

**Analysis of the Economic Contribution
of the
Northern Alberta Development Council Region
to Alberta and Canada**

Submitted to

Northern Alberta Development Council

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By

STG *Group International Inc.*

DISCLAIMER

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Executive Summary

As Alberta's economy heavily depends on exports and investment for its development and growth, the Northern Alberta Development Council Region (the NADC Region) has tremendous economic significance in Alberta.

The NADC Region covers 60% of Alberta's land but shares only 9% of the population in the province. Its vast area has been a major centre of resource-based industries such as conventional oil and oil sands, natural gas, forest products and primary agriculture.

This report presents a set of statistics that displays the NADC Region's economic contribution to Alberta and Canada in the following areas:

- International and interprovincial trade,
- Investment,
- Materials and supplies purchased for production and investment,
- Employment earnings,
- Government revenues, and
- Gross Domestic Product.

Major findings about the NADC Region's economic contribution are:

Exports

- The NADC Region's contribution to Alberta's exports increased from \$23 billion (24% of Alberta's total exports) in 2000 to \$37 billion (29% of Alberta's total exports) in 2005.
- If energy prices remain high at 2005 levels, the NADC Region's contribution will increase to \$40 billion (30% of Alberta's total exports) by 2010.

Investment

- Private and public investment in the NADC Region increased from \$9 billion (24% of Alberta's total investment) in 2000 to \$13 billion (26% of Alberta's total investment) in 2005.
- For the period from 2006 to 2010, about \$39 billion investment is planned or proposed for oil sands development in the NADC Region. With other types of investment, total investment in the NADC Region will be about \$73 billion (27% of Alberta's total investment) during this period.

Materials and Supplies

- Manufacturing firms in the NADC Region spent on average \$1.4 billion a year on materials and supplies for their production between 2000 and 2003.
- The \$39.0 billion investment planned or proposed for oil sands development in the NADC Region for the period from 2006 to 2010 will be spent on purchasing machinery, construction materials, and business services, and on paying wages and salaries. The amount and the percentage to be spent by location will be:

\$ 1.2 billion (3.1%) in the NADC Region,
 \$23.9 billion (61.3%) in the rest of Alberta,
 \$3.9 billion (9.9%) in the rest of Canada, and
 \$10.0 billion (25.6%) globally.

Government revenues

- In the 2004-05 fiscal year, the NADC Region contributed \$5.9 billion to the revenue of the Government of Alberta. This was 19.9% of total revenue of the Government of Alberta.
- In the 2008-09 fiscal year, the NADC Region will contribute \$6.0 billion to the revenue of the Government of Alberta. This will be 19.7% of total revenue of the Government of Alberta.
- In 2003, the NADC Region contributed \$2.3 billion to the revenue of the Government of Canada. This was 9.9% of Alberta's contribution to the revenue of the Government of Canada.
- By 2008, the NADC Region's contribution to the revenue of the Government of Canada will increase to 3.0 billion. This will be 9.9% of Alberta's contribution to the revenue of the Government of Canada.

Table 7.1
Economic Contribution of the NADC Region

Economic Contributions	Year	Total Contribution (\$ Billions)			Value Per Capita (\$ Thousands)		
		NADC Region	Rest of Alberta	NADC as % of Alberta	NADC Region	Rest of Alberta	Alberta Average
Exports	2005	37.1	92.6	28.6	125.7	31.4	40.0
	2010	40.3	96.3	29.5	124.5	29.5	38.1
Investment	2005	13.2	36.6	26.4	44.5	12.4	15.4
	2010	12.0	40.5	22.8	37.0	12.4	14.6
Materials for manufacturing	2003	1.4	30.6	4.3	5.3	11.0	10.5
Materials and labour for oil sands investment	2006-10*	1.2	23.9	4.9	4.0	7.7	7.4
Employment earnings	2005	7.3	76.2	8.8	24.8	25.9	25.8
	2010	9.3	96.5	8.8	28.7	29.6	29.5
Government revenues - Alberta	2004-05**	5.9	23.5	20.0	21.7	8.4	9.6
	2008-09**	6.0	24.5	19.7	19.2	7.8	8.9
Government revenues - Federal	2005	2.6	24.2	9.8	8.9	8.2	8.3
	2010	3.3	29.7	9.9	10.1	9.1	9.2

Source: Various tables in this report.

Notes: * the entire period from 2006 to 2010; ** the fiscal year 2004-05 and the fiscal year 2008-09.

Gross Domestic Product

- In 2004, Gross Domestic Product in the NADC Region was \$45 billion. This was 23.9% of Alberta's Gross Domestic Product.

**Estimates of Gross Domestic Product, Expenditure-based
for the Northern Alberta Development Council Region, 2004**
Current Million Dollars

Expenditures	Alberta \$	NADC %	NADC \$
Personal expenditure on consumer goods and services	79,920	9.1	7,279
Net government current expenditure on goods and services	25,384	9.1	2,312
Government and business gross capital formation	49,888	25.9	12,939
Government investment in inventories	2	9.1	0
Business investment in inventories	1,461		103
Non-farm	935	5.9	55
Farm	526	9.2	48
Exports of goods and services	117,099		30,971
Exports to other countries	73,564		24,830
Exports of goods to other countries	68,033	36.2	24,628
Exports of services to other countries	5,531	3.6	202
Exports to other provinces	43,535		6,141
Exports of goods to other provinces	29,468	19.1	5,628
Exports of services to other provinces	14,067	3.6	513
Deduct. Imports of goods and services	86,406		8,873
Imports from other countries	46,313		5,692
Imports of goods from other countries	40,724	13.5	5,488
Imports of services from other countries	5,589	3.6	204
Imports from other provinces	40,093		3,810
Imports of goods from other provinces	22,822	13.9	3,180
Imports of services from other provinces	17,271	3.6	629
Statistical discrepancy	-196	9.1	-18
Gross Domestic Product at market prices	187,152		44,713
NADC % of Alberta GDP		23.9	

Source: Statistics Canada, *Provincial Economic Accounts, 2004 Estimates* for Alberta and GTS Group International's estimates for the NADC Region.

The above finding regarding the NADC Region's economic contribution shows:

- The per capita contribution of the NADC Region to Alberta far exceeds that of the rest of Alberta due to the strong presence of energy resources, agriculture and forest products industries in the NADC Region.
- The NADC Region maintains a significant position in Alberta's economy and its contribution extends to the rest of Canada and the world.
- The NADC Region is expected to maintain this important economic position in the years ahead.

**Analysis of the Economic Contribution
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1.0 Introduction

1.1 Background

As Alberta's economy heavily depends on exports and investment for its development and growth, the Northern Alberta Development Council Region (the NADC Region) has tremendous economic significance in Alberta.

The NADC Region covers 60% of Alberta's land but shares only 9% of the population in the province. Its vast area has been a major centre of resource-based industries such as conventional oil and oil sands, natural gas, forest products and primary agriculture.

Most economic statistics are collected either at a national or provincial level and economic statistics showing the NADC Region's contribution to the economies of Alberta and Canada are scarce.

This report presents a set of estimates that will show the NADC Region's economic contribution to Alberta and Canada in the following areas:

- International and interprovincial trade,
- Investment,
- Materials and supplies purchased for production and investment,
- Employment earnings,
- Government revenues, and
- Gross Domestic Product.

1.2 Definitions and Methods

The NADC Region is defined as the area of the municipalities that are covered by the Northern Alberta Development Council (see Appendix 1).

The NADC Region's economic contribution is the value of economic activity that takes place in the NADC Region.

This report compiles statistics for the NADC Region when regional statistics are available such as population, local government revenue, employment earnings and oil sands investment. When regional statistics are not available, the NADC Region's contribution is estimated by allocating the value for Alberta as a whole to the NADC Region. For example, to estimate the NADC Region's export of natural gas, the NADC Region's percentage share of natural gas production in Alberta is calculated. Then, this percentage is multiplied to Alberta's total export of natural gas to estimate the NADC Region's export. Such an indicator that is used to allocate Alberta total to the NADC Region is called an Regional Proportion Indicator (RPI).

Choice of the RPI for each category of the NADC Region's contribution is important and explained in Appendices.

To see how the NADC Region's contribution to Alberta and Canada changes over time, the NADC Region's contribution is estimated for the period from 2000 to 2010. For most categories of statistics, the values for Alberta as a whole are actual statistics for the period from 2000 to 2005 and forecasts for the period from 2006 to 2010. Appendices explain how the values for Alberta as a whole are forecast.

2.0 NADC Region's Contribution to Alberta's Exports

2.1 Alberta's Trade Balance

Alberta depends heavily on both international and Interprovincial trade to support its economic development and growth.

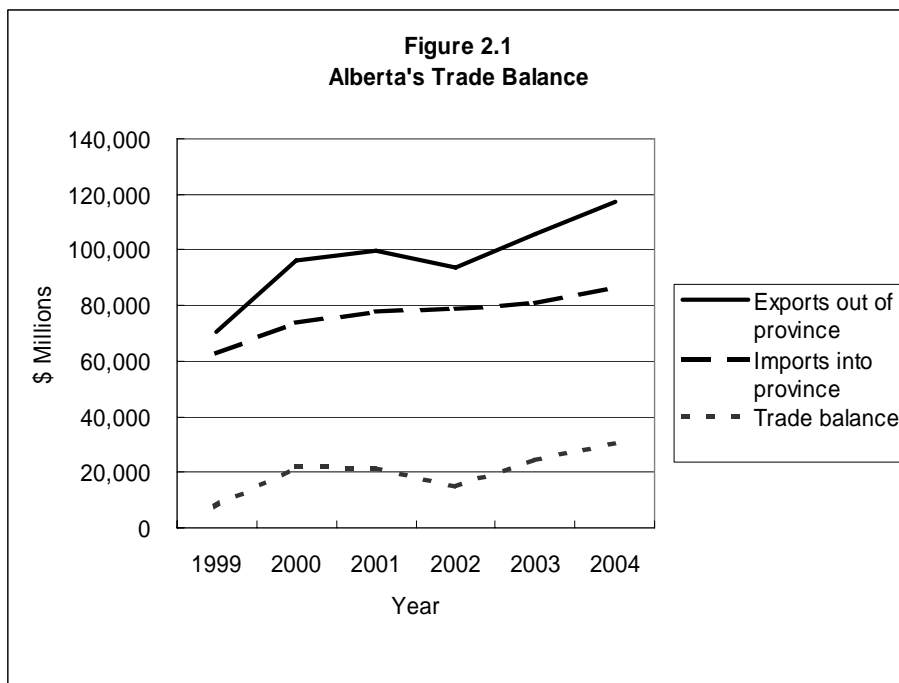
In 2004, Alberta:

- exported \$74 billion of goods and services to other countries, and
- exported \$44 billion of goods and services to other provinces;

while at the same time Alberta:

- imported \$46 billion of goods and services from other countries, and
- imported \$40 billion of goods and services from other provinces (See Table 2.1 in Appendix 2).

Alberta has been enjoying a positive trade balance. Alberta's trade surpluses increased from \$7 billion in 1999 to \$31 billion in 2004. Trade surpluses have helped Alberta to support its economic growth and increase the wealth of Albertans. In recent years, high international energy prices contributed to the rapid increase in Alberta's trade surpluses.



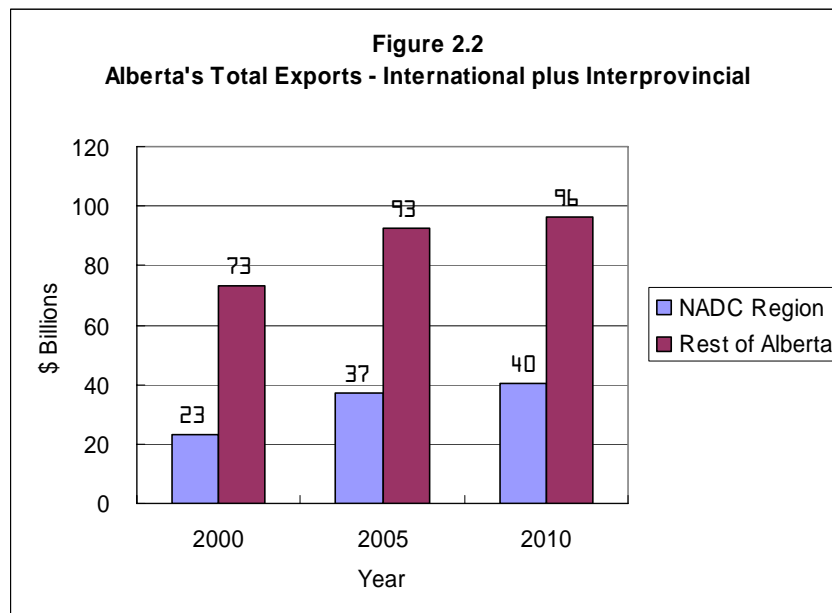
Source: Statistics Canada, *Provincial Economic Accounts*.

2.2 NADC Region's Contribution to Alberta's Exports

The NADC Region is a major producer of oil, natural gas, forest products, and agricultural products in the province. These industries in the NADC Region are highly export-oriented and have been major contributors to Alberta's exports. The NADC Region's contribution to Alberta's exports has been much larger than its population share of about nine percent.

In 2005, the NADC Region exported:

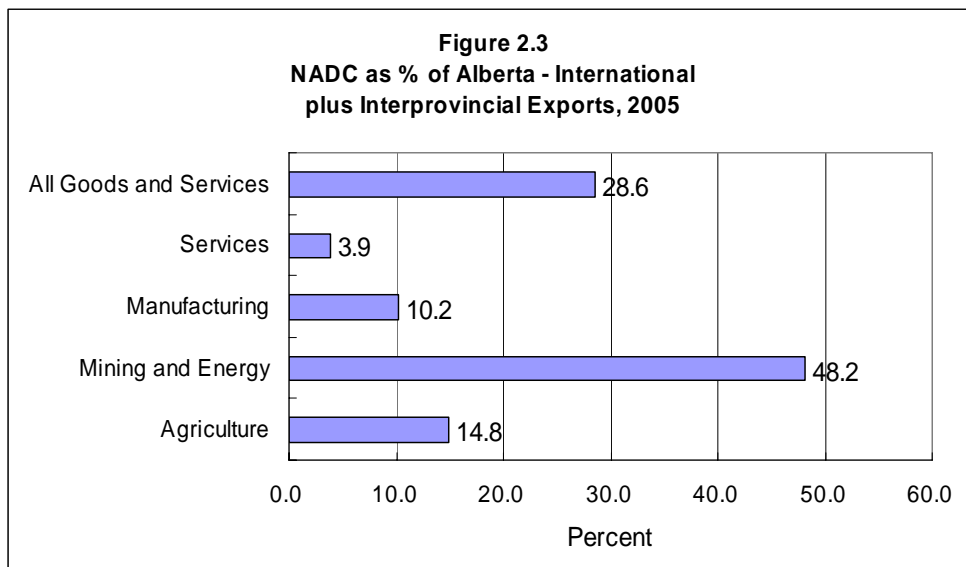
- \$32 billion of goods and services to other countries (38% of Alberta's international exports), and
- \$ 8 billion of goods and services to other provinces (15% of Alberta's interprovincial exports).



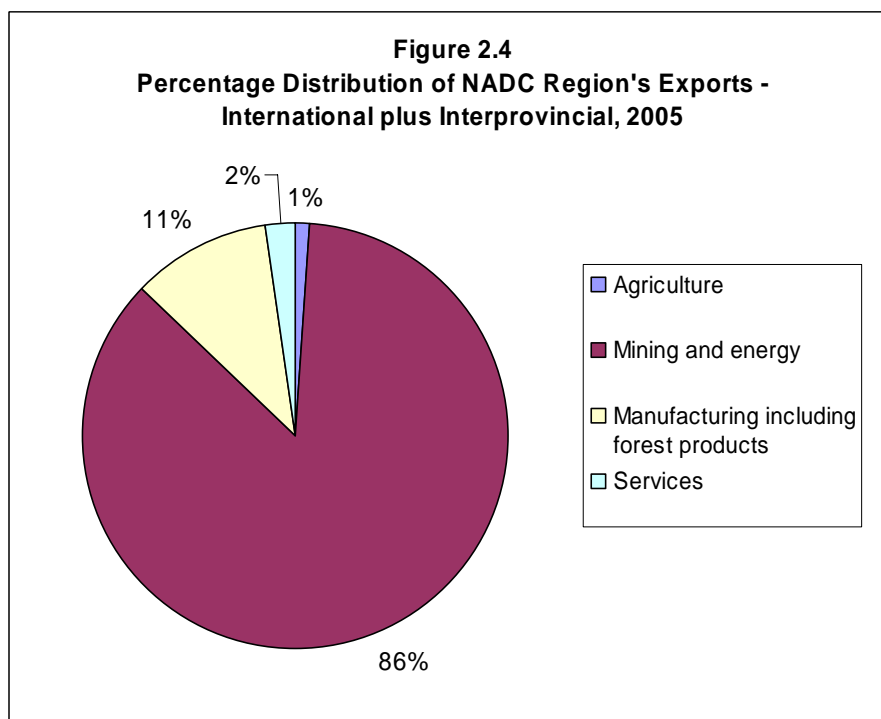
Sources: Statistics Canada, *Provincial Economic Accounts* and estimates and forecasts by GTS Group International.

In 2005, the NADC Region accounted for:

- 48% of Alberta's mining and energy exports (mainly oil and natural gas),
- 10% of Alberta's manufacturing exports (mainly forest products), and
- 15% of Alberta's agriculture exports (mainly crops and livestock).



Source: Estimates by GTS Group International.



Source: Estimates by GTS Group International.

The major source of Alberta's crude oil has been shifting from conventional oil to oil sands. As the NADC Region is the home of oil sands in Alberta, the NADC Region will remain as a major contributor to Alberta's exports in the future.

If future international prices of oil and natural gas stay at the 2005 levels, the NADC Region will export in 2010:

- \$32 billion of goods and services to other countries (38% of Alberta's international exports), and
- \$ 8 billion of goods and services to other provinces (15% of Alberta's interprovincial exports).

Table 2.1
Alberta's Total Exports - International plus Interprovincial Exports
Current Million Dollars

Products	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
Year 2000				
Agriculture	671	2,782	3,454	19.4
Mining and Energy	18,631	23,494	42,125	44.2
Manufacturing	3,240	30,817	34,057	9.5
Services	613	16,200	16,812	3.6
All Goods and Services	23,155	73,293	96,449	24.0
Year 2005				
Agriculture	460	2,641	3,101	14.8
Mining and Energy	31,879	34,326	66,205	48.2
Manufacturing	3,911	34,528	38,439	10.2
Services	859	21,065	21,924	3.9
All Goods and Services	37,108	92,560	129,668	28.6
Year 2010				
Agriculture	469	3,136	3,605	13.0
Mining and Energy	35,111	31,620	66,730	52.6
Manufacturing	3,738	35,240	38,978	9.6
Services	1,033	26,286	27,319	3.8
All Goods and Services	40,351	96,281	136,631	29.5

Sources: Compiled from various tables in this report.

2.3 Exports by Industry

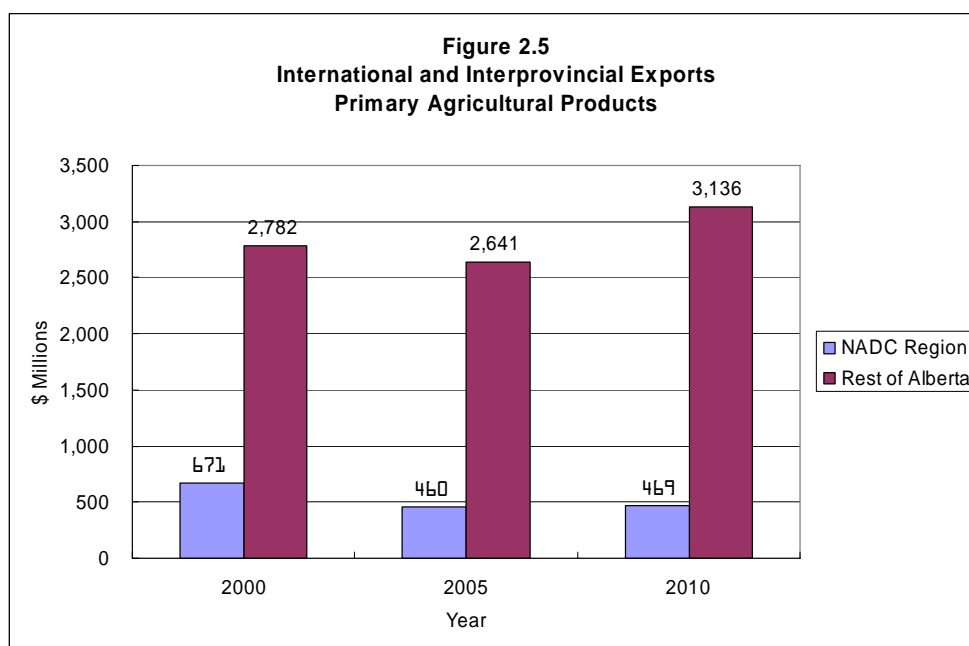
Agriculture

The NADC Region is a major producer of primary agricultural products. Major agricultural products in the NADC Region include wheat, barley, canola, alfalfa and hay, cattle and calves, and pigs. According to *Alberta Agriculture Statistics Yearbook 2004* by Alberta Agriculture, Food and Rural Development, the NADC Region produced in 2004 (See Table 1.4 to 1.6 in Appendix 2):

- 5.3% of live cattle and calves in Alberta,
- 3.7% of live pigs in Alberta,
- 17.6% of spring wheat in Alberta,
- 15.5% of barley in Alberta,
- 36.4% of hay in Alberta, and
- 32.0 % of canola in Alberta.

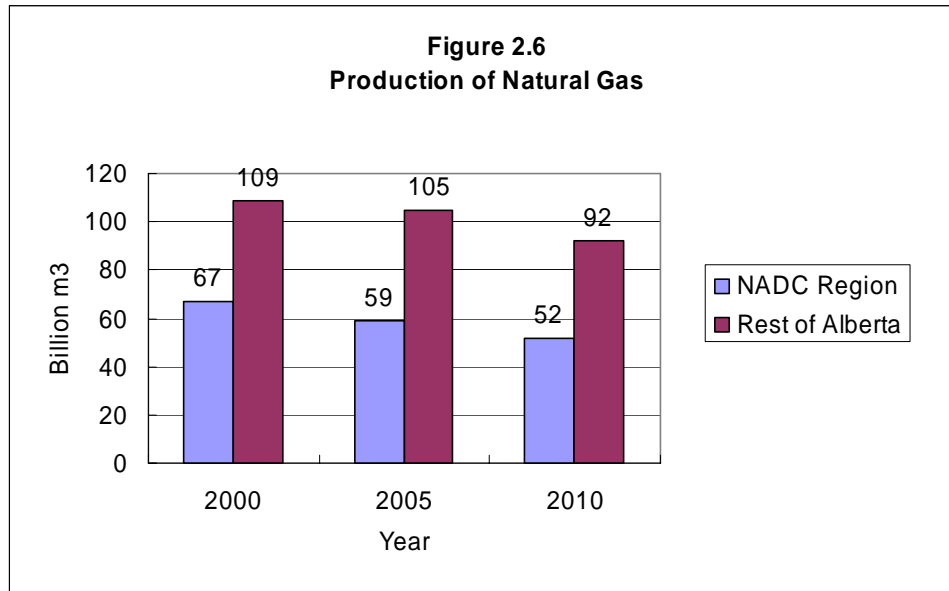
NADC Region's percentage shares of primary agricultural production are applied to Alberta's exports of primary agricultural products to estimate the NADC Region's contribution to agricultural exports (See Table 2.5, 2.7 and 2.8 in Appendix 2).

Both Alberta's and the NADC Region's exports decreased from 2000 to 2005 because the BSE incidence stopped exports of live cattle to the United States in 2004. It is assumed that recovering exports of live cattle to the United State to the previous level takes time.

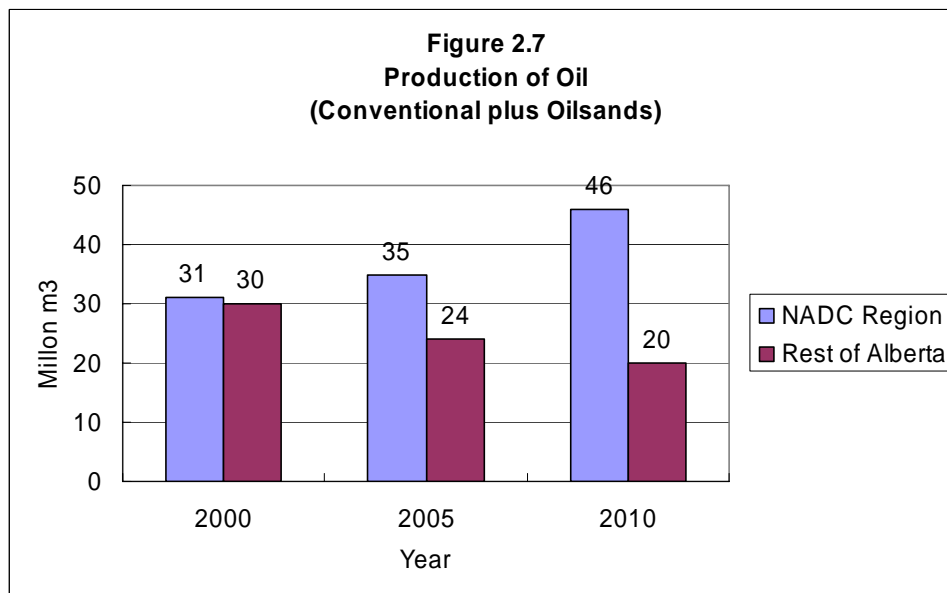


Sources: Statistics Canada, *Provincial Economic Accounts* and estimates and forecasts by GTS Group International.

Mining and Energy



Sources: Alberta Energy and estimates and forecasts by GTS Group International.
Note: Measurement is standardized in billion cubic meters a year.



Sources: Alberta Energy and estimates and forecasts by GTS Group International.
Note: Measurement is standardized in million cubic meters a year.

The NADC Region is a major producer of natural gas, natural gas liquids, conventional and non-conventional crude oil. These are Alberta's major export items for both international and interprovincial trade.

The NADC Region's role as an exporter of crude oil will increase in the future as several major projects to produce bitumen from oil sands in the NADC Region are at the various stages of planning and development and are expected to contribute to an increased production capacity in the future.

Historical statistics of natural gas, oil, and condensate production both in Alberta as a whole and in the NADC Region are obtained from Alberta Energy (See Table 1.9 in Appendix 1).

To forecast Alberta's and the NADC Region's exports of natural gas and oil from 2006 to 2010, production forecasts by the Alberta Energy and Utility Board (AEUB) in its recent report, *Alberta's Reserves 2004 and Supply/Demand Outlook 2005-2014* (September 2005) are used.

For conventional crude oil, the AEUB states that over the past several decades, production of light-medium and heavy crude oil has been on decline in Alberta and forecasts a further decrease of about 19% from 2005 to 2010.

For crude bitumen production, the AEUB says:

"The forecast of crude bitumen and synthetic crude oil production relies heavily on information provided by project sponsors. Project viability depends largely on the cost of producing and transporting the products and on the market price for synthetic crude oil. Other factors that bear on project economics are refining capacity to handle bitumen or synthetic crude oil and competition with other supply sources in U.S. and Canadian markets."

