

# Edmonton ENERGY and TECHNOLOGY PARK

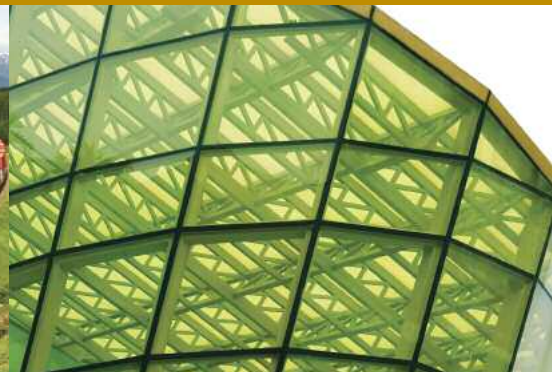
EDMONTON PRIMED FOR MORE INDUSTRIAL GROWTH

CUSTOMERS CONNECTIONS  
OUR INDUSTRIAL ASSETS  
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# EDMONTON'S PREMIER ECO-INDUSTRIAL DEVELOPMENT OPPORTUNITY

The Edmonton Energy and Technology Park (EETP) is strategically positioned to become one of North America's premier eco-industrial areas.

Economic opportunity, ecological integrity and efficient use of land and resources using eco-industrial principles combine to make the EETP an ideal choice for eco-industrial development.

As part of Alberta's Industrial Heartland, Canada's largest hydrocarbon processing area<sup>1</sup>, the EETP is building on Edmonton's economic momentum. Edmonton's strong and growing economy is fueled by its proximity to and connection with Alberta's world-class energy and natural resources and the monumental amount of industrial activity already serving the province's energy sector.

As the major urban research, manufacturing, supply and service hub for Northern Alberta, Edmonton is home to a diversified base of business and industry. These enterprises sell to and service Alberta's massive oil sands, the oil and gas sector and Alberta's agriculture and forestry industries. With 97% of Alberta's oil found in the Edmonton service area from Red Deer to the Northern Alberta border, this is the place to be.

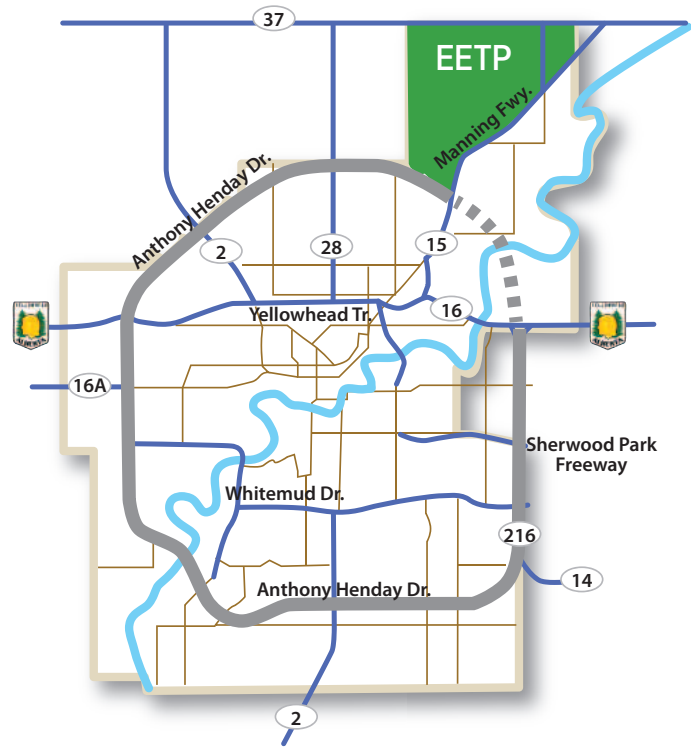


<sup>1</sup> Alberta's Industrial Heartland website, [www.industrialheartland.com](http://www.industrialheartland.com)

**VISION** » THE EDMONTON ENERGY AND TECHNOLOGY PARK PROVIDES A NEW ECO-INDUSTRIAL AREA FOR THE CITY OF EDMONTON. The opportunity for value-added industries and significant economic spin-off activity based on the development of Alberta's energy sector is the catalyst for this industrial zone. EETP is designed to take advantage of petrochemicals, manufacturing and transportation opportunities resulting from the fast-growing Alberta economy.

