Oil Pipelines

Our existing crude oil pipeline infrastructure connects Alberta crude oil supplies to U.S. refining markets in Illinois, Oklahoma and Texas, as well as connecting U.S. crude oil supplies from the Cushing, Oklahoma hub to refining markets in the U.S. Gulf Coast.

Strategy at a glance

With the increasing production of crude oil in Alberta and the U.S. and the growing demand for secure, reliable sources of energy, developing new liquids pipeline capacity and related infrastructure is essential.

We continue to focus on accessing and delivering growing North American crude oil supply to key markets, and are planning to expand our crude oil transportation infrastructure to deliver supply directly from the production site seamlessly along a contiguous path to the market.

Construction of these infrastructure projects will provide North America with a key crude oil transportation network to transport growing crude oil supply directly to key markets and provide opportunities for us to further expand our liquids pipelines business.
We are the operator of all of the following pipelines and properties.

<table>
<thead>
<tr>
<th>length</th>
<th>description</th>
<th>ownership</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Oil pipelines</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Keystone Pipeline System (includes Gulf Coast Project)</td>
<td>4,247 km (2,639 miles)</td>
</tr>
<tr>
<td><strong>Under construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Cushing Marketlink Receipt Facility</td>
<td>Crude oil receipt facilities</td>
</tr>
<tr>
<td>25</td>
<td>Houston Lateral and Terminal</td>
<td>77 km (48 miles)</td>
</tr>
<tr>
<td>26</td>
<td>Keystone Hardisty Terminal</td>
<td>Crude oil terminal</td>
</tr>
<tr>
<td><strong>In development</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Bakken Marketlink Receipt Facility</td>
<td>Crude oil receipt facilities</td>
</tr>
<tr>
<td>28</td>
<td>Grand Rapids Pipeline</td>
<td>500 km (300 miles)</td>
</tr>
<tr>
<td>29</td>
<td>Keystone XL</td>
<td>1,897 km (1,179 miles)</td>
</tr>
<tr>
<td>30</td>
<td>Northern Courier Pipeline</td>
<td>90 km (56 miles)</td>
</tr>
<tr>
<td>31</td>
<td>Heartland Pipeline and 32</td>
<td>Terminal and pipeline facilities to transport crude oil from the Edmonton/Heartland, Alberta region to facilities in Hardisty, Alberta</td>
</tr>
<tr>
<td>33</td>
<td>Energy East Pipeline</td>
<td>4,500 km (2,700 miles)</td>
</tr>
</tbody>
</table>
Comparable EBITDA and comparable EBIT are non-GAAP measures. See page 15 for more information.

<table>
<thead>
<tr>
<th>year ended December 31 (millions of $)</th>
<th>2013</th>
<th>2012</th>
<th>2011¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keystone Pipeline System</td>
<td>766</td>
<td>712</td>
<td>589</td>
</tr>
<tr>
<td>Oil Pipelines Business Development</td>
<td>(14)</td>
<td>(14)</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>Oil Pipelines – comparable EBITDA</strong></td>
<td>752</td>
<td>698</td>
<td>587</td>
</tr>
<tr>
<td>Comparable depreciation and amortization</td>
<td>(149)</td>
<td>(145)</td>
<td>(130)</td>
</tr>
<tr>
<td><strong>Oil Pipelines – comparable EBIT</strong></td>
<td>603</td>
<td>553</td>
<td>457</td>
</tr>
</tbody>
</table>

**Comparable EBIT denominated as follows**

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
<th>2011¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian dollars</td>
<td>201</td>
<td>191</td>
<td>159</td>
</tr>
<tr>
<td>U.S. dollars</td>
<td>389</td>
<td>363</td>
<td>301</td>
</tr>
<tr>
<td>Foreign exchange impact</td>
<td>13</td>
<td>(1)</td>
<td>(3)</td>
</tr>
<tr>
<td><strong>Oil Pipelines – comparable EBIT</strong></td>
<td>603</td>
<td>553</td>
<td>457</td>
</tr>
</tbody>
</table>

¹ Results in 2011 are for 11 months.

