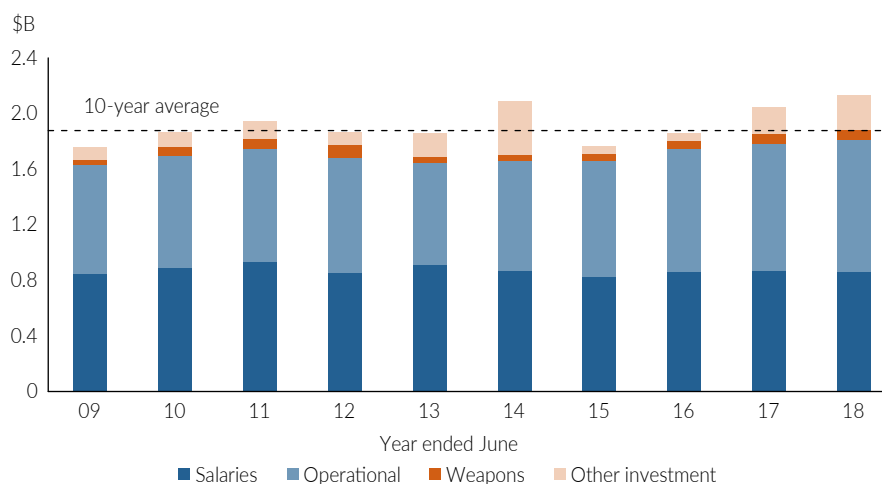
The ABS reporting standards do not classify defence as a separate industry in national accounts, rather it is reported against a number of industries and is predominantly included in public administration and safety. Defence employment numbers are also not included in ABS labour force reporting, which is restricted to the civilian population. References to defence refer to both the Department of Defence and the Australian Defence Force. Data for defence personnel and housing is sourced from the Department of Defence and Defence Housing Authority (DHA) annual reports.

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

Outlook

The Territory is a strategic location for defence that leads to long-term defence investment in the region making a substantial contribution to the Territory economy through direct and indirect employment, and demand for local goods and services. Defence also generates economic activity through major operations and exercises held in the Territory, such as Pitch Black and KAKADU, as well as capital works projects that engage local businesses and support the construction industry.

Defence expenditure as a share of the Territory's GSP was 8.2 per cent in 2017-18, or \$2.1 billion. Defence expenditure increased by 4.2 per cent compared to the previous year. This result was above the 10-year average defence expenditure of \$1.9 billion per annum, largely driven by an increase in operational expenditure, and weapons and other investments (Chart 1). Defence expenditure in the Territory as a proportion of total national defence expenditure was 5.3 per cent in 2017-18. The defence industry is expected to increase its economic contribution considerably over the medium term through committed infrastructure investment, providing stimulus to local businesses and creating additional employment opportunities in the Territory.

Chart 1: Defence expenditure in the Territory¹

¹ Inflation adjusted.

Source: Department of Treasury and Finance; ABS unpublished data

A continued need for Australia to have a strong defence presence in the Territory was reinforced by the 2016 Defence White Paper, which outlined the Commonwealth's long-term plans for strengthened capability in northern Australia through increased personnel, investment, training, exercises with international defence forces and the joint United States Force Posture Initiatives (USFPI). The USFPI further demonstrates the importance of the Territory as a strategic location for regional security. This includes the US marine rotations across the Territory, highlighting the significance of Australia's strong alliance with the US.

The annual rotation has grown from 200 US marines in 2012 to 1590 in 2018. The 2018 rotation included a ground combat element supported by an artillery battery of six M777 Howitzers and a combat logistics detachment. The air combat element included eight tilt-rotor Ospreys, F/A-18D Hornet fighters, AH-1Z Viper and UH-1Y Venom helicopters and KC-130J Hercules aircraft, which constituted the largest deployment of US aircraft in Darwin as part of the USFPI. The 2019 rotation, which commenced in March 2019, is expected to be the largest on record, including more than 1600 US marines and an even larger aircraft element. Over the outlook period, the number of US marines on rotation in the Territory is expected to increase to 2500 as part of the USFPI.

About \$2 billion of infrastructure investment will be shared by Australia and the US for the USFPI. As part of this infrastructure investment, US Defence has announced a release of the procurement for a bulk fuel storage construction project at the RAAF Base Darwin, which will consist of two 7950 cubic metre cut and cover bulk fuel storage tanks, two pump houses, fuel filter building, petroleum operations building, as well as fuel filling and uploading stands. In addition, the US will contribute to the ongoing operational costs of the USFPI over the full 25-year life of the agreement.

The Integrated Investment Program, introduced at the same time as the White Paper, includes all capital and related investments. Over the forward estimates, the Territory will become home to significant new defence infrastructure. Some of the major committed defence projects in progress or expected to be executed in the near term include:

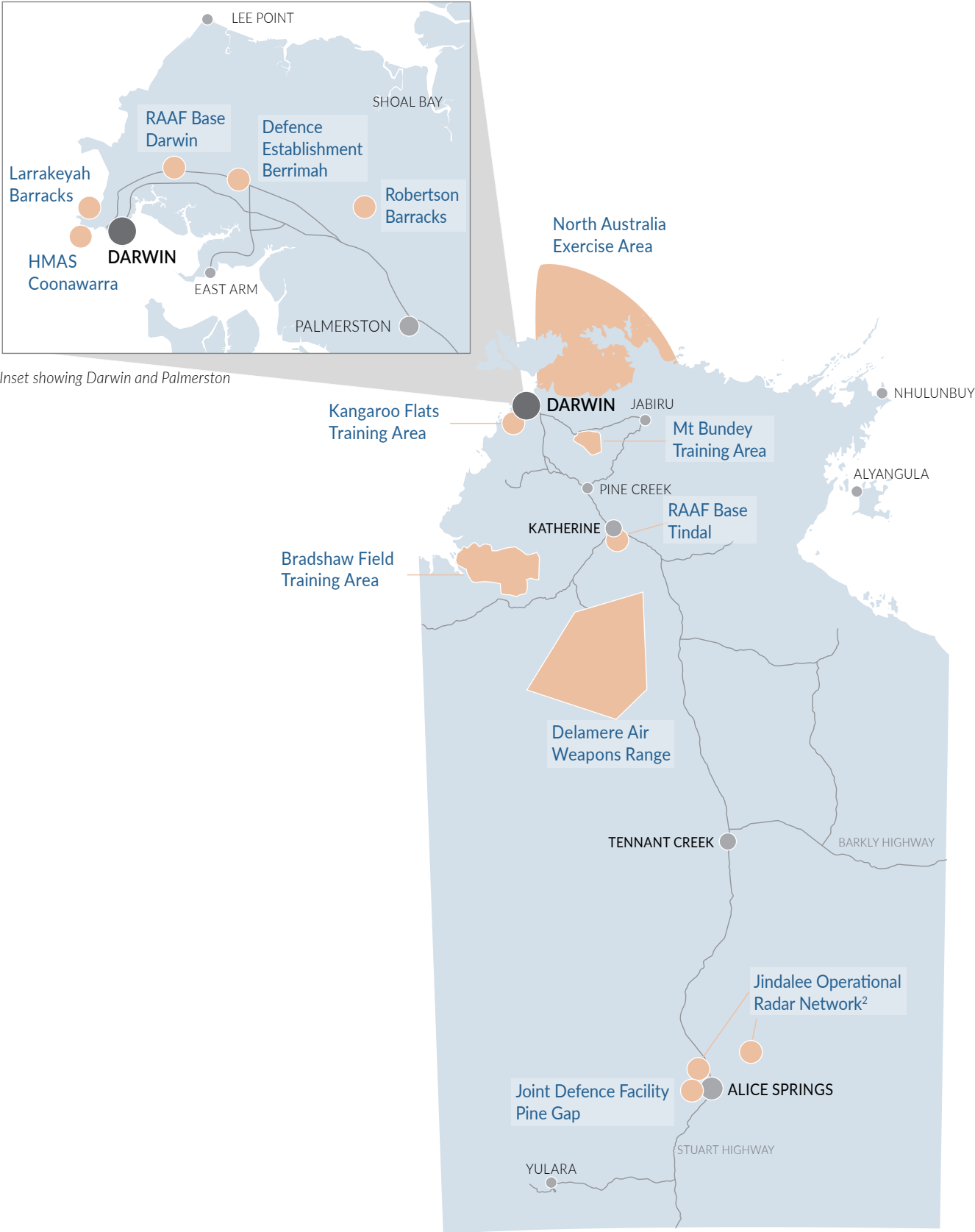
- \$39 million on the US-led airfield works at RAAF Base Darwin, from 2018 to 2020
- \$161 million on upgrades to RAAF Base Darwin to support the new Poseidon P-8 maritime patrol aircraft, from 2018 to 2020