## EETP HIGHWAY NETWORKS:

- Anthony Henday Drive ring road provides easy access around the city and throughout the region.
- Highway 37 connects the park to Alberta's Industrial Heartland and oil sands areas.
- Highway 28, north of the North Saskatchewan River, leads to Alberta's high load corridor, which connects to Highway 63, the route to Fort McMurray and the oil sands.
- The Yellowhead Highway, Canada's northern trans-Canada highway, connects to the west coast port of Prince Rupert.



## EETP INVESTMENT OPPORTUNITIES

The EETP offers investors:

- a location for major green-field development,
- proximity to natural gas, oil and ethane feedstock as well as petrochemicals,
- access to the heavy oil and petrochemical industries,
- process water and wastewater options,
- excellent rail, road and power line access around the region, to the oil sands and to markets, and
- proximity to the critical mass of manufacturing, logistics and construction supply chains.

### EETP QUICK FACTS<sup>1</sup>

Location: Northeast Edmonton

Size: 12,000 acres (4,857 hectares, or 49 square kilometres/20 square miles)

Access: Bounded by Anthony Henday Drive ring road to the south, Manning Drive to the east, on the north by Highway 37 (city limits) and Canadian Forces Base (CFB) Edmonton to the west.

<sup>1</sup> City of Edmonton Industrial Land Supply and Demand Analysis, Watson & Associates, Oct. 7, 2011



# ECO-INDUSTRIAL DEVELOPMENT

The EETP encourages eco-industrial development that maximizes the efficiency of industrial production, individual businesses and entire business park areas while encouraging efficiencies that can best achieve “environmentally sustainable industry within an environmentally sustainable community.”<sup>1</sup>

An eco-industrial project balances economic, environmental and social interests and maximizes the benefits of each – achieving “triple bottom line” results.

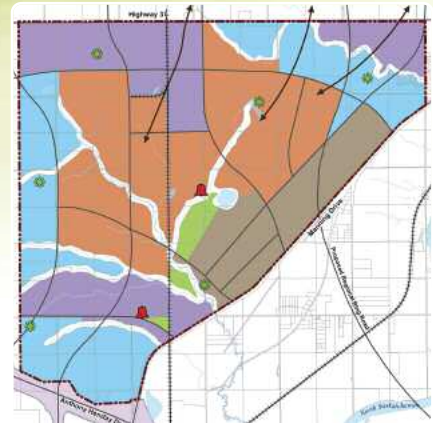
Eco-industrial developments often share the following characteristics:

- Businesses achieve improvements in productivity of human and natural resources.
- Energy is used widely and generated locally.
- Fewer non-biodegradable wastes are introduced into the environment.
- Businesses connect to their communities and are compatible with mixed land uses.
- Inter-company networks bring about new efficiencies and new market opportunities.
- Sustainable land use and sustainable facility design are the norm.

The following approaches have proven effective in achieving eco-industrial outcomes:

- business networks that share common services,
- common pipes and use of waste outputs and inputs for downstream processors,
- ecologically friendly infrastructure and naturalized storm-water management, and
- sites that maximize environmental conditions.

<sup>1</sup> Edmonton Energy and Technology Park Area Structure Plan, Page 10



- Petrochemical
- Manufacturing
- Logistics
- Research & Development

## EETP INTENDED LAND USES

Intended land uses within the EETP include an integrated cluster of secondary and tertiary industries representing a variety of sectors working together to achieve individual and collective entrepreneurial, industrial and ecological success.

## SPECIALIZED ZONING SUPPORTS LAND USE VISION

To maximize the potential of the EETP as part of Alberta’s Industrial Heartland, the City of Edmonton has developed specialized zoning that supports the four precincts.

In preparation for zoning, four specialized industrial zones have been created and approved within the zoning bylaw. The new zones can be applied as development applications come forward. The new zones are:

- EETB (Edmonton Energy and Technology Park Business Park Zone)
- EETC (Edmonton Energy and Technology Park Chemical Cluster Zone)
- EETL (Edmonton Energy and Technology Park Logistics Zone)
- EETM (Edmonton Energy and Technology Park Manufacturing Zone)





## ROAD CONNECTIONS A KEY STRENGTH

EETP enjoys outstanding access to both raw materials and key markets because of Edmonton's strategically connected, and expanding, transportation infrastructure.

Of particular interest to the EETP is Edmonton's highly developed roadway network connecting Canada, key U.S. cities and Mexico. Highlights:

- The Yellowhead Highway, Canada's northern trans-Canada highway, connects to the west coast port of Prince Rupert.
- Highway 28 leads to Highway 63, the main route to Fort McMurray and the oil sands.