**Comparable EBITDA**

Comparable EBITDA for the Keystone Pipeline System was $54 million higher this year than in 2012. This increase reflected higher revenues primarily resulting from:

- higher volumes
- the impact of higher final fixed tolls on committed pipeline capacity to Cushing, Oklahoma, which came into effect in July 2012.

Results in 2013 were positively impacted by the stronger U.S. dollar compared to 2012.

Comparable EBITDA for the Keystone Pipeline System was $123 million higher in 2012 than in 2011. This increase reflected higher revenues primarily resulting from:

- higher contracted volumes
- the impact of higher final fixed tolls on committed pipeline capacity to Wood River and Patoka, in Illinois, which came into effect in May 2011
- the impact of higher final fixed tolls on committed pipeline capacity to Cushing, Oklahoma, which came into effect in July 2012
- twelve months of earnings recorded in 2012 compared to eleven months in 2011.

We began recording EBITDA for the Keystone Pipeline System in February 2011, when we began delivering crude oil to Cushing, Oklahoma.
Business development
Business development expenses in 2012 were $12 million higher than 2011 mainly because of increased business development activity on various oil pipeline development projects.

Comparable depreciation and amortization
Comparable depreciation and amortization was $15 million higher in 2012 than in 2011 because 12 months of depreciation was recorded in 2012 compared to 11 months in 2011.

OUTLOOK
Earnings
We expect earnings to increase in 2014 compared to 2013, due to the completion of the Gulf Coast segment of the Keystone Pipeline System allowing commencement of crude oil transportation services to the U.S. Gulf Coast. Earnings are expected to increase over time as projects currently in development are placed in service.

Capital expenditures
We spent a total of $2.5 billion in 2013, and expect to spend approximately $2.3 billion in 2014, mainly related to Heartland Pipeline, Northern Courier Pipeline and Grand Rapids Pipeline. This amount excludes Keystone XL. The amount and timing of capital spending on Keystone XL will be dependent on the decision by the DOS to issue a Presidential Permit. See page 82 for further discussion on liquidity risk.

UNDERSTANDING THE OIL PIPELINES BUSINESS
Oil pipelines move crude oil from major supply sources to refinery markets so the crude oil can be refined into various petroleum products.

We generate earnings from our oil pipelines mainly by providing pipeline capacity to shippers in exchange for fixed monthly payments that are not linked to actual throughput volumes. Uncontracted capacity is offered to the market on a spot basis which provides opportunities to generate incremental earnings.

The terms of service and fixed monthly payments are determined by transportation service arrangements negotiated with shippers. These arrangements are typically long term, and provide for the recovery of costs we incur to construct and operate the system.
Business environment

Increasing crude oil supply production in Canada and the U.S. has increased the demand for new crude oil pipeline infrastructure and, as a result, we are pursuing opportunities to connect growing North American crude oil supplies to key markets.

Alberta produces the majority of the crude oil in the WCSB which is the primary source of crude oil supply for the Keystone Pipeline System. In a 2013 Canadian Association of Petroleum Producers (CAPP) report, the WCSB produced an estimated 1.2 million Bbl/d of conventional crude oil and condensate, and 1.8 million Bbl/d of Alberta oil sands crude oil – a total of approximately 3.0 million Bbl/d. The production of conventional crude oil in western Canada continues to grow with 2012 to 2013 growth representing the largest year over year change to the previous forecast.

In its 2013 report, the Alberta Energy Regulator (AER) estimated there are approximately 170 billion barrels of remaining established conventional and oil sands reserves in Alberta. In June 2013, CAPP forecasted WCSB crude oil supply would increase to 3.9 million Bbl/d by 2015 and to 4.9 million Bbl/d by 2020. Its 2013 forecast for western Canadian production of conventional and unconventional crude oil in 2025 is 300,000 Bbl/d higher than its forecast in 2012.

Oil sands production

Despite increases in production from conventional sources and new shale oil production (including the Canadian Bakken and Cardium formations), the oil sands will continue to make up most of the crude oil production from the WCSB. CAPP estimated that industry capital spending on oil sands development held steady at $23 billion for 2013.