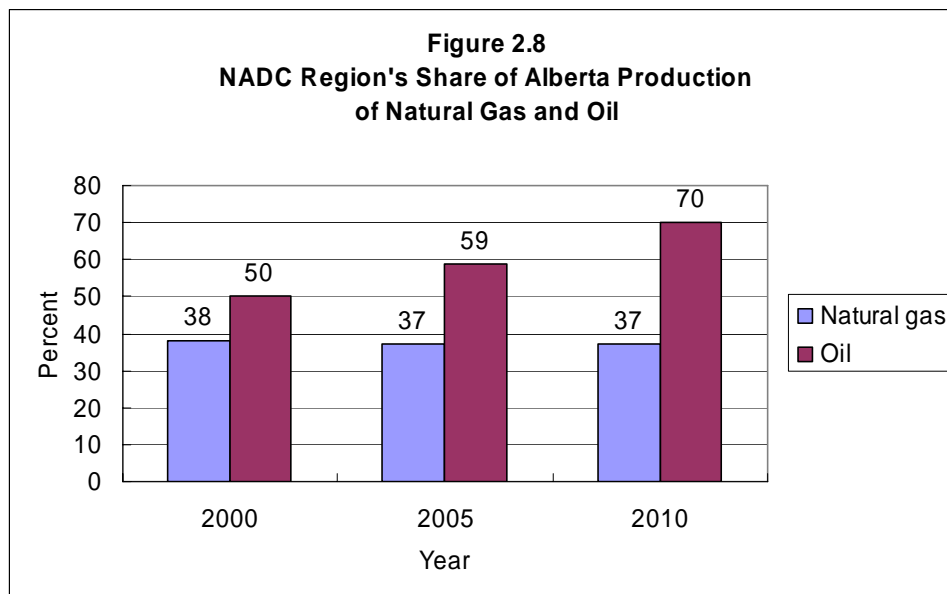
In projecting bitumen production over the forecast period, the AEUB assumes that potential market restrictions, cost overruns, construction delays, and availability of suitable refinery capacity on a timely basis may affect the timing of production schedules for these projects.

Given the above assumptions, the AEUB forecasts that crude bitumen production from oil sands will increase by 51% from 2005 to 2010.

For conventional natural gas, the AEUB says,

"The EUB expects conventional gas production to remain flat in 2005 and decline by an average of 2.5 per cent per year over the remainder of the forecast period (2006 to 2014). New pools are smaller and new wells drilled today are exhibiting lower initial production rates and steeper decline rates."

As a result, production of natural gas is forecast to decrease by 11.9% from 2005 to 2010. On the basis of the above assumptions, the NADC Region's share of natural gas production is forecast to remain at 37% of Alberta's total production from 2005 to 2010, while the NADC Region's share of oil (conventional plus oil sands sources) is forecast to increase from 59% of Alberta's total in 2005 to 70% in 2010.



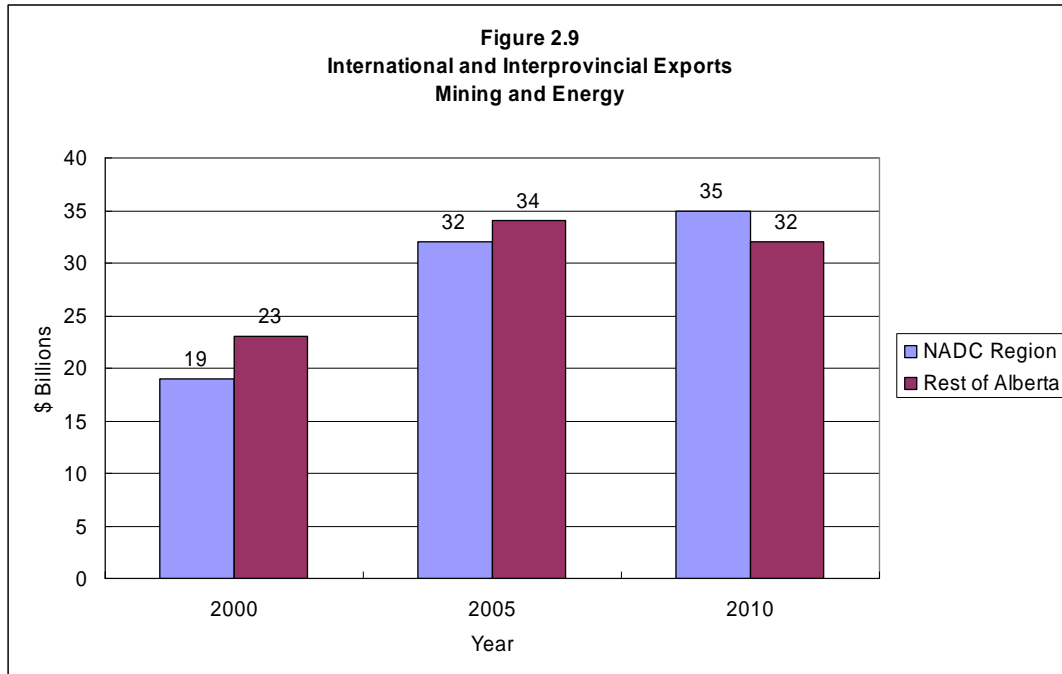
Sources: Alberta Energy and estimates and forecasts by GTS Group International.

The values of the export of natural gas and oil are forecast by applying the production forecasts to the 2005 levels of international prices of natural gas and crude oil (for crude oil US\$56.44 per barrel for WTI, and for natural gas US\$7.51 per GJ). This method assumes that for the forecast period from 2006 to 2010, international prices of crude oil and natural gas will remain at the 2005 levels.

In recent years, international energy prices increased rapidly due to a combination of several factors such as increasing demand from developing economies such as China, geopolitical instability in some oil producing countries, and temporary reductions in oil production and refining capacities. It is hard to separate the impact of underlying trends on international energy prices from the impact of temporary disturbances. The assumptions on international energy prices used in this report are close to those used by the AEUB in its report, *Alberta's Reserves 2004 and Supply/Demand Outlook 2005-2014* (September 2005).

The AEUB forecasts that the price of WTI oil will average between US\$55 and US\$60 per barrel for 2005 and 2006, before it stabilizes at US\$50 by 2009, and remain at this level to the end of the forecast period (2005 to 2014). The EUB forecasts that natural gas prices will be between \$7.50/GJ and \$8.00/GJ for 2005 and 2006 respectively and remain within the \$7.00 to \$8.00/GJ price range within the forecast period.

In 2010, it is forecast that the NADC Region will export \$35 billion of mining and energy products (natural gas and crude oil), while the rest of Alberta exports \$32 billion.



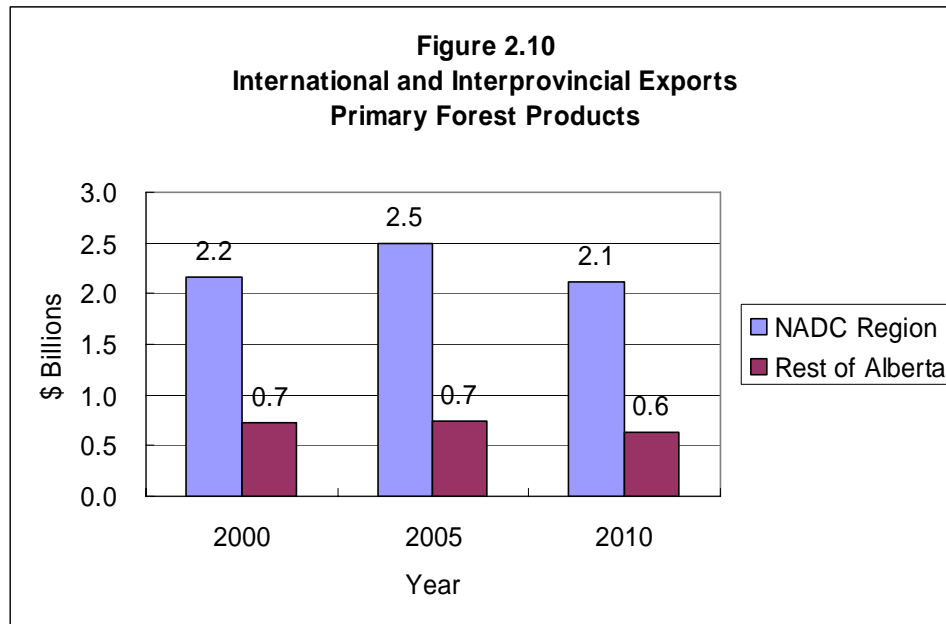
Sources: Statistics Canada, *Provincial Economic Accounts* and estimates and forecasts by GTS Group International.

Forestry

The NADC Region is a major producer of lumber, wood pulp, paper, and panelboard in the province. According to Alberta Forest Products Association's *Economic Impact of Alberta Forest Industry* (2005), the NADC Region's percentage of Alberta's total production capacity (measured in terms of the volume of logs consumed) in 2003 was:

- Sawmill 71.5%
- Pulp and paper 85.6%
- Panelboard 67.6%

The value of exports of lumber, panelboard and pulp and paper fluctuated from year to year due to price changes. For forecasts from 2006 to 2010, the average value of export of lumber, panelboard, and pulp and paper from 2000 to 2005 is used.



Sources: Alberta Economic Development, *Alberta International Trade Review* and estimates and forecasts by GTS Group International.

Forest products industries play a dominant role in the manufacturing sector of the NADC Region. According to Statistics Canada's *Manufacturing Industries of Canada*, their percentage share of the total value of manufacturing shipment in the NADC Region (See Table 1.13 in Appendix A) was:

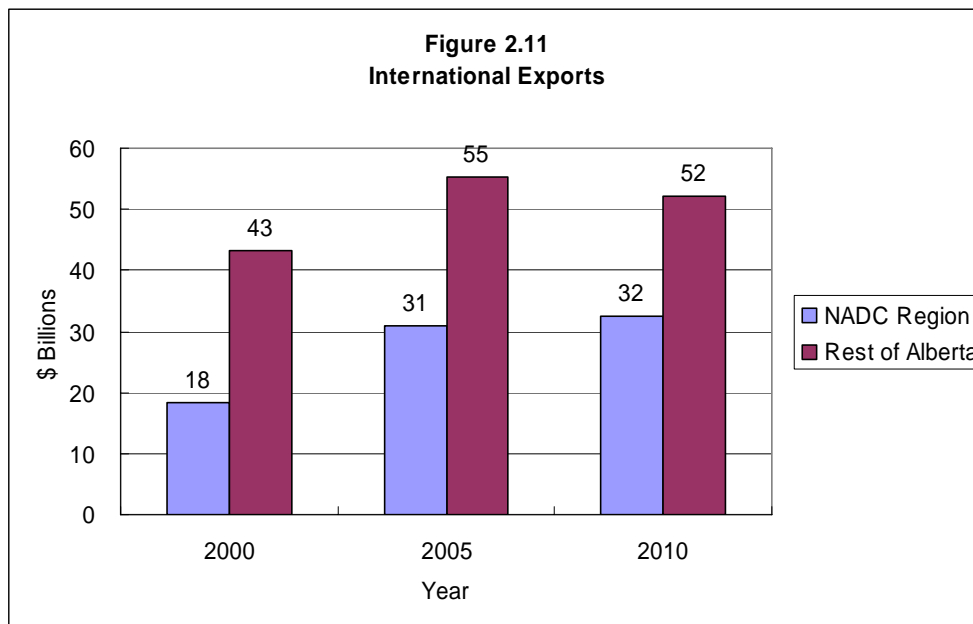
- 63.6% in 1998
- 50.2% in 1999
- 65.3% in 2000
- 51.3% in 2001
- 53.3% in 2002
- 65.0% in 2003

2.4 International and Interprovincial Exports

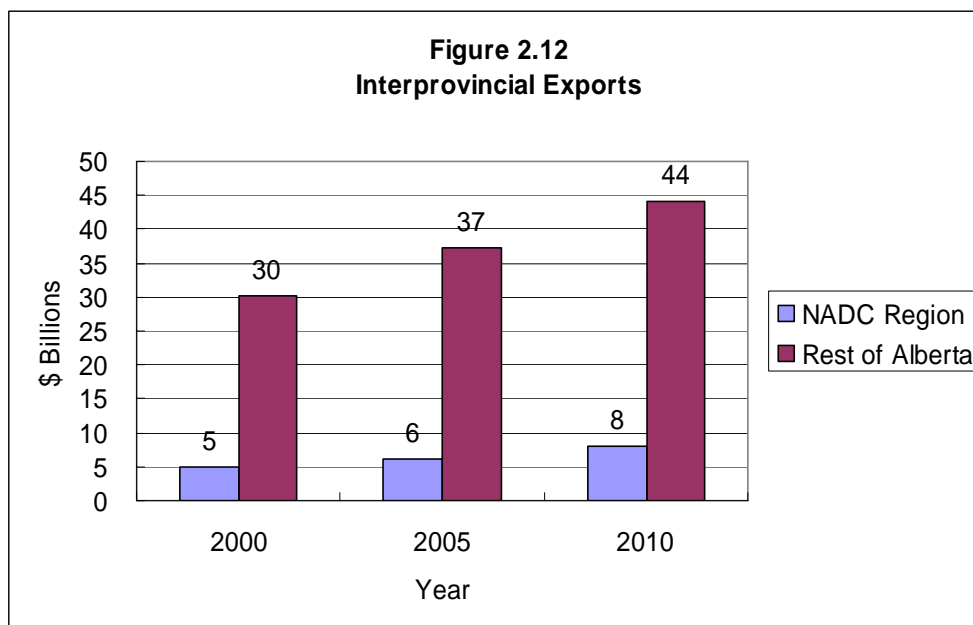
Alberta's and the NADC Region's exports are separated into international and interprovincial exports (See Table 2.1 A, 2.1B, and 2.1C).

For international exports, the NADC Region's share increased from 30.7% in 2000 to 37.2% in 2005 and is forecast to increase further to 38.2% in 2010.

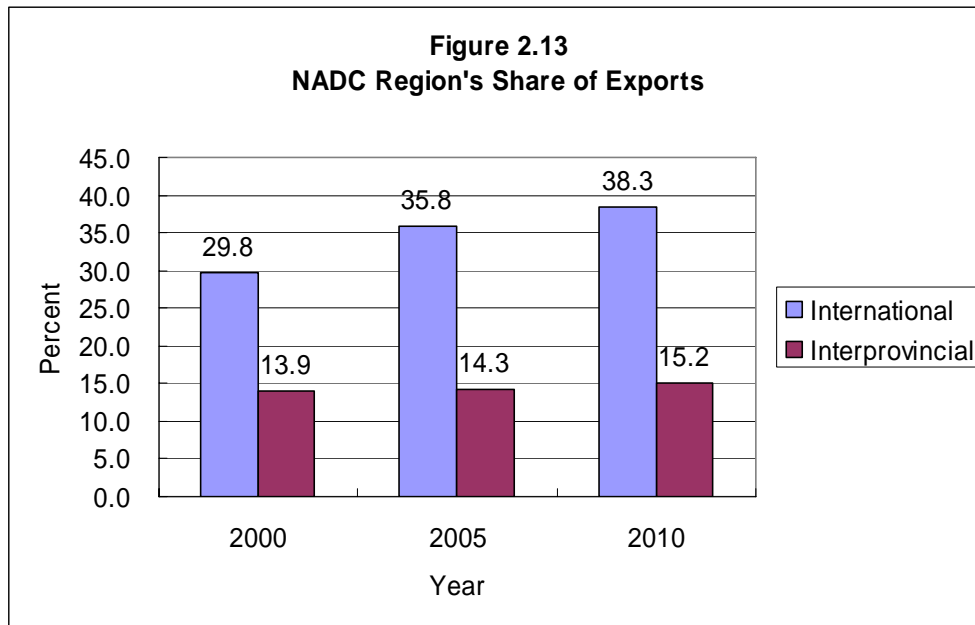
For interprovincial exports, the NADC Region's share increased from 13.7% in 2000 to 14.0% in 2005 and is forecast to increase further to 15.0% in 2010.



Sources: Statistics Canada, *Provincial Economic Accounts* and estimates and forecasts by GTS Group International.



Sources: Statistics Canada, *Provincial Economic Accounts* and estimates and forecasts by GTS Group International.



Source: Estimates by GTS Group International.

Table 2.1 A
Alberta's Total Exports - International plus Interprovincial Exports
 Current Million Dollars

Products	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
Year 2000				
Agriculture	671	2,782	3,454	19.4
Mining and Energy	18,631	23,494	42,125	44.2
Manufacturing	3,240	30,817	34,057	9.5
Services	613	16,200	16,812	3.6
All Goods and Services	23,155	73,293	96,449	24.0
Year 2005				
Agriculture	460	2,641	3,101	14.8
Mining and Energy	31,879	34,326	66,205	48.2
Manufacturing	3,911	34,528	38,439	10.2
Services	859	21,065	21,924	3.9
All Goods and Services	37,108	92,560	129,668	28.6
Year 2010				
Agriculture	421	3,183	3,605	11.7
Mining and Energy	35,111	31,620	66,730	52.6
Manufacturing	3,738	35,240	38,978	9.6
Services	1,033	26,286	27,319	3.8
All Goods and Services	40,303	96,328	136,631	29.5

Sources: Compiled from various tables in this report.

Table 2.1 B
Alberta's Exports - International Exports
 Current Million Dollars

Products	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
Year 2000				
Agriculture	602	2,140	2,742	21.9
Mining and Energy	15,004	19,055	34,058	44.1
Manufacturing	2,471	16,224	18,695	13.2
Services	219	5,783	6,002	3.6
All Goods and Services	18,295	43,201	61,497	29.8
Year 2005				
Agriculture	372	1,610	1,982	18.8
Mining and Energy	27,382	29,587	56,969	48.1
Manufacturing	2,869	17,390	20,259	14.2
Services	253	6,695	6,948	3.6
All Goods and Services	30,876	55,282	86,158	35.8
Year 2010				
Agriculture	317	1,838	2,154	14.7
Mining and Energy	29,301	26,490	55,791	52.5
Manufacturing	2,487	16,107	18,594	13.4
Services	290	7,679	7,969	3.6
All Goods and Services	32,395	52,113	84,508	38.3

Sources: Compiled from various tables in this report.

Table 2.1 C
Alberta's Exports - Interprovincial Exports
 Current Million Dollars

Products	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
Year 2000				
Agriculture	70	643	712	9.8
Mining and Energy	3,628	4,439	8,067	45.0
Manufacturing	769	14,593	15,362	5.0
Services	394	10,417	10,811	3.6
All Goods and Services	4,860	30,092	34,952	13.9
Year 2005				
Agriculture	88	1,031	1,119	7.9
Mining and Energy	4,497	4,739	9,236	48.7
Manufacturing	1,042	17,138	18,180	5.7
Services	606	14,370	14,975	4.0
All Goods and Services	6,232	37,278	43,510	14.3
Year 2010				
Agriculture	105	1,346	1,451	7.2
Mining and Energy	5,810	5,130	10,939	53.1
Manufacturing	1,251	19,133	20,384	6.1
Services	743	18,607	19,350	3.8
All Goods and Services	7,908	44,216	52,124	15.2

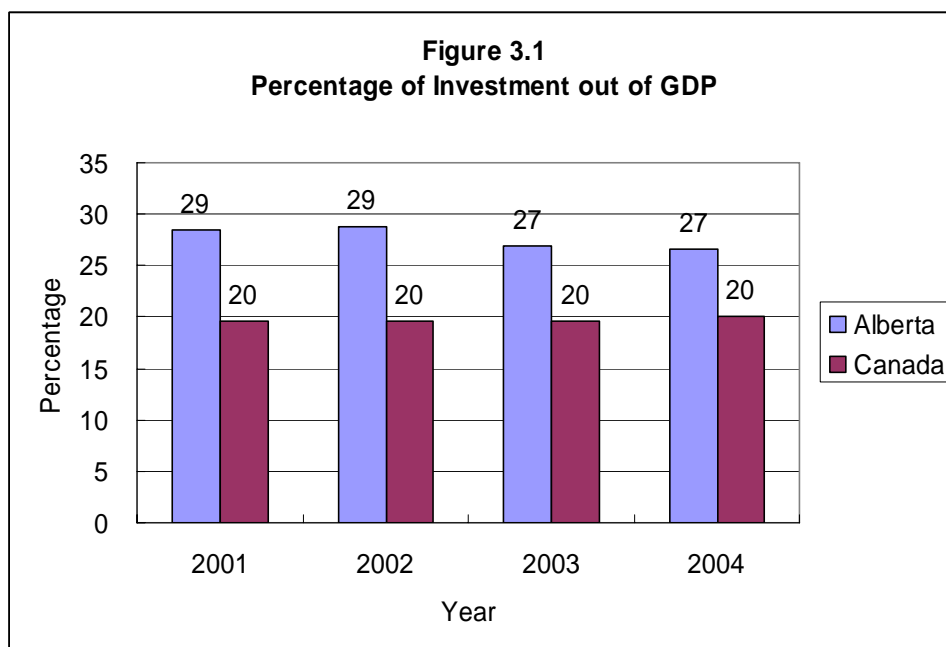
Sources: Compiled from various tables in this report.

3.0 NADC Region's Contribution to Alberta's Capital Investment

3.1 Overview

Capital investment includes the construction of residential and non-residential structures and the installation of machinery and equipment. Investment has two kinds of impact on the economy. Investment projects create new demand for construction materials, machinery and equipment, and construction labour in the construction stage. Once investment projects are completed and move into the production stage, these projects will create new demand for materials and supplies that will be used for production as input. Thus, the size of capital investment is a good indicator of economic vitality.

Alberta has a dynamic economy. Private and public investment takes a higher share of Gross Domestic Product in Alberta than in Canada as a whole (See Figure 3.1).

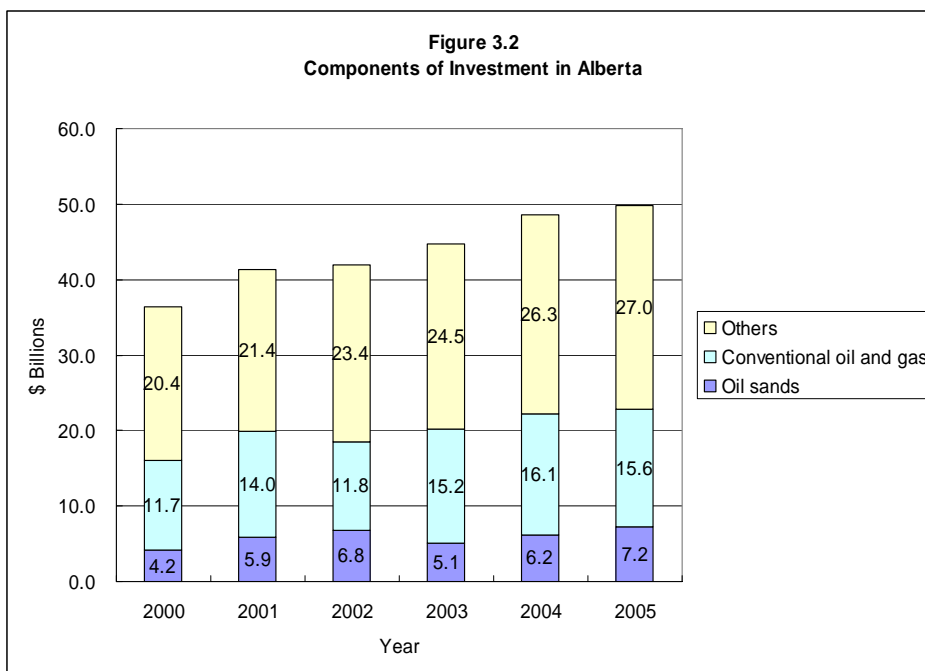


Source: Statistics Canada, Private and Public Investment in Canada.

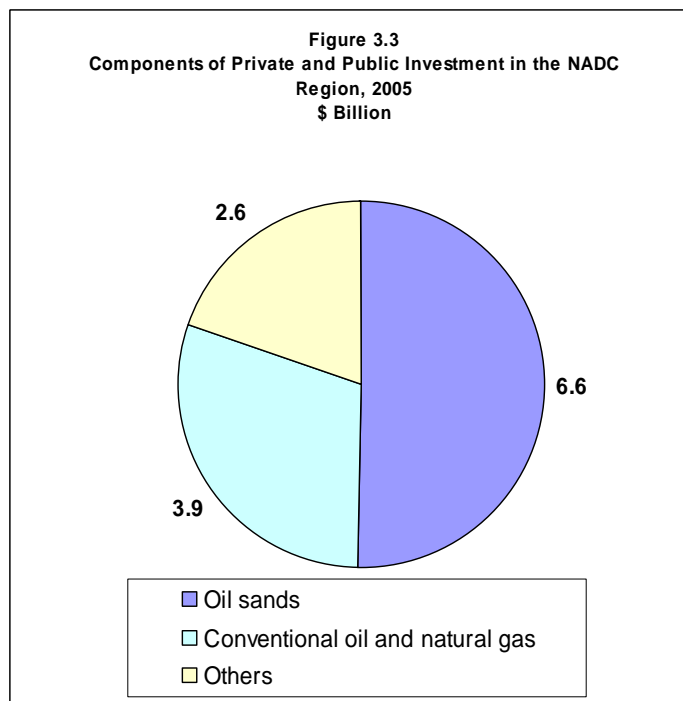
Capital investment in oil sands and conventional oil and natural gas development has been a major area of investment in Alberta. In 2005, oil sands and conventional oil and natural gas accounted for 48% of total investment in Alberta.

The NADC Region has been a major area of Alberta's investment. Investment in oil sands development makes the NADC Region the engine of economic growth for Alberta.

Investment in oil sands development increased from \$4.2 billion in 2000 (11.6% of total investment in Alberta) to \$7.2 billion in 2005 (14.5% of total investment in Alberta).



Source: Statistics Canada, Private and Public Investment Canada

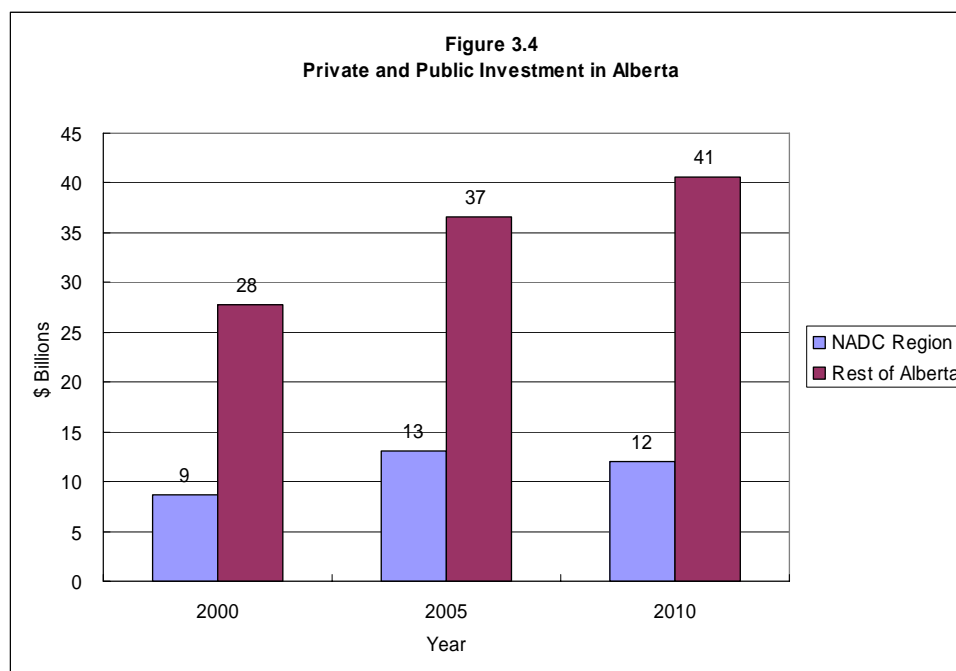


Source: Estimates by GTS Group International

Although investment in oil sands development is a major component of investment in the NADC Region, investment in conventional oil and natural gas development and others (agriculture, forestry, and infrastructure) are also important.

