

Chapter 10 Construction

Key Points

- » The construction industry accounted for about 8.3 per cent of GSP on average over the five years to 2006-07, and employed about 7.9 per cent of the workforce.
- » Projects such as the Alcan G3 refinery expansion at Gove have a huge impact on the value of construction work done in the Territory. They are significant both on a Territory and a national scale and can lead to substantial volatility in the value of construction work done.
- » In 2006-07, total construction activity decreased by 12.6 per cent to \$2.2 billion, supported by major resource-based engineering projects such as the \$3 billion Alcan G3 refinery expansion.
- » Declining construction growth in 2007-08 comes as investment for the Alcan expansion, the main driver of engineering work done, is completed.
- » Northern Territory construction activity will continue to contract in 2008-09. However, new mining and engineering based projects will ensure that total construction activity will remain at levels above the historical average over 2008-09.

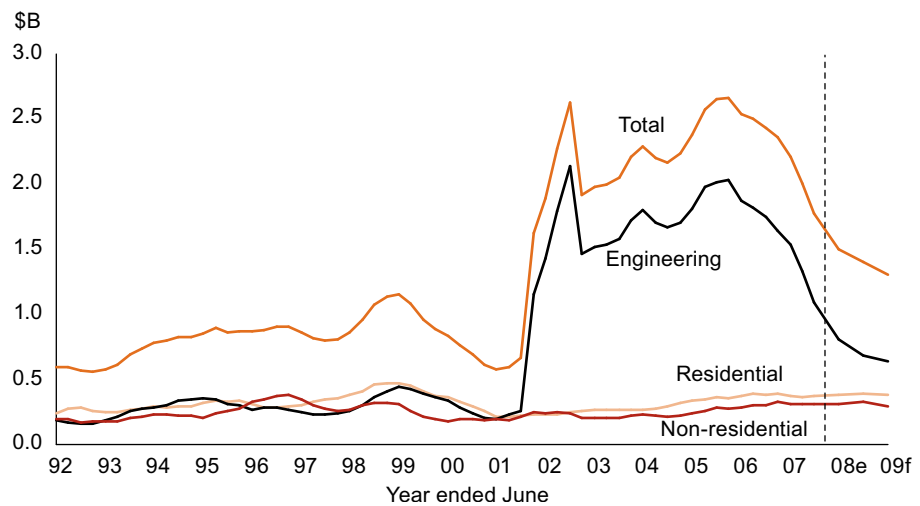
Construction comprises residential building, non-residential building and engineering construction. The construction industry plays an important role in the Northern Territory economy, accounting for about 8.3 per cent of gross state product (GSP) on average over the five years to 2006-07 and about 7.9 per cent of total employment.

Construction activity in the Territory can be highly volatile, reflecting the impact large resource and infrastructure related projects can have on a relatively small economy. This has been particularly evident over the last decade.

At the beginning of this decade, construction activity slowed markedly in the Territory as economic and population growth weakened following the completion of the major defence force relocation to the Top End (Chart 10.1). This slowdown continued until mid 2001 when construction for the \$1.3 billion Alice Springs to Darwin railway commenced, and was further boosted in 2002 by the start of development of stage 1 of the \$2.7 billion Bayu-Undan liquids and gas field project in the Timor Sea. Construction activity reached record levels in 2005-06 during the construction phases of the \$2 billion Darwin Liquefied Natural Gas (LNG) plant (and associated subsea pipeline) at Wickham Point and the \$3.1 billion Alcan G3 alumina refinery expansion at Gove. Since peaking in 2005-06, total construction activity has been declining in the Territory, reflecting the completion of construction for the LNG plant in December 2005 and the Alcan refinery expansion in December 2007. As a result, total construction activity in the Territory decreased by 12.6 per cent to \$2.2 billion in 2006-07.

Without any new multi-billion dollar projects, total construction activity is expected to continue its decline over the remainder of 2007-08.

Chart 10.1: Territory Construction Work Done



e: estimate; f: forecast

Source: ABS Cat. No. 8752.0, Northern Territory Treasury

Although major projects such as the Alcan expansion create a significant number of jobs in the Territory, this is not necessarily reflected in resident employment figures reported by the Australian Bureau of Statistics (ABS). The primary reason is that the very large scale of these projects, combined with a limited pool of skilled local workers, results in a strong reliance on fly-in fly-out (FIFO) employees who are not attributed to Northern Territory resident employment levels by the ABS labour force survey. This means the official employment contribution of the construction industry in the Territory underestimates the actual employment contribution.