- \$177 million for the redevelopment works at the Delamere Range south of Katherine to include construction of new facilities, communication and guidance systems to support personnel training on the EA-18G Growler aircraft, due for completion in 2019
- \$14 million on upgrades to health facilities at Robertson Barracks and development of a new health facility at Larrakeyah Barracks, during 2019-20
- \$15 million on upgrades to RAAF Base Darwin's explosives storage facilities as part of the Explosive Ordnance Logistics Reform Program, due for completion in 2020
- \$93 million for the replacement of the existing Australian Defence air traffic systems at RAAF Base Tindal and RAAF Base Darwin, due for completion in 2021
- \$472 million on the redevelopment of Larrakeyah Barracks and HMAS Coonawarra to improve infrastructure services and provide new maritime facilities, including a 250 metre wharf facility
- \$433 million for the new air combat capability facilities project at RAAF Base Tindal and RAAF Base Darwin, to support the F-35A Lightning Joint Strike fighters arriving at RAAF Base Tindal in 2021, due for completion in 2020.

Other works include upgrades to existing facilities to support a number of new defence capabilities and platforms. If realised, it is expected this defence construction activity will generate numerous employment opportunities to support construction workers, following the completion of the construction phase on the Ichthys LNG project. Some of these proposed projects are expected to commence in the next decade, subject to approval from the Parliamentary Works Committee, and include:

- \$770 million on redevelopment works at RAAF Base Tindal and airfield works to support the KC30A multi-role tanker air transport
- \$500 million towards upgrades to various defence training areas, including the Bradshaw field training area
- \$210 million on upgrades at HMAS Coonawarra to support the new offshore patrol vessels
- \$160 million for the pavement upgrade works at RAAF Base Tindal and RAAF Base Darwin, as part of the National Aircraft Pavement Maintenance Program
- \$40 million on upgrades at the Jindalee Operational Radar Network in the Alice Springs region.

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 two operating facilities within the Alice Springs region, at Harts Range and Mount Everard. Source: Department of Treasury and Finance; Department of Trade, Business and Innovation; DefenceNT; Department of Defence

A piece of transport and maintenance infrastructure that could potentially support defence activity, if realised, is the proposed Darwin ship lift facility. Such a project could have the capacity to service defence, the Australian Border Force and other commercial users, and reduce the need for defence vessels to use other Australian or overseas ports for maintenance and repairs.

The release of the Territory Government's Defence and National Security Strategy 2018 reinforces the Territory as a key defence and national security hub and the primary centre for maintenance and sustainment of facilities and assets deployed to the region. The strategy outlines key focus areas to support a strong defence and national security presence in the Territory and enhance opportunities in the industry, as part of developing northern Australia.

A growing number of defence and national security platforms (including aircraft, ships and land-based equipment) either based in or operating from the Territory will be replaced as part of the major national acquisition program currently under way. Current platforms in the Territory, such as the F-18 Hornet and the Armidale Class patrol boat, will be replaced with new platforms, such as the F-35A Joint Strike fighter, as well as six of the 12 new offshore patrol vessels, proposed to be located at HMAS Coonawarra (Map 3). Also, in the strategy, the Territory has been identified as a potential operating base for the future MQ-4C Triton unmanned aircraft.

DHA is progressing new developments and refurbishments of defence housing stock both on bases and in townships, including Darwin and Katherine, reaffirming the long-term defence presence and increased defence investment in the Territory. In 2018, more than 400 DHA properties were damaged by Cyclone Marcus. DHA projects in the Territory currently under way or expected to commence in the coming years include:

- ongoing expansion of the suburb of Muirhead for completion in 2019, which is expected to result in 1184 dwelling lots, with around 305 dwellings to be built by DHA and occupied by defence members and their families
- development of the former Lee Point Radar Station site located near Lee Point and Muirhead North, which is expected to result in about 800 residential lots, of which 30 per cent will be allocated for defence members.

Retail and wholesale trade

Recent activity

Retail and wholesale trade expenditure grew by 2.2 per cent in 2017-18, however employment in the industry decreased by 4.5 per cent over the same period.

Outlook

Retail trade growth is expected to be subdued over the outlook period due to below-average growth expectations for population, employment, housing and wages.

This chapter outlines both the Northern Territory and Australia's retail and wholesale trade industry conditions. Furthermore, an outlook is provided over the short to medium term, highlighting potential retail and wholesale projects in the Territory.

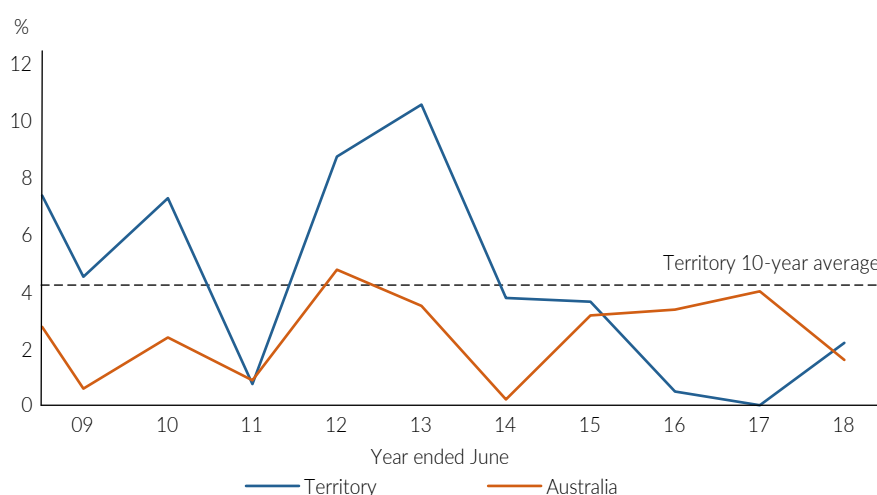
For the latest data on the retail and wholesale trade industry, refer to the [Territory Economy](#) website.

Outlook

In 2017-18, the Territory retail and wholesale trade industry contributed \$1.3 billion in real terms to the Territory's economy. As a percentage of GSP, the industry contributed 4.9 per cent in 2017-18, only slightly below the 10-year average of 5.0 per cent.

Despite this, the outlook for the industry is expected to be subdued. This follows the Territory's moderate to negative population, employment and housing market expectations, which will likely exert negative influence on household expenditure and consumer spending habits. This is further exacerbated by below-average wage growth and higher unemployment, leading to less disposable income among a decreasing number of households. Subdued conditions are expected to persist over the rest of the outlook period, complemented by moderately rising inflation and low wage growth. Population and employment growth are expected to improve over the outer years of the forecast period, however will remain below long-term historic trends.

Chart 1: Year-on-year change in the retail and wholesale trade turnover¹



¹ Inflation adjusted.

