North American Oil and Gas Pipelines: Redrawing the Map

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Executive Vice President
Agenda

- Enbridge Overview
- Crude Oil Pipeline Story
- Natural Gas Pipeline Story
- New Pipeline Construction Risks
Energy Delivery
Liquids and Natural Gas

- Liquids pipelines
- Gas Pipelines
- Gas Distribution
- Gathering & Processing
- Wind Power
- International
Crude Oil Pipeline Story
Historical Flow Pattern
Western Canadian Oil Production
Market Unconstrained Case

Historical

Forecast

2007 CAPP Pipeline Planning Case
2007 Potential

Raw Bitumen
Synthetic Light
Synthetic Heavy
Conventional Heavy
Pentanes Plus
Conventional Light

(000 BPD)
Future Flow Pattern
Liquids Strategy Major Projects Proceeding

<table>
<thead>
<tr>
<th>Major Projects Proceeding</th>
<th>Cost</th>
<th>In-Service</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Contract Terminaling</strong></td>
<td></td>
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</tr>
<tr>
<td>Hardisty (Upstream)</td>
<td>$0.4B</td>
<td>2008</td>
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<tr>
<td>Stonefell (Upstream)</td>
<td>$0.1B</td>
<td>2008</td>
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<tr>
<td>Cushing (Downstream)</td>
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<td>2007</td>
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<tr>
<td>Other</td>
<td>$0.2B</td>
<td>2007-09</td>
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<td><strong>Regional Infrastructure</strong></td>
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<td>Athabasca</td>
<td>$0.2B</td>
<td>2007</td>
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<td>Waupisoo</td>
<td>$0.5B</td>
<td>2008</td>
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<tr>
<td><strong>Southern Access</strong></td>
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<tr>
<td>Expansion</td>
<td>$2.2B</td>
<td>2006-09</td>
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<tr>
<td>Extension</td>
<td>$0.4B</td>
<td>2009</td>
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<td>Spearhead Expansion</td>
<td>$0.1B</td>
<td>2009</td>
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<tr>
<td>Alberta Clipper</td>
<td>$2.9B</td>
<td>2010</td>
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<tr>
<td>Southern Lights</td>
<td>$1.4B</td>
<td>2010</td>
</tr>
<tr>
<td>Line 4</td>
<td>$0.3B</td>
<td>2008</td>
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<tr>
<td><strong>Total Capital</strong></td>
<td>$8.8B</td>
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- Enbridge Liquids System
- Southern Access
- Alberta Clipper
- Southern Access Extension
- Spearhead Expansion
Natural Gas Pipeline Story
North American Gas Pipelines
Natural Gas Supply Changes

Alaska Mackenzie

WCSB

Rockies

Midcon/Permian

Appalachia

GOM

LNG

Increased Flow
Decreased Flow
Supply Increase
Supply Decrease
Increased LNG
Gas Pipelines Proposed/Under Construction

Rocky Mountain Express
Midcontinent Express
Ozark Express
Gulf Grossing
Clarity
Others
Pipeline Project Risk
## Potential Pipeline Requirements*

<table>
<thead>
<tr>
<th>Year</th>
<th>24&quot;</th>
<th>30-36&quot;</th>
<th>42-48&quot;</th>
<th>Total</th>
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<tbody>
<tr>
<td>2007</td>
<td>432</td>
<td>1434</td>
<td>929</td>
<td>2795</td>
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<td>2008</td>
<td>453</td>
<td>1391</td>
<td>1356</td>
<td>3200</td>
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<td>2009</td>
<td>80</td>
<td>852</td>
<td>639</td>
<td>1571</td>
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</table>

* Estimate as of Jan ‘07
New Pipeline Project Risks

- Supply/Demand
- Construction costs
- Environment
- Competition
- Regulatory
- Operating
Supply: Drilling Linked to Pricing

US Gas Well Rig Count

Lower 48 Gas Rigs
Natural Gas Price
Future supply linked to continued drilling

Typical Powder River Basin Natural Gas Decline Curve

Year of Production

1 2 3 4 5 6 7 8 9 10 11 12 13 14
Construction Pressures

- **Steel**
  - High Chinese Demand

- **Pipe Mill Space**
  - 3,200 miles/year capacity for 24”+

- **Lay Costs**
  - Only 25 Spreads available

- **Right of Way**
  - Higher congestion, more vocal opposition

- **Workforce**
  - Retiring skilled labor not being replaced
Risk Strategies

- Strong project management
- Joint Ventures
- Long term agreements
- Take or Pay Contracts
- Legislative stability
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Gas Transportation & international