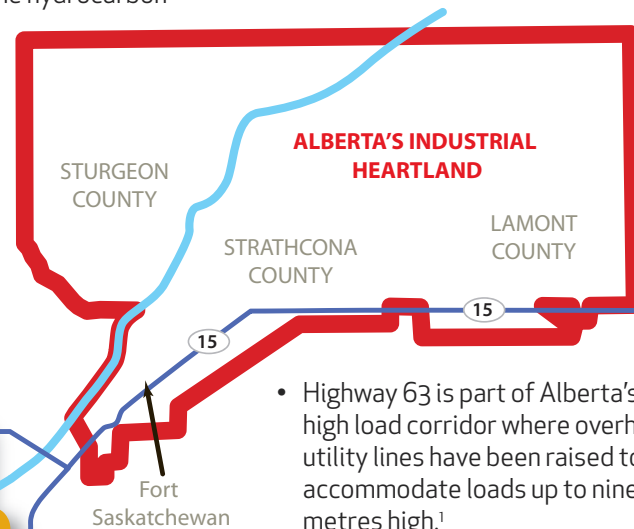
## OUR COMPETITIVE ADVANTAGES

### ALBERTA'S INDUSTRIAL HEARTLAND

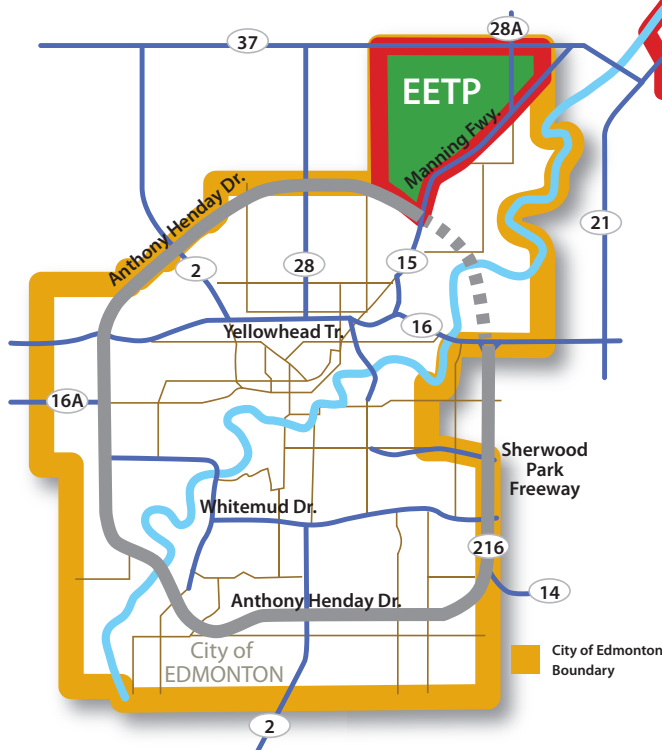
Alberta's Industrial Heartland (AIH) is Canada's largest hydrocarbon processing region – and one of the world's most attractive locations for chemical, petrochemical, oil and gas investment because of its access to Alberta's oil sands. Edmonton, as a member of AIH, offers great opportunity to investors with the EETP well positioned to support future growth in the hydrocarbon processing industry.

Located northeast of Edmonton, the Heartland covers 582 square kilometres (225 square miles) and extends into five municipalities, including Edmonton.

AIH is home to 15 world-scale hydrocarbon processing facilities which contribute 43% of the nation's basic chemical manufacturing. This important cluster of global chemical processors produces a wide range of value-added petrochemical products.



- Highway 63 is part of Alberta's high load corridor where overhead utility lines have been raised to accommodate loads up to nine metres high.<sup>1</sup>
- Highway 37 connects the EETP with AIH and offers a more direct route to the oil sands. It also connects to Highway 43, part of the Canamex Trade Corridor that links Alberta with key U.S. and Mexican markets.
- Highway 2 south leads to Canada's southern Trans-Canada route.
- Edmonton is part of the Ports to Plains Corridor, connecting to the Port of Prince Rupert through the prairies and major Midwest U.S. cities to the Texas gulf coast.
- Edmonton is also linked into the North American Super Corridor (NASCO corridor) with highway connections to additional Midwest and southern U.S. markets and ports.



<sup>1</sup> <http://www.transportation.alberta.ca/3192.htm>

# OUR COMPETITIVE ADVANTAGES

## INDUSTRIAL LAND PRICES

Edmonton's industrial land prices have remained stable. The average price of full municipal-serviced industrial land per acre was \$407,423 as of Q3 2011 with available serviced land in the northeast sector averaging \$373,420 per acre.<sup>1</sup> Prices for un-serviced land in the EETP start as low as \$35,000 per acre.