In 2005, the amounts of investment in the NADC region were:

Oil sands	\$6.6 billion
Conventional oil and natural gas	\$3.9 billion
Others	\$2.6 billion
Total	\$13.1 billion



Source: Estimates and forecasts by GTS Group International

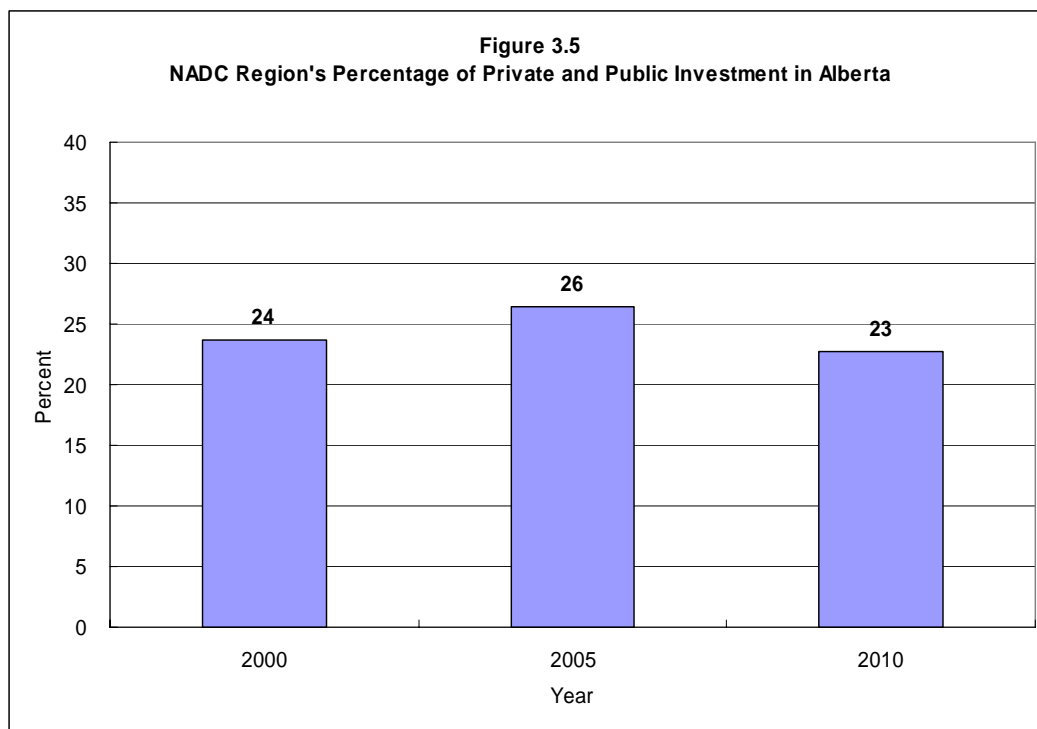
The NADC Region's percentage share of total investment in Alberta was:

- 24% in 2000, and
- 26% in 2005.

The NADC Region's contribution to total investment in Alberta in the future will heavily depend on the amount of investment in oil sands, conventional oil and natural gas development. For the last couple of years, international oil prices have been increasing to historical levels, particularly in 2006. It is not yet possible to clearly identify the causes and separate temporary factors from long-term trends for high international oil prices. Since oil prices are important factors for oil sands development in the future, there is a degree of uncertainty about the size and speed of oil sands development in the future. However, Alberta's oil sands have been recognized and as such they are estimated to be second to Saudi Arabia's total oil reserves as potential sources of oil in the world.

There is already a large number of oil sands development projects in the NADC Region which are at various stages of planning and development. The actual size and speed of investment in oil sands development may change as international oil prices change. But the NADC Region will remain as a major place for investment in Alberta for the 2006-2010 forecast period.

Given the assumptions on investment in oil sands, conventional oil and natural gas development that will be explained below, it is forecast that the amount of investment in the NADC Region will be about \$12 billion (23% of total investment in Alberta) in 2010.



Source: Estimates and forecasts by GTS Group International

3.2 Comparison of Oil Sands Investment Forecasts

Five sets of oil sands investment forecasts from three studies are compared for the 2006-2010 period:

- Athabasca Regional Issues Working Group (RIWG), *Wood Buffalo Business Case 2005*, March 2005 (Announced Project Case and Forecast Case),
- Canadian Energy Research Institute (CERI), *Economic Impacts of Alberta's Oil Sands*, October 2005 (Potential Case and Expected Case), and
- GTS Group International, forecasts in this report.

RIWG has developed two sets of forecasts for the period from 2005 to 2010 based on the assessment of future of oil sands development by its members of industry representatives:

- Announced Project Case includes all oil sands development projects that have been announced before March 2005.
- Forecast Case includes only those projects that are likely go ahead on the basis of the assessment by the industry representatives.

CERI has prepared two sets of forecasts for the period from 2004 to 2020:

- Potential Case includes all announced and proposed projects with start-up dates as of September 2004 and several unidentified projects that will make the increased capacity of oil sands production consistent with CERI's oil production forecasts.
- Expected Case takes into account plausible delays in the development of oil sands. A set of assumptions are made about the length of start-up delay and the probability of project going ahead depending upon the state of the project (under construction, approved, applied, or announced).

GTS Group International uses the information from Alberta Economic Development, *Inventory of Major Alberta Projects December 2005*, and includes all projects that were either completed or under construction as of December 2005 and also all projects that had been approved or announced with a planned amount of investment and project start-up date as of December 2005. Projects without start-up dates are excluded (See Appendix 3).

Table 3.1
Comparison of Oil Sands Investment Forecasts
from 2005 to 2010
Billion Dollars

	RIWG		CERI		GTS
	Forecast	Announced	Potential	Expected	Forecast
2005	7.5	8.2	8.0	5.1	7.2
2006	7.6	9.0	8.2	3.4	7.1
2007	7.7	11.0	14.0	5.2	12.3
2008	8.6	14.2	16.5	5.4	11.1
2009	7.5	11.5	16.3	6.3	8.1
2010	6.1	9.6	7.2	7.0	5.9
Total	45.0	63.5	70.2	32.3	51.8

Sources:

RIWG: Athabasca Regional Issues Working Group, *Wood Buffalo Business Case 2005*, March 2005.

CERI: Canadian Energy Research Institute, *Economic Impacts of Alberta's Oil Sands, Volume I*, October 2005.

GTS: Forecasts by GTS Group International; based on Alberta Economic Development, *Inventory of Alberta Major Projects*, December 2005.

GTS Group International's forecasts are located at about the middle between the "Announced Project Case" and the "Forecast Case" by RIWG and also about the middle between the "Potential Case" and the "Expected Case" by CERI.

With GTS Group International's forecasts of oil sands investment, actual investment and forecasts for Alberta and estimates of investment in the NADC Region are shown in Table 3.1 and Table 3.2 (See Appendix 3 for details).

Table 3.1
Private and Public Investment in Alberta
Million Dollars

Industry	2000	2001	2002	2003	2004	2005
Alberta						
Agriculture and forestry	814	1,121	964	883	869	875
Oil sands	4,220	5,910	6,750	5,050	6,200	7,199
Conventional oil and gas	11,746	14,010	11,825	15,172	16,059	15,615
Other industries	14,235	14,419	15,025	15,896	17,282	18,136
Housing	5,397	5,867	7,364	7,742	8,122	7,959
Total	36,411	41,326	41,928	44,743	48,531	49,784
NADC Region						
Agriculture and forestry	75	103	89	81	80	80
Oil sands	3,653	5,343	6,183	5,050	5,880	6,612
Conventional oil and gas	2,995	3,547	2,948	3,830	4,054	3,942
Other industries	1,398	1,430	1,494	1,656	1,713	1,735
Housing	501	696	734	570	859	781
Total	8,622	11,118	11,447	11,188	12,587	13,150
NADC Region's %						
Agriculture and forestry	9.2	9.2	9.2	9.2	9.2	9.2
Oil sands	86.6	90.4	91.6	100.0	94.8	91.8
Conventional oil and gas	25.5	25.3	24.9	25.2	25.2	25.2
Other industries	9.8	9.9	9.9	10.4	9.9	9.6
Housing	9.3	11.9	10.0	7.4	10.6	9.8
Total	23.7	26.9	27.3	25.0	25.9	26.4

Source: Statistics Canada, *Private and Public Investment in Canada*, and GTS Group International estimates.

In Table 3.1 above, investment in "Other Industries" such as manufacturing, transportation and communications, finance and real estate, and business and personal services in Alberta is forecast to follow the past trend and continues to increase throughout the forecast period. For those "Other Industries," the NADC Region's share is forecast to remain at about 9.8%.

The NADC Region's contribution to total Alberta investment is forecast to slightly decrease from \$13 billion in 2005 to \$12 billion in 2010. Accordingly, the NADC Region's share of total Alberta investment is forecast to decrease from 26.4% in 2005 to 22.8% in 2010. This is partly due to the assumption that Alberta investment in "Other Industries" maintain its strong growth from 2005 to 2010.

Another factor for the forecast of the NADC Region's declining share of investment from 2005 to 2010 is a special feature of investment forecasts for oil sands in Table 3.2. They are

based on the projects in Alberta Economic Development, *Inventory of Major Alberta Projects December 2005* that will be either under construction or have been proposed for construction in the forecast period. In the future, new projects that are not included in the forecast may appear or the projects that are excluded because start-up dates have not been announced may proceed and increase the amount of investment in the NADC Region. Thus, investment forecasts for oil sands in Table 3.2 tend to be more concentrated in the beginning of the forecast period than towards the end of the forecast period. This results in the lower share of investment by the NADC Region towards the end of the forecast period.

Table 3.2
Forecasts of Private and Public Investment in Alberta
Million Dollars

Industry	2006	2007	2008	2009	2010
Alberta					
Agriculture and forestry	921	921	921	921	921
Oil sands	7,146	12,269	11,123	8,111	5,917
Conventional oil and gas	15,615	15,615	15,615	15,615	15,615
Other industries	18,881	20,106	20,332	21,007	21,551
Housing	8,206	8,297	8,375	8,442	8,501
Total	50,769	57,209	56,366	54,095	52,505
NADC Region					
Agriculture and forestry	85	85	85	85	85
Oil sands	6,559	11,249	9,437	6,745	4,984
Conventional oil and gas	3,942	3,942	3,942	3,942	3,942
Other industries	1,854	1,958	1,993	2,058	2,114
Housing	805	814	821	828	834
Total	13,245	18,048	16,279	13,658	11,959
NADC Region's %					
Agriculture and forestry	9.2	9.2	9.2	9.2	9.2
Oil sands	91.8	91.7	84.8	83.2	84.2
Conventional oil and gas	25.2	25.2	25.2	25.2	25.2
Other industries	9.8	9.7	9.8	9.8	9.8
Housing	9.8	9.8	9.8	9.8	9.8
Total	26.1	31.5	28.9	25.2	22.8

Source: Forecasts by GTS Group International.

4.0 NADC Region's Contribution to Industrial Supplies

4.1 Materials and Supplies for Production

Firms in the NADC Region purchase materials and supplies as input for the production of their goods within the NADC Region, from the rest of Alberta, the rest of Canada, and globally.

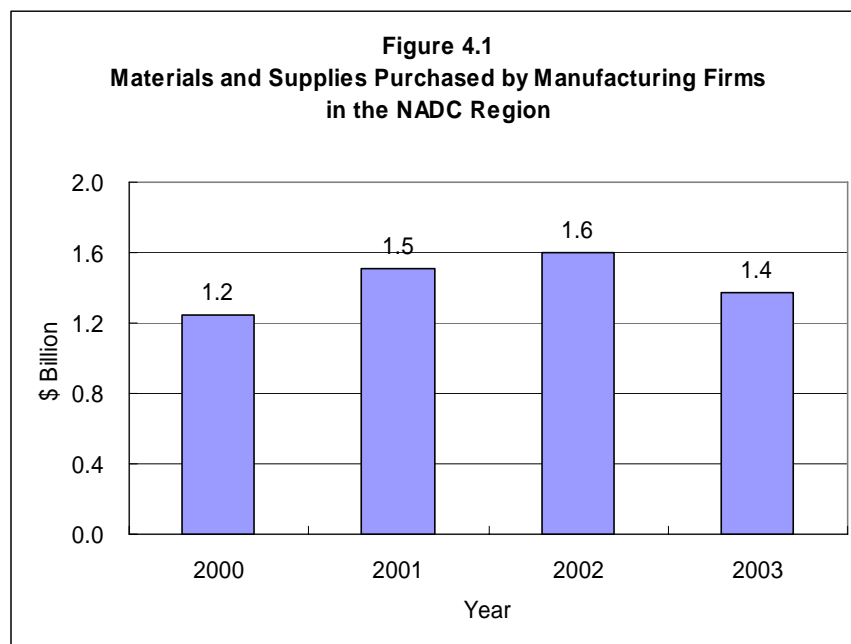
Unfortunately, very few statistics are available on the value of materials and supplies purchased by firms. One exception is information collected and published by Statistics Canada in *Manufacturing Industries of Canada: National and Provincial Areas*. This publication, based on an annual survey of manufacturing industries, has the value of materials and supplies used for production by manufacturing industries in Alberta as a whole.

Statistics Canada was asked to prepare a special tabulation of this information by census division for each year from 2000 to 2003 (the latest year for which such tabulation can be compiled). From this special tabulation, the value of materials and supplies purchased by manufacturing firms in the NADC Region is compiled.

The value of materials and supplies used for the production of goods (excluding those purchased for resale) by all manufacturing firms in the NADC Region is shown in Figure 4.1 and Table 4.1.

Manufacturing firms in the NADC Region spend \$1.2 to \$1.6 billion a year to purchase materials and supplies.

Presently, due to the limited variety of manufacturing industries in the NADC Region, a large percentage of these materials and supplies is likely to be purchased from outside of the NADC Region. But there is little information to estimate the locations of such purchases.



Source: Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*.

Table 4.1
Manufacturing Industries in the NADC Region and Alberta

	Units of Measurement	2000		2001		2002		2003	
		Alberta	NADC Region	Alberta	NADC Region	Alberta	NADC Region	Alberta	NADC Region
Number of establishments	Counts	4,731	262	4,843	302	4,920	322	4,882	275
Total employment	Counts	129,638	7,506	133,312	8,379	134,759	8,673	133,753	7,391
Total wages and salaries	\$ Millions	4,953	398	5,366	448	5,560	471	5,731	405
Total cost of materials	\$ Millions	29,680	1,249	31,096	1,512	30,475	1,601	31,931	1,373
Total manufacturing shipment	\$ Millions	47,383	3,150	48,786	3,238	47,862	3,331	49,494	2,901
Total value added	\$ Millions	16,412	1,738	16,300	1,534	15,324	1,503	15,587	1,301

Source: Compiled from a special tabulation of Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*.

Manufacturing firms in the NADC Region purchase from 4.2% to 5.3% of materials and supplies purchased by all manufacturing firms in Alberta every year.



Source: Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*.

4.2 Materials and Labour for Oil Sands Construction Projects

Oil sands construction projects planned for the period from 2006 to 2010 will create huge demand for materials and labour. Very little information had been available on the composition of such demand. But in October 2005, the Canadian Energy Research Institute (CERI) released a comprehensive analysis of economic impacts of Alberta's oil sands, *Economic Impacts of Alberta's Oil Sands*. In this report, CERI compiled statistics on the composition of the demand for materials and labour for oil sands construction projects. This information is used to estimate the value of materials and labour to be purchased for the major oil sands construction projects planned for the period from 2005 to 2010 that are presented in Section 3.

The composition of the demand for an oil sands construction project depends on the type of oil sand development project as shown in Table 4.2.

Table 4.2
Percentage Distribution of Construction Expenditures
of Oil Sands Projects

Industry	Mining	Integrated Mining	In Situ	Integrated In Situ
Manufacturing	72	56	41	31
Construction	0	0	20	26
Business Services	8	10	7	10
Labour	20	34	32	33
Total	100	100	100	100

Source: Canadian Energy Research Institute,
Economic Impacts of Alberta's Oil Sands, Volume I, October 2005

The location of suppliers for materials and labour also varies from one type of project to another as shown in Table 4.3.

Table 4.3
Percentage Distribution of Sources of Suppliers for Oil Sands Construction Projects

Industry	Mining			Integrated Mining			In Situ		
	Alberta	Rest of Canada	Foreign	Alberta	Rest of Canada	Foreign	Alberta	Rest of Canada	Foreign
Manufacturing	38	16	46	34	16	50	64	14	22
Construction	0	0	0	0	0	0	100	0	0
Business Services	100	0	0	100	0	0	95	4	1
Labour	100	0	0	100	0	0	93	7	0
Total	55	12	33	61	13	25	80	10	11

Source: Canadian Energy Research Institute,
Economic Impacts of Alberta's Oil Sands, Volume I, October 2005

For expenditures on labour, CERI compiled statistics on the percentage of expenditures to

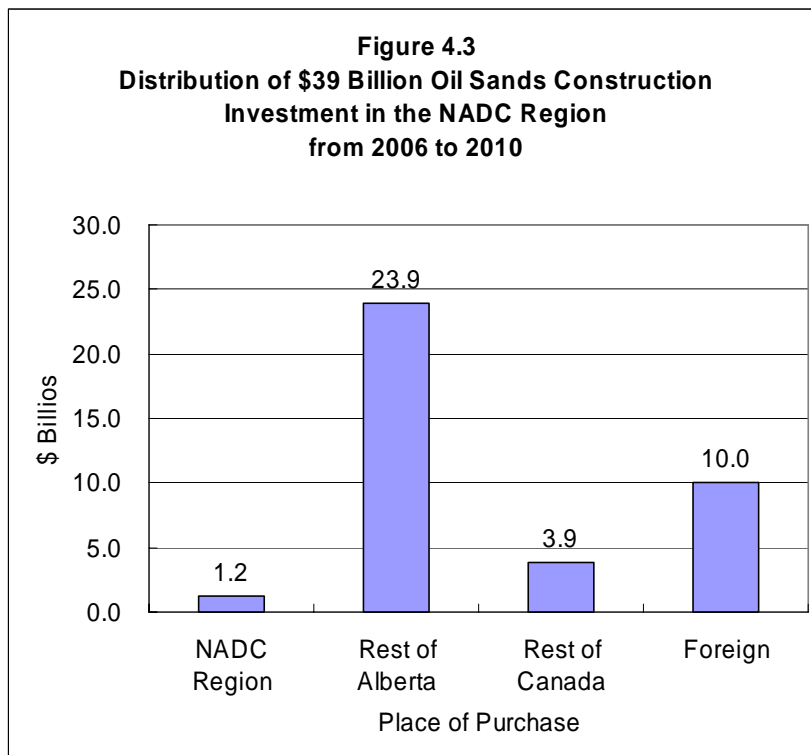
be spent in northern Alberta that roughly corresponded to the NADC Region. As shown in Table 4.4, the amount of expenditures on hiring people who permanently reside in the NADC Region is relatively small and a major portion of expenditures is spent on hiring people from the rest of Alberta.

Table 4.4
Percentage Distribution of Labour Expenditures
for Oil Sands Construction Projects

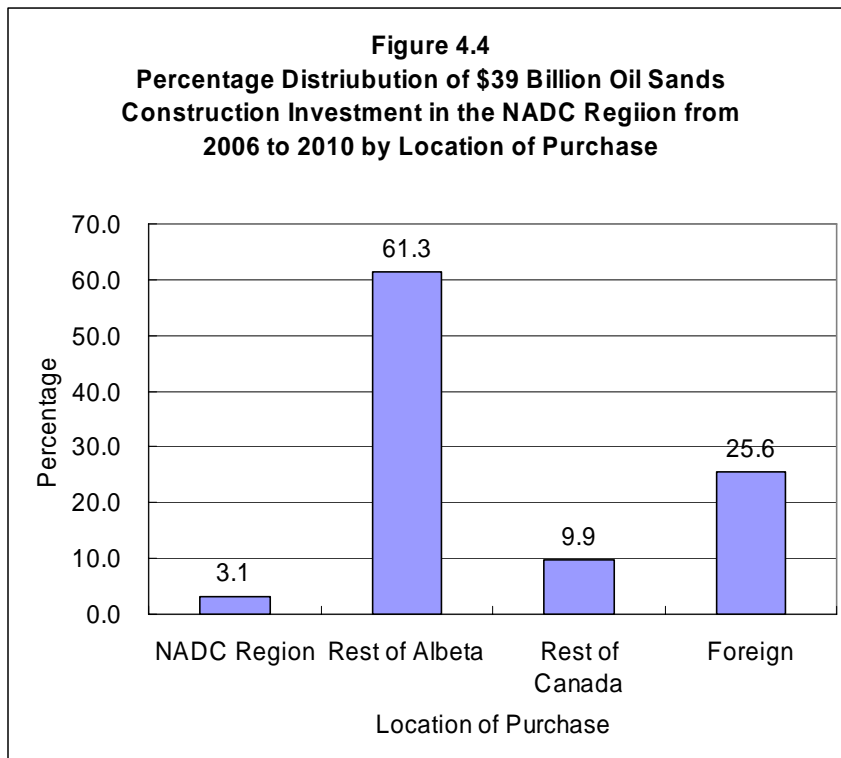
Type of Projects	NADC Region	Rest of Alberta	Rest of Canada
Mining	12	88	0
Integrated mining	5	95	0
In Situ	0	93	7

Source: Canadian Energy Research Institute,
Economic Impacts of Alberta's Oil Sands, Volume I,
October 2005.

Information in Table 4. 2 to Table 4.4 is applied to \$39 billion oil sands construction investment in the NADC Region for the period from 2006 to 2010 (see Section 3) and the amount of expenditures by location of suppliers is estimated.



Source: Estimates by GTS Group International.



Source: Estimates by GTS Group International.

As shown in Figure 4.4, the largest portion of expenditures on oil sands construction projects in the NADC Region will go to the rest of Alberta.

The percentage distribution of expenditures on oil sands construction projects by location of suppliers is:

- NADC Region 3.1%
- Rest of Alberta 61.3%
- Rest of Canada 9.9%
- Foreign countries 25.6%

Thus, oil sands investment projects in the NADC Region have huge impact on the suppliers of materials and labour in the rest of Alberta.

The details of the distribution of expenditures on oil sands construction projects in the NADC Region are shown in Table 4.5 and Table 4.6.

Table 4.5
Distribution of Expenditures on Oil Sands Construction Projects
in the NADC Region from 2006 to 2010 by Location of Purchase
 Million Dollars

Industry	Alberta			Rest of Canada	Foreign	Total
	NADC Region	Rest of Alberta	Alberta Total			
Manufacturing Goods	203	9,300	9,503	3,619	9,983	23,105
Construction Goods	228	1,661	1,889	0	0	1,889
Business Services	257	2,987	3,244	26	7	3,277
Other labour services	539	9,953	10,492	212	0	10,703
All Goods and Services	1,226	23,902	25,127	3,857	9,989	38,974

Source: Estimates by GTS Group International.

Table 4.6
Percentage Distribution of Expenditures on Oil Sands Construction Projects
in the NADC Region from 2006 to 2010 by Location of Purchase

Industry	Alberta			Rest of Canada	Foreign	Total
	NADC Region	Rest of Alberta	Alberta Total			
Manufacturing Goods	0.9	40.3	41.1	15.7	43.2	100.0
Construction Goods	12.1	87.9	100.0	0.0	0.0	100.0
Business Services	7.8	91.2	99.0	0.8	0.2	100.0
Other labour services	5.0	93.0	98.0	2.0	0.0	100.0
All Goods and Services	3.1	61.3	64.5	9.9	25.6	100.0

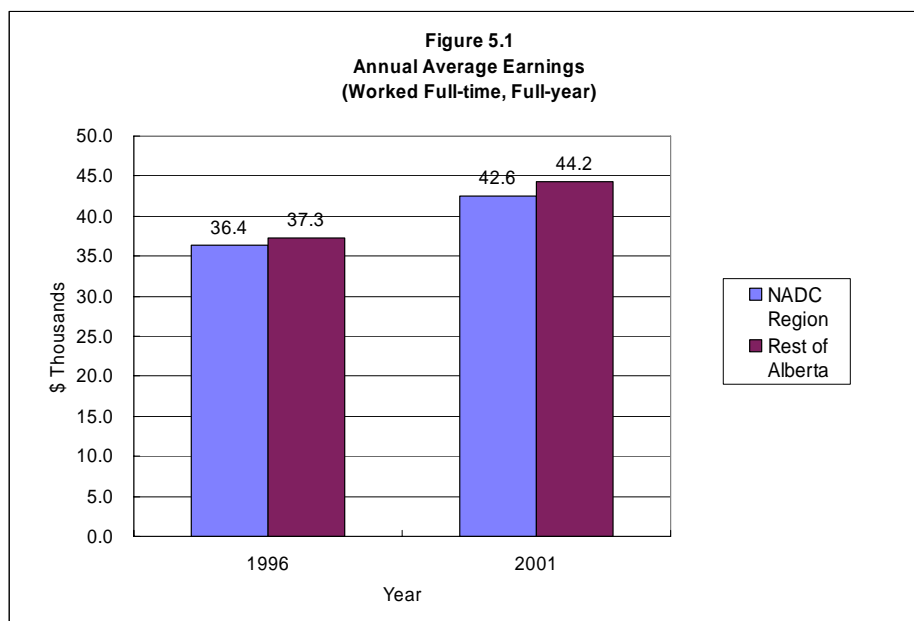
Source: Estimates by GTS Group International.

5.0 NADC Region's Contribution to Employment Earnings

5.1 Average Employment Earnings

In 2001, the average amount of employment earnings of all those who worked full-time and full-year in the NADC Region was \$42,561. It was slightly smaller than the average employment earnings of \$44,249 in the rest of Alberta.

There are highly-paid skilled workers working on oil sands related projects in the NADC Region. Since most of them work temporarily for a certain duration in the NADC Region, they are not included in the annual average earnings in Figure 5.1. It is also more common for companies that have plants in the NADC Region to have corporate offices at a location somewhere other than the NADC Region. The employees who work at corporate offices outside of the NADC Region are not included in Figure 5.1. Therefore, the annual average earnings in the NADC Region are underestimated to the extent that those excluded workers earn more than the average earnings shown in Figure 5.1



Source: Statistics Canada, *2001 Census Community Profiles*.

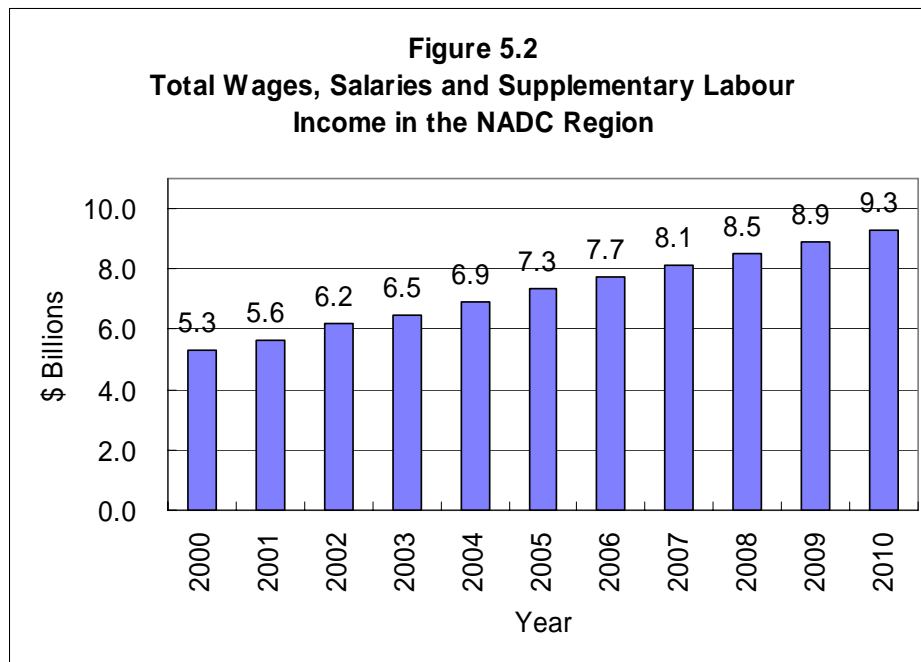
5.2 Total Wages, Salaries and Supplementary Labour Income

The total amount of wages, salaries and supplementary income of people in the NADC Region increased from \$5.3 billion in 2000 to \$7.3 billion in 2005. It is forecast to reach \$9.3 billion by 2010. The NADC Region's share of total wages, salaries and supplementary income in Alberta is about 8.8%.

