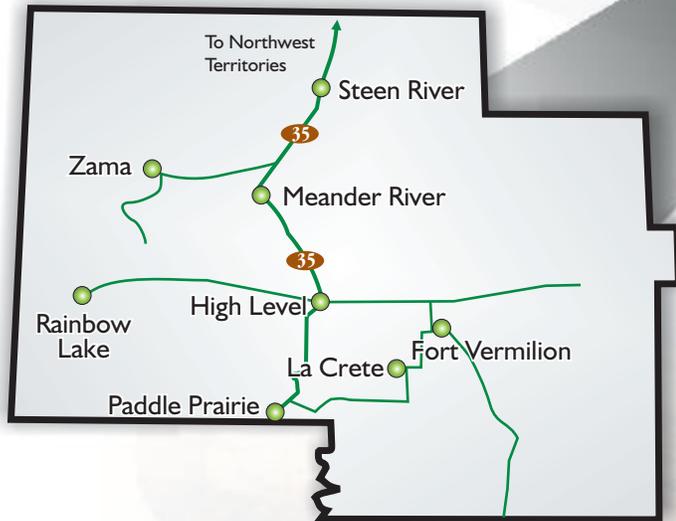


# Energy Sector Opportunities... *incredible!*

*With substantial oil and gas reserves, the REDI Region, in the Northwest corner of Alberta, is highly integrated into Alberta's traditional Energy industry. Investment opportunities abound in the traditional industry and recent research has identified some non-traditional energy opportunities such as ethanol, bio-energy, and surplus heat.*



Northwest Alberta, Canada

## Positive Investment Climate

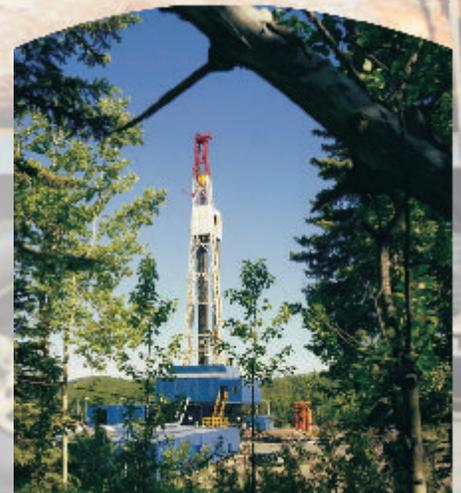
The REDI Region has an attractive investment climate for the Energy sector:

- Rich in natural resources. The REDI Region has large oil and gas pools in its western Region and significant agricultural and forestry feedstocks to fuel the non-traditional energy opportunities.
- A young and growing population. Over 21,000 people live in the REDI Region and the population has been growing at about 2.5% per year. The median age of the population is 25 years; 11 years younger than the median age in Alberta. Unlike Alberta and Canada, the REDI Region's workforce is much less susceptible to shortages arising from an aging workforce.
- The REDI Region has the capacity to support investment with a skilled labour force in the Energy industry.



*The Energy industry employs about 400 people and increases by about 4,000 in the peak winter drilling and exploration season.*

*Alberta produces over 70% of Canada's crude oil and 80% of its natural gas. The backbone of this production is over 392,000 kilometres of oil and natural gas pipelines all of which is connected to the REDI Region.*



## Surplus Heat Opportunities:

A surplus heat study recently completed for the REDI Region indicates that there are opportunities to generate energy from the following sources:

- Biomass from waste wood in lumber and OSB mills. It is estimated that up to 50% of harvested wood cannot be used in the final product and is considered waste. As such this biomass can be converted into energy by burning the waste in pellet form, or a variety of other processes such as gasification. It is estimated that the Tolko saw mill in High Level produces 50-75 tonnes of waste materials per day. In 1993, La Crete Sawmills invested \$3 million in the technology to manufacture waste wood pellets from its biomass and now successfully markets the La Crete Pellet.
- An opportunity exists to capture and use waste heat from processes such as oil extraction, natural gas compressors, and sour gas processing plants. It is estimated that up to \$35 million worth of energy is not being collected and reused in the industry annually.
- Agricultural by-products such as straw and animal manure also represent a potential energy source. The annual energy value of these wastes is estimated at \$30 million.

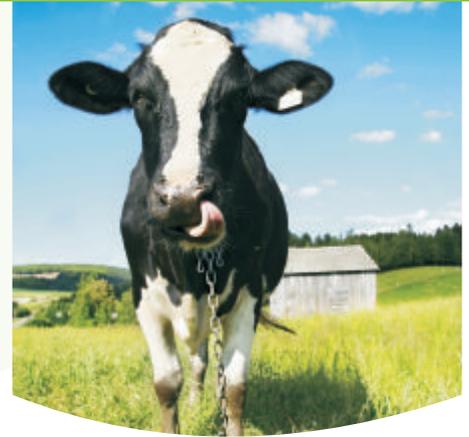


*Husky Energy's operations near Rainbow Lake are supported by more than 50 oil and gas pools in the Rainbow Lake area covering about 1,300 square kilometres.*

*Zama is home to one of the largest oil and gas fields in Alberta. It includes 3 gas plants, 240km of gas pipelines, and 7 crude oil processing plants.*

## Ethanol and Co-generation from Grow North:

Grow North is an integrated agricultural bio-fuels, bio-products, and processed food venture proposed for the REDI Region. This concept consists of a 20 million litre per year motor fuel grade ethanol facility integrated with a cattle feedlot and meat processing plant. A bio-refinery that converts manure and other agricultural by-products to electricity is also integrated into the concept. More information, including a detailed business plan, can be found at <http://www.rediregion.ca/redi/nwaavc.php>.



*The forestry industry has the greatest supply of material to generate heat or energy. It is estimated that there is 6.8 billion BTUs of energy that could be produced from the REDI Region's forestry industry waste material.*

## Highlights of Grow North energy opportunity include:

- Demand for ethanol will be strong. A minimum of 5% ethanol content in gasoline will be legislated in 2011 resulting in an ethanol demand of 2.15 billion litres in Canada and 280 million litres annually in Alberta.
- The Grow North ethanol plant would be eligible for a \$0.14 per litre provincial and the \$0.10 federal bio-fuels subsidy announced in December 2007.
- Ethanol will be marketed to existing refiners in Edmonton where it will be blended and sold as transportation fuel.
- The ethanol plant will create an annual market at capacity for 60,000 tonnes of agricultural feedstocks.
- A co-generation plant will be fuelled from biogas generated by anaerobic digestion processes. Agricultural wastes from the cattle feedlot and the ethanol process will feed this system. The electricity produced will be used for the power needs of Grow North and any surplus will be sold back to the Alberta energy grid.
- Ownership is by local producers, technology partners, and regional investors. Management would be provided by a CEO who is accountable to a 9-person board of directors.

**For more information on these and other investment opportunities in the REDI Region contact the REDI office at:**

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