## LOW TAXES ENHANCE OPERATIONAL COMPETITIVENESS

Edmonton strives to ensure a business-friendly tax environment without compromising the quality of infrastructure and services that support business and its workforce needs. Highlights:

- No provincial sales, payroll or capital taxes
- 10% provincial corporate tax
- Lowest property taxes of any major Canadian city<sup>2</sup>
- No machinery and equipment (M & E) tax
- No municipal business taxes other than in selected business revitalization zones
- Publicly funded health care system keeping payroll costs lower
- 

## SKILLED, MOTIVATED WORKFORCE A FOUNDATION FOR GROWTH

Edmonton benefits from a growing population, a younger population and a population actively motivated to work.

- Over the past decade, Edmonton's population has grown between 1.5% - 3% per year<sup>3</sup> with the 2011 census indicating 11.2% growth for Edmonton between 2006 and 2011, double the national average.<sup>4</sup>
- Almost 40% of the city's population, 5% over the national average, is between ages 20 to 44.<sup>5</sup>
- Albertans have the highest productivity rate in Canada.<sup>6</sup>
- A 72% workforce participation rate illustrates a population actively engaged in contributing to and benefiting from Edmonton's economic prosperity.<sup>7</sup>



### » EDMONTON – A CITY OF OPPORTUNITY.

From a young, well-educated workforce to a strong and diversified economy, we offer business and investment opportunity and an excellent quality of life.

## DIVERSIFIED ECONOMY OFFERS RANGE OF OPPORTUNITIES

Alberta's powerful resource engine drives a diverse range of economic sectors that supply, service, design, construct and manage many direct and ancillary activities. The Conference Board of Canada's Spring 2012 Outlook highlights Edmonton's diverse economic structure, scoring .91 out of a possible rating of 1.0.

1 The Industrial Report Q3 2011, Avison Young - Edmonton  
2 Competitive Alternatives 2012, KPMG  
3 Migration Trends, Province of Alberta  
4 Statistics Canada, Feb 8, 2012  
5 Edmonton City Trends, Q3, 2011  
6 Highlights of the Alberta Economy, 2011  
7 EEDC Economic Indicators April 2012

# GREATER EDMONTON CONSISTENTLY TOPS COMPETITIVE RANKINGS

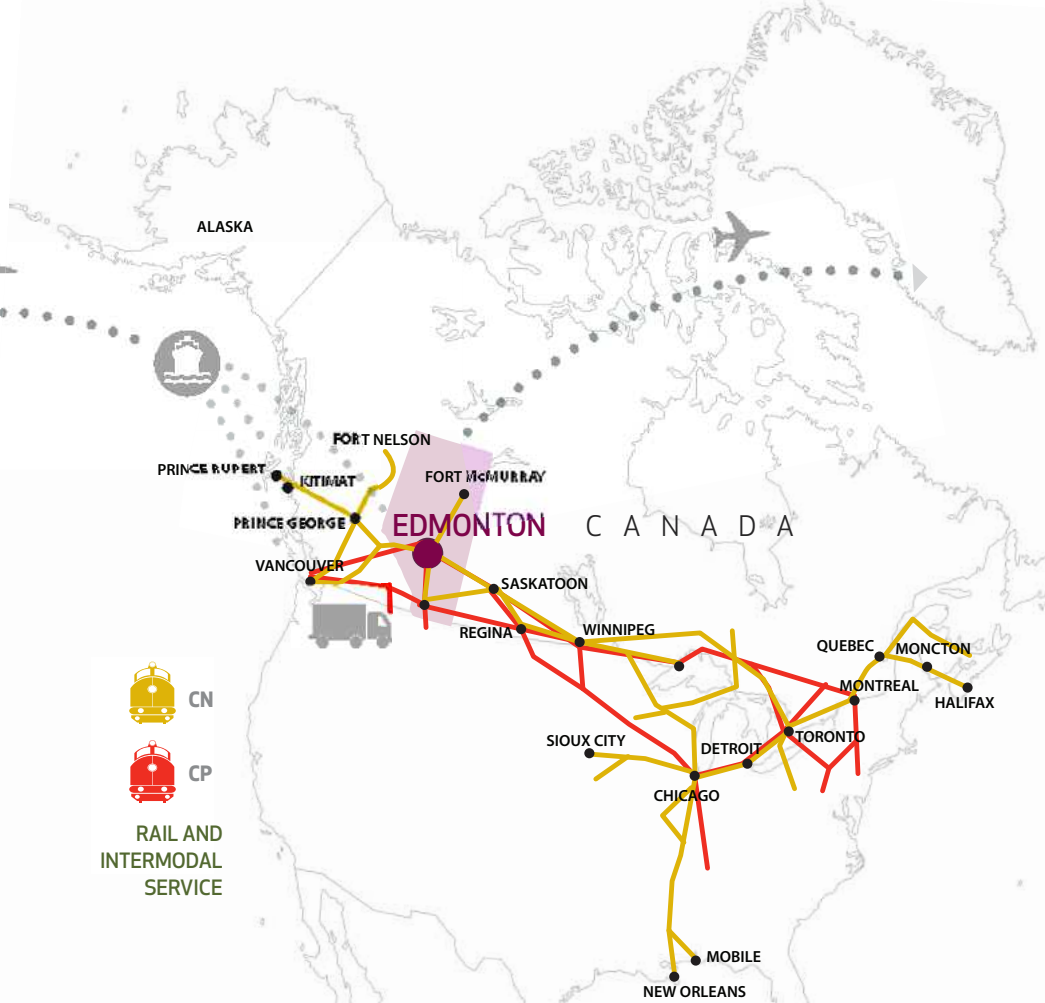
Edmonton's buoyant economic environment offers a cost-competitive business environment for most sectors and stacks up well against global competitors. KPMG's 2012 Competitive Alternatives Guide to Business Locations ranked Canada with a cost advantage of 5% over the United States.<sup>1</sup>