Wages, salaries and supplementary labour income in the NADC Region in Figure 5.2 can be underestimated by two major reasons:

- (1) Temporary construction workers: Wages paid to construction workers who come to the NADC Region from elsewhere for energy-related projects, but do not permanently reside in the NADC Region, are not included in the estimates of total wages, salaries and supplementary labour income in the NADC Region.

- (2) Head office employees: Wages and salaries of employees who work at the head offices of energy-related companies located outside of the NADC Region, but the companies' major operations are in the NADC Region, are not included in the estimates of total wages, salaries and supplementary labour income in the NADC Region.



Source: Estimates and forecasts by GTS Group International.

Information on the second type of employees is scarce and no estimation is made in this report. But an estimate of the amount of wages paid to the first type of temporary workers can be made as follows.

For temporary construction workers, we can make rough estimates as follows:

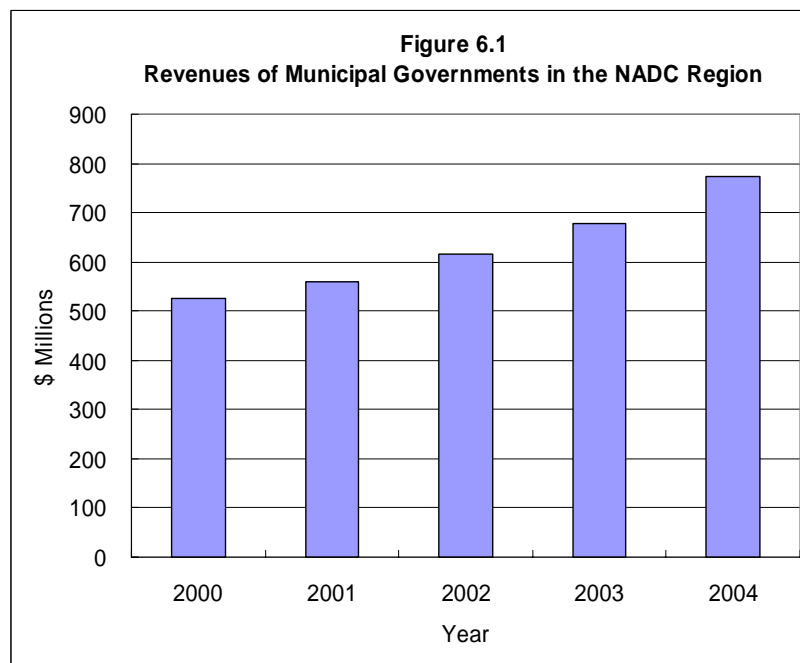
For oil sands projects planned from 2006 and 2010, expenditures on construction labour force employed from the rest of Alberta will be \$9,953 million (see Table 4.5). If an assumption is made that those construction workers will all work temporarily in the NADC Region but have permanent residences elsewhere in Alberta, then wages to be paid to them can subtracted from wages and salaries in the rest of Alberta and added to wages and salaries in the NADC Region. Then, for the period from 2006 to 2010, total wages, salaries and supplementary income in the NADC Region in Figure 5.2 are underestimated by 23.4% and those in the rest of Alberta are overestimated by 2.3%.

6.0 NADC Region's Contribution to Revenue of Government

Economic activity in the NADC Region generates various types of revenue for municipal governments in the NADC Region, the Government of Alberta, and the Government of Canada. The NADC Region has been and will remain as a major contributor to the revenue of the Government of Alberta and the Government of Canada.

6.1 NADC Region's Contribution to Municipal Governments

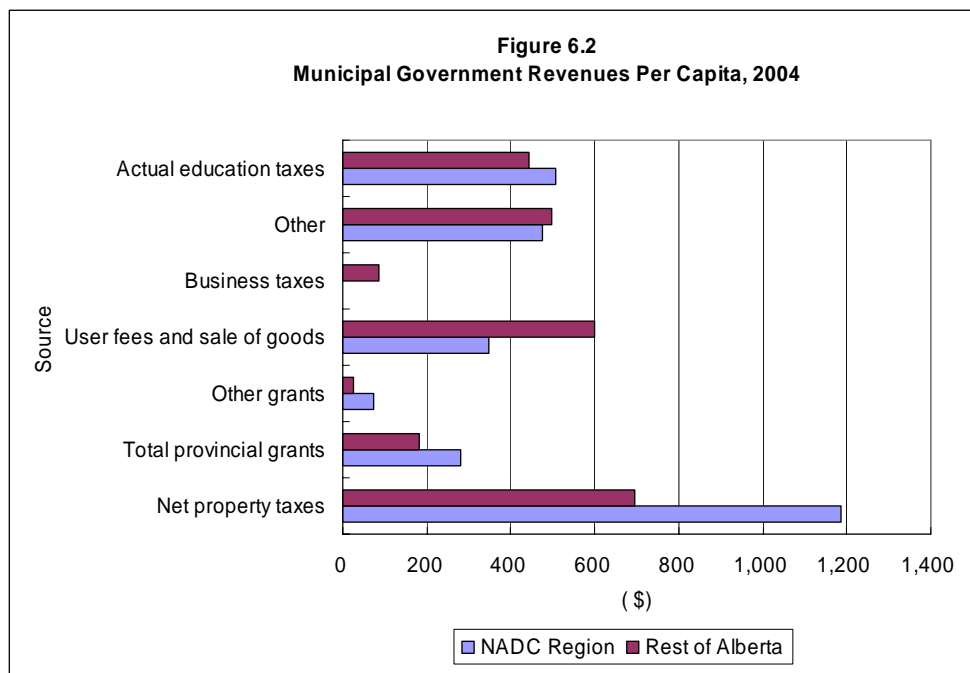
The total amount of revenues of all municipal governments in the NADC Region has steadily increased from \$526 million in 2000 to \$773 million in 2004 (See Table 6.1 in Appendix 6).



Source: Alberta Municipal Affairs, *Municipal Profiles*.

On a per capita basis, the municipal governments in the NADC Region received, in 2004:

- a much larger amount of net property taxes and,
- a much smaller amount of user fees and sale of goods than those in the rest of Alberta.



Source: Alberta Municipal Affairs, *Municipal Profiles*.

Note: Business taxes per capita in the NADC Region was \$0.77 and is not shown in Figure 6.2.

6.2 NADC Region's Contribution to the Government of Alberta

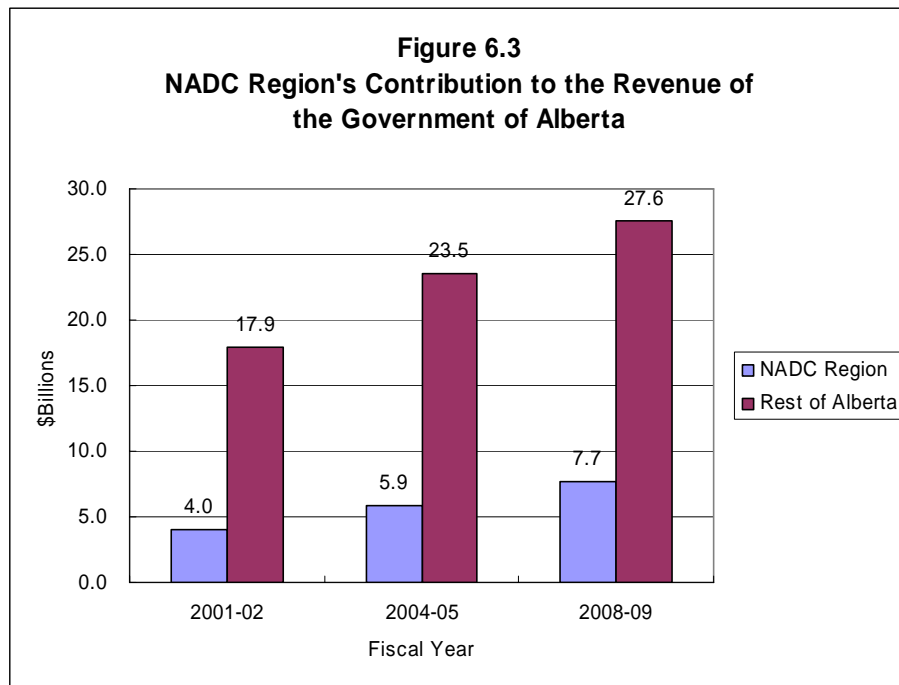
For the 2004-05 fiscal year, the NADC Region contributed \$5.9 billion to the revenue of the Government of Alberta. This amounted to 19.9% of the total revenue of the Government of Alberta (See Figure 6.3 and 6.4).

Non-renewable resource revenues have been the largest component of the NADC Region's contribution to the revenue of the Government of Alberta. They were as large as \$3.7 billion for the 2004-05 fiscal year (See Figure 6.5).

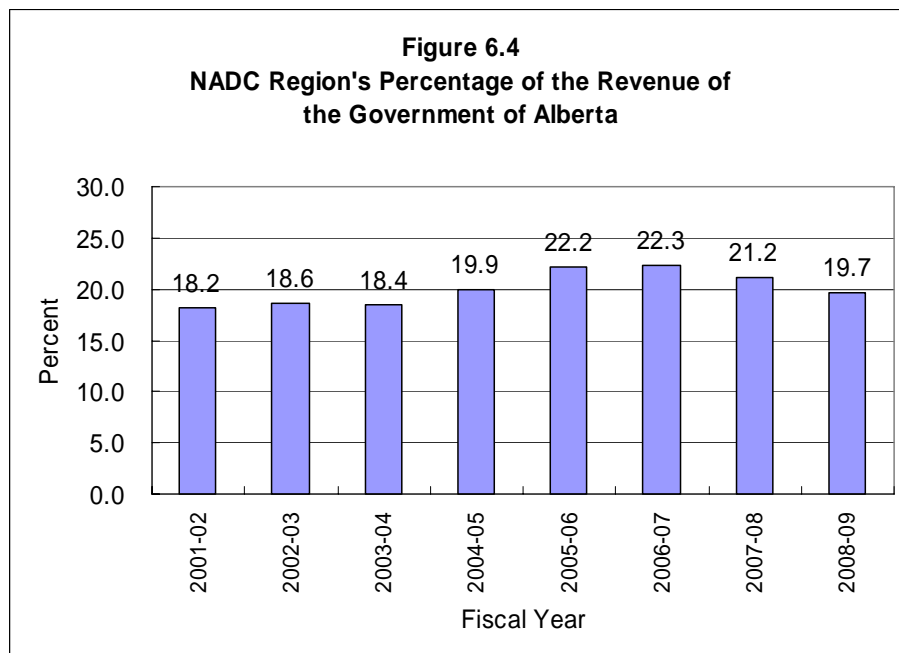
Since the NADC Region will remain as a major producer of oil, natural gas, and wood products in the province, its contribution to the revenue of the Government of Alberta will also remain high (See Figure 6.4).

Figure 6.4 is based on Alberta Finance's forecasts of the revenue of the Government of Alberta for the fiscal year 2006-07 to 2008-09 and assumes that oil and natural gas prices gradually decline over the forecast period from high levels in 2005.

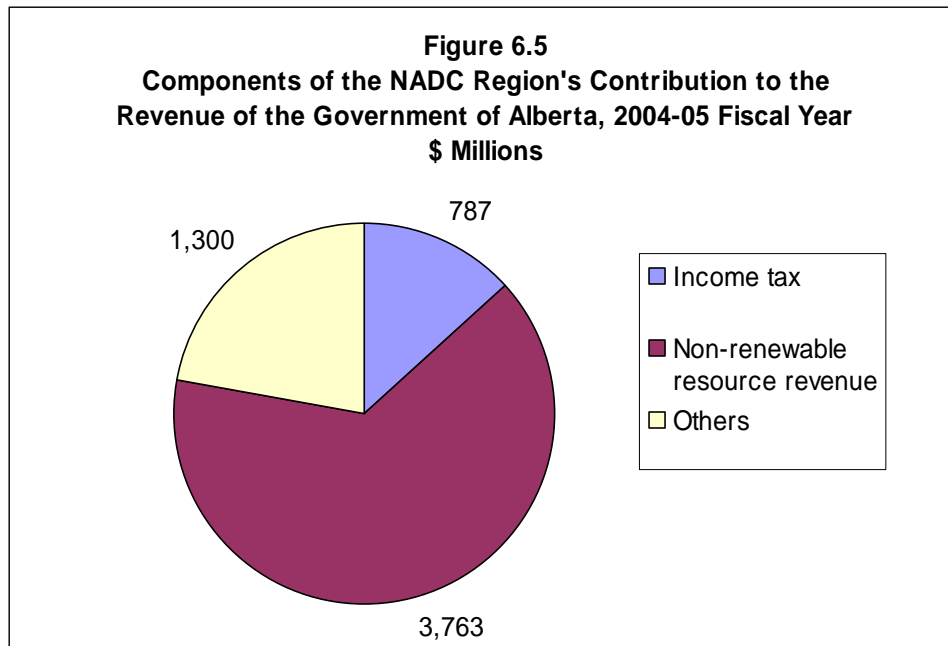
Alberta Finance conducts sensitivity analysis to see how different oil price assumptions change the revenue of government. Based on this sensitivity analysis, if oil and natural gas prices in the 2008-09 fiscal year will be at the same levels in the 2005-06 fiscal, the NADC Region's contribution will be 21.7% instead of 19.7%.



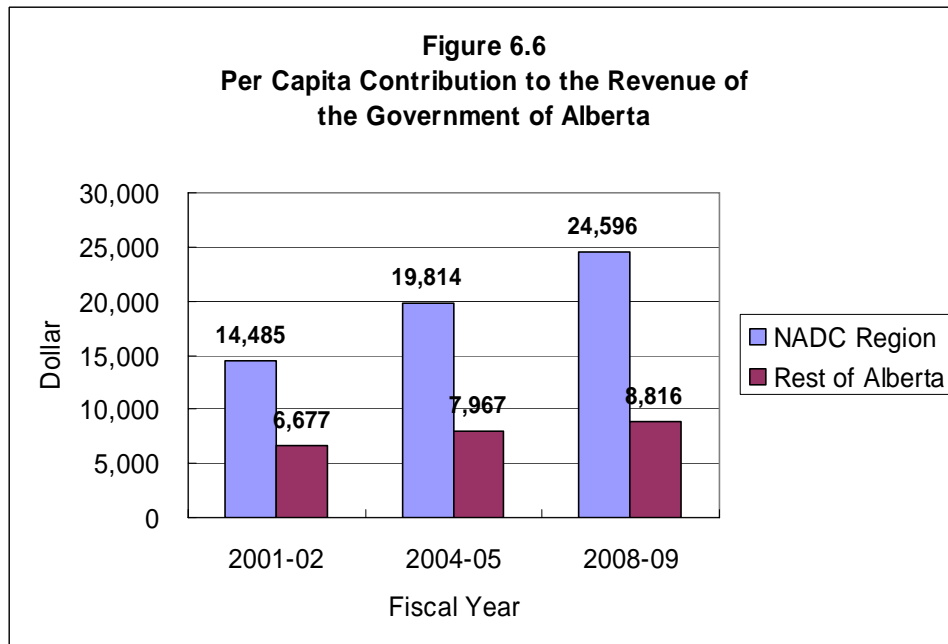
Sources: Alberta Finance, *Alberta Budget* and estimates and forecasts by GTS Group International.



Sources: Alberta Finance, *Alberta Budget* and estimates and forecasts by GTS Group International.



Source: Estimates by GTS Group International.



Source: Estimates and forecasts by GTS Group International.

When the NADC Region's contribution to the revenue of the Government of Alberta is calculated on a per capita basis, the NADC Region contributed close to \$20 thousand dollars per capita, while the rest of Alberta contributed about \$8 thousand per capita (See Figure 6.6)

Detailed revenues of the Government of Alberta for selected fiscal years are shown in Table 6.1.

Table 6.1
Revenue of the Government of Alberta
Million Dollars

Fiscal Year	2001-02	2004-05	2008-09
Type of Revenue	Actual	Actual	Target
Income Tax	6,412	7,013	9,055
Personal income tax	4,183	4,649	6,867
Corporate income tax	2,229	2,364	2,188
Other Taxes	2,563	3,165	3,398
Non-Renewable Resource Revenue	6,227	9,744	8,238
Natural gas and by-products royalty	4,030	6,439	4,942
Crude oil royalty	987	1,273	685
Synthetic crude oil and bitumen royalty	185	718	1,351
Coal royalty	17	11	11
Bonuses and sales of Crown leases	969	1,252	1,191
Rentals and fees	148	153	148
Royalty tax credit	-109	-102	-90
Transfers from Government of Canada	2,266	3,219	3,658
Net Income from Commercial Operations	1,694	2,020	2,113
Premiums, Fees and Licenses	1,363	1,804	1,841
Investment Income	787	1,812	1,741
Other	614	551	466
Total Revenue	21,926	29,328	30,510

Sources: Alberta Finance, *Alberta Budget*.

Estimates of the NADC Region's contribution to the revenue of the Government of Alberta for selected fiscal years are shown in Table 6.2

The NADC Region's contribution as a percentage of the total revenue of the Government of Alberta is shown in Table 6.3 by type of revenue (see details in Appendix 7).

Table 6.2
NADC Region's Contribution
to the Revenue of the Government of Alberta
 Million Dollars

Fiscal Year	2001-02	2004-05	2008-09
Type of Revenue	Actual	Actual	Target
Income Tax	728	787	962
Personal income tax	347	386	570
Corporate income tax	381	401	392
Other Taxes	347	396	424
Non-Renewable Resource Revenue	2,260	3,763	3,684
Natural gas and by-products royalty	1,538	2,350	1,804
Crude oil royalty	275	355	191
Synthetic crude oil and bitumen royalty	185	718	1,351
Coal royalty	0	0	0
Bonuses and sales of Crown leases	245	318	310
Rentals and fees	65	67	71
Royalty tax credit	-48	-45	-43
Transfers from Government of Canada	210	289	332
Net Income from Commercial Operations	157	181	191
Premiums, Fees and Licenses	154	223	204
Investment Income	73	162	158
Other	57	49	42
Total Revenue	3,988	5,851	5,996

Source: Estimates by GTS Group International.

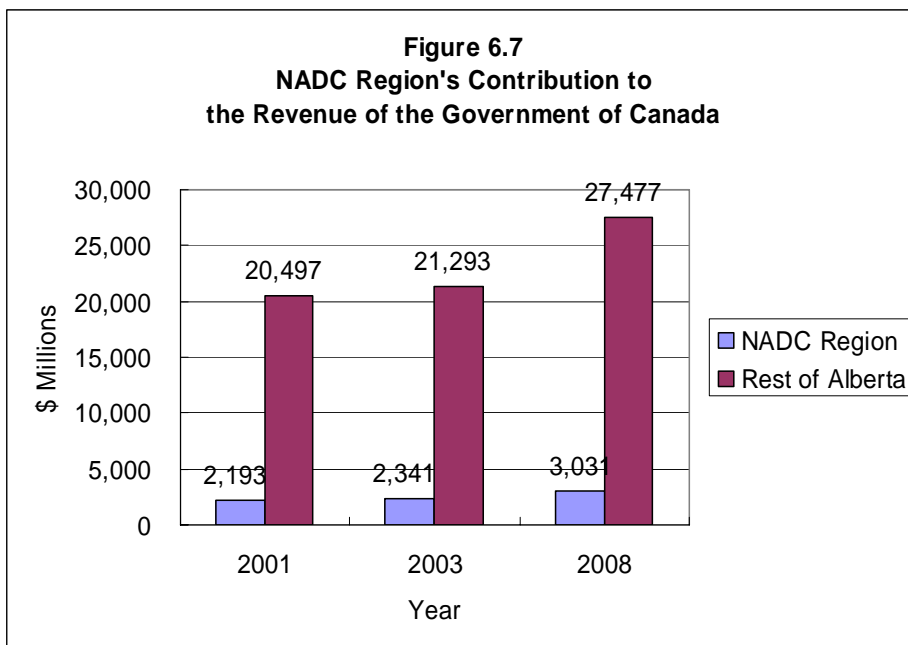
Table 6.3
NADC Region's Contribution
to the the Revenue of the Government of Alberta as a Percentage

Fiscal Year	2001-02	2004-05	2008-09
Type of Revenue	Actual	Actual	Target
Income Tax	11.4	11.2	10.6
Personal income tax	8.3	8.3	8.3
Corporate income tax	17.1	17.0	17.9
Other Taxes	13.5	12.5	12.5
Non-Renewable Resource Revenue	36.3	38.6	44.7
Natural gas and by-products royalty	38.2	36.5	36.5
Crude oil royalty	27.9	27.9	27.9
Synthetic crude oil and bitumen royalty	100.0	100.0	100.0
Coal royalty	0.0	0.0	0.0
Bonuses and sales of Crown leases	25.3	25.4	26.1
Rentals and fees	44.2	43.7	47.8
Royalty tax credit	44.2	43.7	47.8
Transfers from Government of Canada	9.3	9.0	9.1
Net Income from Commercial Operations	9.3	8.9	9.1
Premiums, Fees and Licenses	11.3	12.4	11.1
Investment Income	9.3	8.9	9.1
Other	9.3	8.9	9.1
Total Revenue	18.2	19.9	19.7

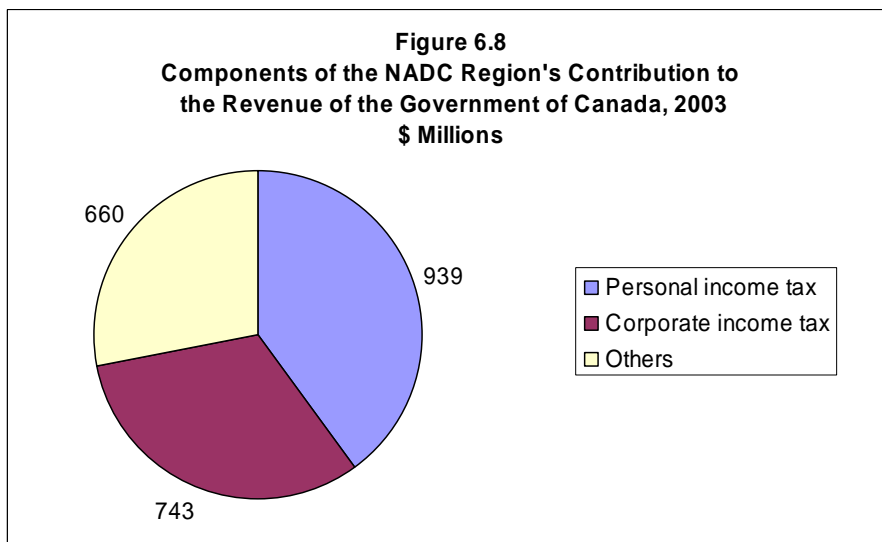
Source: Estimates by GTS Group International.

6.3 NADC Region's Contribution to the Government of Canada

In 2003, the Government of Canada collected \$23.6 billion revenue from Alberta, of which \$2.3 billion (9.9% of total) was from the NADC Region. Personal income tax and corporate income tax were two major components of the NADC Region's contribution to the revenue of the Government of Canada.

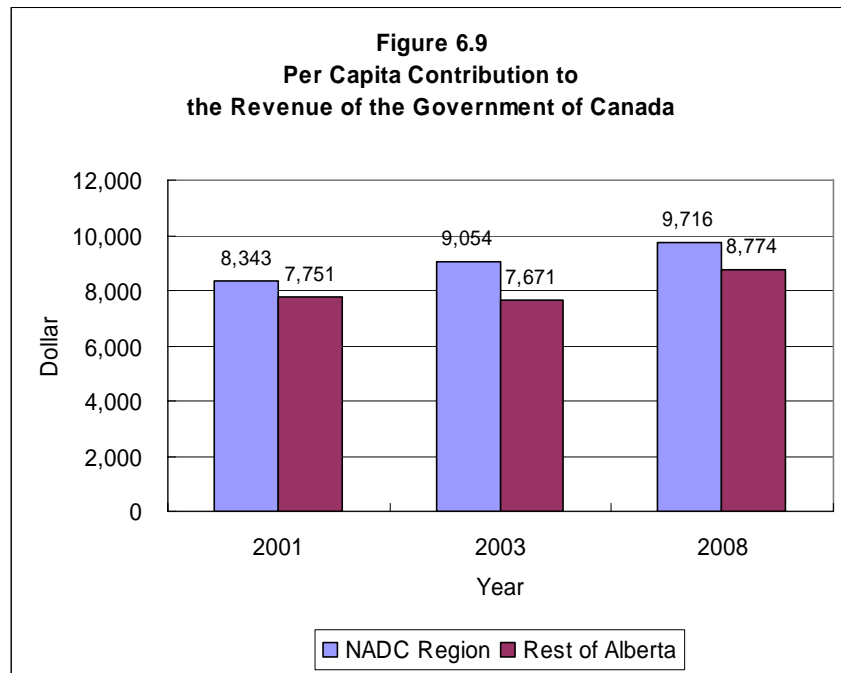


Source: Estimates and forecasts by GTS Group International.



Source: Estimates and forecasts by GTS Group International.

On a per capita basis, people in the NADC Region contributed \$8,343 to the revenue of the Government of Canada in 2003. This was larger than \$7,751 by people in the rest of Alberta.



Source: Estimates and forecasts by GTS Group International.

7.0 NADC Region's Relative Economic Contribution to Alberta and Canada

The NADC Region has a small population over its vast land area. Meanwhile, its land is a major centre for conventional and non-conventional oil, natural gas, forest products, and primary agriculture.

These resource-based industries contribute significantly to Alberta's exports and investment. Energy, forest, and primary agriculture products are exported to the rest of Alberta, the rest of Canada, and the world.

Resource development in the NADC Region attracts a vast amount of investment that creates huge demand for construction materials, machinery and equipment, engineering and other professional services, and construction labour for the suppliers located outside of the NADC Region.

Major indicators for the total and relative size of the NADC Region's contribution to Alberta and Canada are summarized in the table below.

Table 7.1
Economic Contribution of the NADC Region

Economic Contributions	Year	Total Contribution (\$ Billions)			Value Per Capita (\$ Thousands)		
		NADC Region	Rest of Alberta	NADC as % of Alberta	NADC Region	Rest of Alberta	Alberta Average
Exports	2005	37.1	92.6	28.6	125.7	31.4	40.0
	2010	40.3	96.3	29.5	124.5	29.5	38.1
Investment	2005	13.2	36.6	26.4	44.5	12.4	15.4
	2010	12.0	40.5	22.8	37.0	12.4	14.6
Materials for manufacturing	2003	1.4	30.6	4.3	5.3	11.0	10.5
Materials and labour for oil sands investment	2006-10*	1.2	23.9	4.9	4.0	7.7	7.4
Employment earnings	2005	7.3	76.2	8.8	24.8	25.9	25.8
	2010	9.3	96.5	8.8	28.7	29.6	29.5
Government revenues - Alberta	2004-05**	5.9	23.5	20.0	21.7	8.4	9.6
	2008-09**	6.0	24.5	19.7	19.2	7.8	8.9
Government revenues - Federal	2005	2.6	24.2	9.8	8.9	8.2	8.3
	2010	3.3	29.7	9.9	10.1	9.1	9.2

Source: Various tables in this report.

Notes: * the entire period from 2006 to 2010; ** the fiscal year 2004-05 and the fiscal year 2008-09.

