



OVERVIEW OF ALBERTA'S INDUSTRIAL HEARTLAND ASSOCIATION

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ALBERTA'S INDUSTRIAL HEARTLAND ASSOCIATION

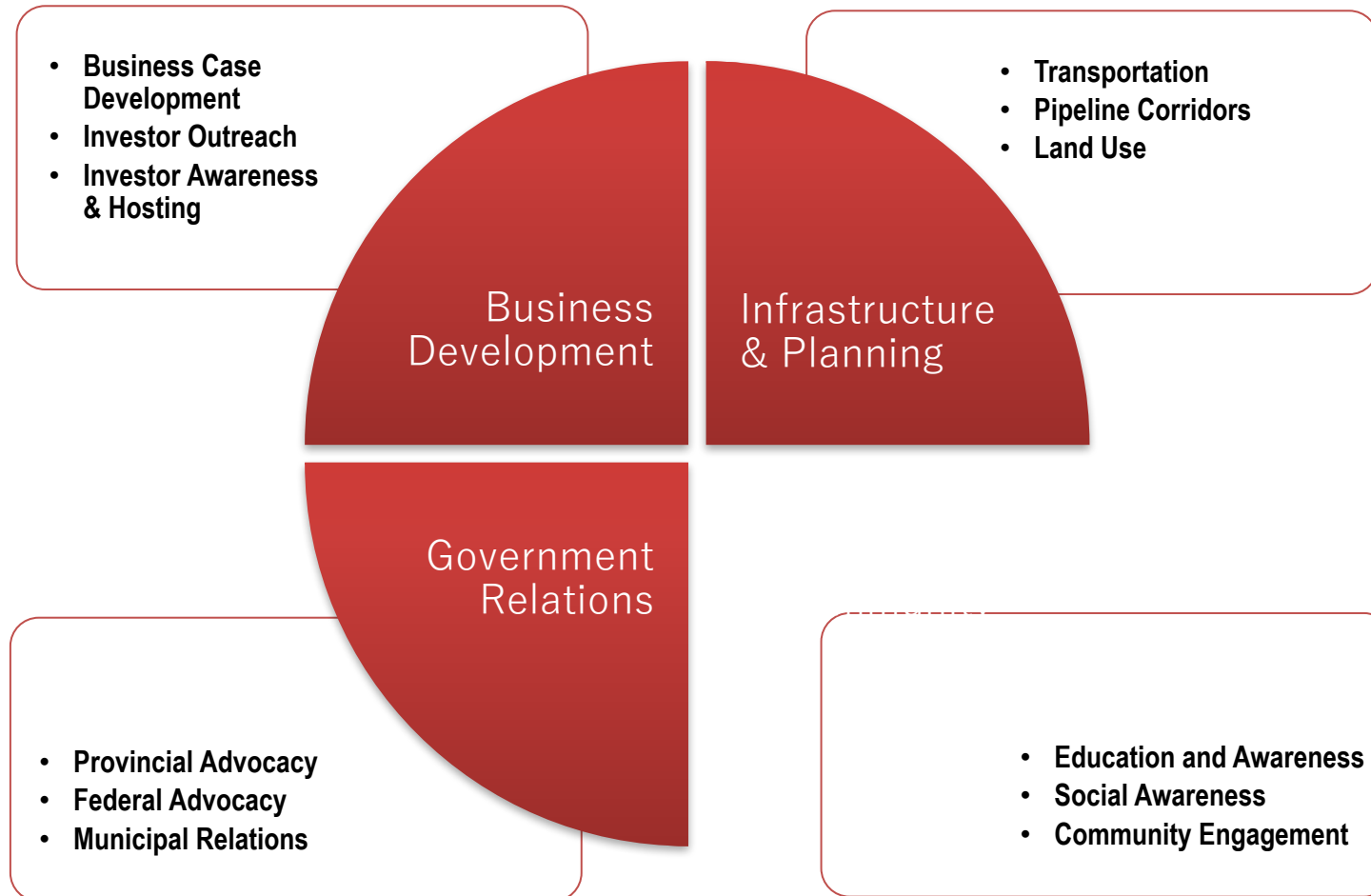


Alberta's Industrial Heartland is guided by a non profit association of municipalities dedicated to sustainable eco-industrial development.

Alberta's Industrial Heartland Association is a collaborative 20-year partnership of five municipalities and three associate members.



