



Chemicals and Petro Chemicals: A\$9.5 Billion Industry in Alberta

Fast Facts on Alberta

- ↳ Alberta's chemical and petrochemical industry produces over \$9.5 billion worth of products annually. About half of these products are exported to the U.S., Mexico and Asia.
- ↳ The value of chemical and petrochemical shipments in Alberta represented 44% or \$28.4 billion of the province's total manufacturing shipments in 2006.
- ↳ Chemical and petrochemical processing represents Alberta's largest manufacturing sector in terms of manufacturing revenue and exports.
- ↳ Alberta manufactures close to 35% of Canada's basic chemicals and resins and has over half of Canada's petrochemical capacity.
- ↳ Alberta's prime advantage has been an abundant supply of low cost natural gas and ethane feedstock. Alberta is pursuing significant opportunities for new petrochemical feedstocks from the integration of the oil sands upgrading with refining industries. The Alberta oil sands represent the world's second-largest known source of oil.
- ↳ The chemical manufacturing industry is the fifth largest employer in the Alberta manufacturing sector. It employs over 7,000 people with an annual payroll of \$526 million.
- ↳ The chemical industry in Alberta exports \$4 billion worth of product to foreign and domestic markets. Asia and the U.S. are the biggest export markets.
- ↳ The University of Alberta's Lipid Utilization Research Program (<http://www.lipid.afns.ualberta.ca/>) is home to the world's largest team of lipid utilization scientists, where breakthrough research is being made in the use of oilseed crops and animal fats for specialty chemicals and bioplastic.

"BP Canada Chemical Company's Joffre, Alberta petrochemical facility ... is located in central Alberta's petrochemical heartland and greatly benefits from the region's progressive tax structure, up-to-date infrastructure, abundance of ethane feedstock and close proximity to our petrochemical partners and customers."

- Hal Yeich, Plant Manager, BP Canada Chemical Company

North American Ranking(Cost Competiveness)

1	Red Deer, AB (91.3)
2	Saskatoon, SK (92.8)
3	Edmonton, AB (93.3)
4	Kelowna, BC (93.3)
5	Winnipeg, MB (94.1)
6	Calgary, AB (94.7)
7	Boise, ID (99.2)
8	Chicago, IL (100.8)
9	Dallas, TX (101.2)
10	Minneapolis, MN (103.8)

Industry investments of \$3.5 billion in the early 2000s increased Alberta's ethylene and derivatives capacity by over 40%.

Every \$1 billion in new investment in the chemical industry results in 45,000 person years of construction employment.

Specialty chemical and surfactant manufacturing and large shape plastics products manufacturing have been identified as potential

investments with synergies to the petrochemical cluster.

According to the KPMG "Competitive Alternatives" report (<http://www.competitivealternatives.com>), the Red Deer region has a 6.7% cost advantage in this industry compared to the U.S. (U.S. = 100).





Central Alberta's Chemical Manufacturing Powerhouse

- World scale cluster of approximately 36 chemical and petrochemical manufacturers.
- Nova Chemicals operates the world's largest ethylene production facility in the Joffre / Prentiss area.
- An intricate transportation network of rail, road and pipeline routes exists in both the Central Alberta region and the Joffre / Prentiss cluster.
- This cluster's competitive advantage lies in the sharing of ancillary and support services such as utilities, co-generation storage, emergency services, and waste disposal.
- Over \$3 billion in revenues are generated annually.
- Access to abundant, low-cost feedstocks in Alberta: natural gas and oil.
- Key players—Nova Chemicals, Dow / ME Global, Innovene Canada Partnership and Praxair—exchange co-products and byproducts to mutual benefit.

A Highly Skilled Workforce

- About 1,340 people are employed in the chemicals / petrochemicals industry in central Alberta. Each job is estimated to create a spin-off of another 2.5.
- The salaries and wages within the Alberta chemical manufacturing industry were the second highest of all manufacturing sectors in 2005 at \$72,000.
- The labour force is educated and highly skilled. The chemical industry ranks first in percentage of workers with university degrees when measured against all other manufacturing industries.

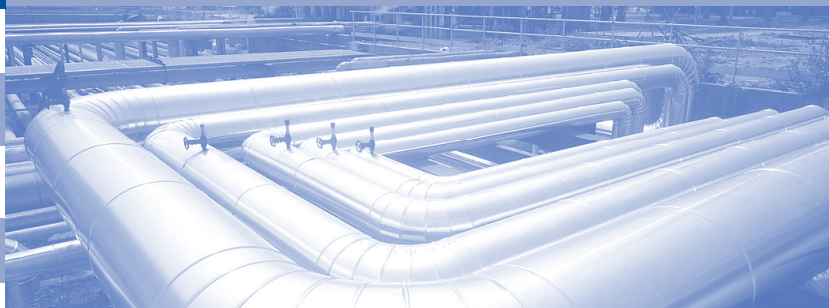
Responsibility

- The Responsible Care® initiative was created in Canada and outlines a new ethic for safe and environmentally sound management practices. Canada has led the way in this practice and is a recognized leader throughout the world.
- This industry is regulated by the following levels of government:
 - Federal—taxes, income, trade agreements;
 - Provincial—environmental, corporate, land and infrastructure, plant and equipment installation, operations and maintenance;

Key Players in Central Alberta

Nova Chemicals Ltd.	www.novachemicals.com
Dow / ME Chemical Canada Inc.	www.dowcanada.com
Innovene Canada Partnership	www.innovene.com
Agrium Inc.	www.agrium.com
Praxair Canada Inc.	www.praxair.com
NPI	www.npiplastic.com
CFR Chemicals Inc.	www.cfrchemicals.com
D&M Plastics	www.dm-plastics.ca
BJ Chemical Services	www.bjservices.com

For Additional Information



Alberta Government—Energy.....	http://www.energy.gov.ab.ca
Alberta Environment.....	http://environment.alberta.ca/
Alberta Lipid Utilization Program.....	http://www.lipid.afns.ualberta.ca/
Alberta Research Council.....	http://www.arc.ab.ca/
Canadian Chemical Producers Association.....	http://www.ccpa.ca/
Canada's Plastics Industry Association.....	http://www.cpia.ca/
Invest in Canada:.....	http://www.investincanada.com/
Industry Canada.....	http://www.strategis.gc.ca/

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Central Alberta Economic Partnership Ltd.(CAEP)
 B102, SUITE 354 5212-48 ST Red Deer, AB T4N 7C3
 Phone(403)357-2237/Fax(403)357-2288
 Toll Free 1-888-508-2237
 Website: www.centralalberta.ab.ca