The findings about the NADC Region's economic contribution shows that:

- Due to the strong presence of energy resource, forest products, and primary agriculture industries in the NADC Region, the per capita contribution of the NADC Region to Alberta far exceeds that of the rest of Alberta.
- The NADC Region maintains a significant position in Alberta's economy and that its contribution extends to the rest of Canada and to the world.
- The NADC Region is expected to maintain its important economic role for Alberta and Canada in the future.

Table 7.2
Estimates of Gross Domestic Product, Expenditure-based
for the Northern Alberta Development Council Region, 2004
 Current Million Dollars

Expenditures	Alberta \$	NADC %	NADC \$
Personal expenditure on consumer goods and services	79,920	9.1	7,279
Net government current expenditure on goods and services	25,384	9.1	2,312
Government and business gross capital formation	49,888	25.9	12,939
Government investment in inventories	2	9.1	0
Business investment in inventories	1,461		103
Non-farm	935	5.9	55
Farm	526	9.2	48
Exports of goods and services	117,099		30,971
Exports to other countries	73,564		24,830
Exports of goods to other countries	68,033	36.2	24,628
Exports of services to other countries	5,531	3.6	202
Exports to other provinces	43,535		6,141
Exports of goods to other provinces	29,468	19.1	5,628
Exports of services to other provinces	14,067	3.6	513
Deduct. Imports of goods and services	86,406		8,873
Imports from other countries	46,313		5,692
Imports of goods from other countries	40,724	13.5	5,488
Imports of services from other countries	5,589	3.6	204
Imports from other provinces	40,093		3,810
Imports of goods from other provinces	22,822	13.9	3,180
Imports of services from other provinces	17,271	3.6	629
Statistical discrepancy	-196	9.1	-18
Gross Domestic Product at market prices	187,152		44,713
NADC % of Alberta GDP		23.9	

Source: Statistics Canada, *Provincial Economic Accounts, 2004 Estimates* for Alberta and GTS Group International's estimates for the NADC Region.

Another way of summarizing the economic contribution of the NADC Region to Alberta is to look at the size of Gross Domestic Product in the NADC Region. Table 7.2 presents an estimate of GDP in the NADC Region in 2004 on the expenditure base.

The value of GDP generated in the NADC Region in 2004 amounted to \$45 billion. This was 23.9% of Alberta's total GDP. This means that roughly one-quarter of the value of economic activity in Alberta was generated in the NADC Region in 2004.

Appendix 1 Population and Industry

Definition of the Northern Alberta Development Council (NADC) Region

The NADC Region includes the area covered by the following communities:

I.D. 24 (Wood Buffalo National Park),
Regional Municipality of Wood Buffalo,

MD of Big Lakes,
M.D. of Opportunity No. 17,
M.D. of Lesser Slave River No. 124,
M.D. of Clear Hills No. 21,
M.D. of Northern Lights No. 22,
M.D. of Mackenzie No. 23,
Northern Sunrise County (was M.D. of East Peace No. 131),

M.D. of Greenview No. 16,

Grande Prairie County No. 1,
M.D. of Smoky River No. 130,
M.D. of Birch Hills No. 19,
M.D. of Spirit River No. 133,
M.D. of Saddle Hills No. 20,
M.D. of Fairview No. 136,
M.D. of Peace No. 135,

M.D. of Bonnyville No. 87,
Lakeland County,
County of St. Paul No. 19,
Woodlands County,
Athabasca County No. 12,

All of the Metis Settlements are part of the NADC area (Including Kikino and Buffalo Lakes which are situated in County 13; please note that County 13 is not part of the NADC Region)

White Fish Lake I.R. 128 and Saddle Lake I.R. 125 are also included as part of the NADC Region even though parts of these Reserves are considered to be within County 13

Population

Table 1.1

Population in the Northern Alberta Development Region from 2000 to 2005

Sources:

Alberta Municipal Affairs, *Official Alberta Population Lists 2000 - 2005*

Methods:

Official populations of all municipalities in the NADC Region are added for the years from 2000 to 2005.

Table 1.2
Forecasts of Population in the Northern Alberta Development Council Region from 2006 to 2010

Sources:

Alberta Municipal Affairs, *Official Alberta Population Lists 2000 - 2005*

Methods:

For forecasts from 2006 to 2010, the average annual compound growth rate is used for the NADC Region and Alberta.

Table 1.1
Population in the Northern Alberta Development Region
from 2000 to 2005

Year	NADC Region	Alberta	NADC as % of Alberta
2000	269,445	2,931,860	9.2
2001	275,291	2,962,014	9.3
2002	267,563	3,050,589	8.8
*2003			
*2004			
2005	295,278	3,242,110	9.1

Source: Alberta Municipal Affairs, *Official Alberta Population Lists 2000-2005*.

Notes: * Population for some municipalities are not available for 2003 and 2004.

Table 1.2
Forecasts of Population in the Northern Alberta Development Region
from 2006 to 2010

	NADC Region	Alberta	NADC as % of Alberta
2006	300,741	3,307,925	9.1
2007	306,304	3,375,076	9.1
2008	311,971	3,443,590	9.1
2009	317,742	3,513,495	9.0
2010	323,621	3,584,819	9.0

Source: Forecasts by GTS Group International

Industries

Table 1.3
Total Gross Farm Receipts in the Northern Alberta Development Council Region and Alberta, 2000

Table 1.4
Acres of Field Crops Grown in the Northern Alberta Development Region and Alberta, 2001

Table 1.5
Alfalfa and Canola Grown in the Northern Alberta Development Council Region and Alberta, 2001

Table 1.6
Cattle and Calves in the Northern Alberta Development Council Region and Alberta, 2001

Sources:

For Table 1.3 to 1.6, the source of information is Statistics Canada, *2001 Census of Agriculture*.

Methods:

Statistics for the NADC Region are compiled for each table.

Table 1.3
Total Gross Farm Receipts in the Northern Alberta
Development Council Region and Alberta in 2000

Region	No. of Farms (counts)	Total Gross Farm Receipts (\$ millions)
NADC Region	10,636	911
The Rest of Alberta	43,016	9,009
Alberta	53,652	9,919
NADC as % of Alberta	19.8	9.2

Source: Compiled from Statistics Canada, *2001 Census of Agriculture*.

Table 1.4
Production of Spring Wheat and Barley in the NADC Region
 Thousand tons

	1989	1999	2000	2001	2002	2003	2004
Spring wheat							
NADC Region	814	1,168	1,667	1,498	761	1,055	1,158
Rest of Alberta	4,730	6,083	4,601	3,768	2,040	4,223	5,436
Alberta	5,544	7,252	6,268	5,266	2,801	5,278	6,594
NADC as % of Alberta	14.7	16.1	26.6	28.5	27.2	20.0	17.6
Barley							
NADC Region	862	831	980	901	625	969	903
Rest of Alberta	4,799	5,157	4,289	3,845	1,945	4,562	4,932
Alberta	5,661	5,987	5,269	4,746	2,569	5,530	5,835
NADC as % of Alberta	15.2	13.9	18.6	19.0	24.3	17.5	15.5

Source: Alberta Agriculture, Food and Rural Development, *Alberta Agriculture Statistics Yearbook, 2004*

Table 1.5
Production of Hay and Canola in the NADC Region
 Thousand tons

	1989	1999	2000	2001	2002	2003	2004
Hay							
NADC Region	2,130	1,581	1,973	1,952	1,047	2,114	2,970
Rest of Alberta	3,620	5,244	4,152	2,798	2,303	4,936	5,180
Alberta	5,750	6,825	6,125	4,750	3,350	7,050	8,150
NADC as % of Alberta	37.0	23.2	32.2	41.1	31.3	30.0	36.4
Canola							
NADC Region	724	858	661	584	610	755	938
Rest of Alberta	1,748	2,113	1,528	1,072	411	1,468	1,988
Alberta	2,472	2,971	2,189	1,656	1,021	2,223	2,926
NADC as % of Alberta	29.3	28.9	30.2	35.3	59.8	34.0	32.0

Source: Alberta Agriculture, Food and Rural Development, *Alberta Agriculture Statistics Yearbook, 2004*

Table 1.6
Cattle and Calves in the Northern Alberta Development Council Region and Alberta, 2001

Region	Cattle and Calves		Pigs	
	No. of Farms	Head	No. of Farms	Head
NADC Region	2,292	349,810	557	75,366
The Rest of Alberta	29,482	6,265,391	2,120	1,952,167
Alberta	31,774	6,615,201	2,677	2,027,533
NADC as % of Alberta	7.2	5.3	20.8	3.7

Source: Compiled from Statistics Canada, *2001 Census of Agriculture*

Table 1.7
Annual Production of Oil, Gas and Condensate in Alberta

Table 1.8
Annual Production of Oil, Gas, and Condensate in the Northern Alberta Development Council

Table 1.9
Annual Production of Oil, Gas, and Condensate in the Northern Alberta Development Council as a Percentage of Alberta

Sources:

Monthly statistics for the NADC Region from January 1990 to October 2005 are provided by Alberta Energy.

Methods:

Annual statistics are compiled from monthly statistics.

Table 1.7
Annual Production of Oil, Gas, and Condensate in Alberta

Year	Volume of natural gas	Volume of oil and condensate
	(1000m3)	(m3)
1990	118,581,141	60,935,042
1991	122,883,911	59,276,730
1992	134,241,491	60,647,299
1993	145,774,393	62,360,341
1994	155,982,735	63,096,421
1995	162,134,777	64,024,026
1996	167,767,259	64,603,355
1997	168,784,501	67,250,232
1998	172,778,021	66,466,061
1999	175,211,978	60,107,157
2000	176,357,593	60,645,060
2001	174,023,651	60,092,850
2002	169,487,133	56,179,724
2003	161,931,107	57,199,883
2004	163,610,515	57,754,714
*2005	135,525,388	48,740,801

Source: Compiled from data available at Alberta Energy

Note: * only for January to October

Table 1.8
Annual Production of Oil, Gas, and Condensate
in the Northern Alberta Development Council Region

Year	Volume of natural gas	Volume of oil and condensate
	(1,000 m3)	(m3)
1990	38,796,171	28,517,463
1991	41,819,283	27,173,113
1992	47,240,233	27,560,697
1993	53,470,163	27,479,147
1994	57,708,761	27,485,301
1995	62,266,622	27,835,063
1996	66,045,982	27,816,071
1997	67,571,751	30,817,070
1998	68,975,371	32,470,348
1999	69,064,706	30,065,451
2000	67,431,226	30,560,550
2001	66,395,982	31,178,388
2002	63,450,228	29,333,312
2003	61,347,808	31,032,644
2004	59,710,188	32,346,609
*2005	48,622,576	28,581,863

Source: Compiled from data available at Alberta Energy

Note: * only for January to October

Table 1.9
Annual Production of Oil, Gas, and Condensate
The Northern Alberta Development Council Region
as a Percent of Alberta

Year	Volume of natural gas	Volume of oil and condensate
1990	32.7	46.8
1991	34.0	45.8
1992	35.2	45.4
1993	36.7	44.1
1994	37.0	43.6
1995	38.4	43.5
1996	39.4	43.1
1997	40.0	45.8
1998	39.9	48.9
1999	39.4	50.0
2000	38.2	50.4
2001	38.2	51.9
2002	37.4	52.2
2003	37.9	54.3
2004	36.5	56.0
*2005	35.9	58.6

Source: Compiled from data available at Alberta Energy

Note: * only for January to October

Table 1.10
Manufacturing Industries in the Northern Development Council Region and Alberta

Table 1.11
Manufacturing Industries in the Northern Alberta Development Region as a Percentage of Alberta

Sources:

Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*.

Methods:

Special tables by Census Division are compiled by Statistics Canada for 2000 to 2004. The NADC Region is approximated as the combined area of Census Division 12, 13, 16, 17, 18, and 19.

Table 1.10
Manufacturing Industries in the Northern Development Council Region and Alberta

	Units of Measurement	2000		2001		2002		2003	
		Alberta	NADC Region	Alberta	NADC Region	Alberta	NADC Region	Alberta	NADC Region
Number of establishments	Counts	4,731	262	4,843	302	4,920	322	4,882	275
Total employment	Counts	129,638	7,506	133,312	8,379	134,759	8,673	133,753	7,391
Total wages and salaries	\$ Millions	4,953	398	5,366	448	5,560	471	5,731	405
Total cost of materials	\$ Millions	29,680	1,249	31,096	1,512	30,475	1,601	31,931	1,373
Total manufacturing shipment	\$ Millions	47,383	3,150	48,786	3,238	47,862	3,331	49,494	2,901
Total value added	\$ Millions	16,412	1,738	16,300	1,534	15,324	1,503	15,587	1,301

Source: Compiled from a special tabulation of Statistics Canada, *Manufacturing Industries of Canada*

Table 1.11
**Manufacturing Industries in the Northern Development Council Region
as a Percentage of Alberta**

	Units of Measurement	2000	2001	2002	2003
Number of establishments	%	5.5	6.2	6.5	5.6
Total employment	%	5.8	6.3	6.4	5.5
Total wages and salaries	%	8.0	8.3	8.5	7.1
Total cost of materials	%	4.2	4.9	5.3	4.3
Total manufacturing shipment	%	6.6	6.6	7.0	5.9
Total value added	%	10.6	9.4	9.8	8.3

Source: Compiled from a special tabulation of Statistics Canada, *Manufacturing Industries of Canada*

Table 1.12
Manufacturing Industries in the Northern Development Council Region and Alberta

	Units of Measurement	2000		2001		2002		2003	
		Alberta	NADC Region	Alberta	NADC Region	Alberta	NADC Region	Alberta	NADC Region
Number of establishments	Counts	4,731	262	4,843	302	4,920	322	4,882	275
Total employment	Counts	129,638	7,506	133,312	8,379	134,759	8,673	133,753	7,391
Total wages and salaries	\$ Millions	4,953	398	5,366	448	5,560	471	5,731	405
Total cost of materials	\$ Millions	29,680	1,249	31,096	1,512	30,475	1,601	31,931	1,373
Total manufacturing shipment	\$ Millions	47,383	3,150	48,786	3,238	47,862	3,331	49,494	2,901
Total value added	\$ Millions	16,412	1,738	16,300	1,534	15,324	1,503	15,587	1,301

Source: Compiled from a special tabulation of Statistics Canada, *Manufacturing Industries of Canada*

Table 1.13
Forest Products Industries as a Percentage of All Manufacturing Industries
in the Northern Alberta Development Council Region

	Units of Measurement	2000	2001	2002	2003
Number of establishments	%	20.6	16.9	15.2	17.1
Total employment	%	58.9	46.2	45.5	55.6
Total wages and salaries	%	60.4	50.1	50.6	60.9
Total cost of materials	%	61.6	47.3	50.6	61.8
Total manufacturing shipment	%	65.3	51.3	53.3	65.0
Total value added	%	67.6	55.4	55.9	68.6

Source: Compiled from a special tabulation of Statistics Canada, *Manufacturing Industries of Canada*

Table 1.12
Manufacturing Industries in the Northern Alberta Development Council and Alberta

Table 1.13
Forest Products Industries as a Percentage of All Manufacturing Industries in the Northern Alberta Development Council Region

Sources:

Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*.

Methods:

Special tables by Census Division are compiled by Statistics Canada for 2000 to 2004. The NADC Region is approximated as the combined area of Census Division 12, 13, 16, 17, 18, and

Table 1.14
Production Capacities of Primary Forest Products Industries in Alberta, 2003

Source: Alberta Forest Products Association, *Economic Impact of Alberta Forest Industry*, (2005)

Table 1.14
Production Capacities of Primary Forest Products Industries in Alberta, 2003
(log volume consumed, 1000 m3)

Region	Sawmill	Pulp and Paper	Panelboard	Sawmill and Panelboard
Athabasca - Fort McMurray	906	2,195		906
Rocky Mountain House	1,850		310	2,160
Drayton Valley	530		360	890
Edmonton				0
Grande Prairie - Grande Cache	2,145	520	590	2,735
Hinton - Edson	1,230	1,045	420	1,650
Peace River	2,575	1,170	625	3,200
Slave Lake	1,175	560	1,060	2,235
Whitercourt	2,235	1,780		2,235
NADC Region	9,036	6,225	2,275	11,311
Alberta	12,646	7,270	3,365	16,011
NADC Region as % of Alberta	71.5	85.6	67.6	70.6

Source: Alberta Forest Products Association, *Economic Impact of Alberta Forest Industry* (2005)

Appendix 2 International and Interprovincial Exports

Table 2.1
Alberta's Total Exports – International plus Interprovincial Exports

Sources and Methods:

A summary of statistics from other tables in this section.

Table 2.1 A
Alberta's Total Exports - International plus Interprovincial Exports
Current Million Dollars

Products	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
Year 2000				
Agriculture	671	2,782	3,454	19.4
Mining and Energy	18,631	23,494	42,125	44.2
Manufacturing	3,240	30,817	34,057	9.5
Services	613	16,200	16,812	3.6
All Goods and Services	23,155	73,293	96,449	24.0
Year 2005				
Agriculture	460	2,641	3,101	14.8
Mining and Energy	31,879	34,326	66,205	48.2
Manufacturing	3,911	34,528	38,439	10.2
Services	859	21,065	21,924	3.9
All Goods and Services	37,108	92,560	129,668	28.6
Year 2010				
Agriculture	421	3,183	3,605	11.7
Mining and Energy	35,111	31,620	66,730	52.6
Manufacturing	3,738	35,240	38,978	9.6
Services	1,033	26,286	27,319	3.8
All Goods and Services	40,303	96,328	136,631	29.5

Sources: Compiled from various tables in this report.

Table 2.1 B
Alberta's Exports - International Exports
 Current Million Dollars

Products	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
Year 2000				
Agriculture	602	2,140	2,742	21.9
Mining and Energy	15,004	19,055	34,058	44.1
Manufacturing	2,471	16,224	18,695	13.2
Services	219	5,783	6,002	3.6
All Goods and Services	18,295	43,201	61,497	29.8
Year 2005				
Agriculture	372	1,610	1,982	18.8
Mining and Energy	27,382	29,587	56,969	48.1
Manufacturing	2,869	17,390	20,259	14.2
Services	253	6,695	6,948	3.6
All Goods and Services	30,876	55,282	86,158	35.8
Year 2010				
Agriculture	317	1,838	2,154	14.7
Mining and Energy	29,301	26,490	55,791	52.5
Manufacturing	2,487	16,107	18,594	13.4
Services	290	7,679	7,969	3.6
All Goods and Services	32,395	52,113	84,508	38.3

Sources: Compiled from various tables in this report.

Table 2.1 C
Alberta's Exports - Interprovincial Exports
 Current Million Dollars

Products	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
Year 2000				
Agriculture	70	643	712	9.8
Mining and Energy	3,628	4,439	8,067	45.0
Manufacturing	769	14,593	15,362	5.0
Services	394	10,417	10,811	3.6
All Goods and Services	4,860	30,092	34,952	13.9
Year 2005				
Agriculture	88	1,031	1,119	7.9
Mining and Energy	4,497	4,739	9,236	48.7
Manufacturing	1,042	17,138	18,180	5.7
Services	606	14,370	14,975	4.0
All Goods and Services	6,232	37,278	43,510	14.3
Year 2010				
Agriculture	105	1,346	1,451	7.2
Mining and Energy	5,810	5,130	10,939	53.1
Manufacturing	1,251	19,133	20,384	6.1
Services	743	18,607	19,350	3.8
All Goods and Services	7,908	44,216	52,124	15.2

Sources: Compiled from various tables in this report.

Table 2.2
Alberta's International Exports by Industry 1999 to 2005

Sources:

Alberta Economic Development, *Alberta International Trade Review 2004* for 1999 to 2004, and *Alberta's International Merchandise Exports January to December 2005* for 2005.

Table 2.2
Alberta's International Exports by Industry 1999 to 2005
In Current Million Dollars

Industry	1999	2000	2001	2002	2003	2004	2005
Primary Agriculture	2,392	2,713	2,914	2,291	1,642	1,789	1,978
Crops	1,798	2,051	2,027	1,508	1,334	1,662	1,581
Wheat (other than Durum Wheat)	740	948	979	667	556	764	
Barley	96	168	182	85	75	137	
Canola	386	394	441	315	495	319	
Forage products (hay, alfalfa)	60	76	80	76	73	97	
Sub-total	1,281	1,540	1,627	1,142	1,199	1,317	1,257
Other crops	516	511	400	366	135	345	324
Livestock	594	662	888	783	308	127	397
Cattle, live	467	513	713	637	196	0	
Swine, live	73	92	124	94	54	73	
Sub-total	539	606	836	730	251	73	370
Other livestock	55	56	51	52	57	55	27
Primary Forestry, Fishing & Trapping	20	29	9	11	7	9	4
Mining and Energy	18,704	34,058	36,446	30,083	39,653	45,618	56,969
Crude Oil	7,679	14,879	12,627	12,666	15,879	20,392	24,585
Natural Gas & Natural Gas Liquids	10,097	18,484	23,045	16,936	23,468	24,807	31,653
Sulphur	264	256	138	148	190	256	437
Coal	594	379	393	276	78	117	180
Other Mining & Energy (incl. Electricity)	71	60	244	57	39	47	114
Other minerals	928	696	774	481	306	420	731

Table 2.2

Manufacturing	12,916	17,875	16,903	15,764	14,920	18,200	19,484
Chemicals	2,663	3,638	3,936	3,636	3,983	5,344	6,568
Computer & Electronic Products	2,044	4,524	2,606	2,084	1,439	1,311	1,159
Electrical Equipment, Appl. & Comp.	134	185	245	180	209	280	275
Fabricated Metal Products	275	323	345	340	369	428	489
Food, Feed & Beverages	2,090	2,527	3,017	2,857	2,345	3,024	2,972
Furniture & Related Products	341	410	350	317	274	259	225
Machinery	654	920	1,287	1,259	1,236	1,423	1,613
Non-Metallic Mineral Products	136	164	149	142	160	159	166
Paper Products & Wood Pulp	1,503	1,878	1,578	1,498	1,381	1,442	1,388
Pulp and paper	1,360	1,455	1,829	1,518	1,440	1,324	1,386
Petroleum & Coal Products	429	808	631	530	671	731	937
Plastics & Rubber Products	219	248	245	260	238	227	239
Primary Metal Products	430	437	459	613	669	996	1,085
Transportation Equipment	317	342	588	598	390	427	512
Wood Products	1,533	1,319	1,308	1,322	1,405	2,001	1,680
Sawmills and panelboard	1,106	1,437	1,213	1,187	1,199	1,284	1,854
Other Manufacturing	150	155	160	129	151	147	176
Other Exports	686	820	788	781	761	798	775
Total Goods Exports	34,717	55,495	57,061	48,931	56,983	66,414	79,210
Total misus (pulp and paper, sawmills and panelboard)	32,251	52,603	54,019	46,226	54,344	63,807	75,970
Total Services Exports	5,542	6,002	6,396	6,363	6,304	6,796	6,948
Travel & Tourism**	1,293	1,428	1,451	1,367	1,254	1,505	
Transportation Services**	2,205	2,418	2,564	2,613	2,419	2,708	
Commercial Services**	2,044	2,156	2,381	2,383	2,631	2,583	
Total Exports**	40,259	61,497	63,457	55,294	63,287	73,211	86,158

Sources: Alberta Economic Development, Alberta International Trade Review 2004 (for 1999 to 2004).

Alberta Economic Development, *Alberta's International Merchandise Exports, January to December 2005* (for 2005).

Total services exports for 2005 is from Statistics Canada, *Provincial Economic Accounts 2005 Estimates*.

*Includes other provinces' Ethylene Glycol exports (erroneously allocated to other provinces by Statistics Canada)

** Estimate

Table 2.3
International Exports from the Northern Alberta Development Council Region

Source: A summary table from various tables in this section.

Table 2.3
International Exports from the Northern Alberta Development Council Region
 Current Million Dollars

	1999	2000	2001	2002	2003	2004	2005
Amounts (Current Million Dollars)							
Primary Agriculture							
Crops	362	568	625	546	350	370	352
Livestock	30	33	45	40	15	5	20
Sub-total	392	602	670	586	365	374	372
Mining and Energy							
Crude Oil	5,050	9,315	11,957	8,843	12,732	13,893	18,561
Natural Gas & Natural Gas Liquids	3,027	5,689	4,818	4,742	6,016	7,442	8,820
Sub-total	8,078	15,004	16,774	13,585	18,748	21,335	27,382
Manufacturing							
Paper Products & Wood Pulp	1,082	1,158	1,455	1,300	1,233	1,133	1,187
Wood Products (sawmills and panelboard)	772	1,003	847	838	847	907	1,310
Other Manufacturing	373	311	448	443	289	373	373
Sub-total	2,227	2,471	2,750	2,581	2,369	2,413	2,869
Total Goods Exports	10,696	18,077	20,194	16,752	21,481	24,123	30,623
Total Services Exports	202	219	233	232	230	248	253
Total Exports	10,898	18,295	20,427	16,984	21,711	24,371	30,876
NADC % of Alberta							
Primary Agriculture							
Crops	20.1	27.7	30.8	36.2	26.2	22.2	22.3
Livestock	5.1	5.0	5.1	5.1	5.0	3.7	5.1
All Primary Agriculture	16.4	22.2	23.0	25.6	22.2	20.9	18.8
Mining and Energy							
Crude Oil	65.8	62.6	94.7	69.8	80.2	68.1	75.5
Natural Gas & Natural Gas Liquids	30.0	30.8	20.9	28.0	25.6	30.0	27.9
All Mining and Energy	43.2	44.1	46.0	45.2	47.3	46.8	48.1
Manufacturing							
Paper Products & Wood Pulp	72.0	61.6	92.2	86.8	89.3	78.6	85.5
Wood Products	50.4	76.1	64.7	63.4	60.3	45.3	78.0
Other Manufacturing	3.6	2.1	3.2	3.4	2.4	2.4	2.3
All Manufacturing	17.2	13.8	16.3	16.4	15.9	13.3	14.7
Total Goods Exports	30.8	32.6	35.4	34.2	37.7	36.3	38.7
Total Services Exports	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Total Exports	27.1	29.7	32.2	30.7	34.3	33.3	35.8

Source: Estimates by GTS Group International

Table 2.4
Forecasts of Alberta's International Exports

Table 2.4
Forecasts of Alberta's International Exports
Current Million Dollars

	2006	2007	2008	2009	2010
NADC Region					
Primary Agriculture					
Cattle and Swine, live	24	27	29	34	34
Crops (wheat other than Durum, barley, canolo, fc	360	353	345	338	330
All Primary Agriculture	384	379	374	372	364
Mining and Energy					
Crude Oil	15,362	16,302	17,230	18,159	19,128
Natural Gas & Natural Gas Liquids	11,257	10,975	10,701	10,433	10,173
All Mining and Energy	26,619	27,277	27,931	28,592	29,301
Manufacturing					
Paper, Pulp, and Other Wood Products	2,114	2,114	2,114	2,114	2,114
Other Manufacturing	373	373	373	373	373
All Manufacturing	2,487	2,487	2,487	2,487	2,487
Total Goods Exports	29,489	30,143	30,792	31,450	32,152
Total Services Exports	261	268	276	283	290
Total Exports	29,750	30,411	31,067	31,733	32,442
Alberta					
Primary Agriculture					
Cattle and Swine, live	419	466	512	615	617
Other livestock	54	54	54	54	54
Crops (wheat other than Durum, barley, canolo, fc	1,347	1,347	1,347	1,347	1,347
Other Crops	270	237	203	170	136
All Primary Agriculture	2,091	2,104	2,117	2,186	2,154
Mining and Energy					
Crude Oil	25,058	25,639	26,178	26,718	27,298
Natural Gas & Natural Gas Liquids	30,844	30,073	29,321	28,588	27,873
Other Mining and Energy Products	619	619	619	619	619
All Mining and Energy	56,522	56,331	56,119	55,925	55,791
Manufacturing					
Paper, Pulp, and Other Wood Products	2,742	2,742	2,742	2,742	2,742
Chemicals	6,400	6,240	6,084	5,932	5,784
Other Manufacturing	9,681	9,778	9,874	9,971	10,068
All Manufacturing	18,823	18,760	18,701	18,645	18,594
Total Goods Exports	77,436	77,195	76,936	76,756	76,539
Total Services Exports	7,152	7,357	7,561	7,765	7,969
Total Exports	84,589	84,551	84,497	84,521	84,508
NADC Region as % of Alberta					
Primary Agriculture					
Cattle and Swine, live	5.1	5.1	5.1	5.1	5.1
Crops (wheat other than Durum, barley, canolo, fc	22.3	22.3	22.3	22.3	22.3
All Primary Agriculture	18.4	18.0	17.7	17.0	16.9
Mining and Energy					
Crude Oil	61.3	63.6	65.8	68.0	70.1
Natural Gas & Natural Gas Liquids	36.5	36.5	36.5	36.5	36.5
All Mining and Energy	47.1	48.4	49.8	51.1	52.5
Manufacturing					
Paper, Pulp, and Other Wood Products	77.1	77.1	77.1	77.1	77.1
Other Manufacturing	2.3	2.3	2.3	2.3	2.4
All Manufacturing	13.2	13.3	13.3	13.3	13.4
Total Goods Exports	38.1	39.0	40.0	41.0	42.0
Total Services Exports	3.6	3.6	3.6	3.6	3.6
Total Exports	35.2	36.0	36.8	37.5	38.4

Source: Forecasts by GTS Group International

Sources and Methods:

A summary table from various tables for exports by industry.