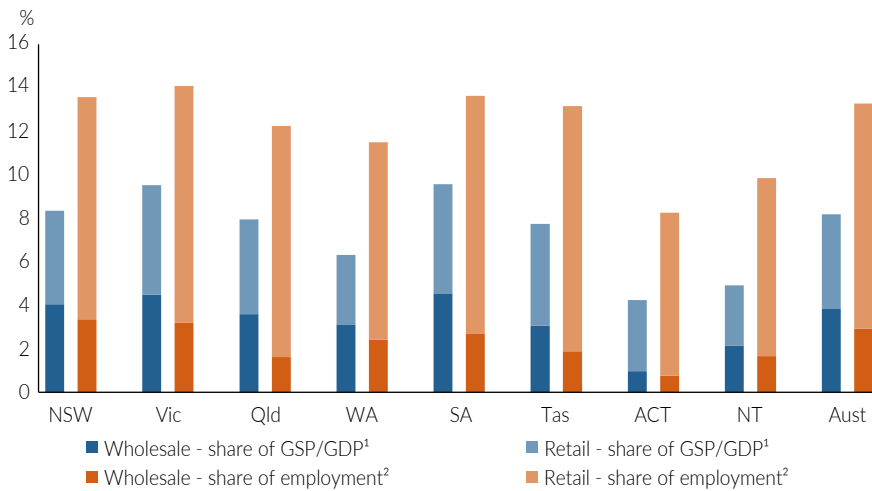
Source: ABS, *Australian National Accounts: State Accounts*, Cat. No. 5220.0

Retail and wholesale trade expenditure in the Territory grew by an average of 4.2 per cent per annum from 2008-09. However, in the four years to 2016-17, the annual growth rate gradually declined from a high of 10.5 per cent to being flat, ending 15 years of consecutive growth in the Territory. Retail and wholesale trade turnover rebounded by 2.2 per cent in 2017-18, mainly due to strong growth in the wholesale sector, but remained below the 10-year average (Chart 1).

According to the latest monthly data from the ABS, retail trade turnover moderated in the year to February 2019, driven by declining expenditure on: household goods; cafés, restaurants and takeaway food; pharmaceutical, cosmetic and toiletry products; and other recreational goods such as entertainment media. While this monthly measure does not account for inflation, it does reflect the general trend of components of retail and wholesale trade expenditure.

Across the other Australian jurisdictions, the retail and wholesale trade industry share of GSP and employment is broadly consistent, with the share of gross domestic product (GDP) averaging 8.6 per cent and the share of employment averaging 14 per cent across Australia over the last decade. Nationally, retail and wholesale trade as a share of employment has been trending downwards since 2012-13 with a share of 13.3 per cent in 2017-18, below the 10-year average.

Chart 2: Retail and wholesale trade share of GSP, GDP and employment, 2017-18



GSP: gross state product; GDP: gross domestic product

1 Inflation adjusted.

2 Annual average.

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

In the Territory, the contribution made by this industry to employment and GSP is smaller than the national average, reflecting the dominance of the government and community services industry, mining and construction industries, and the relatively small size of the Territory’s wholesale trade sector (Chart 2). Although the retail and wholesale trade industry contributes just under 5.0 per cent of total Territory GSP, it is one of the largest employers in the Territory with 9.8 per cent of employed people working in this industry in 2017-18 which, although significant, remains below the 10-year average of 10.8 per cent.

Retail

Retail trade activity is expected to be subdued over the medium term. One of the main contributors to slow retail activity is low wages growth, which affects consumer spending behaviour and confidence. Weaker wages growth over the outlook period is expected to constrain retail turnover, discretionary spending and household consumption. A declining population and continued softening in the Territory housing market are expected to further limit the growth of retail trade.

Due to the small size of the Territory economy, new retail and entertainment developments can have a pronounced impact on the retail industry. After the completion of the Gateway and Coolalinga shopping centres in recent years, current retail developments either underway or planned are of a much smaller scale. The following projects are expected to support small and medium-sized businesses across a variety of sectors in the medium to long term. These projects include:

- The Territory and Commonwealth governments have committed \$200 million to the Darwin City Deal project to revitalise the CBD. The project is expected to create a more attractive and liveable city for residents and visitors as well as for retailers to conduct business.
- The Territory Government has also committed \$20 million in Alice Springs, which will include revitalisation to create a more vibrant CBD for residents, visitors and local businesses. The revitalisation will focus on four major initiatives: heat mitigation, crime prevention through environmental design, the Kwatja (Water) Play Space, and the car parking master plan.
- The Territory Government's \$103 million Turbocharging Tourism stimulus package is expected to develop the Territory's tourism industry and encourage retail spending as a result of more visitors. This is further supported by the Territory Government's commitment of \$69.1 million for Turbo2, an extension of the Turbocharging Tourism package, over 2019-20 and 2020-21.
- The \$10 million Switching on Darwin plan, with funding committed from the Territory and Commonwealth governments and City of Darwin, will provide Darwin city with additional CCTV, smart lights, wi-fi, a micro-climate monitoring system and parking sensors in main tourist and shopping areas. The plan commenced in February 2018 and is scheduled to be completed by the end of May 2019.
- The development of the \$200 million Westin Darwin Hotel, a luxury hotel that will target high-end business people and tourists. Construction is expected to be completed in 2022.
- The \$8.5 million upgrade to Casuarina Square is expected to improve customer services, with construction beginning in February 2019, expected to be completed by August 2019.
- The Territory Government's commitment of \$131.5 million from 2019-20 to 2022-23, with an additional contribution of \$216.2 million over 10 years from the Commonwealth to redevelop Jabiru into a tourism hub is expected to increase retail spending from more visitors.

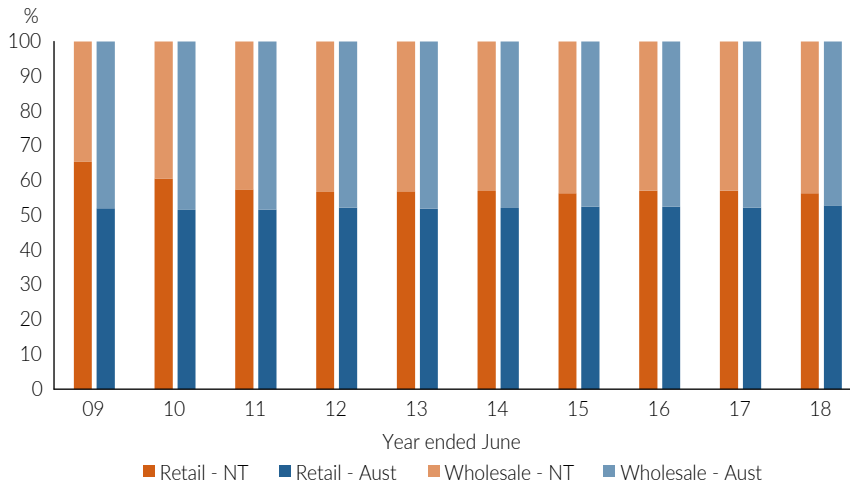
These projects will help facilitate retail trade and generate short-term interest upon completion, however they are not indicative of future retail activity. For instance, despite the completion of stage 1 of the \$300 million Gateway Shopping Centre in 2017-18, the total number of retail businesses in Palmerston only increased by two over the same period. The completion of these projects has coincided with the weakness in demand caused by subdued population, employment and wage growth conditions.

Nationally, retail trade activity is expected to increase in 2019-20 and 2020-21 after moderate growth in late 2018. The main contributor to this increase is continued growth in employment and wages, supported by low interest rates and Commonwealth income tax relief measures. This is partly offset by uncertainty in the housing market outlook, which may constrain household spending amid high levels of household debt.

Wholesale

The outlook for wholesale trade remains relatively subdued due to a lack of major projects over the forecast period. Wholesale trade is the sale of new or used goods to businesses and institutional users, but excludes government users. Activity in the Territory’s wholesale trade industry is mainly in industrial storage and equipment, transport, and food wholesaling, and has been influenced in recent years by major projects.

Chart 3: Retail and wholesale trade expenditure



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

In 2017-18, wholesale trade expenditure was at its highest level on record, increasing by 4.5 per cent to \$556 million. Despite this, wholesale trade in the Territory continues to contribute a smaller proportion (43.6 per cent) to the retail and wholesale trade industry than nationally (47.2 per cent) (Chart 3). This discrepancy is expected to persist over the outlook period.