Similarly, such major projects can have a huge impact on the value of construction work done and cause substantial volatility in reported activity. However, the impact of these projects on underlying economic activity may be less substantial due to their location, often in remote areas or offshore, use of FIFO workers and the importation of equipment and construction materials from outside the Territory.

Residential Construction

Residential construction includes the building of new houses and other residential buildings (townhouses, units), residential conversions (converting non-residential buildings into residential buildings), and alterations and additions to existing residential buildings. Residential construction activity occurs in both the private and public sectors. In 2006-07, residential construction accounted for about 16.8 per cent of total construction.

Demographic, social and economic factors have strong influences on the demand for residential dwellings and, in turn, on residential construction. Residential construction is closely linked to population growth and the underlying strength of the economy, while other key factors affecting the demand for housing include:

- the rate of new household formation;
- the distribution of income and wealth;
- the availability and cost of land and housing;
- the price of new dwellings relative to existing dwellings;
- government housing policies; and
- availability and cost of finance.

In the short term, interest rates and business and consumer confidence are also major influences on the building cycle.

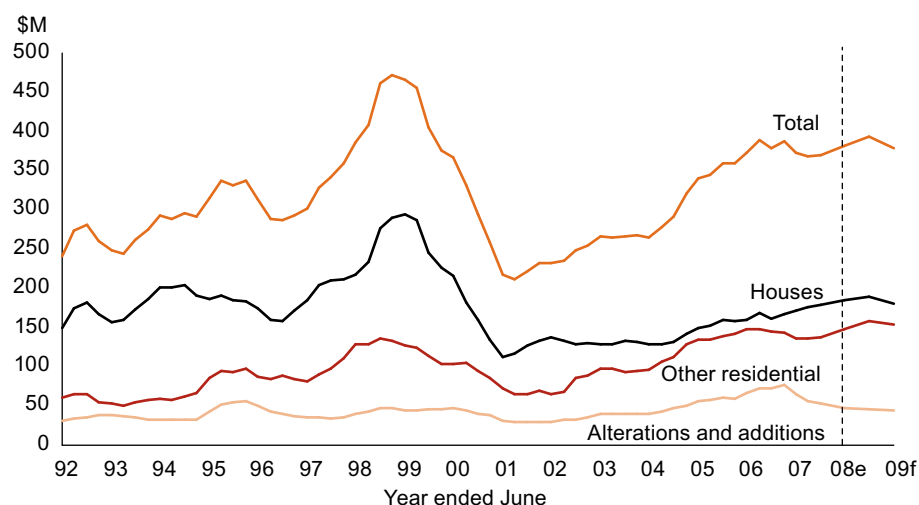
In 2006-07, total residential building work done, in real terms, remained near its highest level in almost a decade, down just 0.2 per cent to \$372.7 million from one year earlier (Chart 10.2). Construction work done for new houses increased by 7.5 per cent to \$171.8 million, while other residential work done decreased by 7.6 per cent to \$137 million. Alterations and additions, which were at the highest levels in over 30 years in 2006-07, declined by 2.8 per cent in the year to \$64.6 million.

Strong population growth, declining vacancy rates, relatively high rental yields and various government housing initiatives such as the HomeNorth scheme have been significant drivers of residential construction activity over the past few years. These factors are expected to continue to contribute to increasing residential construction activity in the Territory in 2007-08.

Territory residential construction activity is estimated to increase by 2.2 per cent in 2007-08. Private residential building activity is expected to increase modestly, as growth in other dwellings (units, townhouses and apartments) construction more than offsets weakness in activity for houses, alterations and additions. The weakness in private sector house construction reflects the impacts that rising interest rates, declining home loan affordability and rising land and construction prices have had on demand.

Public sector construction activity is estimated to strengthen in 2007-08, primarily reflecting construction work done at the Lyons estate in Darwin and Territory Government employee and Indigenous housing projects throughout the Territory.

Chart 10.2: Territory Residential Building Work Done



e: estimate; f: forecast

Source: ABS Cat. No. 8752.0, Northern Territory Treasury

Non-Residential Building

Non-residential building includes hotels, shopping centres, factories, offices, schools, hospitals and cinemas. The level of private sector investment in non-residential building is determined by several factors, including the adequacy of existing capital stock, interest rates, anticipated future demand and general business confidence.