Greater Edmonton, as one of Canada's most dynamic locations, also enjoys a favourable competitive cost advantage of between 1%-15% depending on the industry sector evaluated.<sup>2</sup>

# OUTSTANDING CONNECTIONS TO RESOURCES AND MARKETS



The EETP, strategically located near major transportation modes, can take advantage of Edmonton's multi-modal connections to resources – and to regional and international markets.



## RAIL AND INTERMODAL SERVICE

Edmonton is serviced by Canada's two Class-1 rail services, Canadian National (CN) and Canadian Pacific (CP).

CN's Coronado Subdivision line runs north-south through the EETP and between Edmonton and northeastern Alberta.

- CN:**
  - North America's only transcontinental network<sup>3</sup>
  - Provides direct service to Prince Rupert and Vancouver
  - CN's Northern Line runs from the Port of Prince Rupert through the lowest-grade Rocky Mountain passes to Edmonton and beyond<sup>4</sup>
  - Edmonton's northwest CN yards offer intermodal services
- CP:**
  - Connects Edmonton to Canada's southern trans-Canada route from Vancouver to Montreal and south to key eastern U.S. markets.
  - CP south Edmonton site offers intermodal services.

## AIR SERVICE <sup>5</sup>

Edmonton's International Airport serves over six million passengers annually with non-stop flights to more than 50 global destinations including all major Canadian cities, 12 key U.S. hub cities and 12 international destinations.<sup>6</sup>

The airport offers a full range of cargo services including expertise in moving heavy and outsized loads for Alberta's energy sector. Highlights:

