

Investment Opportunity – EnergyTech: Innovations in Programming, Sensors and Artificial Intelligence (AI)

The Edmonton Metropolitan Region has attracted the world's biggest energy companies. Now we're combining our global leadership in artificial intelligence and energy R&D to create the largest market for innovative technologies in oil & gas in North America.

THE CENTRE OF CANADA'S ENERGY SECTOR AND A WORLD-LEADER IN AI

Edmonton is Canada's
largest hydrocarbon
processing region with

\$84 BILLION

in energy products
exported annually
from Alberta.

**TOP 3
IN THE WORLD**

The University of Alberta
is a world-leader in
AI research.

**\$1.26
BILLION**

in tax incentives
for R&D and
commercialization.

AI could add
as much as

\$15.7 TRILLION

to the global
economy by 2030.

CANADA'S LOWEST TAX RATES

OPPORTUNITY

"Smart technology" including sensors and adaptive programming are anticipated to represent one of the biggest drivers of value in the 21st century. AI and innovative technologies in the wider oil and gas market were valued at \$2 billion worldwide in 2016, with the expectation of growth up to \$4.5 billion by 2022.

The Edmonton region is the largest market for innovative technologies in oil and gas in North America (Canada and the US).

Ethane cracking has proven to be particularly well-suited to AI deep learning algorithms leading to increased value for large-scale petrochemical projects.

EDMONTON METROPOLITAN REGION VALUE PROPOSITION

WELL ESTABLISHED PETROCHEMICAL CLUSTER

- The Edmonton region is home to Alberta's Industrial Heartland – Canada's largest cluster of petrochemical and hydrocarbon facilities including:
 - Ethane cracking
 - Polyethylene plastic production
 - Styrene monomer
 - Nitrogen fertilizers
- Demonstrated growth.
 - Currently \$172 billion in projects underway or planned in the Edmonton region.
 - Two major petrochemical facilities (plastic pellets) in progress.

EXPERTISE & TALENT

- The University of Alberta is ranked 8th globally for energy research.
- The University of Alberta is ranked 3rd globally for AI research and produces a reliable and top-quality talent pool for research and development of new and innovative technologies.
- The combination of an established energy and petrochemical cluster and world-leading AI expertise is globally unique to the Edmonton region.
- Home to the Alberta Machine Intelligence Institute (Amii), which empowers industry adoption of AI
- One of the world's largest populations of qualified engineers working in the energy and petrochemical sector.

GOVERNMENT SUPPORT AND INCENTIVES

- Canada's comparatively permissive regulatory structure around AI in relation to other OECD countries means that products can be developed and tested in the Edmonton region prior to being released.
- Alberta Petrochemicals Incentive Program (APIP)
 - Designed to attract value-add petrochemical investments and continued growth in the advanced chemical manufacturing sector.
 - The projected growth for this sector will continue to make the region more attractive for technology development.
- Technology Innovation and Emissions Reduction Regulation (TIER)
 - Eligible facilities can opt into this program to receive subsidies based on their adoption of emission reduction technologies including AI tools or other innovations.

TAX CREDITS

- Investment tax credits range from 15% to 35% for scientific research and experimental development opportunities.
- Alberta's Innovation Employment Grant will support companies that invest in R&D with a grant worth up to 20% of qualifying expenditures.
- \$1.26 billion Government of Canada Strategic Innovation Fund provides incentives for large (+\$10 million) R&D and commercialization projects.

ECOSYSTEM SNAPSHOT

SUBSTANTIAL MULTI-NATIONAL INVESTMENT

- Current capital investment is valued at \$40 billion by multinationals including:
 - Dow Chemical
 - Inter Pipeline
 - Pembina
 - Suncor
 - Kinder Morgan
 - Wolf Midstream
 - Trans Canada

TRANSPORTATION HUB

- Major pipeline node: oil, natural gas, hydrogen, CO₂
- CP rail
- CN rail

REGIONAL CLUSTER

- Well established cluster including:
 - Alberta's Industrial Heartland
 - Edmonton Energy and Technology Park

EXCEPTIONAL EDUCATION AND TRAINING INFRASTRUCTURE

- 7 Post-secondaries with 130,000 students have extensive experience in producing a skilled workforce for the energy sector.
- The Alberta Machine Intelligence Institute (Amii) works directly with industry on growing internal AI capabilities and can aid international companies in gaining access to world-class AI talent and technologies

Contact Edmonton Global's Brent Jensen to receive a detailed business case and competitiveness scan for energy tech investment opportunities in the Edmonton Metropolitan Region.

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