Public sector expenditure on non-residential building is targeted to meet medium to long-term needs and provide social and economic infrastructure such as schools, hospitals and roads.

In 2006-07, non-residential construction activity, in real terms, increased by 7.4 per cent to \$306.4 million. Large declines in public sector non-residential construction activity were more than offset by a large increase in private sector activity.

Private Sector Non-Residential Construction

In real terms, private sector non-residential construction increased by 43.7 per cent to \$208.9 million in 2006-07, supported by projects such as the Darwin Convention Centre (DCC) and the Mantra Pandanas development. Despite the anticipated completion of these two projects in the latter half of 2007-08, private sector non-residential construction activity is expected to remain at high levels during the year supported by work done for the:

- \$100 million Vibe and Medina hotels at the Darwin Waterfront;
- \$35 million Tiwi Gardens retirement village redevelopment;
- \$30 million Crocosaurus Cove development;
- \$30 million SkyCity Darwin Casino redevelopment;
- \$15 million Darwin Airport Inn; and
- \$12 million Pandanas office suites.

Activity will be further supported by a number of new warehouse developments particularly around Darwin, with one of the largest being the \$20 million Metcash Trading Warehouse at the Darwin Business Park.

Public Sector Non-Residential Construction

Declining public sector non-residential construction activity in 2006-07 was driven by the conclusion of major works relating to the 1st Aviation Regiment relocation to Robertson Barracks and the Bradshaw Field Training Area in mid-2006. Nevertheless, public sector construction activity in 2006-07 was supported by Territory Government investment including expenditure associated with:

- the Darwin Waterfront (excluding the DCC which, although funded through a public private partnership, is categorised as a private sector project by the ABS);
- Middle Years high school developments in Darwin and Palmerston;
- a new secondary schooling facility at Wadeye;
- upgrades to the Alice Springs Hospital;
- the Darwin football stadium; and
- the Mararra fire station.

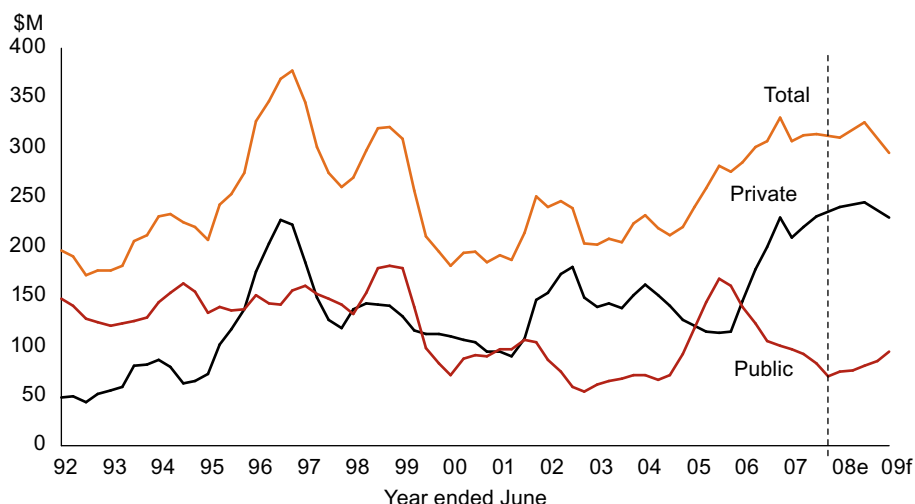
In 2007-08, public sector non-residential construction activity is estimated to have increased due to increased work by the Territory Government.

Major Territory Government non-residential construction activity in the year related to:

- ongoing facilitation and delivery of the Middle Years schooling infrastructure program;
- continued development of the Desert Knowledge Precinct including the Desert People's Centre in Alice Springs; and
- commencement of construction for the Casuarina and Galwin'ku police stations.

Total growth in non-residential building activity is estimated to moderate to 1.2 per cent in 2007-08 before declining by 4.8 per cent in 2008-09 (Chart 10.3).

Chart 10.3: Territory Non-Residential Building Work Done (moving annual total)



e: estimate f: forecast

Source: ABS Cat. No. 8752.0, Northern Territory Treasury

Engineering Construction

Historically, engineering construction activity in the Territory, as for Australia, has been dominated by public sector activity related to infrastructure developments. Since the start of construction for the Adelaide to Darwin railway in mid-2001, engineering construction activity in the Territory has been primarily driven by large private sector resource projects. This trend continued into 2006-07, although at lower levels than in previous years.

