



Refining, Petrochemicals & Biochemicals

Industry at a Glance

Alberta has one of the largest refining and petrochemical industries in Canada, characterized by modern, world-scale plants, efficient transportation systems, and access to the third largest crude oil reserve in the world and significant natural gas reserves. There is enormous potential for investors who are interested in tapping into Alberta's vast energy resources to produce refined petroleum products and petrochemicals.

Refining opportunities in Alberta aren't limited to petrochemicals. Alberta has an emerging biochemicals sector that is using biomass as an alternative feedstock to petrochemicals in the production of energy products and industrial chemicals.

Fast Facts

- Revenues for this sector totaled \$36 billion in 2014.
- The petrochemical industry has invested over \$10 billion in Alberta since the 1990s.
- Alberta produces 2 million barrels per day (bpd) of crude oil of which about 75% is raw bitumen from oil sands.
- Five operating upgraders in Alberta have the capacity to handle 1.2 million bpd of bitumen, much of which is upgraded to a lighter, more valuable synthetic crude oil (SCO) that is provided to domestic and international refineries for further processing.
- Four operating refineries in Alberta have a combined crude processing capacity of over 450,000 bpd.
- Alberta is home to four ethane-cracking plants including two of the world's largest, in Joffre and Fort Saskatchewan, with a capacity to produce 8.6 billion pounds of ethylene annually.

Refining Alberta's Energy Advantage

Our vast reserves and the characteristics of the oil sands present unique and enormous opportunities for integrated development in downstream products, service and supply sectors. Our province's goal is to create a world-class, integrated hydrocarbon processing hub in Alberta, based on our energy resources. Eco-industrial integration can generate substantial cost savings, new business opportunities, and reduce the overall industrial environmental footprint.

The Government of Alberta recognizes the need for strategies that ensure the long term competitiveness of our energy and chemical industries. The Government works closely with local companies to develop actions that will enhance our position in the global market and continue to grow our opportunities into the future.

Bitumen Royalty-in-Kind (BRIK)

As the resource owner, the Government of Alberta is entitled to take its royalty share of bitumen production as physical barrels rather than in cash payments. The Government's bitumen royalty volumes will be a significant and growing source of reliable hydrocarbon feedstock for value-added processing in Alberta. More information about bitumen royalty-in-kind is available at <http://www.energy.alberta.ca/BRIK.asp>

Incremental Ethane Extraction Policy (IEEP)

The Government's proactive approach to promoting the value-added upgrading of Alberta's hydrocarbon resources is demonstrated by the Incremental Ethane Extraction Policy (IEEP) which provides incentives through royalty credits to encourage greater production of ethane and to promote value-added petrochemical production. More information about the IEEP is available at <http://www.energy.alberta.ca/OurBusiness/Petrochemicals.asp>



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Provincial Energy Strategy and Alberta's Oil Sands Strategy

The Government of Alberta has announced two important strategies that set the direction for how the Government will deliver on its commitment to add value to the oil sands and energy resources in the Province:

- Alberta's *Provincial Energy Strategy* (<http://www.energy.alberta.ca/Initiatives/strategy.asp>) sets the stage for value-added oil sands development by stating, Alberta should "Extend Our Role along the Value Chain," and
- The *Oil Sands Strategy* (<http://treasuryboard.alberta.ca/ResponsibleActions.cfm>) outlines the actions needed to make this happen.

Value-added Integration Opportunities

Alberta's Industrial Heartland (AIH) is an area that covers 582 square kilometres northeast of Edmonton, Alberta. This area is home to the largest concentration of petroleum refineries and chemical processing plants in Canada. Because of the concentration of heavy industry in the area, the location is ideal for enhancing integration opportunities.

- The integration of facilities maximizes the efficient use of resources resulting in cost-savings and higher valued products for sale to downstream markets.
- Synergies exist in an integrated facility, allowing for waste streams to be used as feedstock for plants within the complex and for the sharing of services and site-specific infrastructure. This leads to greater environmental benefits, such as lower total emission levels and less water demand.

How we Can Help

The Alberta Government can provide your company with industry intelligence and business resources in the hydrocarbon upgrading sector. We can help you:

- Understand the challenges and opportunities of refining and upgrading in Alberta;
- Build strategic alliances with local and international partners and;
- Connect you with local business development officials.

Industry Resources

Visit the Refining, Petrochemicals and Biochemicals homepage at www.albertacanada.com/petrochemicals to learn about:

- Industry facts and opportunities
- Policies and regulations
- Key stakeholders and industry associations
- News and events

Contact Information

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