Table 2.5
Alberta's Interprovincial Exports

Table 2.5
Alberta's Interprovincial Exports, 1998 to 2004
Current Million Dollars

	1998	1999	2000	2001	2002	2003	2004
NADC Region							
Total goods	2,818	3,281	4,466	4,669	4,411	5,182	5,419
Grains	15	17	41	36	67	46	41
Other agricultural products	17	27	28	39	36	39	32
Mineral fuels	2,062	2,449	3,628	3,656	3,267	4,237	4,349
Lumber and wood products	264	327	384	384	494	503	536
Other goods	461	461	384	555	548	357	461
Total services	326	344	394	418	449	483	513
Total	3,144	3,625	4,860	5,087	4,860	5,665	5,932
Alberta							
Total goods	14,736	17,485	24,141	23,452	22,749	27,242	28,443
Grains	72	83	149	116	184	174	183
Other agricultural products	328	535	564	766	708	789	876
Mineral fuels	4,537	5,389	8,067	7,776	7,119	8,893	9,212
Lumber and wood products	351	435	515	507	625	638	685
Other goods	9,448	11,043	14,848	14,287	14,114	16,749	17,486
Total services	8,954	9,442	10,811	11,470	12,329	13,261	14,067
Total	23,690	26,926	34,952	34,921	35,078	40,503	42,510
NADC Region as % of Alberta							
Total goods	19.1	18.8	18.5	19.9	19.4	19.0	19.1
Grains	20.7	20.1	27.7	30.8	36.2	26.2	22.2
Other agricultural products	5.1	5.1	5.0	5.1	5.1	5.0	3.7
Mineral fuels	45.4	45.4	45.0	47.0	45.9	47.6	47.2
Lumber and wood products	75.2	75.2	74.7	75.7	79.1	78.8	78.3
Other goods	4.9	4.2	2.6	3.9	3.9	2.1	2.6
Total services	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Total	13.3	13.5	13.9	14.6	13.9	14.0	14.0

Source: Statistics Canada, CANSIM Table 386-0002, *Interprovincial and International Flows* .
at Producer Prices.

Sources and Methods:

Statistics for 1998 to 2002 are from Statistics Canada, CANSIM Table 386-0002, *Interprovincial and International Flows at Producer Prices, Annual*; Only 'total goods' and 'total services' are available for 2003 and 2004 from Statistics Canada, *Provincial Economic Accounts 2004, Estimates*. Industrial exports for 2003 and 2004 are estimates by using the NADC Region's average percentage share of Alberta exports from 2000 to 2002.

The Regional Proportion Indicators (RPI) for the NADC Region are from Table 1.4 –1.6 in this appendix. The RPI for total services is a weighted average of commercial services and tourism services: (78% x RPI of other goods + 22% x population share).

Table 2.6
Forecasts of Alberta's Interprovincial Exports

Table 2.6
Forecasts of Alberta's Interprovincial Exports, 2005 to 2010
Current Million Dollars

	2005	2006	2007	2008	2009	2010
NADC Region						
Total goods	5,626	5,735	6,076	6,428	6,790	7,166
Grains	40	40	40	40	40	40
Other agricultural products	48	51	55	58	61	65
Mineral fuels	4,497	4,560	4,856	5,162	5,479	5,810
Lumber and wood products	581	623	665	707	748	790
Other goods	461	461	461	461	461	461
Total services	606	632	660	687	715	743
All goods and services	6,232	6,367	6,735	7,115	7,505	7,908
Alberta						
Total goods	28,534	29,465	30,345	31,186	31,994	32,774
Grains	180	180	180	180	180	180
Other agricultural products	939	1,005	1,071	1,138	1,204	1,271
Mineral fuels	9,236	9,576	9,917	10,258	10,599	10,939
Lumber and wood products	754	808	862	916	971	1,025
Other goods	17,426	17,895	18,315	18,694	19,041	19,359
Total services	14,975	15,850	16,725	17,600	18,475	19,350
Total	43,510	45,315	47,071	48,786	50,469	52,124
NADC Region as % of Alberta						
Total goods	19.7	19.5	20.0	20.6	21.2	21.9
Grains	22.3	22.3	22.3	22.3	22.3	22.3
Other agricultural products	5.1	5.1	5.1	5.1	5.1	5.1
Mineral fuels	48.7	47.6	49.0	50.3	51.7	53.1
Lumber and wood products	77.1	77.1	77.1	77.1	77.1	77.1
Other goods	2.6	2.6	2.5	2.5	2.4	2.4
Total services	4.0	4.0	3.9	3.9	3.9	3.8
Total	14.3	14.1	14.3	14.6	14.9	15.2

Source: Forecasts by GTS Group International.

Sources and Methods:

Alberta forecasts:

Grains: the 2004 level remains for the forecasting period.

Other agricultural products: a linear extrapolation of the 1998-2004 trend.

Mineral fuels: a linear extrapolation of the 1998-2004 trend.

Lumber and wood products: a linear extrapolation of the 1998-2004 trend.

Other goods: a logarithmic extrapolation of the 1998-2004 trend.

Total services: a linear extrapolation of the 1998-2004 trend.

NADC Region forecasts:

The RPIs are the same as those used for Table 2.5

Table 2.7
International Exports of Major Primary Agricultural Products, 1998 to 2004

Sources:

Alberta Economic Development, *Alberta International Trade Review 2003 and 2004*.

Table 2.7
International Exports of Major Primary Agricultural Products, 1998 to 2004
 Current Million Dollars

NADC Region (Estimates)							
Products	1998	1999	2000	2001	2002	2003	2004
Cattle, live	37	25	27	38	34	10	0
Swine, live	3	3	3	5	3	2	3
Sub-total	40	27	31	42	37	12	3
Wheat (other than Durum Wheat)	126	119	252	279	181	111	134
Barley	17	13	31	35	21	13	21
Canola	145	111	119	156	188	168	102
Forage products (hay, alfalfa)	33	14	24	33	24	22	35
Sub-total	320	258	427	502	414	314	293
Total	360	285	457	544	451	327	296

Source: Estimates by GTS Group International

Alberta							
Products	1998	1999	2000	2001	2002	2003	2004
Cattle, live	697	467	513	713	637	196	0
Swine, live	86	73	92	124	94	54	73
Sub-total	783	539	606	836	730	251	73
Wheat (other than Durum Wheat)	856	740	948	979	667	556	764
Barley	110	96	168	182	85	75	137
Canola	495	386	394	441	315	495	319
Forage products (hay, alfalfa)	89	60	76	80	76	73	97
Sub-total	1,550	1,281	1,540	1,627	1,142	1,199	1,317
Total	2,333	1,821	2,146	2,463	1,873	1,449	1,390

Sources:

Compiled from Alberta Economic Development, *Alberta International Trade Review, 2003 and 2004*

Percentage of NADC out of Alberta							
Products	1998	1999	2000	2001	2002	2003	2004
Cattle, live	5.3	5.3	5.3	5.3	5.3	5.3	5.3
Swine, live	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Sub-total	5.1	5.1	5.0	5.1	5.1	5.0	3.7
Wheat (other than Durum Wheat)	14.7	16.1	26.6	28.5	27.2	20.0	17.6
Barley	15.2	13.9	18.6	19.0	24.3	17.5	15.5
Canola	29.3	28.9	30.2	35.3	59.8	34.0	32.0
Forage products (hay, alfalfa)	37.0	23.2	32.2	41.1	31.3	30.0	36.4
Sub-total	20.7	20.1	27.7	30.8	36.2	26.2	22.2
Total	15.4	15.7	21.3	22.1	24.1	22.5	21.3

Methods:

The Regional Proportion Indicators (RPIs) are the NADC Region's shares of total Alberta production in Table 1.4, 1.5, and 1.6 in Appendix 1.

Table 2.8
Forecasts of International Exports of Major Primary Agricultural Products

Table 2.8
Forecasts of International Exports of Major Primary Agricultural Products
2005 to 2010
(\$ Millions)

NADC Region	2005	2006	2007	2008	2009	2010
Cattle and swine, live	19	21	24	26	31	31
Wheat (other than Durum wheat, barley, canola, forage)	280	300	300	300	300	300
Alberta						
Cattle and swine, live	370	419	466	512	615	617
Wheat (other than Durum wheat), barley, canola, and forage	1,257	1,347	1,347	1,347	1,347	1,347
NADC Region as % of Alberta						
Cattle and swine, live	5.1	5.1	5.1	5.1	5.1	5.1
Wheat (other than Durum wheat), barley, canola, and forage	22.3	22.3	22.3	22.3	22.3	22.3

Source: Forecasts by GTS Group International

Sources and Methods:

'Cattle and swine, live' and 'wheat –other than Durum wheat, barley, canola, forage' for Alberta in 2005 are actual exports from Alberta Economic Development, *Alberta International Trade Review 2004*. There was no export of live cattle to the United States in 2004 but in 2005 exports of live cattle started increasing. Exports of 'Cattle and swine, live' are assumed to gradually recover and reach the 200 level by 2010.

Exports of 'wheat –other than Durum wheat, barley, canola, forage' for 2006 to 2010 are assumed to remain at the average export from 2000 and 2005.

For the NADC Region's exports, the average NADC shares of exports between 2000 and 2004 are applied to Alberta total.

Table 2.9
International Exports of Major Energy Products, 1999 to 2005

Table 2.9
International Exports of Major Energy Products, 1999 to 2005
 Current Million Dollars

Alberta			
	Crude oil	Natural gas	Total
1999	7,679	10,097	17,776
2000	14,879	18,484	33,363
2001	12,627	23,045	35,672
2002	12,666	16,936	29,603
2003	15,879	23,468	39,347
2004	20,392	24,807	45,198
2005	24,585	31,653	56,238
NADC Region			
1999	5,050	3,027	8,078
2000	9,315	5,689	15,004
2001	11,957	4,818	16,774
2002	8,843	4,742	13,585
2003	12,732	6,016	18,748
2004	13,893	7,442	21,335
2005	18,561	8,820	27,382
NADC as % of Alberta			
1999	50.0	39.4	45.4
2000	50.4	38.2	45.0
2001	51.9	38.2	47.0
2002	52.2	37.4	45.9
2003	54.3	37.9	47.6
2004	56.0	36.5	47.2
2005	58.6	35.9	48.7

Source: Alberta Economic Development, *Alberta International Trade Review 2004* for Alberta; Estimates by GTS Group International for NADC Region.

Sources:

Alberta Economic Development, *Alberta International Trade Review 2004* for Alberta exports.

Methods:

The following RPIs from Table 1.9 in Appendix A are used to estimate the NADC Region's exports:

Crude oil: the volume of crude oil and condensate production

Natural gas: the volume of natural gas production

Table 2.10
Forecasts of International Exports of Major Energy Products, 2006 to 2010

Table 2.10
Forecasts of International Exports of Major Energy Products
2006 to 2010
 Current Million Dollars*

	Crude oil	Natural gas	Total
Alberta			
2006	25,058	30,844	55,902
2007	25,639	30,073	55,712
2008	26,178	29,321	55,500
2009	26,718	28,588	55,306
2010	27,298	27,873	55,172
NADC Region			
2006	15,362	11,257	26,619
2007	16,302	10,975	27,277
2008	17,230	10,701	27,931
2009	18,159	10,433	28,592
2010	19,128	10,173	29,301
NADC as % of Alberta			
2006	61.3	36.5	47.6
2007	63.6	36.5	49.0
2008	65.8	36.5	50.3
2009	68.0	36.5	51.7
2010	70.1	36.5	53.1

Source: Forecasts by GTS Group International.

Note: * 2005 average prices of crude oil and natural gas.

Methods:

For crude oil, the total volume of production is divided into conventional crude oil (heavy, medium and light crude oil) and bitumen from oil sands for 2003 to 2005 in Alberta Energy and Utility Board, *Supply and Disposition of Crude Oil, Crude Bitumen, Synthetic Crude Oil, Condensate, and Pentanes Plus 2003, 2004, and 2005*.

For conventional oil, production forecasts for Alberta are derived from Figure 3.20, "Alberta Daily Production of Crude Oil," in the Alberta Energy and Utility Board, *Alberta's Reserves 2004 and Supply/Demand Outlook 2005-2014*, September 2005. Similarly, production forecasts of bitumen from oil sands for Alberta are derived from Figure 2.7, "Alberta Crude Bitumen Production," of the same report.

For natural gas, the Alberta Energy and Utility Board states, "The EUB expects conventional gas production to remain flat in 2005 and decline by an average of 2.5 per cent per year over the remainder of the forecast period (2005 to 2014)." Forecasts of natural gas production for Alberta are made on the basis of this statement.

Production forecasts of conventional oil, bitumen from oil sands, and natural gas are converted into indices and applied to the actual values of international exports of crude oil and natural in 2005 to obtain the forecasts of the values of exports from 2006 to 2010.

Forecasts of Annual Production of Oil and Gas

Year	Volume of natural gas (Million m3)	Volume of oil and condensate (Thousand m3)		
		Conventional	Oilsands	Total
Alberta				
2005	163,611	33,709	25,551	59,259
2006	159,520	32,400	28,000	60,400
2007	155,532	31,200	30,600	61,800
2008	151,644	29,900	33,200	63,100
2009	147,853	28,600	35,800	64,400
2010	144,157	27,300	38,500	65,800
NADC Region				
2005	59,710	9,393	25,551	34,944
2006	58,217	9,028	28,000	37,028
2007	56,762	8,694	30,600	39,294
2008	55,343	8,331	33,200	41,531
2009	53,959	7,969	35,800	43,769
2010	52,610	7,607	38,500	46,107
NADC Region as % of Alberta				
2005	36.5	27.9	100.0	59.0
2006	36.5	27.9	100.0	61.3
2007	36.5	27.9	100.0	63.6
2008	36.5	27.9	100.0	65.8
2009	36.5	27.9	100.0	68.0
2010	36.5	27.9	100.0	70.1

This method assumes that for the period from 2006 and 2010, international prices of crude oil and natural gas will remain at the 2005 levels: US\$56.44 per barrel for WTI and US\$7.51 per GJ.

In the above quoted report, the EUB forecasts that the price of WTI oil will average between US\$55 and US\$60 per barrel for 2005 and 2006, before it stabilizes at US\$50 by 2009, and remain at this level to the end of the forecast period (2005 to 2014). The EUB forecasts that natural gas prices will average \$7.50/GJ and \$8.00/GJ for 2005 and 2006 respectively and remain within the \$7.00 to \$8.00/GJ price range within the forecast period.

The forecasts of value of export of crude oil and natural gas for Alberta are allocated to the NADC Region by using forecasts of the NADC Region's percentage of production of crude oil and natural gas.

For natural gas, the NADC Region's percentage share of Alberta in 2005 is assumed to remain the same as the average for the period from 2006 to 2010. For conventional crude oil, the NADC Region is assumed to follow the same pattern of change as Alberta as a whole. Then, conventional crude oil production and bitumen production from oil sands are combined together to get the NADC Region's share of crude oil.

Table 2.11
International Exports of Forest Products, 1999 to 2005

Table 2.11
International Exports of Forest Products, 1999 to 2005
Current Million Dollars

	1999	2000	2001	2002	2003	2004	2005
NADC Region							
Sawmills and panelboard	772	1,003	847	838	847	907	1,310
Pulp and paper	1,082	1,158	1,455	1,300	1,233	1,133	1,187
Total	1,854	2,161	2,301	2,138	2,080	2,040	2,497
Alberta							
Sawmills and panelboard	1,106	1,437	1,213	1,187	1,199	1,284	1,854
Pulp and paper	1,360	1,455	1,829	1,518	1,440	1,324	1,386
Total	2,467	2,892	3,041	2,705	2,639	2,607	3,240
NADC as % of Alberta							
Sawmills and panelboard	69.8	69.8	69.8	70.6	70.6	70.6	70.6
Pulp and paper	79.6	79.6	79.6	85.6	85.6	85.6	85.6
Total	75.2	74.7	75.7	79.1	78.8	78.3	77.1

Source: Alberta exports are from Industry Canada's export database.

NADC Region's exports are estimates by GTS Group International.

Sources and methods

Alberta's international exports of sawmill products and panelboard, and pulp and paper for 1999 to 2005 are downloaded from Industry Canada's Export Database.

The RPIs are:

Sawmills and panelboard:

the annual volume of lumber consumed (the 2001 volume for 1999 to 2001; and the 2003 volume for 2002 to 2005).

the annual volume of lumber consumed (the 2001 volume for 1999 to 2001; and the 2003 volume for 2002 to 2005).

Table 2.12
Forecasts of International Exports of Wood Products and Pulp and Paper, 2006 to 2010

Table 2.12
Forecasts of International Exports of Wood Products
and Pulp and Paper, 2006 to 2010
 Current Million Dollars

	2006	2007	2008	2009	2010
NADC Region	2,114	2,114	2,114	2,114	2,114
Alberta	2,742	2,742	2,742	2,742	2,742
NADC Region as % of Alberta	77.1	77.1	77.1	77.1	77.1

Source: Forecasts by GTS Group International.

Sources and Methods:

The value of exports of wood products and pulp and paper fluctuated from year to year due to price changes. The average value of exports of wood products and pulp and paper from 1999 to 2005 is used as a forecast for every year from 2006 to 2010.

'Other Manufacturing' in Table 2.4, "Forecasts of Alberta's International Exports"

Methods:

In manufactured products, chemicals are large export products for Alberta: \$6.6 billion in 2005 (33.7% of exports of all manufactured products). The value of exports increased significantly in 2004 and 2005 because of higher prices. Since the chemical industries in Alberta depend heavily on the supply of natural gas, the forecasts for the period from 2006 to 2010 are made by applying the production indices of natural gas for the period from 2006 to 2010 to the value of exports in 2005. This implies that the price levels of chemical products in 2005 will continue for the forecast period.

'All manufactured products' are grouped into: (1) pulp, paper and wood products, chemicals, and (2) other manufactured products. Then for each group, the value of international export is forecast for each year from 2006 to 2010. For other manufactured products, forecasts are made by a linear extrapolation of the trend from 1999 to 2005. The RPI for other manufactured products is obtained from Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*. In 2003, the NADC Region's percentage share of the value of shipment of other manufacturing industries was 2.1 % of Alberta total.

Appendix 3 Investment

Table 3.1
Private and Public Investment in Alberta

Table 3.1
Private and Public Investment in Alberta
Million Dollars

Industry	2000	2001	2002	2003	2004	2005
Agriculture and Forestry	814	1,121	964	883	869	875
Mining and oil and gas extraction	0	0	0	0	0	0
Oil sands	4,220	5,910	6,750	5,050	6,200	7,199
Conventional oil and gas	11,746	14,010	11,825	15,172	16,059	15,615
Other mining	66	93	90	87	89	81
Construction	140	155	164	172	178	177
Manufacturing	2,575	1,759	1,573	1,567	2,038	2,785
Transportation and utilities	3,268	3,305	3,606	4,559	4,052	3,617
Wholesale and retail trade	928	739	1,205	1,355	1,425	1,494
Finance, insurance and real estate	2,345	2,308	2,694	2,648	2,916	3,041
Education services	517	592	594	558	755	751
Health care and social assistance services	385	614	645	687	888	1,093
Other personal and business services	2,363	2,817	2,555	2,389	2,662	2,476
Public administration	1,648	2,037	1,898	1,873	2,279	2,622
Housing	5,397	5,867	7,364	7,742	8,122	7,959
Total	36,411	41,326	41,928	44,743	48,531	49,784

Source: Statistics Canada, *Private and Public Investment in Canada*.

Notes:

Actual capital expenditures for 1998 to 2003; preliminary estimate for 2004; investment intentions for 2005.

Includes only capital expenditures and does not include repair expenditures.

Mining and oil and gas extraction expenditures are separated into oil sands, conventional oil and gas and other mining by GTS Group International.

Sources and Methods:

Statistics Canada, *Private and Public Investment in Canada*.

In *Private and Public Investment in Canada*, 'Mining and oil and gas extraction' has three components, 'Oil and gas extraction', 'Mining except oil and gas), and 'Support services for mining and oil and gas extraction.' Total capital expenditures for 'Mining and oil and gas extraction' are re-grouped into 'Oil sands', 'Conventional oil and gas', and 'Other mining'. Capital expenditures for oil sands development are obtained from Alberta Energy, *Oil and Gas Industry Investment* (February, 2005) for 2000 to 2003, the Canadian Association of Petroleum Producers, *Industry Facts and Information, April 2006* for 2004, and Alberta Economic Development, *Inventory of Major Alberta Projects, December 2005* for a 2005 estimate.

Table 3.2
Forecasts of Private and Public Investment in Alberta

Table 3.2
Forecasts of Private and Public Investment in Alberta
 Million Dollars

Industry	2006	2007	2008	2009	2010
Agriculture and Forestry	921	921	921	921	921
Mining and oil and gas extraction	0	0	0	0	0
Oil sands	7,146	12,269	11,123	8,111	5,917
Conventional oil and gas	15,615	15,615	15,615	15,615	15,615
Other mining	85	85	85	85	85
Construction	183	186	189	191	193
Manufacturing	2,412	2,412	2,412	2,412	2,412
Transportation and utilities	4,228	4,369	4,511	4,652	4,793
Wholesale and retail trade	1,604	1,697	1,791	1,885	1,978
Finance, insurance and real estate	3,184	3,334	3,485	3,635	3,785
Education services	1,042	1,234	1,025	1,100	1,100
Health care and social assistance services	973	1,460	1,351	1,406	1,406
Other personal and business services	2,564	2,566	2,568	2,569	2,571
Public administration	2,607	2,763	2,918	3,073	3,228
Housing	8,206	8,297	8,375	8,442	8,501
Total	50,769	57,209	56,366	54,095	52,505

Source: Forecasts by GTS Group International.

Sources and Methods:

Agriculture and Forestry:

Forecasts are the average capital expenditure from 2000 to 2005.

Oil sands:

Major oil sands construction projects in Alberta Economic Development, *Inventory of Major Alberta Projects, December 2005*, are used as the basic information for a 2005 estimate and 2006-2010 forecasts. All projects that were either completed, under construction or proposed (with a planned amount of construction expenditure and a construction schedule for the 2005-2010 period) are included in the forecasts. For each project, the total amount of construction expenditure is allocated evenly over the number of construction years (see Table).

Conventional oil and gas:

Forecasts are the average capital expenditure of 2004 and 2005.

Other mining:

Forecasts are the average capital expenditure of 2004 and 2005.

Construction:

Forecasts are the logarithmic extrapolations of the 2000 -2005 trend.

Manufacturing:

Forecasts are the average capital expenditure of 2004 and 2005.

Transportation and utilities:

Forecasts are the linear extrapolations of the 2000 -2005 trend.

Wholesale and retail:

Forecasts are the linear extrapolations of the 2002-2005 trend.

Finance:

Forecasts are the linear extrapolations of the 2000 -2005 trend.

Education services:

Forecasts are Alberta Government's planned capital expenditures (Alberta Finance, '2006-2009 Capital Plan') adjusted for the amount of total capital expenditures on education services in *Private and Public Investment in Canada*.

Health services:

Forecasts are Alberta Government's planned capital expenditures (Alberta Finance, '2006-2009 Capital Plan') adjusted for the amount of total capital expenditures on health services in *Private and Public Investment in Canada*.

Other personal services:

Forecasts are the linear extrapolations of the 2000 -2005 trend.

Public administration:

Forecasts are the linear extrapolations of the 2001-2005 trend.

Housing:

Forecasts are the logarithmic extrapolations of the 2002-2005 trend.

Table 3.3 A and Table 3.3 B
Regional Proportion Indicators (RPI) of Private and Public Investment for the Northern Development Council Region (Percent)

Sources and Methods:

For each industry, a regional proportion indicator is chosen as follows:

Capital Expenditure	Source of Regional Proportional Indicator
Agriculture and Forestry	Gross farm receipt from 2001 Agricultural Census.
Mining and oil and gas extraction	
Oil sands	Major oil sands construction projects
Conventional oil and natural gas	Well counts from Alberta Energy
Other mining	None allocated to the NADC Region
Construction	Labour force from Statistics Canada, 2001 Municipal Profiles
Manufacturing	Value of shipment from Statistics, Annual Survey of Manufacturing Industries in Canada
Transportation and utilities	Alberta Government expenditures on highways and municipal roads
Wholesale and retail trade	Labour force from Statistics Canada, 2001 Municipal Profiles
Finance, insurance and real estate	Labour force from Statistics Canada, 2001 Municipal Profiles
Education services	Alberta Government expenditures on schools and post-secondary education facilities
Health care and social assistance services	Alberta Government expenditures on health care facilities
Other personal and business services	Population from Alberta Municipal Affairs, Municipal Profiles
Public administration	Population from Alberta Municipal Affairs, Municipal Profiles
Housing	Total housing starts from Alberta First, Regional Market Place Profiles, and Canadian Housing and Mortgage Corporation, 'Total housing starts in Alberta'

Table 3.3 A
Regional Proportion Indicators of Private and Public Investment
for the Northern Alberta Development Council Region (Percent)

Industry	RPI	2000	2001	2002	2003	2004	2005
Agriculture and Forestry	Gross firm receipt	9.2	9.2	9.2	9.2	9.2	9.2
Mining and oil and gas extraction		0.0	0.0	0.0	0.0	0.0	0.0
Oil sands	Major projects	86.6	90.4	91.6	100.0	94.8	91.8
Conventional oil and natural gas	Well counts	25.5	25.3	24.9	25.2	25.2	25.2
Other mining	Production	0.0	0.0	0.0	0.0	0.0	0.0
Construction	Labour force	12.1	12.1	12.1	12.1	12.1	12.1
Manufacturing	Value of shipment	6.6	6.6	7.0	5.9	6.5	6.5
Transportation and utilities	Alberta Government investment in highways and municipal roads	17.8	17.8	17.8	17.8	17.8	17.8
Wholesale and retail trade	Labour force	13.2	13.2	13.2	13.2	13.2	13.2
Finance, insurance and real estate	Labour force	3.3	3.3	3.3	3.3	3.3	3.3
Education services	Alberta Government investment in schools and post-secondary facilities	6.0	6.0	6.0	6.0	6.0	6.0
Health care and social assistance services	Alberta Government investment in health facilities	7.4	7.4	7.4	7.4	7.4	7.4
Other personal and business services	Population	9.2	9.3	8.8	8.9	8.9	9.1
Public administration	Population	9.2	9.3	8.8	8.9	8.9	9.1
Housing	Total housing starts	9.3	11.9	10.0	7.4	10.6	9.8
Total		23.7	26.9	27.3	25.0	25.9	26.4

Source: Various sources.