In 2006-07, engineering construction work done in the Territory, in real terms, decreased by 18.2 per cent to \$1.5 billion. This primarily reflects the majority of work related to the Alcan refinery expansion having been completed by mid-2007. Other major engineering projects undertaken in the year included work for the:

- \$100 million Puffin oilfield development project by Australian Energy Developments (AED) in the Timor Sea;
- \$110 million conversion of operations at the McArthur River mine; and
- \$750 million Blacktip project by Eni Australia.

The Blacktip project involves the construction of an onshore gas treatment plant near Wadeye with two connecting pipelines, one to the Blacktip gas field in the Joseph Bonaparte Gulf (situated in Western Australian waters), and the other to the existing Amadeus Basin to Darwin pipeline. Commissioning and start up are scheduled for the last quarter of 2008, with the first gas to be delivered to the Power and Water Corporation early in 2009.

Based on current projects, growth in engineering activity will decline by an estimated 47.6 per cent in 2007-08, although remaining at relatively high levels. Major engineering projects under way in the year include:

- ongoing work for the Blacktip project;
- the \$US700 million Montara, Skua and Swift oilfields projects in the Timor Sea;
- the \$140 million Browns Oxides project at Batchelor;
- commencement of construction of the \$167 million GEMCO manganese processing expansion at Groote Eylandt;
- community infrastructure for the Darwin Waterfront project including construction of the wave pool, roads and parking;

- upgrading of the Victoria Highway to improve flood immunity, including bridges at Big Horse and Little Horse creeks;
- continued development of the Red Centre Way; and
- commencement of work for the \$126.6 million Weddell power station by the Power and Water Corporation.

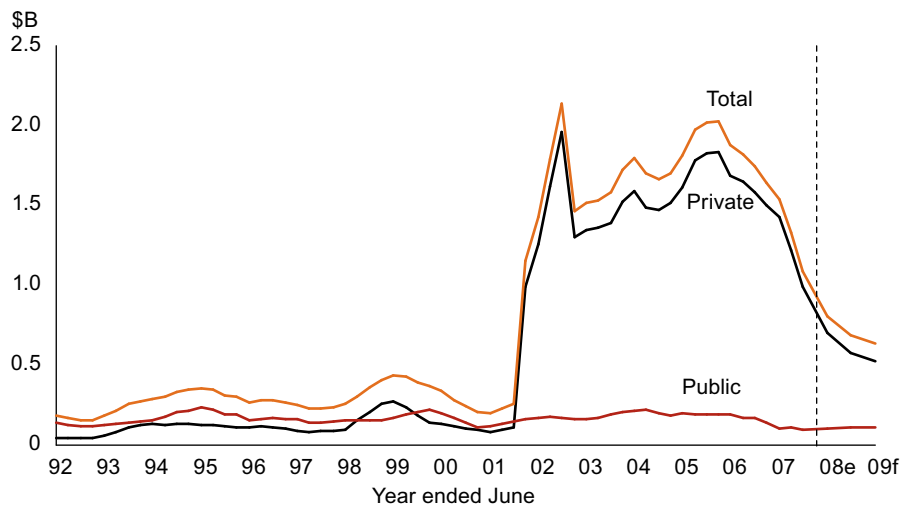
Power and Water Corporation

In early 2007, the Territory’s Power and Water Corporation announced that it would invest \$592 million on capital upgrades over the next five years, with another \$222 million directed to its repairs and maintenance program. The largest project over this period will be the construction of the \$126.6 million Weddell power station (servicing the Darwin-Katherine network) which commenced construction in 2007. The first generator came on line in late January 2008 with a second due for completion in 2008. A third generator will be constructed within the next five years. In Alice Springs, construction is expected to start on a \$41.7 million power station (including transmission lines) at Brewer Estate in April 2008, with completion by October 2008.

Montara, Skua and Swift oilfield projects

Coogee Resources is currently developing the \$US700 million Montara project located around 650 kilometres west of Darwin in the Timor Sea. The project involves converting an existing oil tanker into a floating production, storage and offloading (FPSO) vessel that will be moored at the Montara oilfield with tie-backs to the Skua and Swift/Swallow fields via flowlines. First production for Montara is expected in the third quarter of 2008. As Coogee Resources is leasing the FPSO, its impact on Territory engineering construction activity will be allocated by the ABS over the life of the project, not when it is first moored to the oilfield. As such there is no spike in activity expected over 2007-08 and 2008-09. Consequently, this project and other similar ones (for example the AED Puffin project) operating in the Timor Sea will have less impact on activity in the short term than is suggested by its capital expenditure program.