In early 2019, the Darwin \$52 million Truck Central redevelopment was officially opened, providing support to the Territory’s road freight transport industry. This development is expected to provide supply chain efficiencies in the region, which has significant linkages with wholesale trade. Further developments are underway at the location, with a heavy vehicle inspection facility scheduled to be completed by late 2019.

Tourism

Recent activity

In 2018, international visitation to the Territory increased as a result of growth in visitors from Japan and China. Domestic visitation was relatively steady, reflecting some growth in holiday and business travellers to the Territory offset by declines in visitors for other purposes. Attracting domestic visitors to the Territory continues to be affected by competition and cheaper destinations available both domestically and internationally.

Outlook

Over the medium term, holiday and business visitation numbers and associated expenditure are expected to increase and remain key contributors to the Territory's tourism industry, following support from the Territory Government's Turbocharging Tourism stimulus program and other activities.

Tourism differs from other industries as it is defined by the consumer's behaviour rather than the process of producing goods and services. Accordingly, standard ABS 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 a number of factors such as global and local economic performance, exchange rates, tourism marketing activity, aviation access, changing consumer behaviour, visa regulations and an increasing number of competitive destinations.

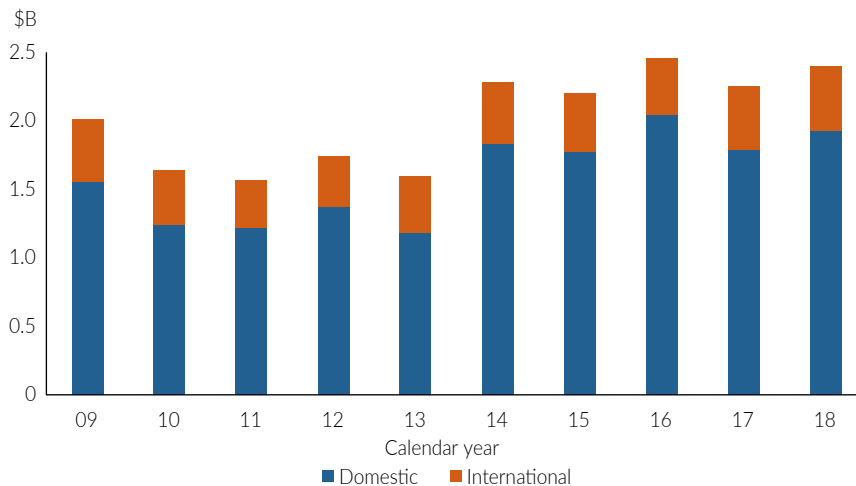
The Territory economy relies more heavily on the tourism industry than other states and territories in Australia in terms of tourism's direct and indirect contribution to GSP. According to Tourism Research Australia (TRA), in 2016-17 tourism's direct contribution to total GSP in the Territory was 4.6 per cent. In addition, tourism remained a major employer, employing 16 270 people (9040 directly and 7230 indirectly). The 2016-17 Tourism Satellite Account data was the most recent available at the time of publishing.

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

Outlook

Visitors, visitor nights and expenditure

The Territory economy continues to benefit from domestic and overseas visitors, their length of stay and spending habits, as well as profits retained in the Territory by tourism operators and retailers. In 2018, the Territory had 1.9 million visitors of whom 49.5 per cent came from interstate, while 34.7 per cent were intrastate travellers, and 15.9 per cent came from overseas. During this time, domestic visitors spent an average of \$1218 per trip and international visitors spent an average of \$1585 per trip, resulting in total expenditure of \$2.4 billion in 2018 (Chart 1).

Chart 1: Visitor expenditure in the Territory¹

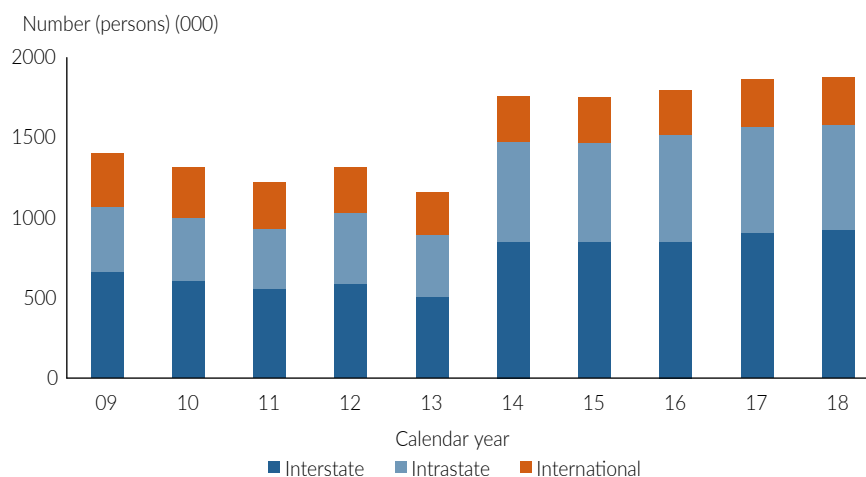
1 International expenditure includes package expenditure. Domestic expenditure includes airfares and long distance travel costs. For more information, refer to the National Visitor Survey Methodology on Tourism Research Australia's website tra.gov.au. Source: Tourism Research Australia, *International Visitors in Australia, Travel by Australians*

From 2018-19, TRA forecasts growth in visitation to the Territory over the next five years at an average annual rate of 2.9 per cent for domestic overnight visitor nights and 5.0 per cent for international visitor nights. Despite this anticipated growth in international visitation, attracting international visitors to the Territory remains a challenge, and growth in visitation continues to trend below national levels, resulting in a declining visitor market share (down to 3.5 per cent in 2018, from 3.4 per cent in the previous year). This reflects an ongoing increasing tendency of inbound travellers to Australia to visit the east coast, making fewer stopovers and not dispersing to more regional destinations such as the Territory.

While visitors from the Territory's traditional western markets including the United Kingdom, the US and France decreased over 2018, visitation from Japan, Italy and greater China (which includes mainland China, Taiwan and Hong Kong) increased. In particular, visitors from greater China increased by 55.0 per cent in 2018, partly as a result of the direct flight between Shenzhen and Darwin. Growth from this source market is likely to continue over the outlook period following ongoing interest and commitment to direct flight services. Visitors from Japan also increased by 56.0 per cent in 2018, likely driven by increased interest in visitation to Uluru before the closure of the climb announced for October 2019.

Attracting domestic visitation to the Territory also remains a challenge due to strong competition and cheaper destinations available both domestically and internationally. Interstate travel to the Territory increased by 2.2 per cent to 929 000 visitors in 2018. Over the same period, intrastate visitors declined by 1.3 per cent to 651 000 travellers (Chart 2). Business travel in the Top End has been a main contributor to overall growth in domestic visitation in recent years, mainly due to the work related to the Ichthys LNG project.

Chart 2: Visitors to the Territory



Note: Due to a change in National Visitor Survey methodology from Q1 2014, interstate and intrastate (domestic visitation) estimates from 2014 onwards are not directly comparable to previous years. Caution is advised when analysing trends. For more information, refer to National Visitor Survey Methodology on Tourism Research Australia's website tra.gov.au.
Source: Tourism Research Australia, *International Visitors in Australia, Travel by Australians*

As the Ichthys LNG project transitions from construction to the operational phase through 2019, visitation to, and expenditure levels in, the Territory will be negatively impacted. The Territory Government has committed to bridge this gap through its significant Turbocharging Tourism stimulus programs, designed to accelerate growth in the holiday and leisure visitor markets to help mitigate the negative economic impacts resulting from the end of a major project. The initial \$103 million Turbocharging Tourism stimulus program and its associated economic activity is expected to continue to flow through 2018-19 into 2019-20, reflecting timing between marketing and infrastructure activities, and subsequent travel.

