Outlook for Oil and Credit Quality
Crude oil spot price (2014 – YTD 2016)

Source: EIA, Bloomberg.

- Libyan production increase
- U.S. dollar begins to strengthen
- November OPEC
- Production Outages
- Accord(in principal) to lift Iranian Sanctions
- Kurds release 400,000 barrels
- OPEC production tgs?
- Roll over of production cuts to April 1, 2018

WTI Spot
Brent Spot
Oil stocks leave the market vulnerable

Total OECD Stocks

Source: IEA, BP Petroleum.
U.S. crude oil production growth

Source: EIA.
U.S. oil & gas ratings and outlook distribution

Ratings Distribution

Total – 112 Companies

- AA: 48, 43%
- A: 18, 16%
- BBB: 16, 14%
- BB: 22, 19%
- B: 3, 3%
- CCC: 3, 3%
- SD/D: 2, 2%

Source: S&P Global Ratings.
Quarterly rating actions (US) for the oil and gas sector


S&P Global Ratings
Rating bias for the oil & gas sector

U.S. Investment-Grade Oil & Gas Bias

• The negative bias is the share of corporate issuers with ratings that have a negative outlook or are on CreditWatch with negative implications, while the positive bias is the share of corporate issuers with ratings that have a positive outlook or are on CreditWatch with positive implications.

Rating bias for the oil & gas sector

U.S. Speculative-Grade Oil & Gas Sector Bias

- The negative bias is the share of corporate issuers with ratings that have a negative outlook or are on CreditWatch with negative implications, while the positive bias is the share of corporate issuers with ratings that have a positive outlook or are on CreditWatch with positive implications.


• The negative bias is the share of corporate issuers with ratings that have a negative outlook or are on CreditWatch with negative implications, while the positive bias is the share of corporate issuers with ratings that have a positive outlook or are on CreditWatch with positive implications.
Speculative-grade bond yields

Speculative Grade Bond Yields

Oil and Gas 5-Year Yield
Speculative-Grade 5-Year Yield

Thank you

Thomas Watters
Managing Director
T: 212.438.7818
thomas.watters@spglobal.com
Outlook for North American Natural Gas
U.S. natural gas rig count vs. natural gas price $/Mcf

Source: Baker Hughes, Bloomberg.
U.S. monthly natural gas production vs. natural gas rig count

U.S Monthly Natural Gas Production Vs. Natural Gas Rig Count

Million Cubic Feet Per Day

Source: EIA, Baker Hughes.

S&P Global Ratings
U.S. shale gas production, 2007-2016

Source: EIA.
Long-term U.S. natural gas demand roadmap
Cumulative, starting from 2017

Source: S&P Global Platts.
Northeast announced Appalachian Basin takeaway projects

Source: S&P Global Platts, Company reports.
Southwest Appalachian announced takeaway projects

Source: S&P Global Platts, company reports.
Henry Hub vs. Dominion South

Source: Bloomberg.
Thank you

Ben Tsocanos
Director
T: 212.438.5014
ben.tsocanos@spglobal.com
Is There Hope For The Offshore Drillers?
U.S. offshore contract drilling sector outlook

• Our outlook for the offshore drilling sector remains negative

• Utilization and day-rates for offshore drilling rigs remain under pressure from low demand and new ultra-deepwater and jackup rigs still entering the market

• We need to see both an increase in offshore demand and scrapping of older rigs to bring the market back into balance

• We are assuming utilization picks up in late 2019, with dayrates beginning to recover in 2020

• Based on generally lower breakeven costs and a relatively older global fleet, we believe the jack-up market will recover more quickly than the deepwater
Floater and jack-up utilization, 2013 to 2017 YTD

Source: RigLogix and S&P Global.
Floater and jack-up dayrates, 2013 to 2017 YTD

Source: RigLogix and S&P Global.
We believe the market is at or near a trough

- Tendering activity for both floaters and jack-ups is up relative to a year-ago

- There have been several new contracts and contract extensions signed, primarily in the U.S. Gulf of Mexico, U.K. North Sea and in the Asia Pacific region

- There has been a pickup in activity on the M&A front, including the first corporate deal in a long while

- Offshore drillers and service companies are working to reduce costs, to help lower offshore exploration and development costs for their customers
Longer term there is hope

• About 30% of total global oil production is from the offshore, including about 10% from the deepwater

• At some point the lack of investment will lead to production declines (although not for several years as projects sanctioned prior to 2015 are just now coming on line)