Chart 10.4: Territory Engineering Work Done



e: estimate f: forecast
 Source: ABS Cat. No. 8762.0, Northern Territory Treasury

Construction Outlook

Given the uncertainty surrounding many of the factors influencing the decision to proceed with construction activity, timing can be unpredictable. These factors include the investment climate, access to capital, the outlook for global economic growth, commodity prices, the value of the Australian dollar and perceptions about the Territory’s comparative advantages. In recent years, acute skilled labour shortages in the construction sector have also been a primary driver behind project timelines

being significantly extended, making this one of the primary risks to the accuracy of construction forecasts.

In real terms, Territory construction activity is forecast to decrease by 13 per cent to \$1.3 billion in 2008-09. The value of residential construction is forecast to decrease by 0.8 per cent to \$378 million, non-residential construction to fall by 4.8 per cent to \$295 million and engineering construction to decrease by 21.1 per cent to \$635 million.

Residential Construction

In real terms, residential construction work done is forecast to decrease by 0.8 per cent to \$378 million in 2008-09. Ongoing construction activity related to a number of high rise apartment developments in the Darwin central business district and increased public sector expenditure on housing, supported by the Commonwealth's Northern Territory Emergency Response and the Territory Government 'Closing the Gap' initiatives are expected to largely offset declining levels of private sector house construction and alterations and additions activity.

Major residential developments under construction in 2008-09 include:

- the joint venture development of the Darwin suburb of Lyons (\$280 million).
- the One30 Esplanade high rise apartment development (\$100 million);
- the residential component (Wharf One apartments) of the Darwin Waterfront (\$60 million);

Defence Single LEAP Phase 2 Project

Housing developments are proposed at both the Robertson and Larrakeyah barracks, which will increase the supply of accommodation. This project, called Single Living and Environment Accommodation Precinct (LEAP) phase 2, has plans to construct 686 individual units at Robertson Barracks and 232 units at Larrakeyah Barracks. This project has the potential for a public private partnership that will boost local construction. Construction at the Larrakeyah Barracks is proposed to commence in mid-2009 (with completion by mid-2011), while construction for the Robertson Barracks units is proposed to commence in mid-2010 (with completion by 2012).

Population and employment growth, although forecast to moderate in 2008-09, will also continue to support overall residential construction activity in the Territory.

Non-Residential Construction

After three years of relatively high levels of activity, Territory non-residential building work is forecast to decrease by 4.8 per cent to \$295 million in 2008-09. This primarily reflects the completion of the DCC and Mantra Pandanas serviced apartments in early 2008. Nevertheless, the decline in non-residential construction is expected to be partly offset by activity associated with projects such as the:

- \$150 million Chinatown development (Stage 2);
- \$100 million Northern Territory Airports retail development near the Darwin airport; and
- \$33 million Gilligan's backpacker resort in Alice Springs;

Engineering Construction

In real terms, Territory engineering construction activity is forecast to fall by 21.1 per cent to \$635 million in 2008-09, as the Alcan G3 project draws to a close. Nevertheless, ongoing development of projects such as the \$750 million development of the Blacktip gas field in the Joseph Bonaparte Gulf, and the commencement of the \$167 million GEMCO manganese processing expansion at Groote Eylandt, will ensure that engineering activity in the Territory remains at levels above the historical average in 2008-09.

Major Defence Projects

A number of major Defence projects are currently in development that will impact significantly on public sector construction activity (engineering and non-residential) in the Territory from 2008-09 and beyond.

RAAF Base Darwin Redevelopment Stage 2

This project, expected to commence in late 2008 and be completed by late 2010, will upgrade existing facilities including fuel farms, workshops, fitness centre and airfield lighting, and construct a new logistics headquarters.

Robertson Barracks Redevelopment

The Robertson Barracks Redevelopment will provide new and upgraded facilities for training, emergency response, working accommodation and equipment support. The Land 907 facilities project will provide parking and working accommodation for heavy tank transport vehicles and other tank support services. The Hardened and Networked Army project will provide additional live-in accommodation, working accommodation and other support facilities.