Oil sands projects have a long reserve life. According to the Responsible Canadian Energy Report issued by CAPP, it is estimated that a typical oil sands mine has a 25 to 50 year lifespan and an in-situ operation will run
10 to 15 years on average. That aligns with producers’ desire to secure long-term connectivity of their reserves to market. The Keystone Pipeline System and the proposed Energy East Pipeline will provide producers with needed pipeline capacity and are underpinned by long term commercial contracts.

**Demand for infrastructure within Alberta**

Growth in oil sands production is also driving the need for new intra-Alberta pipelines, like our Grand Rapids Pipeline, that can move crude oil production from the source to market hubs at Edmonton/Heartland and Hardisty, Alberta and which can also move diluent from Edmonton/Heartland region to the production area in Northern Alberta. We are constructing the Heartland Pipeline and TC Terminals projects to support these market hubs which allow shippers the ability to connect with the Keystone Pipeline System, Energy East Pipeline and other pipelines that transport crude oil outside of Alberta.

**Growth in U.S. production**

According to the International Energy Agency World Energy Outlook 2013 report, by 2015, the U.S. is set to surpass Saudi Arabia as the world’s largest oil producer. The U.S. Energy Information Administration (EIA) projects nearly 2.0 million Bbl/d of U.S. production growth, peaking at 9.6 million Bbl/d by 2019. Higher production volumes result mainly from shale oil production. EIA forecasts approximately 4.8 million Bbl/d of shale oil production by 2020 and declining by 2022.

Shale oil supply growth is mainly from the Bakken formation of the Williston basin in North Dakota and Montana, the Permian basin in south Texas and Woodford shale area of the Arkoma basin in Oklahoma. These shale production areas represent some of the sources of crude oil supply for our Bakken and Cushing Marketlink projects.

Growing U.S. production has contributed to increased crude oil supply at the Cushing, Oklahoma market hub and resulted in increased demand for additional pipeline capacity between Cushing, Oklahoma and the U.S. Gulf Coast refining market. Our Gulf Coast segment of the Keystone Pipeline System and Cushing Marketlink project provide needed pipeline capacity to transport growing crude oil supply at Cushing, Oklahoma to the U.S. Gulf Coast.

Even with growth in U.S. crude oil production, the EIA report predicts the U.S. will remain a net importer of crude oil, importing 7.7 million Bbl/d into 2040. Growing production in the west Texas Permian, south Texas Eagle Ford and Williston basins, is primarily light crude oil, and is expected to compete with light imports from countries such as Nigeria and Saudi Arabia. Gulf Coast refineries are expected to continue to prefer Canadian heavy crude oil because their refineries are mainly configured to process heavy crude oil and cannot easily switch to processing the new light shale oil in large quantities without significant capital investments. Gulf Coast refineries currently require approximately 3.5 million Bbl/d of heavy and medium crude oil, and the level of demand is not expected to change significantly in the future. The Keystone Pipeline System is well positioned to deliver Canadian crude oil to this significant market.

Refineries in eastern Canada currently process primarily light crude oil from west Africa and the Middle East, so are better able to handle light shale oil. Many of these refineries have recently begun transporting domestic light crude oil in small quantities by rail at a cost significantly higher than the cost to ship by pipeline. This has created a significant demand for pipelines to connect eastern Canada with growing Bakken and WCSB light crude oil production. We anticipate that our Energy East Pipeline project, once approved and constructed, will meet this demand.

**SIGNIFICANT EVENTS**

**Keystone Pipeline System**

We finished constructing the 780 km (485 miles) 36-inch pipeline of the Gulf Coast project, an extension of the Keystone Pipeline System, from Cushing, Oklahoma to the U.S. Gulf Coast. Crude oil transportation service on the project began January 22, 2014. We are projecting an average pipeline capacity of 520,000 Bbl/d for the first year of operation.
Houston Lateral and Terminal
Construction continues on the US$400 million, 77 km (48 miles) Houston Lateral pipeline and tank terminal to transport crude oil to Houston, Texas refineries. We anticipate the capacity of the lateral will be similar to that of the Gulf Coast project and the terminal is expected to have initial storage capacity for 700,000 barrels of crude oil. The pipeline and terminal are expected to be completed in mid-2015.