• Breakevens should continue to come down due to lower costs and efficiency gains offshore, while breakevens could rise onshore as service costs rise and producers drill up their core acreage

• There are an estimated 90-95 floaters 20+ years old that are coming off contract over the next year that we believe are likely candidates to be scrapped. Similarly, over 50% of all jack-ups are over 20 years old
Floater supply/demand outlook

Source: RigLogix, S&P Global estimates.
Jack-up supply/demand outlook

Source: RigLogix, S&P Global estimates.
Thank you

Carin Dehne-Kiley, CFA
Director
T: 212.438.1092
carin.dehe-kiley@spglobal.com
Ownership Consolidation In the Canadian Oil & Gas Industry
Market dynamics
Canadian Oil Sands: Environmental concerns driving recent consolidation

- Global oil & gas majors increasingly focused on addressing environmental concerns
- European oil & gas majors face greater scrutiny from regulators, investors and the media on environmental issues
- Oil sands investments are viewed negatively from an environmental perspective
- O&G majors including Royal Dutch Shell, Conoco Phillips and Statoil have opted to divest oil sands holdings to Canadian counterparts
- Now, more than 2/3rd of oil sands production is held by Canadian entities, making the oil sands truly “Canadian”
- Canadian operators like Suncor, Canadian Natural Resources, Cenovus and Husky Energy believe technological advancements will lower oil sands operating costs
Measuring oil sands exposure

Mix becoming more oil sands heavy through organic growth and acquisitions

Source: Company Reports, S&P Global Ratings.

**CNRL**: Acquisition of AOSP assets from Shell in 2017 and organic growth through the Horizon project

**Suncor Energy**: Acquisition of additional Syncrude stake in 2016 and organic growth through Fort Hills project

**Cenovus Energy**: Acquisition of Christina Lake & associated oil sands assets from Conoco Phillips in 2017

**Husky Energy**: Organic growth through stake in Sunrise Oil Sands project

---

S&P Global Ratings
Canadian Natural Resources Limited

- Expect strong production growth for the 2017 - 2019 period as CNRL integrates the AOSP acquisition and benefits from organic growth through Horizon and its conventional assets.
- Combined with improved realizations and only marginal opex cost inflation, expect the FFO/Debt ratio as well as return on capital to improve through the forecast period.
- Capex projected to rise marginally through the forecast period as CNRL spends to scale up the AOSP assets as well as boost production from legacy assets.
- See potential for improvement in FOCF/Debt and DCF/Debt ratios, if S&P GR’s base case assumptions are realized.

Source: Company Reports, S&P Global Ratings.

Ratios based on S&P estimates for the forecasted years.

Expect strong production growth for the 2017 - 2019 period as CNRL integrates the AOSP acquisition and benefits from organic growth through Horizon and its conventional assets.

Combined with improved realizations and only marginal opex cost inflation, expect the FFO/Debt ratio as well as return on capital to improve through the forecast period.

Capex projected to rise marginally through the forecast period as CNRL spends to scale up the AOSP assets as well as boost production from legacy assets.

See potential for improvement in FOCF/Debt and DCF/Debt ratios, if S&P GR’s base case assumptions are realized.
Expect robust production growth as Suncor brings its Fort Hills project online while also benefitting from an increased stake in the Syncrude project (now ~54%).

With Fort Hills and Hebron nearing completion, expect Suncor’s capex to be lower through the forecast period compared to recent levels (2015-2016).

S&P GR expects improvement in the FFO/Debt and FOCF/Debt ratios as capex ramps down while opex remains insulated from any material cost inflation given a high proportion of fixed costs as a % of total opex.

Overall, projections indicate an improving return on capital and DCF generation profile if S&P GR’s base case assumptions are realized.

Source: Company Reports, S&P GR
Cenovus Energy Inc.

- Cenovus is expected to more than double its production through the acquisition of ConocoPhillips’s 50% stake in the Christina Lake and other associated oil sands assets.
- Near-term natural gas production is expected to decline following the announced dispositions. Pro forma dispositions, total production is expected to increase as a result of the company’s expanded asset base.
- Barring the y/y dip in 2018 due to asset sales, expect Cenovus to improve its key cash flow ratios as capex ramps down closer to maintenance spend levels while the Co benefits from its increased scale.
- Overall, projections indicate an improved return on capital profile compared to the 2016 trough if S&P GR’s base case assumptions are realized.

Source: Company Reports, S&P Global Ratings.
Husky Energy Inc.

