Economic Development Today

- Economic development in Canada / Alberta - a lot different than U.S.
- Increasingly regional planning & execution
- Sectors & strategies – no site selection
- Policy fix vs. hands-on participation
- Not just about jobs – creating wealth & strategic industry development
- Capital investment high priority
Economic History

- 1905, 1930, then Leduc #1 – 1947 changed everything – AB becomes an oil & gas economy – U.S. investment
- Heritage Savings Trust Fund 1976
- Community Investments – AHFMR

Challenge – 20 – 30 yrs ago
- Less reliance - lengthen life of oil & gas sector
- Diversify – alternate sources of revenue

Oil sands – economically significant
- High cost to develop – not cost competitive to develop or attract investment
- Research – technology critical
Energy Development Today
Economic challenges - Energy

More than “Hewers of Wood”

- More than extraction
- Up-graders & refineries in place
- Refining capacity – now U.S., not AB
  - Cost
  - Jobs
  - Economic development
- Diversification through an energy / petrochemical complex – adding value
- Growth focused on oil sands
- Supply of necessary goods
- Workforce
Economic challenges

... are also environmental challenges today:

- Environmental issues
  - Albertan’s care a great deal about environment & reputation
  - AB - diverse & recognized scenery - 5 UNESCO World Heritage Sites (15 in rest of Canada – 21 in U.S.)
- Recognition that a better job must be done... industry & government
- Balance environmental, energy, economy
Need Oil Sands

- Growing percentage of world oil supply & stable, secure energy source ~ 1.5M/BBL to the U.S. – 17%
- Demand will continue increase – continental response; regardless of progress in other

Economic significance – driver

- $1 invested in oil sands creates ~ $9 of economic activity
- 1/3 outside Alberta's borders – in Canada, U.S. (over $50B) & around world
- Oil sands = jobs: 23% of the employment is outside AB!
Technology & Oil Sands

- Technology got us here; tech solutions from AB innovation & elsewhere
- CCS – Carbon Capture & Sequestration - $2B to be committed to projects
- Oil & gas revenues reinvested in solutions
- Research: new oil sands extraction processes
  - use less energy,
  - less water,
  - reduce tailings ponds &
  - improve land reclamation;
Goal 1: Energy Complex

- BRIK “Bitumen Royalty in-Kind”
- Competitiveness
- Feedstock initiative; Western Canadian natural gas; & NGL hub

Goal 2: Environment

"Committed to taking bold action"

- AB inform on environmental stewardship; show leadership, commitment, encourage alternatives

Goal 3: Alternative Energy

- Alberta opportunities v. good; need: partners, infrastructure (rail, road, pipeline), access to the resource, production capacity, market & collaboration; capital
Other Energy

Energy still represents future for AB in economic development

- Demand world-wide for energy
- Renewable Fuel Standards – opportunity for collaboration & alliances – AB supplies
- Strong alternative energy opportunities
  - BioEnergy, wind, geothermal, decentralized
- Reduce GHG emissions
- Alternative & renewable fuels
- Other resource-based “Clean Technologies”
More Energy

Energy still in AB future
There is *more* energy in those hills…

- Other industry sectors have a role – there are diversification opportunities
- Technologies will be key

Bring energy, energy technologies & resources, investment & collaboration together.

- Making Alberta a *complete* energy leader
The Geographic Puzzle

- Conventional Oil
- Forest BioMass
- Coal
- Agricultural BioMass
- Natural gas
- Oil & Gas clusters
- Alternative & Renewable Sites / Concentrations
- CoGen
- Oil sands & heavy oil
- Wind
- Large Hydro
- Solar PV
- Run of river
- Nuclear
- Large Pilots
- Storage
- 4 CCS
- Geothermal
- Solar PV
- Government of Alberta

Un Conventional - CBM / Shale gas

Alberta Oil Sands Deposits
only 2.4% of this area is able to be surface-mined
The Puzzle: Alternatives

- Huge distances (AB about size of TX)
- Are manufacturing opportunities still possible?

The keys are:

- Cooperation & collaboration
- Integration & efficiencies
- Infrastructure coordination
  - BioFuels & refinery opportunities
  - Rural development opportunities
  - Shortening distances between collaborations
Key Economic Strategies & Initiatives

1. The energy complex – Industrial Heartland
2. Improve economic competitiveness
   - 4 key areas of economy
   - low overall tax regime
3. Diversify export markets
4. Technology commercialization
   - Venture capital, tax credit – corporate R&D, innovation system; collaboration
5. Productivity & lean manufacturing
Key Economic Strategies & Initiatives

6. Workforce – more semi & skilled workers

7. Incent & compel – Greening AB
   - Emitters $15-per-tonne clean energy tech. fund; CCS; public transit support

8. Fulfill traditional role of Government;
   - Provide & maintain infrastructure

9. High quality education system

    - Sustainability Fund & Heritage Fund

11. Diversified, viable & competitive forest & agricultural products & sectors
Where are we Going?

- Oil & Gas
- Telecom / wireless
- Tourism
- Electronics & software
- Aerospace & Defense
- Unmanned Vehicle Systems
- Nanotech - MEMS
- Life Sciences / BioTech
- Green Building Products
- BioEnergy, Bio Chemicals, BiolIndustry
- Other Renewables
- Agriculture & AgriFood
- Forests
Thank you

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