22.0 Economics

22.1 Introduction

The Third Stage Expansion is of industrial and economic importance to the Northern Territory. Its construction will involve a capital expenditure of approximately $1.5 billion spread over a three-year construction period together with the employment of up to 1,200 construction workers. Once operational, the expanded refinery will provide additional value adding to the bauxite ore which is currently exported as well as an increase in the operational workforce of up to 120.

An assessment of the economic impact of the expansion has been undertaken by economic consultants ACIL Tasman (2003). A summary of the findings of their report is given in this section.

22.2 Economic Effects of Existing Operations

22.2.1 Northern Territory Effects

The existing Alcan Gove operation is one of the largest industries in the Northern Territory and a major contributor to its economy. It is a capital-intensive project with a replacement cost of approximately $2.5 billion. In 2000-01 it had a value add of $402 million, accounting for 4.4% of the Northern Territory Gross State Product (GSP). Alcan Gove's contribution to GSP exceeds that of the agricultural and manufacturing sectors and many other sectors of the Northern Territory economy.

With earnings from the export of bauxite and alumina of just over $600 million in 2001-02, the Alcan Gove operation has become one of Australia's largest export earners. Over the period 1996-97 to 2001-02, it accounted for 26% of the total exports of the Northern Territory, behind oil and gas with 44% of export earnings.

Alcan Gove is a major employer and an important customer to a wide range of businesses in the Territory. On an annual basis it:

- Provides direct employment for about 1,100 people;
- Pays over $115 million in salaries, wages and on-costs;
- Contributes over $64 million in income and other government taxes and charges (excluding royalties);
- Spends about $30-40 million on capital improvements; and
- Purchases $150 million (2003) on local goods and services including $23m on materials and $120m on services.

22.2.2 Local Effects

Alcan Gove has contributed in a number of ways to the economic development of the region and the quality of life of its inhabitants. Examples include:

- Royalty payments for the benefit of the Aboriginal people;
- Providing employment and business opportunities in the region; and

- The provision of economic and social infrastructure.

The central instrument governing Alcan Gove's presence in the region is the Gove Agreement negotiated in 1968 between the Gove Joint Venturers and the Commonwealth Government. Under this agreement the Joint Venturers currently pay royalties of approximately $9 million a year to mine and refine the bauxite.

As discussed in Section 20.4.1, Alcan Gove supported the establishment of YBE, a fully owned and operated Aboriginal company. It provides Aborigines with training and work opportunities in earthmoving, environmental monitoring, ground maintenance, landscaping, nursery and rehabilitation. In 1996 YBE entered a new phase in this relationship with contractual arrangements involved in mining the Rocky Bay ore body which will last approximately 20 years. This provides security of employment and financial stability for YBE. YBE has a workforce pool of about 200 and has provided more than 1,000 local people with training, skills and work experience since it began.

22.3 Economic Model

To assess the economic effects of the Third Stage Expansion, the MMRF-Green economic model has been used. This model is a multi-sector dynamic model of the Australian economy covering the six states and two territories. It models each region as an economy in its own right, with region-specific prices, region-specific consumers, region-specific industries, and so on. Since MMRF-Green is dynamic, it is able to produce sequences of annual solutions connected by dynamic relationships.

MMRF-Green is ideally suited to determining the impact of region-specific economic developments. It has already been used to address a wide range of issues, including the economic impacts of large export-oriented projects, the effects of global trading in greenhouse emission permits, and the effects of changes in state and federal tax rates.

Further details of the model are given in ACIL Tasman (2003).

The model result presented below have assumed the following:

- The off-site construction site for the pre-assembly modules (Section 4.9.2.2) is located overseas; and
- The expanded refinery operates on imported fuel oil.
- These assumptions have been made to present a conservative (worst case) assessment of the project's economic benefits to the Territory and National economies.

22.4 Economic Effects of Expanded Operations

22.4.1 Gross State Product

During the construction phase, 2004 to 2007, the projects will add on average $88 million a year to NT Gross State Product (GSP).

During the operational phase, 2008 to 2020, expansion of the refinery will increase the NT GSP by $201 million per year (around 2% of the total NT GSP). The net present value of the increment to the NT GSP over the period 2004 to 2020 is estimated to be $1,543 million.