• Expect Husky Energy to see low - mid - single digit production growth through the forecast period as the Co. focuses on organic expansions.

• The Co. expects to spend on average ~C$3.2 bn annually through the 2017-2021 period as it looks to boost production from the Integrated Corridor as well as the Offshore assets.

• The FFO/Debt ratio is projected to improve steadily, the heavy capex spend is expected to keep Husky’s FOCF/Debt ratio weaker than previous estimates.

• Return on capital is expected to improve gradually as the Co benefits from higher production as well as improved realizations under S&P GR’s base case assumptions.

Source: Company Reports, S&P Global Ratings.
Thank you

Michelle Dathorne
Director
T: 416.507.2563
Michelle.dathorne@spglobal.com
Midstream Industry Mid-Year Update: Steady As She Goes

Michael Grande
Director
Energy Infrastructure Ratings

Copyright © 2017 by S&P Global.
All rights reserved.
Ratings overview for the midstream sector

Ratings Distribution

- A: 25%
- BBB: 4%
- BB: 4%
- B: 25%
- CCC: 42%

Notable Upgrades:
- Spectra Energy Corp/SEP to BBB+ from BBB
- Williams Partners LP to BBB from BBB-
- The Williams Cos. Inc. to BB+ from BB
- Crestwood Holding LLC to B- from CCC+

Notable Downgrades:
- Sunoco LP to BB- from BB
- Energy Transfer Equity LP to BB- from BB
- NGL Energy Partners B+ from BB-

Negative Trends:
- Financial leverage high but working down
- Distribution coverage, cost of capital issues
- Production volumes will be slow to ramp up
- Crude, natural gas, and NGL prices remain relatively low

Positive Trends:
- Move towards simplification of MLP structure
- Reinvesting excess cash flow, better coverage ratios
- Lower capital spending programs
- Liquidity remains adequate, debt maturities manageable
- Continued trend towards converting commodity sensitive contracts to fee based

S&P Global Ratings
More conservative policies leading to better credit measures… But will it last?

- Average Debt/EBITDA expected to be about 4.5x, down from a high of ~ 5x
- 2016 capital spending was 25% lower compared to 2015, and 2017 to be 30% lower (10% decline YoY)

*Companies included: BPL, BWP, EPD, ETP, KMI, MMP, OKS, PAA, WPZ, SE

Source: S&P Global Ratings.
Spending has lead to significant EBITDA growth

But has it resulted in stronger balance sheets?

### Midstream Spending

<table>
<thead>
<tr>
<th>Year</th>
<th>Industry</th>
<th>Investment Grade</th>
<th>High Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>10,608</td>
<td>7,567</td>
<td>3,041</td>
</tr>
<tr>
<td>2011</td>
<td>15,137</td>
<td>11,862</td>
<td>3,275</td>
</tr>
<tr>
<td>2012</td>
<td>24,069</td>
<td>17,644</td>
<td>6,426</td>
</tr>
<tr>
<td>2013</td>
<td>30,721</td>
<td>20,931</td>
<td>9,790</td>
</tr>
<tr>
<td>2014</td>
<td>38,045</td>
<td>25,794</td>
<td>12,252</td>
</tr>
<tr>
<td>2015</td>
<td>46,048</td>
<td>30,015</td>
<td>16,033</td>
</tr>
<tr>
<td>2016</td>
<td>38,419</td>
<td>25,410</td>
<td>13,009</td>
</tr>
</tbody>
</table>