Table 3.3 B
Regional Proportion Indicators of Private and Public Investment
for the Northern Alberta Development Council Region (Percent)

Industry	RPI	2006	2007	2008	2009	2010
Agriculture and Forestry	Gross firm receipt	9.2	9.2	9.2	9.2	9.2
Mining and oil and gas extraction		0.0	0.0	0.0	0.0	0.0
Oil sands		91.8	91.7	84.8	83.2	84.2
Conventional oil and natural gas	Well counts	25.2	25.2	25.2	25.2	25.2
Other mining	Production	0.0	0.0	0.0	0.0	0.0
Construction	Labour force	12.1	12.1	12.1	12.1	12.1
Manufacturing	Value of shipment	6.5	6.5	6.5	6.5	6.5
Transportation and utilities	Alberta Government investment in highways and municipal roads	17.8	17.8	17.8	17.8	17.8
Wholesale and retail trade	Labour force	13.2	13.2	13.2	13.2	13.2
Finance, insurance and real estate	Labour force	3.3	3.3	3.3	3.3	3.3
Education services	Alberta Government investment in schools and post-secondary facilities	6.0	6.0	6.0	6.0	6.0
Health care and social assistance services	Alberta Government investment in health facilities	7.4	7.4	7.4	7.4	7.4
Other personal and business services	Population	9.1	9.1	9.1	9.0	9.0
Public administration	Population	9.1	9.1	9.1	9.0	9.0
Housing	Total housing starts	9.8	9.8	9.8	9.8	9.8
Total		26.1	31.5	28.9	25.2	22.8

Source: Various sources.

Table 3.4 A and Table 3.4 B
NADC Region's Contribution to Private and Public Investment in Alberta

Sources and Methods:

The NADC Region's contribution for each category of industry is estimated by applying a regional proportion indicator to Alberta total, except for oil sands. For oil sands, major oil sands construction projects in Alberta Economic Development, Inventory of Major Alberta Projects December 2005 are allocated to the NADC Region and the rest of Alberta according to the location of the project.

Table 3.4 A
NADC Region's Contribution to Private and Public Investment in Alberta
 Current Million Dollars

Industry	2000	2001	2002	2003	2004	2005
Agriculture and Forestry	75	103	89	81	80	80
Mining and oil and gas extraction	0	0	0	0	0	0
Oil sands	3,653	5,343	6,183	5,050	5,880	6,612
Conventional oil and natural gas	2,995	3,547	2,948	3,830	4,054	3,942
Other mining	0	0	0	0	0	0
Construction	17	19	20	21	21	21
Manufacturing	171	117	110	92	133	182
Transportation and utilities	583	589	643	813	722	645
Wholesale and retail trade	123	98	159	179	188	197
Finance, insurance and real estate	77	76	88	87	95	100
Education services	31	36	36	33	45	45
Health care and social assistance services	29	45	48	51	66	81
Other personal and business services	217	262	224	214	238	225
Public administration	151	189	166	167	204	239
Housing	501	696	734	570	859	781
Total	8,622	11,118	11,447	11,188	12,587	13,150

Source: Estimates by GTS Group International.

Table 3.4 B
NADC Region's Contribution to Private and Public Investment in Alberta
 Current Million Dollars

Industry	2006	2007	2008	2009	2010
Agriculture and Forestry	85	85	85	85	85
Mining and oil and gas extraction	0	0	0	0	0
Oil sands	6,559	11,249	9,437	6,745	4,984
Conventional oil and natural gas	3,942	3,942	3,942	3,942	3,942
Other mining	0	0	0	0	0
Construction	22	22	23	23	23
Manufacturing	157	157	157	157	157
Transportation and utilities	754	779	804	829	854
Wholesale and retail trade	212	224	237	249	261
Finance, insurance and real estate	104	109	114	119	124
Education services	62	74	61	66	66
Health care and social assistance services	72	108	100	104	104
Other personal and business services	233	233	233	232	232
Public administration	237	251	264	278	291
Housing	805	814	821	828	834
Total	13,245	18,048	16,279	13,658	11,959

Source: Estimates by GTS Group Internatioal.

Table 3.5
Oil Sands Major Projects in Alberta as of December 2005

Sources and Methods:

The list of oil sands major projects in the NADC Region is compiled by the NADC from Alberta Economic Development, *Inventory of Major Alberta Projects, December 2005*. Estimates of annual expenditures are estimated by allocating total project cost equally over a planned construction period. All projects that were either completed or under construction in 2005, or proposed with a planned amount of investment and a construction schedule for the period from 2006 to 2010.

Table3.5
Oil Sands Major Projects in Alberta
as of December 2005
 Million Dollars

Company	Project	Cost	Schedule	Remarks	Estimates of Annual Expenditures					
					2005	2006	2007	2008	2009	2010
NADC Region										
ExxonMobil Canada Ltd.	Bitumen Upgrader	1,400		Proposed						
Canadian Natural Resources Ltd. (CNRL)	'Primrose East' Cyclic Steam Stimulation (CSS) Project	600	2007-2008	Proposed for 2007 - 2008. Includes 85MW cogen plant. Application to be filed January 2006.			300	300		
EnCana Corporation	Foster Creek Commercial Thermal Recovery Project phase 2	440		Proposed. Applications filed. Will include 80MW co-gen plant.						
EnCana Corporation	Foster Creek Commercial Thermal Recovery Project Phase 3	844	2007 onward	Proposed construction start 2007. Applications filed May 02.			211	211	211	
Canadian Natural Resources Ltd.	'Primrose North' Cyclic Steam Stimulation (CSS) Project	250	2004-2007	Under construction	63	63	63			
Imperial Oil Limited	Extension of Phases 9 & 10 'Mahihkan North'	350	2005-2006	Under construction. Approved Feb 2004.	175	175				
BlackRock Ventures Inc.	'Orion' Heavy Oil SAGD Facility (Phases 1 and 2)	340	2005-2010	Under construction. Approved Oct 2004. Phased development, building to 20,000 bpd.	57	57	57	57	57	57
ExxonMobil Canada Ltd.	In Situ Bitumen Plant	100	1997-2005	Completed	7					
Imperial Oil Resources	Heavy Oil Plant Expansion Phases 14 to 16 'Nabiye'	650		Proposed. Includes wells, field facilities and a plant to generate steam, process bitumen and treat water. Approved Feb 2004.						
Husky Energy Inc.	'Tucker Lake' SAGD Project	500	2005-2006	Under construction. Approved July 2004. Nordic Acres Engineering (FEED). SNC-Lavalin / PCL Industrial Management (Central Plant).	250	250				

Albian Sands Energy Inc.	Muskeg River Mine Expansion	2,500	2006-2009	Proposed for 2006 - 2009. Application filed April 2005. Under construction. SNC-Lavalin /	625	625	625	625		
Canadian Natural Resources Ltd. (CNRL)	'Project Horizon' Mining and Drilling Project phase 1	6,800	2005-2008	Snamprogetti Canada Inc. EPC Froth Treatment Plant SNC-Lavalin.	1,700	1,700	1,700	1,700		
Canadian Natural Resources Ltd. (CNRL)	'Project Horizon' Mining and Drilling Project phase 2	1,700	2006-2009	Proposed for 2006 - 2009. Approved Jan 2004.	425	425	425	425		
Canadian Natural Resources Ltd. (CNRL)	'Project Horizon' Mining and Drilling Project phase 3	1,400	2009-2012	Proposed for 2009 - 2012. Approved Jan 2004.					350	350
Husky Energy Inc.	'Sunrise Thermal Project' Phases 2 to 4	1,900	2009 onward	Proposed for 2009 onwards.					475	475
Imperial Oil Resources / ExxonMobil Canada	'Kearl Lake' Oilsands Mine (Kearl Lease 187)	6,500	2007-2010	Proposed for 2007 - 2010, pending approvals. Phased development. Application for regulatory approval filed.					1,625	1,625
Petro-Canada / UTS Energy Corp.	'Bitmin' Bitumen Extraction Demonstration Plant	37	2005	Completed. SNC-Lavalin, preliminary engineering Fluor Canada. Application filed.	37					
Petro-Canada / UTS Energy Corp. / Teck Cominco	'Fort Hills' Oilsands Project	2,000		Proposed for 2006 - 2010. Planned construction start mid - 2006, production start in 2011.	400	400	400	400	400	400
Suncor Energy Inc.	'Voyageur' Oil Sands Facility Expansion (Third Oil Sands Upgrader)	5,900	2007-2010	Proposed for 2007 - 2010. Applications filed March 2005. Preliminary cost estimate. Project does not include bitumen feed to upgrader.			1,475	1,475	1,475	1,475
Suncor Energy Inc.	Upgrader Expansion	2,100	2005-2007	Proposed for 2005 - 2007. Approved Mar 2004. Corporate approval announced.	700	700	700			
Suncor Energy Inc.	'Firebag' In-Situ Bitumen Recovery Project phases 1 and 2	1,100	2003-2005	Completed. Cost includes expansion of Suncor upgrader. Jacobs Engineering, Flint Energy Services.	367					

Suncor Energy Inc.	New Bitumen Production Facilities at 'Firebag' Site	1,000	2005-2007	Proposed for 2005 - 2007. Approved Mar 2004.	143	143	143		
Suncor Energy Inc.	Petroleum Coke Gasifier for 'Voyageur' Upgrader	600		Proposed. Included with application for Voyageur upgrader March 2005. Cost estimate preliminary.					
Suncor Energy Inc.	Steepbank Mine Extension	350	2007-2010	Proposed for 2007 - 2010. Application filed.			88	88	88
SynEnCo Energy Inc. / SinoCanada Petroleum Corp.	'Northern Lights' Oilsands Mine and Extraction Plant phases 1 to 3	2,500	2007-2008	Proposed for 2007 - 2008. Application to be filed by mid-2006.			1,250	1,250	
Total Canada Ltd. (previously listed as Deer Creek Energy Ltd.)	'Joslyn Creek' SAGD Project Phase 2	178	2004-2006	Nearing completion	58	58			
Total Canada Ltd. (previously listed as Deer Creek Energy Ltd.)	'Joslyn Creek' SAGD Project Phase 3 and North Mine Development	1,500	2007 onward	Proposed construction start Phase 3 in 2007, mine in 2008. Application for phase 3A filed. Application for mine in late 2005 or early 2006.					
							375	375	375
									375

EnCana Corporation	SAGD Bitumen Production	575	2000-2009	Under construction. AMEC / Titan Projects JV(EP & CM). Three phases. Planned construction phase 3 2007 - 2009.	58	58	58	58	58
Syncrude Canada Ltd.	Phase 4: Upgrader Expansion Phase 2 / Aurora Mine Train 3	2,300		Proposed. Pre-engineering study underway (AMEC). Expansion SNC-Lavalin, Fluor Daniel. Train 3 AMEC.					
Syncrude Canada Ltd.	Continuous Improvement	1,500	1997-2007	Underway	136	136	136		
Syncrude Canada Ltd.	Phase 3: Upgrader Expansion phase 1 / Aurora Mine Train 2	8,100	2001-2005	Completed. Stage 1 includes two additional trains at Aurora Mine. Approval Oct 99. Expansion SNC-Lavalin, Fluor Daniel; train 2 AMEC.	1,620				
Syncrude Canada Ltd.	Sulphur Emission Reduction Program (SERP)	400	2005-2009	Proposed for 2005 - 2009. Application approved.	80	80	80	80	80
Husky Energy Inc.	'Sunrise Thermal Project' SAGD Oilsands Project Phase 1 (Kearl Lease 187)	800	2006-2008	Proposed for 2006 - 2008. Planned production 2007 - 2008. Application approved.		267	267	267	
ConocoPhillips Canada / TotalFinaElf / Devon Energy	'Surmont' SAGD Bitumen Commercial Project	1,400	2004-2013	Under construction. Phase 1 (2004-2006).	140	140	140	140	140
OPTI Canada Inc. / Nexen Inc.	'Long Lake' SAGD Heavy Oil Project Phase 1	3,482	2004-2007	Under construction. Flint Infrastructures Ltd., Ledcor Projects Inc., Colt Engineering, Fluor. Approved Aug 2003. Upgrader, co-gen facility (370MW) and upgrader capacity.	871	871	871		

Whitesands In Situ Ltd.	'Whitesands' Experimental Pilot Project to test 'Toe-to-Heel' Air Injection (THAI) Technology	45	2004-2005	Completed. Approved Feb 2004.						
Albian Sands Energy Inc.	'Jackpine' Mine -- Mining and Extraction Facility phase 1	2,000		Proposed. Approved Feb 04. Phase 1 will follow Muskeg R and Scotford expansions. Includes 170MW power plant						
Petro-Canada	MACKAY RIVER SAGD EXPANSION	810		Proposed. Application filed Dec 05.						
Japan Canada Oil Sands Limited (JACOS)	Hangingstone SAGD Commercial Production Project	450	2006 onward	Proposed. Two phases. Planned construction start 2006.		113	113	113	113	
Petro-Canada Oil and Gas / Nexen Inc.	'Meadow Creek' SAGD Bitumen Production	800		Proposed. Application under review. Project includes 330MW co-gen plant.						
Devon Canada Corp.	'Jackfish' SAGD Oilsands Project Phase 1	450	2005-2007	Under construction. Approved Dec 2004.	150	150	150			
Devon Canada Corp.	'Jackfish 2 (J2)' SAGD PROJECT	500	2008-2009	Proposed for 2008 - 2009. Planned facility construction start third quarter 2008. Decision mid-2006.				250	250	
Connacher Oil and Gas	'Great Divide' SAGD Pilot Plant	150	2006	Proposed for 2006		150				
Sub-total					6,612	6,559	11,249	9,437	6,745	4,984

Rest of Alberta

Petro-Canada Oil and Gas	Strathcona Refinery Conversion to Upgrade Bitumen, Strathcona County	1,600	2004-2008	Under construction. Approved. Kellogg Brown Root / SNC Lavalin.	320	320	320	320		
BA Energy Inc.	Alberta Heartland' Bitumen Upgrader Phase 1, Strathcona County	800	2005-2007	Under construction. Phased development. Jacobs Canada / Larsen & Toubro. Approved July 2005.	267	267	267			
North West Upgrading Inc. / SynEnCo Energy Inc. / SinoCanada Petroleum Corp.	Bitumen Upgrader Phase 1, Sturgeon County	1,300	2007-2009	Proposed. Planned construction 2007-2009, pending approvals. Application to be filed in 2005.			433	433	433	
	Northern Lights' BITUMEN UPGRADER, Sturgeon County	2,800	2008-2010	Proposed for 2008 - 2010.				933	933	933
Sub-total					587	587	1,020	1,686	1,366	933
Total					13,811	7,146	12,269	11,123	8,111	5,917

Source: Alberta Economic Development, *Inventory of Alberta Major Projects December 2005*.

Note: Estimates of annual expenditures by GTS Group International.

Appendix 4 Supplies and Materials

Table 4.1
Manufacturing Industries in the Northern Development Council Region and Alberta

Table 4.1
Manufacturing Industries in the Northern Development Council Region and Alberta

	Units of Measurement	2000		2001		2002		2003	
		Alberta	NADC Region	Alberta	NADC Region	Alberta	NADC Region	Alberta	NADC Region
Number of establishments	Counts	4,731	262	4,843	302	4,920	322	4,882	275
Total employment	Counts	129,638	7,506	133,312	8,379	134,759	8,673	133,753	7,391
Total wages and salaries	\$ Millions	4,953	398	5,366	448	5,560	471	5,731	405
Total cost of materials	\$ Millions	29,680	1,249	31,096	1,512	30,475	1,601	31,931	1,373
Total manufacturing shipment	\$ Millions	47,383	3,150	48,786	3,238	47,862	3,331	49,494	2,901
Total value added	\$ Millions	16,412	1,738	16,300	1,534	15,324	1,503	15,587	1,301

Source: Compiled from a special tabulation of Statistics Canada, *Manufacturing Industries of Canada: National and Provincial Areas*.

Sources and Methods:

A special tabulation of manufacturing industries in Alberta by census division is purchased from Statistics Canada. Table 4.1 is compiled from this special tabulation.

Table 4.2
Percentage Distribution of Construction Expenditures of Oil Sands Projects

Table 4.2
Percentage Distribution of Construction Expenditures of Oil Sands Projects

Industry	Mining	Integrated Mining	In Situ	Integrated In Situ
Manufacturing	72	56	41	31
Construction	0	0	20	26
Business Services	8	10	7	10
Labour	20	34	32	33
Total	100	100	100	100

Source: Canadian Energy Research Institute, *Economic Impacts of Alberta's Oil Sands, Volume I*, October 2005

Table 4.3
Percentage Distribution of Sources of Supplies for Oil Sands Construction Projects

Table 4.3
Percentage Distribution of Sources of Suppliers for Oil Sands Construction Projects

Industry	Mining			Integrated Mining			In Situ		
	Alberta	Rest of Canada	Foreign	Alberta	Rest of Canada	Foreign	Alberta	Rest of Canada	Foreign
Manufacturing	38	16	46	34	16	50	64	14	22
Construction	0	0	0	0	0	0	100	0	0
Business Services	100	0	0	100	0	0	95	4	1
Labour	100	0	0	100	0	0	93	7	0
Total	55	12	33	61	13	25	80	10	11

Source: Canadian Energy Research Institute,
Economic Impacts of Alberta's Oil Sands, Volume I, October 2005

Table 4.4
Percentage Distribution of Labour Expenditures for Oil Sands Construction Projects

Table 4.4
**Percentage Distribution of Labour Expenditures
for Oil Sands Construction Projects**

Type of Projects	NADC Region	Rest of Alberta	Rest of Canada
Mining	12	88	0
Integrated mining	5	95	0
In Situ	0	93	7

Source: Canadian Energy Research Institute,
Economic Impacts of Alberta's Oil Sands, Volume I, October 2005.

Sources and Methods:

Table 4.2 to Table 4.4 are compiled from tables in Canadian Energy Research Institute,
Economic Impacts of Alberta's Oil Sands Volume I, October 2005.

Table 4.5
Distribution of Expenditures on Oil Sands Construction Projects in the NADC Region
from 2006 to 2010 by Location of Purchase

Table 4.5
Distribution of Expenditures on Oil Sands Construction Projects
in the NADC Region from 2006 to 2010 by Location of Purchase
 Million Dollars

Industry	Alberta			Rest of Canada	Foreign	Total
	NADC Region	Rest of Alberta	Alberta Total			
Manufacturing Goods	203	9,300	9,503	3,619	9,983	23,105
Construction Goods	228	1,661	1,889	0	0	1,889
Business Services	257	2,987	3,244	26	7	3,277
Other labour services	539	9,953	10,492	212	0	10,703
All Goods and Services	1,226	23,902	25,127	3,857	9,989	38,974

Source: Estimates by GTS Group International.

Table 4.6
Percentage Distribution of Expenditures on Oil Sands Construction Projects in the
NADC Region from 2006 to 2010 by Location of Purchase

Table 4.6
Percentage Distribution of Expenditures on Oil Sands Construction Projects
in the NADC Region from 2006 to 2010 by Location of Purchase

Industry	Alberta			Rest of Canada	Foreign	Total
	NADC Region	Rest of Alberta	Alberta Total			
Manufacturing Goods	0.9	40.3	41.1	15.7	43.2	100.0
Construction Goods	12.1	87.9	100.0	0.0	0.0	100.0
Business Services	7.8	91.2	99.0	0.8	0.2	100.0
Other labour services	5.0	93.0	98.0	2.0	0.0	100.0
All Goods and Services	3.1	61.3	64.5	9.9	25.6	100.0

Source: Estimates by GTS Group International.

Sources and Methods:

The percentage distribution for "Other labour services" for the NADC Region in Table 4.5 is from Table 4.4. For other categories in Table 4.5, the percentage distribution by region is not available in the CERI report. The following percentages are used for these categories:

Manufacturing goods:

the value of shipment in the NADC Region from the special tabulation of Statistics Canada,

Manufacturing Industries of Canada: National and Provincial Areas.

Construction goods:

the number of labour force in construction industry in the NADC Region in 2001 from *2001 Census*.

Business services:

the number of labour force in business service industries in the NADC Region from *2001 Census*.

To estimate the values of expenditure in Table 4.5, the following method is used:

- (1) Determine the type of oil sands projects in Section 3 (mining, integrated mining, in situ, and integrated in situ).
- (2) For each type of the oil sands construction projects, apply the percentage in Table 4.2 to estimate the value of expenditure by category (manufacturing, construction, business services, and labour).
- (3) Apply the percentage in Table 4.3 to estimate the value of expenditure by category of expenditure and by location of purchase.
- (4) Apply the percentage in Table 4.6 to estimate the value of expenditure in the NADC Region.

Appendix 5 Employment Earnings

Table 5.1
Average and Total Employment Earnings in Alberta

Table 5.1
Average and Total Employment Earnings in Alberta

	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
1996				
All persons with earnings (counts)	166,300	1,333,140	1,499,440	11.1
Average earnings (all persons with earnings, \$)	25,443	26,225	26,138	97.3
Total earnings (all persons with earnings, \$ millions)	4,231	34,962	39,193	10.8
Worked full year, full time (counts)	80,610	671,960	752,570	10.7
Average earnings (worked full year, full time, \$)	36,371	37,250	37,156	97.9
Total earnings (worked full year, full time, \$ millions)	2,932	25,031	27,962	10.5
2001				
All persons with earnings (counts)	155,925	1,612,515	1,768,440	8.8
Average earnings (all persons with earnings, \$)	32,229	32,639	32,603	98.9
Total earnings (all persons with earnings, \$ millions)	5,025	52,631	57,656	8.7
Worked full year, full time (counts)	92,585	832,335	924,920	10.0
Average earnings (worked full year, full time, \$)	42,561	44,249	44,080	96.6
Total earnings (worked full year, full time, \$ millions)	3,941	36,830	40,770	9.7

Sources: Compiled from Statistics Canada, *2001 Census Community Profiles*.

Sources and Methods:

Information from Statistics Canada, *1996 and 2001 Census Community Profiles* are sorted by community and summed up for those communities in the NADC Region.

Table 5.2
Wages, Salaries and Supplementary Labour Income in Alberta

Sources and Methods:

Wages, salaries and supplementary labour income for Alberta from 1990 to 2004 are available from Statistics Canada, *Provincial Economic Accounts*. The trend from 1996 to 2004 are linearly extrapolated to 2010 to get forecasts for Alberta.

From Table 5.1, the NADC Region's average share of Alberta employment earnings from 1996 to 2001 is calculated as 8.8% and this percentage is applied to Alberta wages, salaries and supplementary labour income to estimate those in the NADC Region.

Table 5.2
Wages, Salaries and Supplementary
Labour Income in Alberta

Million Dollars

Year	NADC Region	Rest of Alberta	Alberta	NADC as % of Alberta
2000	5,297	55,095	60,392	8.8
2001	5,631	62,126	67,757	8.3
2002	6,195	64,430	70,625	8.8
2003	6,486	67,467	73,953	8.8
2004	6,935	72,129	79,064	8.8
2005	7,324	76,181	83,505	8.8
2006	7,714	80,239	87,953	8.8
2007	8,105	84,297	92,401	8.8
2008	8,495	88,355	96,849	8.8
2009	8,885	92,413	101,297	8.8
2010	9,275	96,470	105,746	8.8

Notes: Alberta numbers from 2000 to 2004 are from Statistics Canada *Provincial Economic Accounts*. Others are estimates by GTS Group International.

Appendix 6 Government Revenue

Table 6.1
Revenues of Municipal Governments in Alberta, 2000 to 2004

Sources and Methods:

Revenues of municipal governments in the NADC Region are calculated by summing up each category of revenue for all municipalities in the NADC Region from Alberta Municipal Affairs, *Municipal Profiles*.

Table 6.1
Revenues of Municipal Governments in Alberta, 2000 - 2004
(\$ Million)

NADC Region					
Revenue sources	2000	2001	2002	2003	2004
Net property taxes	194	217	259	293	319
Total provincial grants	89	92	63	70	75
Other grants	3	11	14	14	20
User fees and sale of goods	54	56	84	94	94
Business taxes	1	0	0	0	0
Other	56	68	75	78	128
Sub-total	397	444	495	549	636
Actual education taxes	129	114	123	130	136
Total	526	558	617	679	773
The Rest of Alberta					
Revenue sources	2000	2001	2002	2003	2004
Net property taxes	1,435	1,549	1,657	1,782	1,947
Total provincial grants	571	559	448	491	512
Other grants	25	36	73	67	73
User fees and sale of goods	2,138	2,816	1,417	1,542	1,678
Business taxes	206	216	222	230	239
Other	1,151	1,505	1,267	1,574	1,392
Sub-total	5,586	6,755	5,084	5,687	5,840
Actual education taxes	1,205	1,080	1,099	1,172	1,239
Total	6,791	7,835	6,183	6,859	7,080
Alberta as a Whole					
Revenue sources	2000	2001	2002	2003	2004
Net property taxes	1,630	1,766	1,915	2,075	2,266
Total provincial grants	659	651	510	562	587
Other grants	28	47	87	81	93
User fees and sale of goods	2,192	2,871	1,502	1,636	1,772
Business taxes	207	216	222	230	239
Other	1,206	1,574	1,342	1,652	1,520
Sub-total	5,983	7,199	5,578	6,236	6,477
Actual education taxes	1,334	1,194	1,222	1,302	1,376
Total	7,317	8,393	6,800	7,538	7,852

Source: Compiled from Alberta Municipal Affairs, *Municipal Profiles*

Table 6.2
Revenues of Municipal Governments Per Person, 2004

Sources and Methods:

Revenues in Table 7.1 are divided by populations in the NADC Region and the rest of Alberta in Table 1.1

Table 6.2
Revenue of Municipal Governments
Per Capita, 2004
 Dollars

Source	NADC Region	Rest of Alberta
Net property taxes	1,187	696
Total provincial grants	279	183
Other grants	73	26
User fees and sale of goods	348	600
Business taxes	1	85
Other	477	498
Actual education taxes	507	443
All sources	2,871	2,531

Source: Alberta Municipal Affairs, *Municipal Profiles*.

Table 6.3
Revenue of the Government of Alberta

Sources:

Alberta Finance, the "Fiscal Plan" section of *Alberta Budget 2003-04, 2004-05, 2005-06, and 2006-07*.