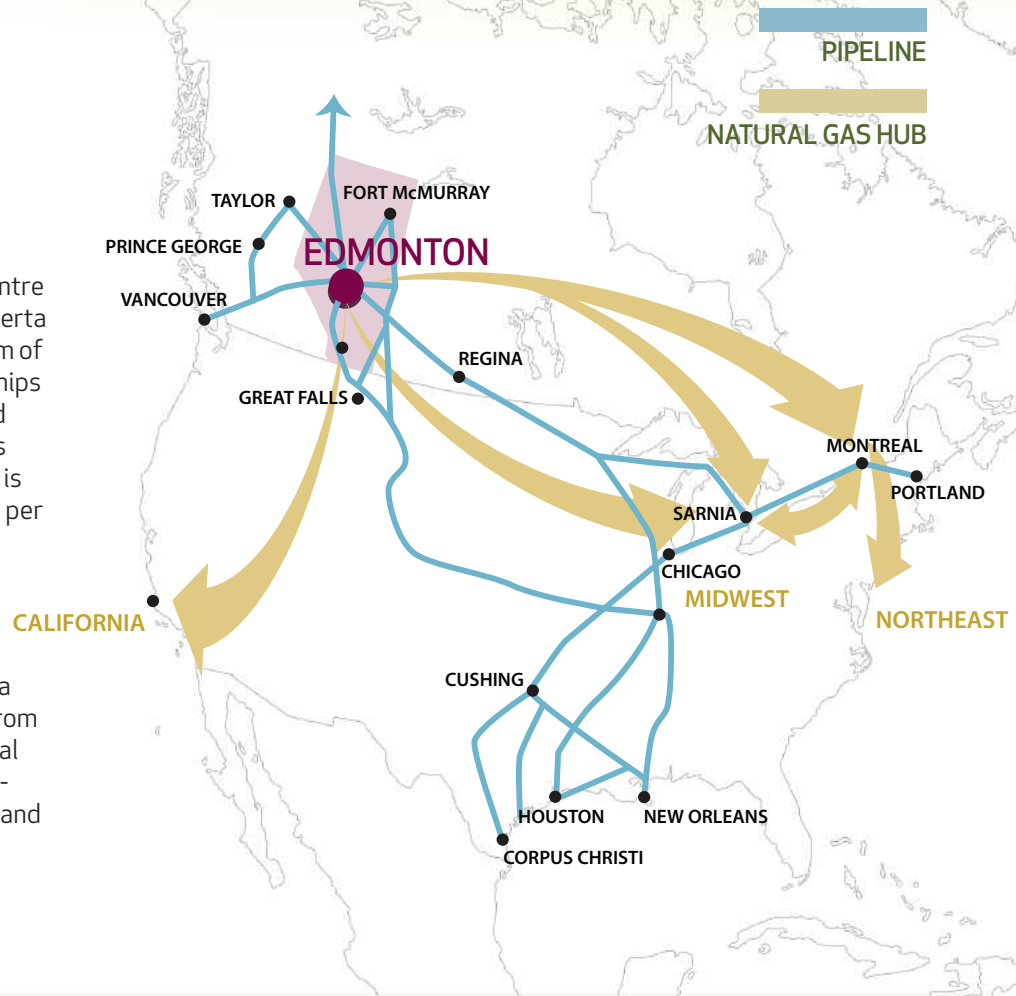
- 24-hour access year round with no operational or noise restrictions
- More than 40 freight forwarders and customs brokers
- Six cargo-handling terminals (including three with coolers/freezers)

1 2012 Competitive Alternatives Report, KPMG  
 2 2012 Competitive Alternatives Report, KPMG  
 3 Alberta's Industrial Heartland website, Transportation page  
 4 Prince Rupert Port Authority Advantages website www.flyeia.com  
 5 www.flyeia.com/travel\_planning/destinations.aspx  
 6

## PIPELINES - SERVING NORTH AMERICA AND ASIA

The Edmonton area is a major centre for pipeline connections. The Alberta Hub, an extensive pipeline system of more than 373,000 kilometres, ships most feedstocks, natural gas and hydrocarbon products.<sup>1</sup> Alberta's total pipeline takeaway capacity is approximately 2.2 million barrels per day and accounts for about 65% of the value of all exports from the province.<sup>2</sup>

Several major pipelines run through the EETP. These include a high-pressure H<sub>2</sub>S line running from the northwest to the south central park area. An additional five high-pressure gas lines run northeast and northwest in the EETP.



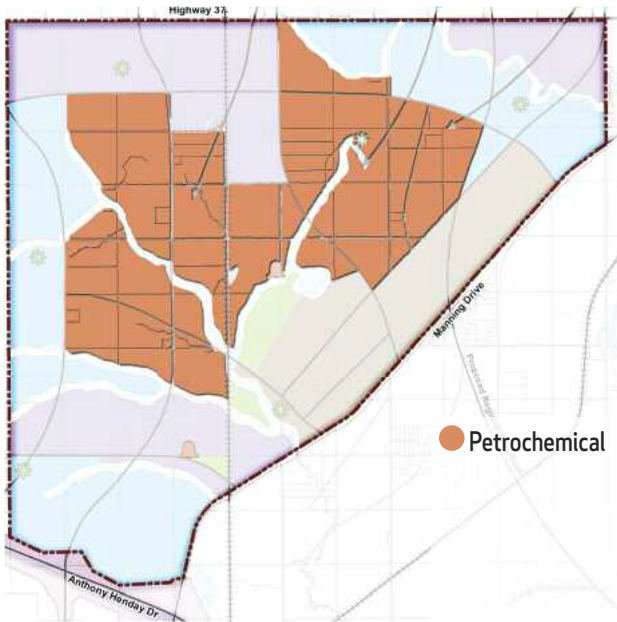
## WEST COAST PORTS

The Port of Prince Rupert Container Terminal is an ultra-modern, high-capacity container facility connected to the North American continent by CN's network. It is the closest port to Asia by up to 58 hours of sailing time compared to any other North American west coast port. This results in the equivalent of one extra round-trip voyage per year.<sup>3</sup>