The overall impact of the expansion on the Australian economy is around $104 million a year in GDP during the operational phase. The project and the Northern Territory compete for resources with the rest of Australia. As

expected, there is significant crowding out of economic activity in other states with the result that the impact of the project on the Northern Territory economy is significantly greater than the impact on the Australian economy.

The "multiplier effect" of the project on the Northern Territory economy is relatively small. This is because of the substantial leakages from the Northern Territory economy. The project involves an increase in demand for intermediate inputs, for labour and for capital. Alcan anticipates that 32% of its intermediate and labour inputs (operating costs) will be supplied from businesses and workers in the Northern Territory, 14% from the rest of Australia and 53% from imports. The project will draw 83% of its labour requirements from the Northern Territory.

A large portion of the increased demand for intermediate inputs (caustic soda, fuel oil, other materials, parts etc.) will be met from suppliers elsewhere in Australia or overseas. While there is increased demand for the outputs of suppliers located in the Territory, this is a relatively small proportion of the total input requirements. For intermediate input supplies the project will draw 16% from suppliers in the Territory, 13% from suppliers in the rest of Australia, and 71% from imports.

The introduction of domestically sourced gas as an energy source, replacing currently imported fuel oil will, however, reduce the proportion of imported intermediate inputs.

The project still has important implications for Northern Territory business and in particular for the East Arnhem region in which it is located. In an average year during the operational phase, Alcan Gove will spend an additional $122 million (in today's dollars) in the Northern Territory on labour, intermediate inputs and payments to Government. Of this amount, $83 million will be spent in the Gove region.

22.4.2 Wages and Employment

Table 22.4.1 shows the direct construction workforce that has been used in the economic model for the construction period. These numbers are averaged over each of the years. The peak construction workforce will occur during Year 2 and could be of the order of 1,200.

Table 22.4.1
Modelled Construction Workforce

Location	Year 1	Year 2	Year 3
Northern Territory	111	607	371
Rest of Australia	356	118	55
Total	467	725	426

During the construction period there are two effects on the demand for labour in the Northern Territory and on real wages. The project construction will stimulate an increase in demand for labour and will apply upward pressure on real wages. However, offsetting this will be the impact of the increase in imports on the real exchange rate. The increase in capital inflows to finance the construction will have the effect of reducing returns in the traded goods sector leading to downward pressure on production and employment. The net effect will be that during the construction period, real wages in the Northern Territory could initially fall but increase as the demand for labour rises during the construction period and in the operational phase. Over the period 2008 to 2020, real wages in the Northern Territory will be on average about 0.4% higher while the demand for labour will be around 0.8% higher.

During the operational phase, the project will have both direct and indirect employment effects. The direct operational employment from the expansion will be an increase of up to 120 positions at Alcan Gove. The indirect employment effects will result from the stimulus caused by the expanded operations throughout other sectors of the

economy which supply goods and services to the expanded refinery. The model has estimated that the expansion will result in the creation of an additional 920 jobs (including indirect employment) in the Northern Territory during the operational phase.

22.4.3 Government Revenue

In real terms, the project directly generates around $62 million a year in additional government revenue during the operational phase. Most of this accrues to the Commonwealth Government in the form of company tax and personal income tax payments.

22.4.4 Inter-sectoral Impacts

The main sector of the Northern Territory economy to be affected by the expansion, in terms of additional employment demand, is the wholesale and retail trade sector. This sector will benefit from increased expenditure by the project and increased spending by employees. Much of this expansion in employment would occur in the region in which workers are located ie. Gove. The other main beneficiaries are the business services sector and the construction services sector.

22.4.5 Balance of Trade

The expansion will contribute positively to the balance of trade, with the increased imports of caustic soda and fuel oil being more than offset by increased exports of alumina. In 2010, the balance of trade will improve by around $148 million. This will be further enhanced by the introduction of domestically produced gas as the energy source replacing currently imported fuel oil.

The project results in a significant increase in imports from the rest of Australia into the Northern Territory, reflecting the substantial leakages from the Territory economy. The model results indicate that imports into the Northern Territory from the rest of Australia will rise by around $100 million a year during the operational phase.