Outlook for the Canadian Oil Sands

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IEA demand and price forecast

**Figure 3.1** World oil demand and price by scenario

- **Oil demand:**
  - Current Policies Scenario
  - Low Oil Price Scenario
  - New Policies Scenario
  - 450 Scenario

- **Oil price (right axis):**
  - Current Policies Scenario
  - New Policies Scenario
  - 450 Scenario
  - Low Oil Price Scenario

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IEA 2015 World Energy Outlook
IEA outlook for crude oil demand in a 450 ppm scenario (2015 to 2040)

Source: IEA, ARC Financial Corp. (does not include biofuels)
Canadian oil sands (2000-2020)

Canadian oil sands: raw bitumen production

In situ raw bitumen
Mining raw bitumen

Source: University of Alberta

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## Current oil sands activity

<table>
<thead>
<tr>
<th>Company</th>
<th>Project</th>
<th>Process</th>
<th>Capacity (thousand b/d)</th>
<th>In-service date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cenovus/ConocoPhilips</td>
<td>Christina Lake F</td>
<td>SAGD</td>
<td>50</td>
<td>Q3 2016</td>
</tr>
<tr>
<td>Cenovus/ConocoPhilips</td>
<td>Foster Creek G</td>
<td>SAGD</td>
<td>30</td>
<td>Q3 2016</td>
</tr>
<tr>
<td>Japan Canada Oil Sands</td>
<td>Hangingstone</td>
<td>SAGD</td>
<td>20</td>
<td>Q3 2016</td>
</tr>
<tr>
<td>CNRL</td>
<td>Horizon 3</td>
<td>Mining</td>
<td>80</td>
<td>Q4 2017</td>
</tr>
<tr>
<td>Suncor/Total/Teck</td>
<td>Fort Hills</td>
<td>Mining</td>
<td>160</td>
<td>Q4 2017</td>
</tr>
</tbody>
</table>

Source: OSR, Company info
Oil sands operating costs

Source: Company info
Canadian oil sands outlook (2000-2030)

Canadian oil sands: raw bitumen production

Source: Oil Sands Review, AER, University of Alberta

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GHG Policy and the Oil Sands
Oil sands and greenhouse gases

- Two elements introduced (or slated to be introduced) in Alberta Climate Leadership Plan
  - Carbon Competitiveness Regulation (CCR) to replace existing Specified Gas Emitters (SGER)
  - 100 Mt cap on oil sands emissions, with exemptions for new cogeneration and upgrading emissions
Our outlook and the 100mt cap

Source: University of Alberta
The impact of a 1% per year improvement in emissions intensity

Source: University of Alberta
Market Access
Our outlook compared to CAPP 2015

Source: CAPP, University of Alberta
What will this map look like in 5 years?

Figure S3.10
Selected Canadian and U.S. crude oil pipelines

- **Existing pipeline**
- **Proposed pipeline**

Petroleum Administration Defense District (PADD)

Source: AER 2015
Contact Information

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