Table 6.3
Revenue of the Government of Alberta
Million Dollars

Fiscal Year	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Type of Revenue	Actual	Actual	Actual	Actual	Forecast	Estimate	Target	Target
Income Tax								
Personal income tax	4,183	4,834	4,613	4,649	4,557	5,999	6,423	6,867
Corporate income tax	2,229	2,019	1,696	2,364	2,596	2,227	2,131	2,188
Sub-total	6,412	6,853	6,309	7,013	7,173	8,226	8,554	9,055
Other Taxes								
School property tax	1,094	1,113	1,178	1,247	1,284	1,306	1,356	1,410
Tobacco tax	373	618	671	698	723	740	755	770
Fuel tax	585	597	620	641	635	643	655	665
Freehold mineral rights tax	319	202	288	306	349	386	313	280
Insurance taxes	136	162	206	212	197	195	207	220
Hotel room tax	56	54	53	61	50	50	51	53
Sub-total	2,563	2,746	3,016	3,165	3,238	3,320	3,337	3,398
Non-Renewable Resource Revenue								
Natural gas and by-products royalty	4,030	5,125	5,450	6,439	8,238	7,146	5,578	4,942
Crude oil royalty	987	1,177	981	1,273	1,447	954	798	685
Synthetic crude oil and bitumen royalty	185	183	197	718	1,184	1,716	1,712	1,351
Coal royalty	17	10	9	11	11	11	11	11
Bonuses and sales of Crown leases	969	565	967	1,252	3,440	1,479	1,293	1,191
Rentals and fees	148	153	154	153	155	150	150	148
Royalty tax credit	-109	-83	-82	-102	-113	-102	-91	-90
Sub-total	6,227	7,130	7,676	9,744	14,362	11,364	9,448	8,238
Transfers from Government of Canada								
Canada Health and Social Transfer	1,655	1,389	2,598	2,342	2,481	2,566	2,733	2,841
Agriculture support programs	269	416	561	506	227	303	302	300
Labour market development	123	0	0	0	0	0	0	0
Other	219	307	321	371	655	529	537	517
Sub-total	2,266	2,074	2,926	3,219	3,363	3,398	3,572	3,658
Net Income from Commercial Operations								
Gaming and lottery revenue	1,040	1,089	1,125	1,260	1,291	1,300	1,315	1,236
Liquor revenue	489	535	557	567	570	571	581	592
Alberta Treasury Branches	158	199	172	187	195	217	242	278
Other	7	26	28	6	6	6	6	7
Sub-total	1,694	1,849	1,882	2,020	2,062	2,094	2,144	2,113
Premiums, Fees and Licenses								
Health care insurance premiums	708	914	940	918	903	882	897	913
Motor vehicle licenses	215	248	266	285	298	305	313	321
Crop and hail insurance premiums	65	102	146	136	142	124	141	148
Timber rentals and fees	64	60	116	130	120	81	71	78
Land titles	34	38	44	47	54	54	57	60
Other	277	282	302	288	282	306	315	321
Sub-total	1,363	1,644	1,814	1,804	1,799	1,752	1,794	1,841

Table 6.3

Investment Income								
Alberta Heritage Savings Trust Fund and Sustainability Fund	175	-910	1,159	1,158	1,287	999	998	1,022
Alberta Capital Finance Authority	345	339	323	305	286	275	261	246
Agriculture Financial Services Corporation	108	101	86	81	84	86	91	97
Debt Retirement Account	122	98	49	56	115	89	81	62
Endowment Funds								
Medical Research	-16	-82	73	73	93	61	68	80
Science and Engineering Research	-5	-33	37	29	51	31	35	39
Scholarship	-6	-28	23	21	37	27	28	29
Capital Account	0		30	28	55	135	165	95
Other	64	53	58	61	98	64	71	71
Sub-total	787	-462	1,838	1,812	2,106	1,767	1,798	1,741
Other								
Refunds of expense	144	270	96	123	99	97	97	97
Fines and penalties	47	56	69	73	72	78	78	78
Miscellaneous	423	500	261	355	327	322	297	291
Sub-total	614	826	426	551	498	497	472	466
Total Revenue	21,926	22,660	25,887	29,328	34,601	32,408	31,119	30,510

Sources:

Revenue of the Alberta Government are compiled from Alberta Revenue, *Alberta Budget*.**Sources and Methods:**

The following set of Regional Proportion Indicators (RPI) is used to estimate the NADC Region's contribution to each component of the revenue of the Government of Alberta:

Regional Proportion Indicators for the NADC Region's Contribution to the Revenue of the Government of Alberta	
Source of Revenue	Source of Regional Proportion Indicator
Income Tax	
Personal income tax	Total earnings (worked full-time, full-year) in 2001 from 2001 Census Community Profiles.
Corporate income tax	NADC Region's value added (GDP) by industry; GDP by industry in Alberta is downloaded from Statistics Canada, CANSIM and the NADC Region's share of labour force by industry from 2001 Census Community Profiles is used to estimate the NADC Region's share of GDP by industry. For manufacturing, the NADC Region's share of value added from a special table from Statistics Canada, Annual Survey of Manufacturing Industries is used. For mining, the value of production calculated from Alberta Finance, Key Energy and Economic Assumptions is used to estimate the NADC Region's share of GDP by mining.
Sub-total	Calculated from the above components.
Other Taxes	
School property tax	The amount of actual education tax from Alberta

	Municipal Affairs, Municipal Profiles.
Tobacco tax	Population
Fuel tax	Population
Freehold mineral rights tax	The value of oil and natural gas production.
Insurance taxes	GDP by finance and insurance.
Hotel room tax	GDP by other services.
Sub-total	Calculated from the above components.
Non-Renewable Resource Revenue	
Natural gas and by-products royalty	Natural gas production.
Crude oil royalty	Conventional crude oil production.
Synthetic crude oil and bitumen royalty	Bitumen production.
Coal royalty	None for the NADC Region.
Bonuses and sales of Crown leases	Oil and natural gas well counts.
Rentals and fees	The value of oil and natural gas production.
Royalty tax credit	The value of oil and natural gas production.
Sub-total	Calculated from the above components.
Transfers from Government of Canada	
Canada Health and Social Transfer	Population
Agriculture support programs	Gross farm receipt from 2001 Agricultural Census.
Labour market development	Population
Other	Population
Sub-total	Calculated from the above components.
Net Income from Commercial Operations	
Lottery revenue	
Liquor revenue	
Alberta Treasury Branches	
Other	
Sub-total	Population
Premiums, Fees and Licenses	
Health care insurance premiums	
Motor vehicle licensees	
Crop and hail insurance premiums	
Timber rentals and fees	
Land titles	
Other	
Sub-total	Population
Investment Income	
Alberta Heritage Savings Trust Fund	
Alberta Capital Finance Authority	
Agriculture Financial Services Corporation	
Debt Retirement Account	
Endowment Funds	
Medical Research	
Science and Engineering Research	

Scholarship	
Capital Account	
Other	
Sub-total	Population
Other	
Refunds of expense	
Fines and penalties	
Miscellaneous	
Sub-total	Population

Table 6.4
Regional Production Indicators for the NADC Region's Contribution to the Revenue of the Government of Alberta

Table 6.4
Regional Proportion Indicators for the NADC Region's Contribution to the Revenue of the Government of Alberta
 (%)

Type of revenue	Type of NADC RPIs	NADC Region's Percentage of RPIs							
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Income Tax									
Personal income tax	total earnings	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Corporate income tax	value added by industry	17.1	17.1	16.9	17.0	17.1	17.3	17.7	17.9
Sub-total									
Other Taxes									
School property tax	municipal school tax		10.0						
Tobacco tax	population	9.6		10.0	9.9	9.9	9.9	9.9	9.9
Fuel tax	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
			44.0						
Freehold mineral rights tax	value of natural gas and oil								
Insurance taxes	population	44.2		43.5	43.7	44.3	45.1	46.7	47.8
		9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
	valid added by business and community services		0.1						
Hotel room tax		0.1		0.1	0.1	0.1	0.1	0.1	0.1
Sub-total	sub-total								
Non-Renewable Resource Revenue									
Natural gas and by-products royalty	natural gas production		37.4						
		38.2		37.9	36.5	36.5	36.5	36.5	36.5
Crude oil royalty	conventional oil production								
Synthetic crude oil and bitumen royalty	all to NACD	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal royalty	coal production								
Bonuses and sales of Crown leases	well counts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		25.3	24.9	25.2	25.4	25.6	25.7	25.9	26.1
Rentals and fees	value of natural gas and oil								
		44.2	44.0	43.5	43.7	44.3	45.1	46.7	47.8
Royalty tax credit	value of natural gas and oil								
Sub-total		44.2	44.0	43.5	43.7	44.3	45.1	46.7	47.8
Transfers from Government of Canada									
Canada Health and Social Transfer	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Agriculture support programs	farm cash income	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Labour market development	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Other	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Sub-total									
Net Income from Commercial Operations									
Lottery revenue	population								
Liquor revenue	population								
Alberta Treasury Branches	population								
Other	population								
Sub-total	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Premiums, Fees and Licenses									
Health care insurance premiums	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Motor vehicle licenses	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Crop and hail insurance premiums	farm cash income	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Timber rentals and fees	forest industry revenue	51.3	53.3	65.0	56.5	56.5	56.5	56.5	56.5
Land titles	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Other	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Sub-total									

Table 6.4

Investment Income									
Alberta Heritage Savings Trust Fund	population								
Alberta Capital Finance Authority	population								
Agriculture Financial Services Corporation	population								
Debt Retirement Account	population								
Endowment Funds	population								
Medical Research									
Science and Engineering Research	population								
Scholarship	population								
Capital Account									
Other	population								
Sub-total	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Other									
Refunds of expense	population								
Fines and penalties	population								
Miscellaneous	population								
Sub-total	population	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1

Source: Estimates by GTS Group International.

Table 6.5
NADC Region's Contribution to the Revenue of the Government of Alberta

Table 6.5
NADC Region's Contribution to the Revenue of the Government of Alberta
 Million Dollars

Fiscal Year	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Type of Revenue	Actual	Actual	Actual	Actual	Forecast	Estimate	Target	Target
Income Tax								
Personal income tax	347	401	383	386	378	498	533	570
Corporate income tax	381	346	286	401	445	385	376	392
Sub-total*	728	747	669	787	823	883	909	962
Other Taxes								
School property tax	105	112	118	124	127	129	134	140
Tobacco tax	35	54	60	62	66	67	69	70
Fuel tax	54	52	55	57	58	58	59	60
Freehold mineral rights tax	141	89	125	134	155	174	146	134
Insurance taxes	13	14	18	19	18	18	19	20
Hotel room tax**	0	0	0	0	0	0	0	0
Sub-total*	347	322	377	396	424	447	427	424
Non-Renewable Resource Revenue								
Natural gas and by-products royalty	1,538	1,919	2,065	2,350	3,006	2,608	2,036	1,804
Crude oil royalty	275	328	274	355	404	266	223	191
Synthetic crude oil and bitumen royalty	185	183	197	718	1,184	1,716	1,712	1,351
Coal royalty	0	0	0	0	0	0	0	0
Bonuses and sales of Crown leases	245	141	243	318	880	381	335	310
Rentals and fees	65	67	67	67	69	68	70	71
Royalty tax credit	-48	-37	-36	-45	-50	-46	-42	-43
Sub-total*	2,260	2,602	2,810	3,763	5,492	4,993	4,333	3,684
Transfers from Government of Canada								
Canada Health and Social Transfer	154	122	232	209	226	233	248	257
Agriculture support programs	25	38	52	46	21	28	28	28
Labour market development	11	0	0	0	0	0	0	0
Other	20	27	29	33	60	48	49	47
Sub-total*	210	187	312	289	306	309	324	332
Net Income from Commercial Operations								
Gaming and lottery revenue								
Liquor revenue								
Alberta Treasury Branches								
Other								
Sub-total	157	162	168	181	188	190	195	191
Premiums, Fees and Licenses								
Health care insurance premiums	66	80	84	82	82	80	81	83
Motor vehicle licenses	20	22	24	25	27	28	28	29
Crop and hail insurance premiums	6	9	13	12	13	11	13	14
Timber rentals and fees	33	32	75	74	68	46	40	44
Land titles	3	3	4	4	5	5	5	5
Other	26	25	27	26	26	28	29	29
Sub-total*	154	171	228	223	221	198	197	204

Table 6.5

Investment Income									
Alberta Heritage Savings Trust Fund and Sustainability Fund									
Alberta Capital Finance Authority									
Agriculture Financial Services Corporation									
Debt Retirement Account									
Endowment Funds									
Medical Research									
Science and Engineering Research									
Scholarship									
Capital Account									
Other									
Sub-total	73	-41	164	162	192	161	163	158	
Other									
Refunds of expense									
Fines and penalties									
Miscellaneous									
Sub-total	57	72	38	49	45	45	43	42	
Total Revenue*	3,988	4,222	4,767	5,851	7,691	7,226	6,591	5,996	

Source: Estimates by GTS Group International.

Notes: * Estimated from components.

** Less than one million dollars.

Table 6.6
Percentage of the NADC Region's Contribution to the Revenue of the Government of Alberta

Table 6.6
Percentage of the NADC Region's Contribution to the Revenue of the Government of Alberta

Fiscal Year	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09
Type of Revenue	Actual	Actual	Actual	Actual	Forecast	Estimate	Target	Target
Income Tax								
Personal income tax	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Corporate income tax	17.1	17.1	16.9	17.0	17.1	17.3	17.7	17.9
Sub-total*	11.4	10.9	10.6	11.2	11.5	10.7	10.6	10.6
Other Taxes								
School property tax	9.6	10.0	10.0	9.9	9.9	9.9	9.9	9.9
Tobacco tax	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Fuel tax	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Freehold mineral rights tax	44.2	44.0	43.5	43.7	44.3	45.1	46.7	47.8
Insurance taxes	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Hotel room tax	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Sub-total*	13.5	11.7	12.5	12.5	13.1	13.5	12.8	12.5
Non-Renewable Resource Revenue								
Natural gas and by-products royalty	38.2	37.4	37.9	36.5	36.5	36.5	36.5	36.5
Crude oil royalty	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
Synthetic crude oil and bitumen royalty	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Coal royalty	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bonuses and sales of Crown leases	25.3	24.9	25.2	25.4	25.6	25.7	25.9	26.1
Rentals and fees	44.2	44.0	43.5	43.7	44.3	45.1	46.7	47.8
Royalty tax credit	44.2	44.0	43.5	43.7	44.3	45.1	46.7	47.8
Sub-total*	36.3	36.5	36.6	38.6	38.2	43.9	45.9	44.7
Transfers from Government of Canada								
Canada Health and Social Transfer	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Agriculture support programs	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Labour market development	9.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Sub-total*	9.3	9.0	10.7	9.0	9.1	9.1	9.1	9.1
Net Income from Commercial Operations								
Gaming and lottery revenue								
Liquor revenue								
Alberta Treasury Branches								
Other								
Sub-total	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Premiums, Fees and Licenses								
Health care insurance premiums	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Motor vehicle licenses	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Crop and hail insurance premiums	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
Timber rentals and fees	51.3	53.3	65.0	56.5	56.5	56.5	56.5	56.5
Land titles	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Other	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1
Sub-total*	11.3	10.4	12.5	12.4	12.3	11.3	11.0	11.1

Table 6.6

Investment Income									
Alberta Heritage Savings Trust Fund and Sustainability Fund									
Alberta Capital Finance Authority									
Agriculture Financial Services Corporation									
Debt Retirement Account									
Endowment Funds									
Medical Research									
Science and Engineering Research									
Scholarship									
Capital Account									
Other									
Sub-total	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1	9.1
Refunds of expense									
Fines and penalties									
Miscellaneous									
Sub-total	9.3	8.8	8.9	8.9	9.1	9.1	9.1	9.1	9.1
Total Revenue*	18.2	18.6	18.4	19.9	22.2	22.3	21.2	19.7	

Source: Estimates by GTS Group International.

Note: * Estimated from components.

Table 6.7
Federal Government Revenue in Alberta
 Million Dollars

Type of revenue	1995	1996	1997	1998	1999	2000	2001	2002	2003
Direct taxes from persons	6,599	7,265	8,368	9,462	9,366	10,496	11,736	10,972	11,311
Direct taxes from corporate and government business enterprises	1,944	2,223	2,731	2,661	3,216	4,497	3,490	3,793	4,395
Direct taxes front nonresidents	134	193	201	191	230	255	308	298	281
Contributions to social insurance plans	1,846	1,810	1,932	1,814	1,757	1,804	1,835	1,835	1,807
Taxes on production and imports	3,200	3,384	3,818	3,959	4,014	4,317	4,594	5,077	5,235
Other current transfers from persons	3	6	4	2	1	2	2	4	0
Investment income	502	445	491	525	570	708	725	660	605
Current transfers from provincial governments	34	43	46	34	33	8	0	0	0
Total revenue	14,262	15,369	17,591	18,648	19,187	22,087	22,690	22,639	23,634

Source: Statistics Canada, *Provincial Economic Accounts, 2004, Estimates*.

Table 6.8
Forecasts of Federal Government Revenue in Alberta
 Million Dollars

Type of revenue	2004	2005	2006	2007	2008	2009	2010
Direct taxes from persons	12,651	13,251	13,850	14,450	15,049	15,649	16,249
Direct taxes from corporate and government business enterprises	4,343	4,549	4,754	4,960	5,166	5,372	5,578
Direct taxes front nonresidents	330	345	361	377	392	408	424
Contributions to social insurance plans	2,037	2,133	2,230	2,326	2,423	2,520	2,616
Taxes on production and imports	5,543	5,806	6,069	6,332	6,594	6,857	7,120
Other current transfers from persons	2	2	2	3	3	3	3
Investment income	740	775	810	845	880	915	951
Current transfers from provincial governments	0	0	0	0	0	0	0
Total revenue	25,646	26,862	28,077	29,293	30,508	31,724	32,940

Source: Forecasts by GTS Group International.

Table 6.9
Regional Proportion Indicators of the NADC Region's Contribution to the Revenue of the Government of Canada

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Direct taxes from persons	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Direct taxes from corporate and government business enterprises	17.1	17.1	17.1	17.1	17.1	17.1	17.1	17.1	16.9
Direct taxes front nonresidents	9.1	9.1	9.1	9.1	9.1	9.1	9.3	8.8	8.9
Contributions to social insurance plans	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Taxes on production and imports	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Other current transfers from persons	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Investment income	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Current transfers from provincial governments	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
Total revenue	9.5	9.6	9.7	9.6	9.8	10.1	9.7	9.8	9.9
	2004	2005	2006	2007	2008	2009	2010		
Direct taxes from persons	8.3	8.3	8.3	8.3	8.3	8.3	8.3		
Direct taxes from corporate and government business enterprises	17.0	17.1	17.3	17.7	17.9	17.9	17.9		
Direct taxes front nonresidents	9.1	9.1	9.1	9.1	9.1	9.1	9.1		
Contributions to social insurance plans	8.3	8.3	8.3	8.3	8.3	8.3	8.3		
Taxes on production and imports	8.3	8.3	8.3	8.3	8.3	8.3	8.3		
Other current transfers from persons	8.3	8.3	8.3	8.3	8.3	8.3	8.3		
Investment income	8.3	8.3	8.3	8.3	8.3	8.3	8.3		
Current transfers from provincial governments	8.3	8.3	8.3	8.3	8.3	8.3	8.3		
Total revenue	9.8	9.8	9.8	9.9	9.9	9.9	9.9		

Source: Estimates by GTS Group International

Table 6.10
NADC Region's Contribution to the Revenue of the Government of Canada
 Million Dollars

Type of revenue	1995	1996	1997	1998	1999	2000	2001	2002	2003
Direct taxes from persons	548	603	695	785	777	871	974	911	939
Direct taxes from corporate and government business enterprises	332	380	467	455	550	769	597	649	743
Direct taxes from nonresidents	12	18	18	17	21	23	29	26	25
Contributions to social insurance plans	153	150	160	151	146	150	152	152	150
Taxes on production and imports	266	281	317	329	333	358	381	421	435
Other current transfers from persons	0	0	0	0	0	0	0	0	0
Investment income	42	37	41	44	47	59	60	55	50
Current transfers from provincial governments	3	4	4	3	3	1	0	0	0
Total revenue	1,356	1,473	1,702	1,783	1,877	2,231	2,193	2,214	2,341

Type of revenue	2004	2005	2006	2007	2008	2009	2010
Direct taxes from persons	1,050	1,100	1,150	1,199	1,249	1,299	1,349
Direct taxes from corporate and government business enterprises	738	778	823	878	925	962	998
Direct taxes from nonresidents	30	31	33	34	36	37	39
Contributions to social insurance plans	169	177	185	193	201	209	217
Taxes on production and imports	460	482	504	526	547	569	591
Other current transfers from persons	0	0	0	0	0	0	0
Investment income	61	64	67	70	73	76	79
Current transfers from provincial governments	0	0	0	0	0	0	0
Total revenue	2,509	2,633	2,761	2,901	3,031	3,152	3,273

Source: GTS Group International.

Table 6.7
Federal Government Revenue in Alberta

Sources:

Statistics Canada, *Provincial Economic Accounts 2004 Estimates*.

Table 6.8
Forecasts of Federal Government Revenue in Alberta

Sources and Methods:

The trend in total revenue from 1995 to 2003 is linearly extrapolated to the forecast period. Then, each component of total revenue is estimated by applying the average percentage of each component from 2001 to 2003 to total revenue.

Table 6.9
Regional Proportion Indicators (RPI) of the NADC Region's Contribution to the Revenue of the Government of Canada

Sources and Methods:

Regional Proportion Indicators of the NADC Region's Contribution to the Revenue of the Government of Canada	
Source of revenue	Source of Regional Proportion Indicator
Direct taxes from persons	Total employment earnings from 2001 Census Community Profiles
Direct taxes from corporate and government business enterprises	Value added by industry
Direct taxes from nonresidents	Population
Contributions to social insurance plans	Total employment earnings
Taxes on production and imports	Total employment earnings
Other current transfers from persons	Total employment earnings
Investment income	Total employment earnings
Current transfers from provincial governments	Total employment earnings
Total revenue	Calculated

Appendix 7 Summary

Table 7.1
Economic Contribution of the NADC Region

Sources: Various tables in this report.

Table 7.1
Economic Contribution of the NADC Region

Economic Contributions	Year	Total Contribution (\$ Billions)			Value Per Capita (\$ Thousands)		
		NADC Region	Rest of Alberta	NADC as % of Alberta	NADC Region	Rest of Alberta	Alberta Average
Exports	2005	37.1	92.6	28.6	125.7	31.4	40.0
	2010	40.3	96.3	29.5	124.5	29.5	38.1
Investment	2005	13.2	36.6	26.4	44.5	12.4	15.4
	2010	12.0	40.5	22.8	37.0	12.4	14.6
Materials for manufacturing	2003	1.4	30.6	4.3	5.3	11.0	10.5
Materials and labour for oil sands investment	2006-10*	1.2	23.9	4.9	4.0	7.7	7.4
Employment earnings	2005	7.3	76.2	8.8	24.8	25.9	25.8
	2010	9.3	96.5	8.8	28.7	29.6	29.5
Government revenues - Alberta	2004-05**	5.9	23.5	20.0	21.7	8.4	9.6
	2008-09**	6.0	24.5	19.7	19.2	7.8	8.9
Government revenues - Federal	2005	2.6	24.2	9.8	8.9	8.2	8.3
	2010	3.3	29.7	9.9	10.1	9.1	9.2

Source: Various tables in this report.

Notes: * the entire period from 2006 to 2010; ** the fiscal year 2004-05 and the fiscal year 2008-09.

Table 7.2

Estimates of Gross Domestic Product, Expenditure-based in the Northern Alberta Development Council Region, 2004

Sources:

Alberta GDP is from Statistics Canada, *Provincial Economic Accounts, 2004 Estimates*, and NADC GDP is an estimate by GTS Group International.

Methods:

Alberta GDP in 2004 is allocated to the NADC Region by a set of regional proportion indicators that are used in this report. New regional proportion indicators are estimated for International and interprovincial imports, exports and investment estimates for the NADC Region in this table are different from those in Section 2 and Section 3 because of different sources for Alberta data. The estimates in this table are only for calculating the percentage contribution of the NADC Region to Alberta GDP.

Table 7.2
Estimates of Gross Domestic Product, Expenditure-based
for the Northern Alberta Development Council Region, 2004
 Current Million Dollars

Expenditures	Alberta \$	Indicator	NADC %	NADC \$
Personal expenditure on consumer goods and services	79,920	Population	9.1	7,279
Net government current expenditure on goods and services	25,384	Population	9.1	2,312
Government and business gross capital formation	49,888	Investment estimates	25.9	12,939
Government investment in inventories	2	Population	9.1	0
Business investment in inventories	1,461			103
Non-farm	935	Manufacturing shipment	5.9	55
Farm	526	Farm cash receipt	9.2	48
Exports of goods and services	117,099			30,971
Exports to other countries	73,564			24,830
Exports of goods to other countries	68,033	Export estimates	36.2	24,628
Exports of services to other countries	5,531	Export estimates	3.6	202
Exports to other provinces	43,535			6,141
Exports of goods to other provinces	29,468	Export estimates	19.1	5,628
Exports of services to other provinces	14,067	Export estimates	3.6	513
Deduct. Imports of goods and services	86,406			8,873
Imports from other countries	46,313			5,692
Imports of goods from other countries	40,724	See Table 7.3	13.5	5,488
Imports of services from other countries	5,589	Same as international exports	3.6	204
Imports from other provinces	40,093			3,810
Imports of goods from other provinces	22,822	See Table 7.4	13.9	3,180
Imports of services from other provinces	17,271	Same as interprovincial exports	3.6	629
Statistical discrepancy	-196	Population	9.1	-18
Gross Domestic Product at market prices	187,152			44,713
NADC % of Alberta GDP			23.9	

Source: Statistics Canada, *Provincial Economic Accounts, 2004 Estimates* for Alberta and GTS Group International's estimates for the NADC Region.

Table 7.3
Alberta's International Imports, 2004
 Million Dollars

Category	Amount	Regional Proportion indicators	NADC %	Import distribution
Total international imports	13,594			0.9998
Agriculture, Forestry, Fishing and Hunting	465	Population	9.1	0.0342
Mining and Oil and Gas Extraction	621	Investment	25.9	0.0457
Utilities	19	Population	9.1	0.0014
All manufacturing	12,226			0.8992
Food Manufacturing	402	Population	9.1	0.0296
Beverage and Tobacco Product Manufacturing	300	Population	9.1	0.0220
Textile Mills	31	Population	9.1	0.0023
Textile Product Mills	65	Population	9.1	0.0048
Clothing Manufacturing	63	Population	9.1	0.0046
Leather and Allied Product Manufacturing	51	Population	9.1	0.0038
Wood Product Manufacturing	105	Population	9.1	0.0077
Paper Manufacturing	179	Population	9.1	0.0132
Printing and Related Support Activities	25	Population	9.1	0.0019
Petroleum and Coal Products Manufacturing	93	Manufacturing costs of materials	4.3	0.0069
Chemical Manufacturing	1,510	Manufacturing costs of materials	4.3	0.1110
Plastics and Rubber Products Manufacturing	336	Manufacturing costs of materials	4.3	0.0247
Non- Metallic Mineral Product Manufacturing	125	Manufacturing costs of materials	4.3	0.0092
Primary Metal Manufacturing	870	Investment	25.9	0.0640
Fabricated Metal Product Manufacturing	947	Investment	25.9	0.0696
Machinery Manufacturing	2,155	Investment	25.9	0.1585
Computer and Electronic Product Manufacturing	2,252	Population	9.1	0.1656
Electrical Equipment, Appliance and Component Manufacturing	587	Manufacturing costs of materials	4.3	0.0431
Transportation Equipment Manufacturing	1,671	Population	9.1	0.1229
Furniture and Related Product Manufacturing	165	Population	9.1	0.0121
NADC %of international imports			13.5	

Source: Industry Canada, Strategis, International Trade by Industry

Notes: Based on the province of clearance.

Table 7.4
Alberta's Interprovincial Imports, 2002
 Million Dollars

Category	Amount	Regional Proportion indicators	NADC %	Import distribution
Total goods	20,026			
Primary metal products	1,092	Investment	25.9	0.0684
Other metal products	972	Investment	26.9	0.0609
Machinery and equipment	671	Investment	27.9	0.0420
Electrical, electronic and communications products	827	Manufacturing costs of materials	4.3	0.0518
Non-metallic mineral products	191	Manufacturing costs of materials	5.3	0.0119
Petroleum and coal products	444	Manufacturing costs of materials	6.3	0.0278
Chemicals, pharmaceuticals and chemical products	1,296	Manufacturing costs of materials	7.3	0.0812
Other goods	14,534	Population	9.1	0.9107
NADC %of interprovincial imports			13.9	

Source: CANSIM Table 386-0002 Interprovincial and international trade flows at producer prices, annual (1997-2002)