

Key Sector – Energy

Edmonton's Expertise

Petrochemical Processing; Biochemical Processing; Energy Waste Remediation Tech

Selling Points for Edmonton

Specialities in Petro & Bio Chemical Processing: Energy drives Alberta's economy – and its feedstocks drive a competitive petrochemical and biochemical processing industry. The Edmonton region is home to Alberta's Industrial Heartland, Canada's largest hydrocarbon processing region and two of Alberta's four refineries.

Growing Research and Innovation into Waste Remediation Technology: The oil and gas industry is always evolving and innovating. The University of Alberta, located in Edmonton, is a main source for technical innovation in the industry in areas such as emission reduction, water treatment, and land reclamation.

Support Hub for Alberta's Oil Sands: Edmonton is the closest major centre to Alberta's Oil Sands, making it a strategic base for many industries that support the oil and gas sector such as manufacturing, construction, and engineering.

Neato Facts/Stat

- Alberta has the third largest crude oil reserves in the world and is home to 98 percent of Canada's total oil reserves.

Comparison to Major Centres

Gross Domestic Product - Compound Annual Growth Rate for Primary¹ Industry & Utilities (2010-2015)

	Edmonton	Calgary	Vancouver	Toronto	Montreal
CAGR	6.2%	4.0%	2.4%	4.8%	0.0%
Rank	1	3	4	2	5

Source: Conference Board of Canada, 2016

Industry Players

Biochemical Companies:

Enerkem Alberta Biofuels: Enerkem Alberta Biofuels, based in Edmonton, is the world's first commercial biorefinery to use municipal solid waste to produce methanol and ethanol. This facility is the result of more than 10 years of efforts to scale up Enerkem's technology from pilot and demonstration, to full commercial scale. Using Enerkem's proprietary technology, the facility converts 140,000 tonnes of Edmonton's municipal solid waste into

¹ Primary Industry Includes: Oil & Gas, Mining, Agriculture, & Forestry.

38 million litres of biofuels and chemicals annually, which helps Alberta reduce its greenhouse gas (GHG) emissions.

Forge Hydrocarbons Corp.: Forge Hydrocarbons, a University of Alberta spin-off company, is commercializing a patented conversion process of “ugly” feedstock such as animal fat, beef tallow, crop seed oil and even restaurant grease to pure gas or diesel fuel (drop-in fuel). Once commercially perfected, Forge Hydrocarbon’s product could compete on the open market with crude-oil based product and, due to a unique and simpler technique compared to traditional hydrocarbon processing, Forge could make using biofuels more inexpensive.

Petrochemical Companies:

Imperial Oil: Imperial Oil is Canada’s second largest oil company and operates Canada’s largest petroleum refiner, the Strathcona Imperial Oil Refinery in Edmonton, which processes approximately 185,000 barrels per day of crude oil.

Suncor Energy: Suncor Energy is an Alberta-based energy company, focused on oil and gas as well as renewables. Suncor operate one of the two refiners in the region, Suncor Energy’s Edmonton Refinery, which processes approximately 142,000 barrels per day of crude oil.

Williams Energy Canada: Williams Energy is an energy infrastructure company that operates across North America. Williams has plans to build a propane de-hydrogenation (PDH) facility in Strathcona County to convert propane into higher value propylene, which is a valuable petrochemical feedstock in plastics manufacturing. This facility, which is the first of its kind in Canada, will initially produce approximately 1.1 billion pounds of polymer-grade propylene by 2018.

Waste Remediation Tech Companies:

RJ Oil: RJ Oil is an Edmonton-region company that has developed an innovative water separation technology for heavy oil producers. The company’s RJO Phase Separator technology requires no heat or chemicals to separate oil from processed water, in turn lowering the energy intensity of the production process.

Major Organizations & Assets

Alberta’s Industrial Heartland: Alberta’s Industrial Heartland, home to a globally recognized oil and petrochemical processing cluster, is guided by a non-profit association of municipalities dedicated toward sustainable eco-industrial development. The region’s 40+ companies, several being world scale, provide fuels, fertilizers, power, petrochemicals and more to provincial and global consumers.

C-FER Technologies: C-FER Technologies is an Edmonton-based not-for-profit research centre funded by major global energy companies that is at the forefront of oilfield equipment and engineering stress-testing. Apart from testing new tools and techniques, C-FER tracks product failures, sets worldwide safety standards and develops software designed to make available the best industry know-how for manufacturers, operators, vendors and regulators