The continuation of a relatively weak Australian dollar is largely positive for the tourism industry as it stimulates visitation levels by encouraging Australians to travel domestically and attracts a greater number of overseas visitors for leisure purposes, which remains the Territory's largest and key contributor to the industry. International holiday visitor nights are expected to average 4.8 per cent per annum over the five years from 2018-19, while domestic visitor nights are expected to average 1.7 per cent per annum.

Tourism initiatives

In 2018, the Territory Government launched a new Business Events Support Fund to support business-related travel and increase the number of business events held in the Territory. The fund provides financial assistance to event organisers of \$100 per delegate, up to a maximum of \$50 000 per event, for events where the majority of event participants travel to the Territory from interstate and overseas, thus providing flow-on benefits to the economy. By the end of January 2019, the Territory Government had invested \$1.34 million and attracted 34 confirmed business events. The Department of Tourism, Sport and Culture expects these events to deliver 10 600 delegates and around \$25.5 million in delegate expenditure to the Territory economy over the medium-term outlook.

The Territory Government's extension to the Turbocharging Tourism program, Turbo2, valued at \$69.1 million is expected to provide additional incentives to the local tourism industry over 2019-20 and 2020-21, with growth opportunities expanding across other sectors including hospitality, retail, arts and culture, and transport. The program is planned to deliver more investment into domestic and international visitor marketing, and will continue to support events and festivals in the Territory. The Commonwealth and Territory governments' master plan to redevelop Jabiru

into a tourism hub provides opportunity for new tourism and infrastructure investment and works. This plan has the potential to transform Jabiru into a nationally and internationally recognised tourism destination, and increase visitation levels and associated expenditure. The Territory Government's commitment of \$131.5 million from 2019-20 to 2022-23, in addition to the Commonwealth's planned investment of \$216.2 million over 2018-19 to 2027-28, will include the construction of an Aboriginal-led World Heritage Kakadu Centre in Jabiru, significant road upgrades, new tourism infrastructure, and the remediation of Jabiru. The plan also proposes the removal of crocodiles from Lake Jabiru to offer year-round swimming to further support tourism at Kakadu National Park and its major attractions like Jim Jim Falls, Ubirr Rock and Gunlom Falls. In addition to the substantial contribution it will make to the tourism sector, there will be flow-on benefits to the overall economy, supporting growth in employment and output across several other industries.

Investment in key festivals and events are expected to support improved liveability, visitation levels and local jobs. This includes a new Bruce Munro 'Tropical Light' exhibition, to run from October 2019 to April 2020, featuring eight light installations through Darwin CBD and the Waterfront precinct aimed at attracting visitors to the Top End region over the wet season. Bruce Munro's 'Field of Light' installation at Uluru, which commenced in April 2016, has contributed to over 250 000 visitors received in the region. This additional demand has resulted in Jetstar Australia benefiting from a 15 per cent increase in demand for flights to the exhibition. In response, the airline has increased capacity from Melbourne and Sydney to 50 000 airline seats. During April 2019 and April 2020, Alice Springs will feature another light festival 'Parrtjima', which is expected to stimulate tourist activity in the region.

From 26 April to 4 May, the Territory Government hosted the 2019 Arafura Games in Darwin, which featured local, national and international athletes. The event provided stimulus to the local economy through the contributions made by athletes and visitors towards accommodation, food and restaurants, and tours and attractions while in the region. In addition, the \$220 million investment in revitalising the CBDs of both Darwin and Alice Springs are also part of the Commonwealth and Territory government's efforts to help create and improve tourist experiences in the Territory. The Territory Government has also invested \$100 million to showcase art and cultural objects produced in the Territory as part of the Arts Trail. This investment includes grants for remote and regional museum and gallery infrastructure upgrades and extensions in Katherine, Arnhem Land and Tennant Creek, to promote and maximise visitation in the regions.

In August 2016, the Territory Government and Landbridge Infrastructure Group Australia signed an agreement for the development of a luxury hotel in Darwin at the Darwin Waterfront. Construction of the new Westin Darwin Hotel commenced in early 2019 with plans to commence operations by early 2022. This new private development will create opportunities and support the local economy, delivering more than 500 construction jobs and about 150 ongoing positions. The luxury hotel, with around 200 rooms planned, will broaden the range of accommodation available in the Top End region and help attract more tourists and unique business events in Darwin. As a result, the Territory's tourism industry is expected to benefit from increased interest from Chinese and other Asian holiday and business visitors.

Accommodation

The quantity and quality of the supply of accommodation continues to influence the development of the tourism sector. During 2018, there were 101 short-term accommodation suppliers (includes hotel, motel, serviced apartments and resorts with over 10 rooms) across the Territory, with 9422 rooms available (up from 9208 the previous year). In the Darwin region, there were 47 establishments with 5578 rooms available (up from 5345 the previous year). As a result of the wind-down of construction on the Ichthys LNG project, some accommodation providers have reallocated rooms previously used for long-stay accommodation to the short-term accommodation

market. In 2018, four establishments, Darwin City Hotel, Kalidonis Village, One30 Esplanade and H2O Apartments, added rooms to the short-term accommodation market, with the intention to attract more tourists. This increase in room supply, combined with lower demand and increased entries of other private short-term letting properties (such as Airbnb and Stayz) has resulted in lower occupancy rates in Darwin (69 per cent in 2018). With exception of the Westin Darwin Hotel, the Territory's accommodation pipeline is expected to be constrained reflecting the current oversupply, combined with lower consumer demand and yields.

Cruise ships

The cruise ship sector is a key part of the tourism industry in the Top End, with 74 cruise ship visits (ships with 100 or more passengers) scheduled in 2019-20. In close proximity to Asia, Darwin is well positioned as Australia's northern gateway port and is expected to attract an increasing number of cruise ships over the forecast period, particularly with proposed upgrades to facilities by the Landbridge Group. Cruise ship visits can provide an influx of tourists into the region during the off-peak seasons, with passengers and crew undertaking tours, visiting local attractions, shopping at local retail outlets, and spending at cafés and restaurants. The total expenditure (including passenger, crew and cruise line expenditure) by the cruise sector in the Territory was estimated at \$171.9 million in 2017-18, being the most recent data available at the time of publishing. The Landbridge Group also intends to grow Darwin port and trade opportunities between Australia and Asian economies and enhance cruise ship facilities at Fort Hill Wharf.

Aviation

Aviation access is important to bring tourists to the Territory. The Territory Government continues to collaborate with major domestic carriers as well as attracting and maintaining international carriers. Donghai Airlines commenced non-stop direct services between Darwin and Shenzhen on 30 May 2018 and carried 3085 inbound passengers up to January 2019. Discussions are continuing with other Chinese carriers interested in establishing services to Darwin as the population centres in China are considered large enough to support more than one carrier to the Territory.

Furthermore, Virgin Australia is operating seasonal flights from Darwin to Denpasar three times a week, between 10 April and 20 October 2019. Jetstar Asia is operating daily flights between Darwin and Singapore between 11 April to the end of July 2019. SilkAir has also proposed to increase flight frequencies between Darwin and Singapore, offering daily flights from 6 July 2019. SilkAir's Darwin service will transition onto the Singapore Airlines brand during 2020.

On the domestic front, Airnorth has commenced seasonal flights from Darwin via Townsville to the Gold Coast, operating twice weekly between 3 April to 20 October 2019. The Qantas Group is making a series of adjustments to its Territory network in 2019, which include:

- two new routes to Uluru (Ayers Rock Connellan Airport) from both Darwin and Adelaide, operating twice per week on both routes, from 3 April 2019
- an aircraft upgrade between Alice Springs and Darwin, providing increased capacity of up to 1300 seats per week on the route
- an increase in Jetstar Australia flights between Cairns and Darwin (from four per week to daily during peak season), while Qantas will cease flights on the route
- a daily flight between Perth and Darwin year-round (down from 11 per week during peak season)
- two flights per week between Perth and Alice Springs (down from daily flights)
- ceased direct flights between Cairns and Alice Springs with connections now available via Uluru.