Cushing Marketlink
Construction continues on the Cushing Marketlink receipt facilities at Cushing, Oklahoma. Cushing Marketlink will facilitate the transportation of crude oil from the market hub at Cushing to the U.S. Gulf Coast refining market on facilities that form part of the Keystone Pipeline System. Construction is expected to be completed in the first half of 2014.

Keystone XL
In March 2013, the DOS released its Draft Supplemental Environmental Impact Statement for the Keystone XL project. The impact statement reaffirmed construction of the 830,000 Bbl/d Keystone XL project would not result in any significant impact to the environment.

On January 31, 2014, the DOS released its Final Supplemental Environmental Impact Statement (FSEIS) for the Keystone XL project. The results included in the report were consistent with previous environmental reviews of Keystone XL. The FSEIS concluded Keystone XL is “unlikely to significantly impact the rate of extraction in the oil sands” and that all other alternatives to Keystone XL are less efficient methods of transporting crude oil, and would result in significantly more greenhouse gas emissions, oil spills and risks to public safety. The report initiated the National Interest Determination period of up to 90 days which involves consultation with other governmental agencies and provides an opportunity for public comment.

On February 19, 2014, a Nebraska district court ruled that the state Public Service Commission, rather than Governor Dave Heineman, has the authority to approve an alternative route through Nebraska for the Keystone XL project. We disagree with the decision of the Nebraska district court and will now analyze the judgment and decide what next steps may be taken. Nebraska's Attorney General has filed an appeal.

We anticipate the pipeline, which will extend from Hardisty, Alberta to Steele City, Nebraska, to be in service approximately two years following the receipt of the Presidential Permit. The US$5.4 billion cost estimate will increase depending on the timing and conditions of the permit. Any capital cost increase above the initial estimated capital cost, up to a specified amount, is shared between us and the shippers such that 75 per cent of the change in capital cost is reflected in the fixed payment received by us. Any capital cost increase above the specified amount is shared equally between us and the shippers. As of December 31, 2013, we have invested US$2.2 billion in the project.

Energy East Pipeline
In August 2013, we announced we are moving forward with the 1.1 million Bbl/d Energy East Pipeline as it received approximately 900,000 Bbl/d of firm, long-term contracts in its open season to transport crude oil from western Canada to eastern refineries and export terminals. The project is estimated to cost approximately $12 billion, excluding the transfer value of Canadian Mainline natural gas assets.

Subject to regulatory approvals, the pipeline is anticipated to commence deliveries to Québec in 2018, with service to New Brunswick expected to follow in late 2018. We have begun Aboriginal and stakeholder engagement and associated field work as part of our initial design and planning. We intend to file the necessary regulatory applications in mid-2014 for approvals to construct and operate the pipeline project and terminal facilities.

Northern Courier Pipeline
In April 2013, we filed a permit application with the AER after completing the required Aboriginal and stakeholder engagement and associated field work.
In October 2013, Suncor Energy announced that the Fort Hills Energy Limited Partnership is proceeding with the Fort Hills oil sands mining project and expects to begin producing crude oil in 2017. Our Northern Courier Pipeline project is expected to cost $800 million and will transport bitumen and diluent between the Fort Hills mine site and Suncor Energy’s terminal located north of Fort McMurray, Alberta.

**Heartland Pipeline and TC Terminals**

In May 2013, we announced we had reached binding long-term shipping agreements to build, own and operate the Heartland Pipeline and TC Terminals projects.

The projects will include a 200 km (125 miles) crude oil pipeline connecting the Edmonton/Heartland, Alberta market region to facilities in Hardisty, Alberta, and a terminal facility in the Heartland industrial area north of Edmonton, Alberta. We anticipate the pipeline could transport up to 900,000 Bbl/d, while the terminal is expected to have storage capacity for up to 1.9 million barrels of crude oil. These projects together have a combined cost estimated at $900 million and are expected to be placed in service in 2016.