RAAF Base Tindal Redevelopment Stage 5

This project plans to expand and upgrade existing and construct new working accommodation and augment electrical and water supply infrastructure.

RAAF Base Tindal Airborne Early Warning and Control Facilities

This project will provide facilities and infrastructure at RAAF Tindal to support the introduction of the new airborne early warning and control aircraft. The scope of work includes new taxiways, operational facilities and working accommodation.

Long Term Outlook

Despite an expected slowdown in global economic growth in 2008, the Territory construction sector is expected to continue to benefit from the ongoing boom in demand for resource commodities especially from China and India. Highlighting this, a number of world-scale resource projects are currently being planned throughout the Territory for potential development over the coming years.

Wickham Point LNG Plant Expansion – Train 2

ConocoPhillips and its joint venture partners are currently in the process of shoring up additional gas resources so as to expand production capacity at the Wickham Point LNG plant. The construction of an additional production train (Train 2) would increase capacity from the current 3.4 million tonnes per annum to around 10 million tonnes per annum. In addition to the Caldita and Barossa fields, ConocoPhillips is exploring the possibility of sourcing gas from the Greater Sunrise liquids and gas field.

Greater Sunrise

Following ratification of the International Unitisation Agreement and the Certain Maritime Arrangements in the Timor Sea Treaty in January 2007, Woodside announced that it would proceed to explore development options for the Greater Sunrise liquids and gas field in the Timor Sea. Greater Sunrise has an estimated 6 trillion cubic feet of natural gas.

The company is aiming to make a final investment decision for the project sometime in 2009, with the production of first gas and condensate from 2013.

Woodside is currently looking at three options to develop the field including:

- linking with the existing Bayu-Undan project in the Timor Sea and the Darwin-based LNG plant;
- a floating LNG facility; or
- an offshore development linked to a newly constructed LNG plant in Timor-Leste.

Private sector analysts estimate that the capital expenditure required to develop the Greater Sunrise field could be in excess of \$6 billion.

As at April 2008, Woodside and the other joint venture partners (Shell, ConocoPhillips and Osaka Gas) had yet to announce a decision on their preferred development

option for Greater Sunrise. Furthermore, development is contingent on the project receiving legal, regulatory and fiscal certainty from both the Timor-Leste Government and the Commonwealth.

Inpex LNG Plant at Middle Arm Peninsula

In February 2008, the Territory Government signed a project facilitation agreement with Japanese oil and gas company Inpex to evaluate the possibility of constructing an LNG plant at the Middle Arm Peninsula, near Darwin. If successful, gas would be sourced from Inpex's Ichthys field and transported 850 kilometres via a subsea pipeline to an 8 million tonne per annum LNG plant.

In April 2008, the company undertook a range of technical and engineering studies to fully assess the Darwin option and compare it to its current preferred option of processing the gas on the Maret Islands off the Kimberley coast in Western Australia.

Dow Pacific Chemical Plant

In mid 2007, Dow Pacific announced that it would investigate the possibility of building a \$3 billion chemical plant in the Territory. If the project proceeds, it is estimated that 4000 construction workers will be required during the construction phase, with an additional 500 during the operational phase. The plans are contingent on sufficient gas resources being secured.

Crux Liquids Project

Nexus Energy is proposing to undertake a US\$1 billion development at the Crux liquids and gas field located 700 kilometres north-west of Darwin. The development will entail mooring a floating, production storage and offloading facility (classified as engineering construction activity by the ABS) at the field and the construction of a number of wells and interconnecting pipelines. Condensate and LPG will be extracted, with natural gas re-injected back into the well. A final investment decision is expected in 2008 with the potential of liquids production from 2010.

Browns Sulphide Project

Compass Resources NL is currently undertaking a feasibility study of its proposed \$750 million Browns Sulphide project near Batchelor. A number of production scenarios are currently being examined with the potential for production to commence in 2010 or 2011.

Nolan's Rare Earth and Phosphate Project

Arafura Resources is currently in the process of assessing the feasibility of developing the Nolans rare earths-phosphate-uranium deposit located approximately 135 kilometres north of Alice Springs. If the study proves successful and government approval is forthcoming, the company is proposing to freight the ore by train to Darwin where it will be processed at a \$300 million plant.

As the Territory continues to develop as a service and manufacturing hub for the northern Australian mining and energy sectors, further opportunities are likely to be created for the Territory construction industry.