WHAT WE DO



STRATEGIC STAKEHOLDER PARTNERSHIPS

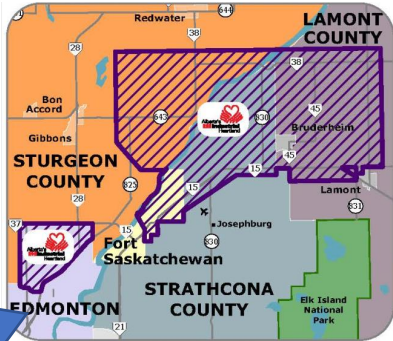


*Adding Value to
Alberta's Energy Resources*



ALBERTA'S INDUSTRIAL HEARTLAND

582 sq.km. Zoned
Heavy Industrial



We are Canada's **largest**
hydrocarbon processing centre



**LOCAL
SPENDING**

\$1.5 billion
Annually



\$40 billion in
existing
INVESTMENT

JOBS



6,000+
direct

25,000+
indirect



40+ Industrial Heartland
companies



Nutrien



EXISTING INDUSTRY



Midstream & Utilities

- NGL fractionation
- Salt cavern storage
- Oil, natural gas, and NGL pipelines
- Water and industrial gas systems
- CO₂ capture and pipelines

Downstream Gas & NGL

- Ethylene
- Polyethylene
- Polymer-grade propylene
- MEG/EO/EG
- Iso-octane
- Styrene monomer
- Urea
- Ammonium sulphate
- Ammonia

Other

- High-purity nickel & cobalt
- Nickel based composite powders
- Cobalt powders
- Hydrogen peroxide
- Prilled sulfur

Downstream Oil

- Refining
- Bitumen upgrading
- Benzene
- Aromatics

KEY ATTRIBUTES OF THE INDUSTRIAL HEARTLAND

ADVANTAGES

- ✓ Proximity to vast oil/gas resources
- ✓ Cost-advantaged feedstock
- ✓ Pipeline and railway networks
- ✓ Existing infrastructure (roads, water, power)
- ✓ Skilled workforce
- ✓ Community support for industrial development
- ✓ Synergies with existing industry (clustering effect)
- ✓ Geology – conducive to salt cavern storage development



CHALLENGES

- x Access to world markets
- x Attractive incentive packages offered in competing jurisdictions
- x Perception of high capital construction costs

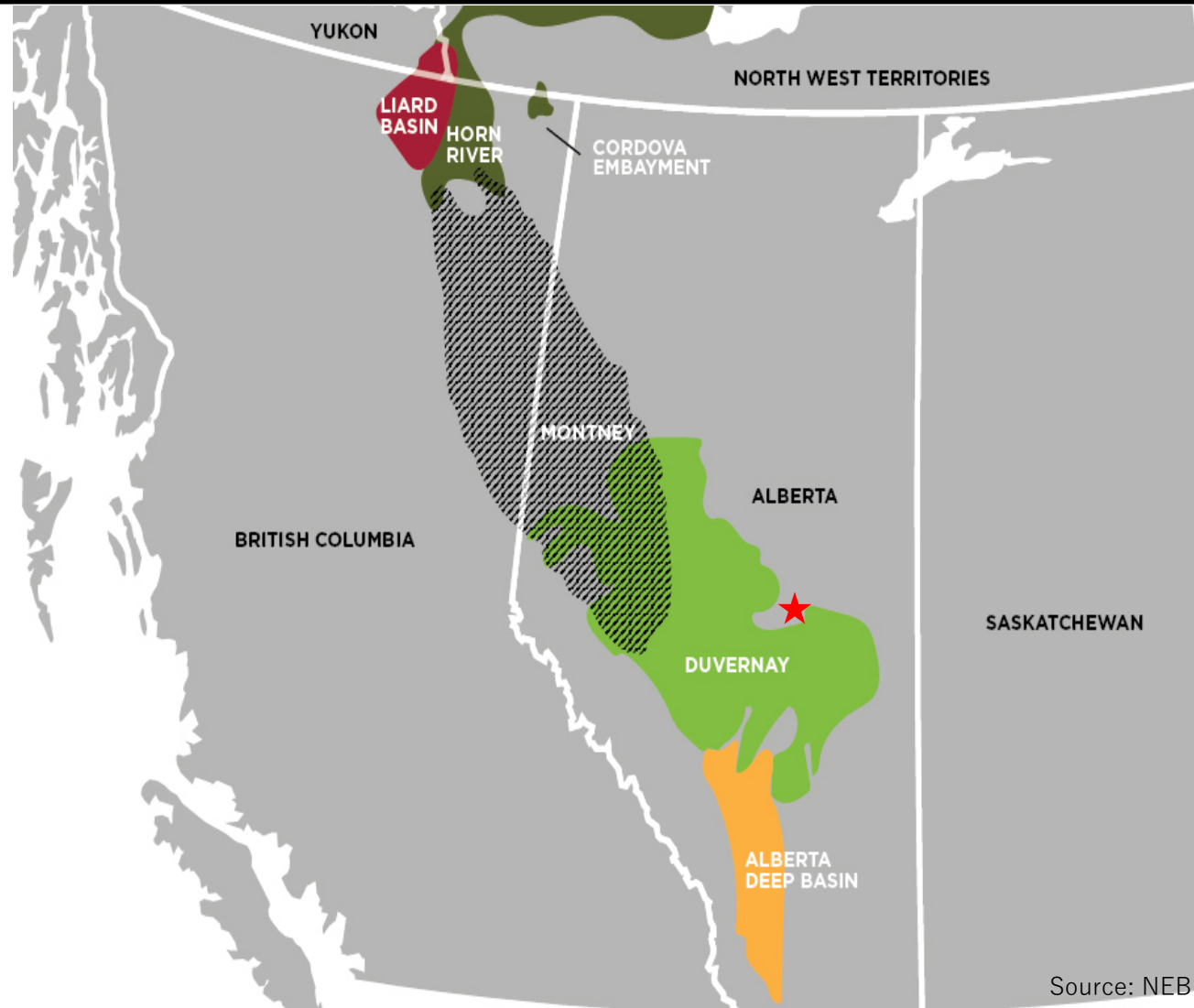
Western Canadian natural gas plays are world-scale, world-class, and competitive with other North American gas plays