Edmonton has direct access to Canada's largest west coast port of Vancouver, B.C. and the port of Kitimat, the third largest deep water port on the west coast and the proposed location for a major LNG marine terminal re-gasification facility and tank farm.<sup>4</sup>

1 Alberta's Industrial Heartland website, Transportation page  
 2 <http://albertacanada.com/about-alberta/tl-about-the-industry.html>  
 3 [n.ca/en/shipping-ports-prince-rupert.htm](http://n.ca/en/shipping-ports-prince-rupert.htm)  
 4 Kitimat, A Port City on the Move, District of Kitimat





## THE PETROCHEMICAL PRECINCT

To make best use of the petrochemical resources available from Alberta's Industrial Heartland, a petrochemical cluster precinct will provide the economic driver within the park.

This precinct will produce the chemical products that will be refined, researched, molded and moved in other parts of the EETP.

## HYDROCARBON RESERVES AND PRODUCTION LEVELS<sup>1</sup>

Fossil fuel reserves indicate secure supplies for current and future petrochemical production.

Product	Total Reserves	2010 Production
Natural gas - conventional & unconventional	38.8 trillion cubic feet	4.1 trillion cubic feet
Conventional oil	1.5 billion barrels	460,000 barrels/day
Bitumen (excluding SCO)	169 billion barrels	1.6 million barrels/day
Coal	37 billion tonnes	35 million tonnes

## COMPANIES LOCATED IN THE HEARTLAND

- Access Pipeline
- Agrium Inc.
- Air Liquide Canada Ltd.
- Air Products Canada Ltd.
- AltaLink LP
- AltaSteel Ltd.
- ATCO Energy Solutions
- ATCO Midstream
- ATCO Pipelines
- Aux Sable Canada Ltd.
- Bunge Canada
- Canadian National Railway - Oil & Gas Distribution Centre
- Canexus Chemicals Canada LP North America Terminal Operation (NATO)
- Chemtrade West Limited Partnership
- Dow Chemical Canada
- Enbridge Pipelines Inc. - Athabasca Inc.
- Evonik Degussa Canada Inc.
- Ferus Inc.
- Gibson Energy Partnership Ltd.
- Imperial Oil
- Keyera Energy
- Kinder Morgan Canada Inc.
- MEGlobal
- Pembina Pipeline & Williams Energy Canada Ltd.
- Pembina Pipeline Corporation
- Petrogas Energy Corp.
- Plains Midstream Canada
- Praxair Inc.
- Prospec Chemicals
- Rio Tinto Alcan
- Shell Canada Ltd.
- Sherritt International Corporation
- Smith & Nephew (Alberta) Inc.
- Sulzer Metco (Canada) Inc.
- Suncor Energy Edmonton Refinery
- Triton Projects Inc.
- Umicore Canada Inc.
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<sup>1</sup> Alberta's Industrial Heartland Association, IHS Inc. January 2012

» **ALBERTA IS COMMITTED TO KEEPING FUTURE FEEDSTOCKS IN ALBERTA** to be used by companies within Alberta's Industrial Heartland. The EETP is a major strategic component of this vision, facilitating the manufacture of end-user products including fuel additives and plastics.

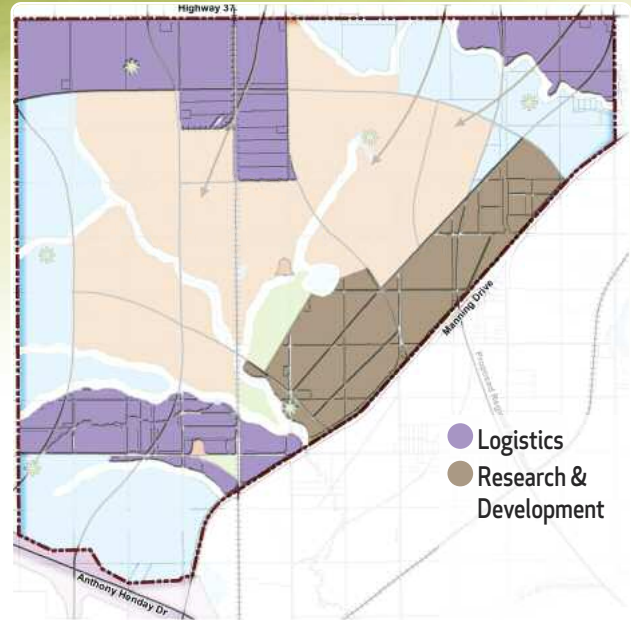
# THE LOGISTICS AND TRANSPORTATION PRECINCT

Logistics facilities are important to the Edmonton region to ship chemical and manufactured products to local or international markets.