Agriculture, forestry and fishing

Recent activity

The agriculture, forestry and fishing sector accounted for 2.9 per cent of GSP and 1.3 per cent of total resident employment in 2017-18. It remains a significant employer and source of economic activity in the Territory's regional and remote areas.

Outlook

The value of the Territory's agricultural output is expected to increase in 2018-19, driven by increases in live cattle exports, along with a positive outlook for horticulture and aquaculture.

Although the agriculture, forestry and fishing sector represents a relatively small proportion of the Territory's output and employment, it is a significant employer and source of economic activity in regional and remote areas (Map 4), as well as having important linkages to other sectors of the economy, including retail and wholesale trade, manufacturing and transport. The industry's output can vary significantly from year to year due to changes in production, seasonal conditions and changes and government regulation in global and domestic demand for Territory commodities.

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

Outlook

In 2017-18, the agriculture, forestry and fishing industry accounted for 2.9 per cent (\$735 million) of the Territory's GSP and 1.3 per cent (1743 people) of the Territory's total employment. The value of the agricultural industry is expected to increase in the short term due to improvements in live cattle exports, which is the largest contributor to the industry. The value of horticulture and aquaculture is anticipated to expand in the medium term as the banana and melon industries recover, and barramundi and prawn fisheries continue to perform well. Additional upside exists if Project Sea Dragon reaches final investment decision, with stage 1 of the project continuing to progress.

Live cattle

The Territory's live cattle exports are expected to increase in the short term due to growing demand in South East Asia, partly offset by competition with frozen Indian buffalo meat in Indonesia. Interstate live cattle movements are expected to increase to restock cattle stations following the severe flooding and associated stock loss in northern Queensland, combined with dry conditions in the Territory and southern Queensland. The movement of stock has the potential to negatively impact overseas live cattle exports.

Indonesia is the Territory's largest live cattle export market, accounting for 79.3 per cent (210 821 head) of total Territory cattle exports in 2018. The Indonesia-Australia Comprehensive Economic Partnership Agreement was signed in March 2019 and is expected to deliver more open market access for Territory live cattle exports and further tariff reductions for Australian beef. This outlook is partly offset by the negative impact expected from the entry of Indian buffalo meat into the Indonesian market. India became Australia's major competitor in the Indonesian beef market since its legal entry in August 2016 and, combined with high Australian cattle prices and the Indonesian government's policies to achieve self-sufficiency for major commodities including beef, it is considered to continue to have an impact on Australian live cattle exports. The competitive

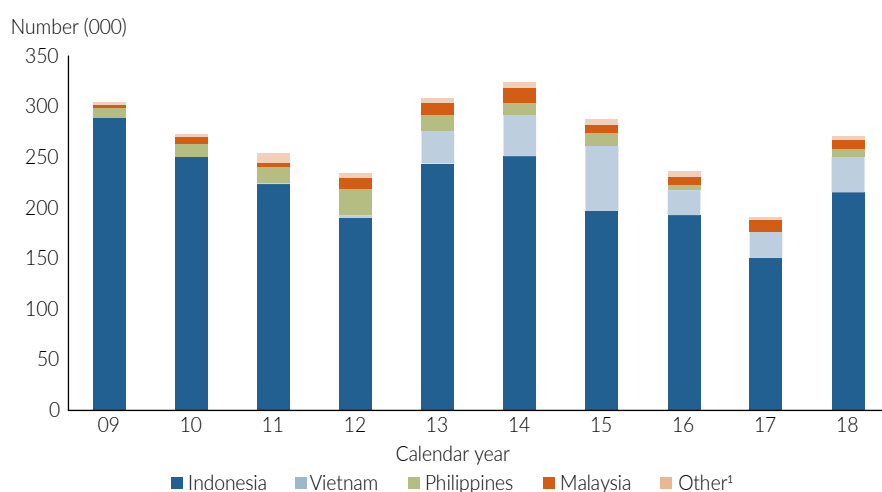
landscape is expected to increase as the Indonesian Government continues to seek to reduce beef prices and diversify beef supply sources, with Brazil currently being assessed for market access.

In early 2019, ongoing drought in southern Queensland and the Barkly region of the Territory resulted in a large number of cattle being offered the market, which depressed domestic cattle prices in northern Australia. This decrease was partially offset by high export activity in January and February of 2019, and increased rainfall from Cyclone Trevor in March 2019 which alleviated dry conditions for some stations in the Barkly region. The domestic price of cattle is expected to increase in 2019, mainly driven increased demand for heifers from northern Queensland which experienced widespread floods in early 2019 and Cyclone Trevor that resulted in significant loss of cattle. As such, flood-affected farmers are expected to restock their herds with heifers, which is likely to increase interstate exports from the Territory as there are a limited number of supply options. The interstate export of cattle due to these weather events may detract from the Territory's ability to export overseas.

In early 2018, the first shipment of cattle from northern Australia was exported to China through Townsville. Prior to that, all cattle shipments to China were sourced and shipped from southern Australia due to bluetongue virus being endemic in northern Australia. Bluetongue virus is non-contagious and has no clinical symptoms on cattle, however any live exports to China must come from bluetongue virus-free zones. Following the shipment from Townsville, another shipment of cattle was sent to China from Port Alma in Queensland at the end of 2018. China could potentially become a major export destination for Territory cattle, subject to extra quarantine measures and commercial feasibility. The 2018 outbreak of African swine fever in China shifted consumer preferences from pork toward beef, improving the prospects for high-quality Australian beef.

Indonesia's share of total live cattle exports increased over 2018, outpacing growth in demand from other countries (Chart 1). Live cattle exports to Vietnam, which accounted for 13.6 per cent (25 884 head) of all live cattle exports in 2017, declined to 13.0 per cent in 2018. However, the number of cattle exported to Vietnam increased by 36.5 per cent to 35 342 head in the year and is expected to continue to grow in the short term. Although Indonesia remains the Territory's largest market for live cattle exports, other overseas export markets may grow to encompass a greater share over the outlook period.

Chart 1: Annual number of live Territory cattle overseas exports, by destination



1 Other comprises Brunei, Cambodia, Egypt, East Timor and Thailand.

Source: Department of Primary Industry and Resources

Live buffalo

The live buffalo industry is a small but emerging industry in the Territory. The high price of beef has made live buffalo a more attractive Territory export, selling for about 60 per cent of the price of live cattle.

In February 2017, Indonesia restarted the live buffalo trade from the Territory after several years of little activity. It has since grown to become the largest export destination for Territory buffalo, accounting for 42.9 per cent (3724 head) of total buffalo exports in 2018. Vietnam is the second largest export destination of Territory buffalo (35.4 per cent), followed by Malaysia, which accounted for 16.9 per cent in 2018.

Due to the challenges of harvesting buffalo from the wild, the Territory Government in partnership with the industry is focused on developing depots and grow-out facilities. If a consistent supply can be fully realised, the Territory would have the capacity to export an estimated 30 000 head of buffalo a year, compared to current levels of around 10 000 head.