Immense natural gas reserves:

- 1,128 Tcf of natural gas; over 200 years supply at current production
- 24.8 billion barrels of NGL
- 8.7 billion barrels of propane; over 100 years of supply at current production

Major plays include the Montney, Duvernay, Deep Basin, Liard, and Horn River

- Producers target condensate and light oil formations
- Higher NGL content delivers higher netbacks for producers



RECENT INDUSTRIAL HEARTLAND INVESTMENTS

HEARTLAND PETROCHEMICAL COMPLEX

- Propane-to-polypropylene facility
- First of its kind in Canada
- High value product in high demand worldwide



- \$4.1 Billion capital investment
- 13,000 direct and indirect jobs during construction
- 180 direct full-time permanent jobs



RECENT INDUSTRIAL HEARTLAND INVESTMENTS

CANADA KUWAIT
PETROCHEMICAL   CORPORATION



- Propane dehydrogenation (PDH) facility will convert propane to propylene and then converted into polypropylene
- Will produce 1.2 billion pound/year polypropylene
- Polypropylene is worth 5 - 7 times more than propane
- Joint venture between Pembina and Petrochemical Industries of Kuwait
- Positive Final Investment Decision in February 2019

RECENT INDUSTRIAL HEARTLAND INVESTMENTS

STURGEON REFINERY

- First refinery built in Canada since 1984
- World's first refinery designed with integrated carbon capture
- Direct conversion bitumen to ultra-low sulphur diesel



- \$9.7 Billion capital investment
- 7,000 workers on site at peak
- 500 Full-time permanent jobs
- Partnership with Pembina for diesel logistics services



RECENT INDUSTRIAL HEARTLAND INVESTMENTS



- Positive FID mid-2018
- Over \$500 million capital investment
- 240 km pipeline collecting and transporting CO₂ from Industrial Heartland to central Alberta for enhanced oil recovery (EOR)
- Partnership between Enhance Energy and Wolf Midstream
- Operating at capacity, the capture and permanent storage of CO₂ from this project will result in significant reductions in emissions of greenhouse gases in Alberta

THE HORIZON OF OPPORTUNITY



There is a tremendous petrochemical investment window open right now for North America.

There is the potential to attract **\$30 Billion in NEW Capital Investments** to Alberta's Industrial Heartland by 2030.



INVESTMENT POTENTIAL

- Methanol
- Fertilizers
- Ethylene/polyethylene
- PDH/Polypropylene
- Speciality chemicals
- Bitumen Upgrading / Refining
- Bitumen Partial Upgrading



THANK YOU

Alberta's Industrial Heartland Association

www.IndustrialHeartland.com