Canadian Crude Oil Exports – By Destination

US Mid-Continent: 74%
US East Coast: 8%
US Gulf Coast: 7%
US West Coast: 9%
Non-US: 1%

Source: NEB (http://www.neb-one.gc.ca/clf-nsi/rnrgrfnmtn/sttsc/crdlnfptrlmprdct/ttlcrdlxp0tstntn-eng.html)
Demand: *Through 2030 China and India will experience average annual growth > 3.5% contrasted with the declining demand for oil in the United States.*

*International Energy Agency 2009*
CANADA’S WEST COAST IS A COMPETITIVE ADVANTAGE
The Project

**Major Scope Items:**
- 1,177 km crude oil and condensate pipelines
- Marine terminal
- $5.5 billion project

**Pipe Design:**
- 525,000 bpd crude oil
- 193,000 bpd condensate

**Kitimat Terminal:**
- 5 million barrels of storage
- 2 berths
- VLCC ready

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Regulatory Process

• JRP is Canadian Environmental Assessment Agency (CEAA) and National Energy Board (NEB)
• NEB was given its power through legislation
  – Independent quasi-judicial tribunal
• Approval from JRP requires Government In Council approval

Additional regulatory agencies include:

• Transport Canada
• Department of Fisheries and Oceans
• Aboriginal Affairs and Northern Development
• Natural Resources

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Pipeline Safety & Integrity

- Route and watercourse crossing selection is based upon engineering and environmental studies and input from Aboriginal and Non-Aboriginal Communities
- Stringent steel chemistry & strength testing
- Fusion bond epoxy coated pipe will be used & inspected
- Every weld will be inspected during construction
- Cathodic protection to prevent corrosion during operation
- Strategic location of remote control valves
- Pipe hydrostatically tested
- 24/7 monitoring from control centre
- Regular monitoring of pipeline with in-line inspection tools
Regulatory Requirements Enhanced by Public Input

Regulatory Requirements:
- Double hulled ships / multi compartment
- BC pilots (plus redundant nav-aid systems)
- Emergency preparedness and response planning

Enhancements to Safety:
- Tanker route simulation
- Improved navigational aids, new radar
- Vetting of ships and crew
- Weather monitoring criteria for ship transit
- Reduced vessel speeds in marine channels
- Tug escort operations (tethered towing)
- Closed loading and containment booms
- Whale monitoring vessel
Aboriginal Benefits

• Environmental safeguards paramount
• Equity ownership
  – 10%
• Procurement
  – $300 Million targeted
  – Based on Enbridge experience
  – Depends on First Nation capacity
• Employment & Training
  – 15% construction target
• Tax on reserve land
• Marine
  – $300 Million services
  – Map environmental sensitivities
  – Environmental monitors
Benefits - National

- $28 billion of value to industry in the first 10 years alone
- $270 billion in GDP uplift over 30 years
- $81 billion in tax revenues
- 558,000 person years of employment
- $48 billion in labour income
Benefits – Construction Phase

Construction – On-site employment only:
- 4,100 person-years of direct on-site employment in BC
- 1,400 person-years of direct on-site employment in AB
- Between 2000 and 3000 workers will be directly employed during the peak periods of project construction

Construction – Total employment (On-site, Purchases, Indirect, Induced):
- 35,000 person-years of employment in BC
- 15,000 person-years of employment in AB
- 12,000 person-years of employment elsewhere in Canada
- Total of 62,000 person-years across Canada ($4.3 Billion in Labour Income)
# Alberta Regions Defined

## Counties/MD
- **NW Alberta**: Grande Prairie, Greenview
- **AB Central**: Lac Ste. Anne, Woodlands
- **Edmonton Region**: Strathcona, Sturgeon

## Towns/Cities
- **NW Alberta**: Beaverlodge, Fox Creek, Grande Prairie, Wembley
- **AB Central**: Barrhead, Mayerthorpe, Sangudo, Whitecourt
- **Edmonton Region**: Bon Accord, Bruderheim, Edmonton, Fort Saskatchewan, Gibbons, Legal, Leduc, Morinville, Spruce Grove, St. Albert, Stony Plain, Westlock
## Alberta Regional Benefits

<table>
<thead>
<tr>
<th>Construction Activity:</th>
<th>NW Alberta</th>
<th>AB Central</th>
<th>Edmonton</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>280 km + 1 pump station near Smoky River</td>
<td>122 km + 1 pump station near Whitecourt</td>
<td>70 km + 1 pump station in Strathcona County</td>
</tr>
<tr>
<td>Direct Construction Employment</td>
<td>720 PY</td>
<td>490 PY</td>
<td>230 PY</td>
</tr>
<tr>
<td>Total Construction Employment</td>
<td>1,320 PY</td>
<td>675 PY</td>
<td>1,540 PY</td>
</tr>
<tr>
<td>Operational Employment</td>
<td>17 Direct + 25 Indirect</td>
<td>15 Indirect</td>
<td>9 Direct + 35 Indirect</td>
</tr>
<tr>
<td>Est. regional goods and services</td>
<td>$142 million</td>
<td>$63 million</td>
<td>$27 million</td>
</tr>
</tbody>
</table>
# Alberta Regional Benefits

<table>
<thead>
<tr>
<th>Estimated Regional Goods and Services</th>
<th>NW Alberta</th>
<th>AB Central</th>
<th>Edmonton</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment Rentals</td>
<td>$33</td>
<td>$21</td>
<td>$10</td>
</tr>
<tr>
<td>Accommodation/Food</td>
<td>$32</td>
<td>$16</td>
<td>$7</td>
</tr>
<tr>
<td>Clearing/logging/salvage</td>
<td>$26</td>
<td>$2</td>
<td>$1</td>
</tr>
<tr>
<td>Fuel</td>
<td>$16</td>
<td>$7</td>
<td>$3</td>
</tr>
<tr>
<td>Stockpiling Pipe</td>
<td>$7</td>
<td>$4</td>
<td>$2</td>
</tr>
<tr>
<td>Trucking</td>
<td>$7</td>
<td>$3</td>
<td>$1</td>
</tr>
<tr>
<td>Equipment Parts</td>
<td>$6</td>
<td>$4</td>
<td>$2</td>
</tr>
<tr>
<td>Surveying</td>
<td>$4</td>
<td>$2</td>
<td>$1</td>
</tr>
<tr>
<td>Access Roads</td>
<td>$2</td>
<td>$1</td>
<td>$1</td>
</tr>
<tr>
<td>Other</td>
<td>$9</td>
<td>$4</td>
<td>$2</td>
</tr>
<tr>
<td><strong>Total Goods and Services</strong></td>
<td><strong>$142 million</strong></td>
<td><strong>$63 million</strong></td>
<td><strong>$27 million</strong></td>
</tr>
</tbody>
</table>
Project Milestones

Regulatory Application Filed (May 2010)

Information Requests (Aug 25 to Nov, 2011)

Community Hearings (start Jan 10, 2012)

Final Hearings (start Sept 4, 2012)

Regulatory Decision / Detailed Engineering

Construction

Intervention/ Gov’t Part; Registration Deadline (Jul 14, 2011)

Deadline to Register for Oral Stmts Oct 6, 2011

Deadline for Letters of Comment Aug 31, 2012

Community Hearings cont.

NGP In-Service Date

The above timeline is illustrative and subject to change

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Thank You