We filed a permit application for the terminal facility in May 2013 and for the pipeline in October 2013 with the AER, after completing the required Aboriginal and stakeholder engagement and associated field work. In February 2014, the application for the terminal facility was approved.

**Keystone Hardisty Terminal**

In May 2013, we started construction on the Keystone Hardisty Terminal which we anticipate will have a storage capacity of up to 2.6 million barrels of crude oil. The $300 million crude oil terminal at Hardisty, Alberta is expected to be in service in 2016.

**Grand Rapids Pipeline**

In May 2013, we filed a permit application for the Grand Rapids Pipeline with the AER after completing the required Aboriginal and stakeholder engagement and associated field work. The dual pipeline system could transport up to 900,000 Bbl/d of crude oil and 330,000 Bbl/d of diluent.

Along with a partner, we will each own 50 per cent of the project and we will operate the system, which is expected to cost $3 billion. Our partner has entered into a long-term commitment to ship crude oil and diluent on this pipeline system.

Subject to regulatory approvals, the system is expected to be placed in service in multiple stages, with initial crude oil service by mid-2015 and the complete system in service in the second half of 2017.

**BUSINESS RISKS**

The following are risks specific to our oil pipelines business. See page 76 for information about general risks that affect the company as a whole, including other operational risks, health, safety and environment (HSE) risks, and financial risks.

**Operational**

Optimizing and maintaining availability of our oil pipelines is essential to the success of our oil pipelines business. Interruptions in our pipeline operations impact our throughput capacity and may result in reduced fixed payment revenues and spot volume opportunities. We manage this by investing in a highly skilled workforce, operating prudently, using risk-based preventive maintenance programs and making effective capital investments. We use internal inspection equipment to check our pipelines regularly and repair them whenever necessary.

**Regulatory**

Decisions by Canadian and U.S. regulators can have a significant impact on the approval, construction, operation and financial performance of our oil pipelines. Public opinion about crude oil development and production may also have an adverse impact on the regulatory process. There are some individuals and interest groups that are expressing their opposition to crude oil production by opposing the construction of oil
pipelines. We manage this risk by continuously monitoring regulatory developments and decisions to
determine their possible impact on our oil pipelines business and by working closely with our stakeholders in
the development and operation of the assets.

Execution, capital costs and permitting
We make substantial capital commitments in large infrastructure projects based on the assumption that the
new assets will offer an attractive return on investment in the future. Under some contracts, we share the cost
of these risks with customers. While we carefully consider the expected cost of our capital projects, under
some contracts we bear capital cost risk which may impact our return on these projects. Our capital projects
are also subject to permitting risk which may result in construction delays, increased capital cost and,
potentially, reduced investment returns.

Crude oil supply and demand for pipeline capacity
Demand for crude oil pipeline capacity is dependent on the level of crude oil supply and demand for refined
crude oil products. New producing technologies such as steam assisted gravity drainage and horizontal drilling
in combination with hydraulic fracturing are allowing producers to economically increase development of
unconventional resources, such as oil sands and shale oil at current crude oil prices, and have resulted in
increased demand for new crude oil pipeline infrastructure. A decrease in demand for refined crude oil
products could adversely impact the price that crude oil producers receive for their product. Lower margins for
crude oil could mean producers curtail their investment in the development of crude oil supplies. Depending
on their severity, these factors would negatively impact the opportunities we have to expand our crude oil
pipeline infrastructure and, in the longer term, re-contract with shippers as current agreements expire.

Competition
As we continue to develop a competitive position in the North American crude oil transportation market to
transport growing WCSB, Williston, Permian and Arkoma basins crude oil supplies to key North American
refining markets and export markets, we face competition from other pipeline companies and to a lesser
extent, rail companies which also seek to transport these crude oil supplies to the same markets. Our success
is dependent on our ability to offer and contract transportation services on terms that are market competitive.