Other livestock

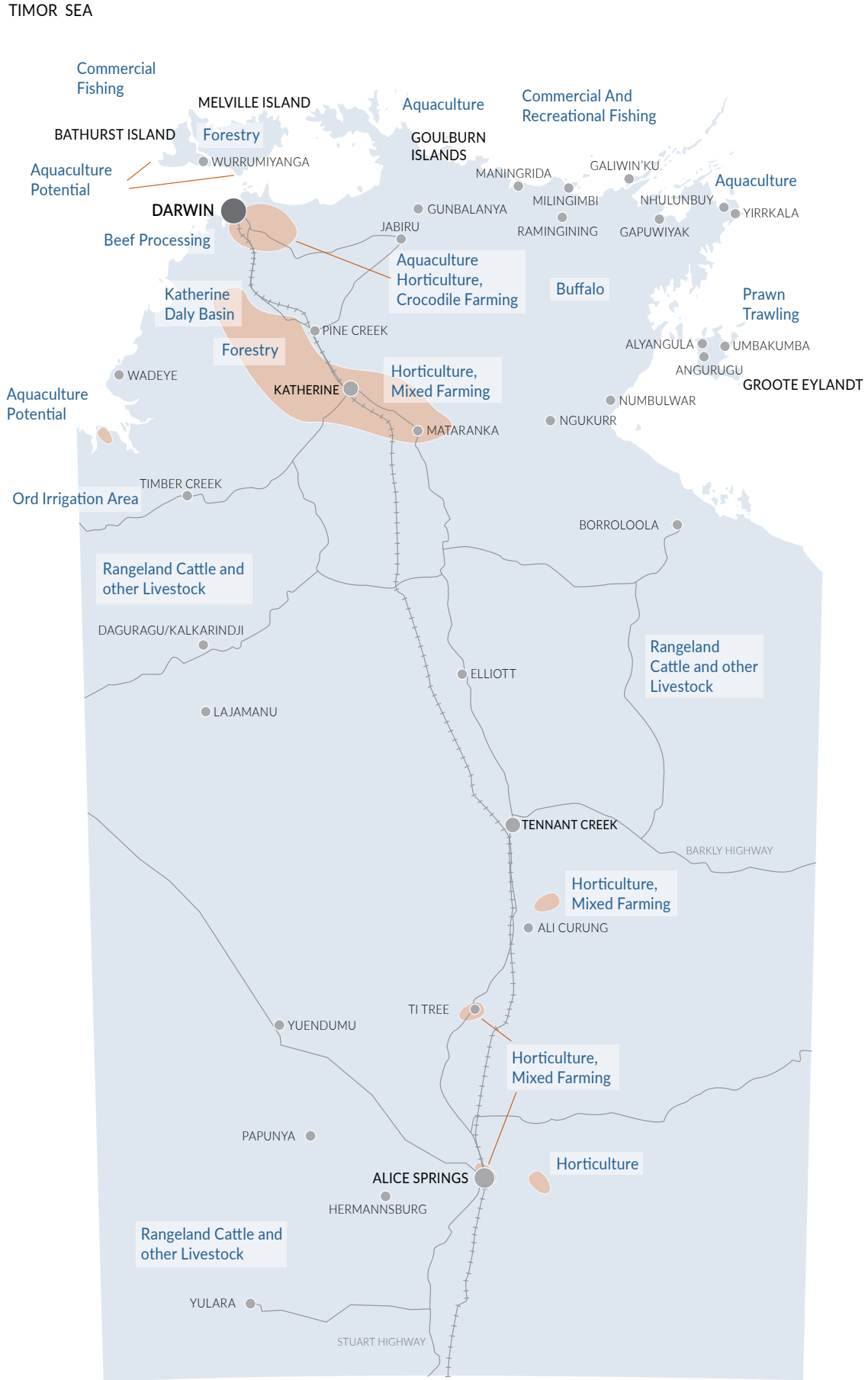
Australian Agricultural Company mothballed the Livingstone beef processing facility due to low profitability in July 2018. It was the largest capacity facility in the Territory and, consequently, boxed beef production is expected to decrease sharply in 2018-19. This will be partly offset by the reopening of the meat processing facility at Batchelor, expected in the first half of 2019.

The Crocodile Farmers Association of the Northern Territory (CFANT) aims to increase the value of the Territory's crocodile farming industry to almost \$50 million per year by 2021-22. To achieve this target, and with support from the Territory Government, CFANT put in place the Northern Territory Crocodile Farming Strategic Plan 2015-20, to optimise opportunities for sustainable industry growth and create an environment for investment in crocodile production.

Australia accounts for 60 per cent of the global trade in saltwater crocodile skins, with about two thirds farmed and exported by the Territory. Of the remaining one third farmed interstate, the majority of stock is sourced from the Territory. Due to stricter grading standards introduced in 2016-17 and increased supply of low grade skins from Asian and African farms, the price of low grade skins declined to historic lows in 2017-18. Despite this, the value of the crocodile industry increased slightly from \$23.0 million to \$23.7 million through 2017-18 and the outlook for the industry remains positive, driven by high demand for high quality skins. In 2018-19, it is estimated the crocodile industry will generate total revenue of about \$29.9 million, a significant increase in 2017-18. In late 2018, the international luxury fashion house Chanel announced it would stop using exotic animal skins in its products, including saltwater crocodiles. It was the first luxury fashion house to do so and has since been joined by a number of large companies. This is expected to partly moderate demand for crocodile skins from the Territory.

Donkey farming is a potential industry for the Territory, with rising demand in China for donkey products. In 2017, the Territory Government purchased a small herd of feral donkeys for a research program at the Kidman Springs Research Station to explore the economic and environmental sustainability of farming Territory donkeys. Research planning for donkey farming continues and observational information is currently being collected.

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 Primary Industry and Resources

Trade agreements

In March 2018, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) was signed by Australia and 10 other member countries. The CPTPP came into force at the end of 2018 and is expected to benefit a range of agricultural and horticultural exports over the outlook period. Part of the agreement involves the elimination of Canadian boxed beef tariffs in five years, the elimination of Mexican tariffs on beef cuts in 10 years and the reduction of boxed beef tariffs in Japan within 15 years.

In March 2019, the Indonesia-Australia Comprehensive Economic Partnership Agreement was signed between the two countries and is expected to have a significant impact on agriculture in the Territory. In addition to its support of live cattle exports to Indonesia, the agreement is expected to assist overseas exports from the meat processing facility at Batchelor once it commences operation. The agreement will reduce tariffs on live cattle and boxed beef, and allow an unlimited volume of boxed beef to be exported to Indonesia. Tariffs on boxed beef to Indonesia will then be eliminated over a course of five years. Live cattle permits will increase by 4 per cent each year up to a cap of 700 000 head by the sixth year of the agreement.

Horticulture

Mango production, a large proportion of the Territory's horticulture sector (44.9 per cent), is strongly influenced by seasonal conditions and demand in southern markets. Mango production in 2017 was one of the strongest on record, increasing by 33.7 per cent to 39 700 tonnes. Despite this increase, the total production capacity of mangoes is not likely to vary over the outlook period. More than 50 000 young mango trees have been planted in the Darwin and Katherine regions in 2018, and are expected to mature in 4 to 5 years. The increased production from these plantings is expected to be largely offset by older trees no longer in production. Beyond the forecast period, there is the potential for new, more productive varieties to enter the market. The Department of Primary Industry and Resources (DPIR) began testing two new varieties of mangoes in late 2018. The new varieties have a higher yield with the same inputs, and are expected to extend the production window compared with existing varieties if successfully adopted on the market.

Melon production decreased from 56 400 tonnes in 2016 to 46 000 tonnes in 2017. Despite this decline, the outlook for melons from 2018 onwards is positive, subject to seasonal conditions. The three-year research project into the cucumber green mottle mosaic virus, which was detected in the Territory and negatively impacted the melon industry in 2014, has produced improved management options to contain future outbreaks.

In 2013, an outbreak of banana freckle disease led to the implementation of the National Banana Freckle Eradication Program. In early 2019, the Territory was declared free of the banana freckle disease, allowing export requirements imposed during the program to be removed. Businesses in the Territory have been replanting bananas since internal movement regulations were lifted in mid-2017. The banana industry is expected to quickly recover over the outlook period, tapping into Australia's \$600 million banana industry.

In 2017, production of hay fell sharply from 80 000 tonnes to 25 000 tonnes compared to the previous year, coinciding with a significant decline in live cattle exports over the same period. Despite this decline, the value of hay production is expected to increase over the medium term. In 2018, approximately 6000 tonnes of hay was sold interstate, largely driven by demand from states affected by drought. This has positioned the Territory as another source of fodder hay in the national market, resulting in positive expectations for hay exports.

In early 2018, a contagious bacterial disease identified as citrus canker was detected in citrus plants in the Territory. The citrus canker eradication program was implemented and resulted in the removal

and destruction of all citrus plants in restricted areas within the greater Darwin region. Although potentially destructive for the industry, the outbreak has only had a significant impact on interstate sales of kaffir lime leaves so far. The major lemon season in Katherine is expected to proceed, with no significant impact on lime production.