This precinct has been located adjacent to rail lines and features excellent connections to local and regional roadways.

The uses within the logistics precinct will include shipping, storage and packaging facilities such as:

- intermodal yards
- trucking yards
- packaging facilities
- tank farms
- courier services
- warehouses
- palleting facilities



# THE RESEARCH & DEVELOPMENT PRECINCT

The research and development (R & D) precinct supports the technical needs and business functions of other enterprises in the EETP.

This precinct is anticipated to be the strongest employment generator in the park. Its proximity to arterial roadways and the potential for Light Rail Transit (LRT) connections enhances its attractiveness as a work location.

The R & D area use is intended to include offices, laboratories and R & D centres. As well, it will offer additional business opportunities that complement the development of the petrochemical cluster.

The precinct will be suitable for:

- professional and financial offices,
- laboratories and research facilities,
- education services (i.e., technical school annexes),
- business support services,
- limited commercial facilities, and
- restaurants.

# ECO-ZONING PRINCIPLES

- Use of rail and pipelines is encouraged to reduce roadway congestion, transportation costs and greenhouse gas emissions.
- All properties adjacent to a rail line should consider the extension of rail lines at the time of subdivision to maximize rail access for the entire precinct.
- Outdoor storage areas are permitted but must be largely screened from roadways using landscaping, fencing, public art or other methods as appropriate.
- Intermodal facilities based on rail will be located on interior parcels.



## THE MANUFACTURING PRECINCT

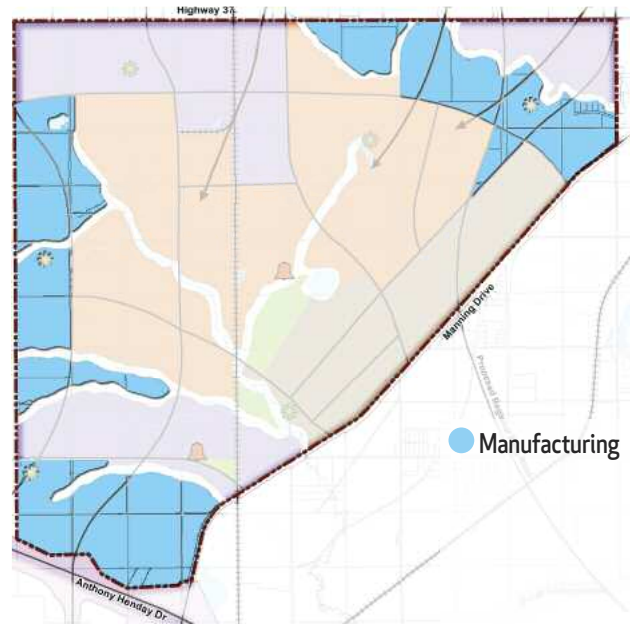
Supportive manufacturing, another use for chemical cluster development, will cater to metal fabrication and other manufacturing as well as businesses that use material such as plastics from petrochemical plants.

The location of the manufacturing precinct ensures direct access to rail and major roadways to facilitate shipping.

Services in other parts of the EETP will support the precinct's manufacturing and business functions.

The precinct will be attractive to:

- plastics facilities
- pharmaceutical production
- pipe coating or production
- metal fabrication



## ECO-ZONING PRINCIPLES

- Developments are encouraged to cluster, or develop multiple uses within the same building, to use land more efficiently.
- Manufacturing processes generating noise or odour that may impact neighbouring developments may not be developed within 100 metres of existing residential neighbourhoods or farms.
- Developments will support the environment through the use of green building technology and green design elements.

## CURRENT PRIVATE SECTOR PLANS

Two firms, both with in-depth international experience, are developing large parcels of the EETP with planned infrastructure and amenities for specific industry development.

The Walton Group of Companies has parcels zoned for manufacturing and logistics. Detailed eco-industrial principles are in place to ensure future development fully supports the EETP vision. The concept envisions parcels in a variety of sizes and configurations being developed in stages.

Northern Premier Developments is zoning a parcel designated for logistics, light manufacturing and general industrial. The 526-acre (213-hectare) parcel features a 1.6 kilometre road frontage on Highway 28A leading to Fort McMurray and the oil sands.



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