Pineapple production in the Territory is likely to increase in the medium term with Piñata Farms expanding production in the Territory. Piñata Farms expects to produce 150 000 trays from its plantation near Humpty Doo in 2019.

There are several crops under consideration that could potentially increase the value of the Territory horticulture industry. The Territory Government is considering legislation to allow the commercial cultivation of industrial hemp and medical marijuana. An experimental crop of hemp was trialled in Katherine in 2018, demonstrating requirements to grow the crop in the Territory. Another potentially viable crop is cotton. Commercial trials have been conducted in the Ord Irrigation Area in Western Australia, near the Territory border. Experimental trials are currently underway within the Territory. This research is being conducted by DPIR and contributes to the potential establishment of a cotton industry. The Douglas-Daly and Katherine regions are considered the most prospective. Further development of dryland and irrigated crop production systems in the Territory will require the procurement of suitable land use and water use approvals.

Kakadu plums are a native bush food harvested within the Kakadu National Park and sold on the growing traditional medicine market. The Gundjeihmi Aboriginal Corporation began trials of commercial harvests in April 2018.

In August 2018, the Cooperative Research Centre for Developing Northern Australia (CRCNA) provided a \$500 000 grant to the Kakadu plum industry in northern Australia. This grant is part of a \$2.7 million research project to review the supply chain of the Kakadu plum industry over three years. The project is expected to increase the value of the industry by \$10 million nationally over the outlook period and increase participation by Aboriginal communities.

In November 2018, the Indigenous Land Corporation established the Northern Australia Aboriginal Kakadu Plum Alliance (NAAKPA) to develop and support Aboriginal-owned Kakadu plum enterprises. The NAAKPA is a consortium of nine Aboriginal enterprises, including the Gundjeihmi Aboriginal Corporation, which will collaborate to provide a more consistent supply of fruit.

Fisheries

The outlook for fisheries production in the Territory is positive, driven by anticipated growth in aquaculture production.

Seafarms Group has continued to progress Project Sea Dragon, a US\$1.5 billion aquaculture project in northern Australia. The project aims to produce over 150 000 tonnes of black tiger prawns each year. Stage 1 constitutes around 10 per cent of the total project and commenced construction in 2018 during the dry season. In July 2018, the Territory Government granted an aquaculture licence for production ponds at Legune Station. This milestone follows the environmental approval and Indigenous Land Use Agreement obtained in 2017. Project Sea Dragon is expected to provide significant employment opportunities at the Legune Station on the Northern Territory and Western Australian border, along with supply chain benefits at Bynoe Harbour and Gunn Point. The project has yet to receive a final investment decision.

A tender to upgrade the Keep River Road was released in March 2019. The upgraded road will support Project Sea Dragon as well as the proposed Ord Irrigation Scheme stage 3 that would extend the Ord Channels into the Territory. Works will be delivered in two phases, with stage 1 works delivering the initial 13 kilometres from the Western Australia border toward Legune Station

and a bridge over the Keep River. The Commonwealth has committed \$39.9 million for stage 1, while the Territory Government committed \$17.5 million for both stages of the project.

Humpty Doo Barramundi is the Territory's largest primary producer and distributor of Australian saltwater barramundi. To meet increased demand in recent years, the operators have acquired additional land and established more growing ponds, which has doubled the production capacity of the farm. Moving forward, Humpty Doo Barramundi has secured funding from the NAIF, with \$7.2 million committed in the first of a three-stage infrastructure investment program. The business is in the process of developing additional production capacity and supporting infrastructure to underpin future sustainable growth, efficiency and vertical integration in 2019-20.

Forestry

The outlook for the forestry industry is generally positive, although its economic implications lie largely outside the forecast period due to the long-term nature of forestry production and the early stage of the industry's development in the Territory.

Trees from the acacia plantations on the Tiwi Islands continue to be harvested and sold on the international woodchip market. Since the plantations started to reach maturity in 2015, up to 441 278 green metric tonnes (GMT) have been exported as of 2017-18, with a gross value of United States dollar \$26.8 million. In late 2018, Midway announced it will invest \$17 million in its Tiwi plantations. This is expected to increase production from 196 603 GMT in 2017-18 to 229 000 GMT in 2018-19.

African mahogany is grown for its high-value timber in the Douglas-Daly and Katherine regions. The trees have an expected rotation of between 18 to 25 years and are currently in mid-rotation. The standing value of these trees when harvested at maturity is estimated to be \$100 million.

Indian sandalwood, in the Douglas-Daly and Katherine regions, is grown for high-value oil and pharmaceutical products. It is the only plantation forestry in Australia that is routinely grown in a mixed-species system and with irrigation. The current plantation in the Territory is still in its early-rotation phase and will not be harvested for more than a decade.

In March 2019, a \$209 300 research project was announced under the CRCNA to develop the forestry and forestry products industry in northern Australia. It is a 10-month project between DPIR, Timber Queensland, the Queensland Department of Agriculture and Fisheries, and the University of the Sunshine Coast to develop northern Australia's forestry industry.

Territory Government agribusiness development

Agribusiness is a key focus of the Territory Government's EDF. There are several projects and opportunities mentioned in the Territory Government's 10-year Infrastructure Plan for 2018-2027 that focus on developing the agriculture, forestry and fishing industry in the Territory. These priority projects include the Katherine Logistics and Agribusiness Hub, the Wildman River agricultural precinct, the Gunn Point precinct, an improved regional road network, and development of infrastructure to increase export opportunities.

Abbreviations and Acronyms

ABS	Australian Bureau of Statistics
Aust	Australia
B	billion
Cat. No.	catalogue number
CBD	central business district
CCTV	closed-circuit television
CFANT	Crocodile Farmers Association of the Northern Territory
CPTPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
CRCNA	Cooperative Research Centre for Developing Northern Australia
DHA	Defence Housing Australia
DPIR	Department of Primary Industry and Resources
e	estimate
EDF	Economic Development Framework
f	forecast
GDP	gross domestic product
GEMCO	Groote Eylandt Mining Company
GMT	Green Metric Tonnes
GSP	gross state product
HMAS	Her Majesty's Australian Ship
JPDA	Joint Petroleum Development Area
LNG	liquefied natural gas
LPG	liquefied petroleum gas
M	million
NAAKPA	Northern Australia Aboriginal Kakadu Plum Alliance
NAIF	Northern Australia Infrastructure Facility
NT	Northern Territory
RAAF	Royal Australian Air Force
SIHIP	Strategic Indigenous Housing and Infrastructure Partnership
TJ/d	terajoules per day
TRA	Tourism Research Australia
US	United States (of America)
USFPI	United States Force Posture Initiatives

Glossary

Current prices

The value in nominal terms, not adjusted for inflation or changes in the purchasing power of money. It is the market value for the good or service at the time it was being sold.

Gross domestic product

The total value of goods and services produced in Australia over the period for final consumption. Intermediate goods, or those used in the production of other goods, are excluded. Gross domestic product can be calculated by summing total output, total income or total expenditure.

Gross state product

Similar to gross domestic product, except it measures the total value of goods and services produced in a state or territory. It is the sum of all income, namely, wages, salaries and profits, plus indirect taxes less subsidies. It can also be calculated by measuring expenditure, where it is the sum of state final demand and international and interstate trade, changes in the level of stocks, and a balancing item.

Inflation adjusted (also known as chain volume)

Inflation-adjusted measures provide estimates of real changes by factoring in general changes prices from year to year.

Moving annual total

A method used to smooth data and remove the short-term fluctuations in data by averaging observations collected over a 12-month period.

Visitor

Tourism Research Australia defines a visitor as someone who has stayed in a place at least 40 kilometres from their usual place of residence for at least one night, but who is away from home for less than 12 months. An international visitor is defined as an overseas arrival who stayed in Australia for less than 12 months.