It has been a mixed bag

Leverage is improving, but mainly for investment grade issuers

## Cost of equity better…but not for all

<table>
<thead>
<tr>
<th>Company Name</th>
<th>As of 6/12/17</th>
<th></th>
<th>As of 2/12/16</th>
<th></th>
<th>As of 1/5/16</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Price ($/Share)</td>
<td>Yield</td>
<td>Price ($/Share)</td>
<td>Yield</td>
<td>Price ($/Share)</td>
<td>Yield</td>
</tr>
<tr>
<td>Boardwalk Pipeline Partners LP</td>
<td>17.25</td>
<td>2.31%</td>
<td>10.73</td>
<td>3.73%</td>
<td>16.56</td>
<td>2.42%</td>
</tr>
<tr>
<td>Buckeye Partners L.P.</td>
<td>63.49</td>
<td>7.75%</td>
<td>54.96</td>
<td>8.55%</td>
<td>69.77</td>
<td>6.45%</td>
</tr>
<tr>
<td>Enbridge Energy Partners L.P.</td>
<td>16.33</td>
<td>8.56%</td>
<td>15.57</td>
<td>14.98%</td>
<td>35.36</td>
<td>6.28%</td>
</tr>
<tr>
<td>Energy Transfer Partners LP</td>
<td>20.88</td>
<td>10.26%</td>
<td>23.66</td>
<td>17.84%</td>
<td>55.95</td>
<td>6.97%</td>
</tr>
<tr>
<td>EnLink Midstream Partners L.P.</td>
<td>16.65</td>
<td>9.62%</td>
<td>8.34</td>
<td>18.71%</td>
<td>25.51</td>
<td>5.80%</td>
</tr>
<tr>
<td>Enterprise Products Partners L.P.</td>
<td>26.93</td>
<td>6.13%</td>
<td>20.60</td>
<td>7.57%</td>
<td>32.15</td>
<td>4.54%</td>
</tr>
<tr>
<td>EQT Midstream Partners LP</td>
<td>70.82</td>
<td>4.96%</td>
<td>63.97</td>
<td>3.91%</td>
<td>70.77</td>
<td>3.32%</td>
</tr>
<tr>
<td>Kinder Morgan Inc.</td>
<td>19.15</td>
<td>2.26%</td>
<td>14.96</td>
<td>3.34%</td>
<td>41.65</td>
<td>4.32%</td>
</tr>
<tr>
<td>Magellan Midstream Partners LP</td>
<td>71.32</td>
<td>4.85%</td>
<td>59.33</td>
<td>5.29%</td>
<td>76.11</td>
<td>3.51%</td>
</tr>
<tr>
<td>MPLX LP</td>
<td>33.01</td>
<td>6.50%</td>
<td>33.06</td>
<td>9.95%</td>
<td>35.60</td>
<td>4.36%</td>
</tr>
<tr>
<td>ONEOK Partners LP</td>
<td>48.81</td>
<td>6.51%</td>
<td>24.04</td>
<td>13.14%</td>
<td>34.36</td>
<td>9.02%</td>
</tr>
<tr>
<td>Phillips 66 Partners LP</td>
<td>79.94</td>
<td>3.52%</td>
<td>72.22</td>
<td>2.98%</td>
<td>77.22</td>
<td>2.69%</td>
</tr>
<tr>
<td>Plains All American Pipeline L.P.</td>
<td>25.63</td>
<td>8.58%</td>
<td>17.32</td>
<td>16.17%</td>
<td>45.52</td>
<td>5.80%</td>
</tr>
<tr>
<td>Spectra Energy Partners, L.P.</td>
<td>42.32</td>
<td>6.62%</td>
<td>43.72</td>
<td>5.85%</td>
<td>51.88</td>
<td>4.50%</td>
</tr>
<tr>
<td>Western Gas Partners L.P.</td>
<td>54.67</td>
<td>6.41%</td>
<td>29.25</td>
<td>10.94%</td>
<td>66.25</td>
<td>4.08%</td>
</tr>
<tr>
<td>Williams Partners, L.P.</td>
<td>38.60</td>
<td>8.12%</td>
<td>14.05</td>
<td>24.20%</td>
<td>45.73</td>
<td>5.07%</td>
</tr>
</tbody>
</table>

Source: Google Finance.
Ratings overview for the refining sector

Notable Upgrades/Positive Watch:
• Tesoro Corp. BBB- from BB+/CWPos
• Western Refining Inc. BBB- from B+
• Northern Tier Energy Partners BBB- from B+

Notable Downgrades:
• Philadelphia Energy Solutions to B from B+
• Calumet Specialty Products to B- from B+

Negative Trends:
• Potential overbuild of global refining capacity
• Oversupply of refined products
• Refining margins weakened, crude diffs narrowed
• Regulation – RINs, Import Tax?

Positive Trends:
• Steady demand for refined products
• Good liquidity and sizable cash positions
• Possible deleveraging at refining business

## Issuer ranking for the refining sector

<table>
<thead>
<tr>
<th>Issuer</th>
<th>Corporate Credit Rating*</th>
<th>Business Risk</th>
<th>Financial Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flint Hills Resources LLC</td>
<td>AA-/Stable/A-1+</td>
<td>Satisfactory</td>
<td>Minimal</td>
</tr>
<tr>
<td>Phillips 66</td>
<td>BBB+/Stable/A-2</td>
<td>Satisfactory</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Deer Park Refining L.P.</td>
<td>BBB/Positive/A-2</td>
<td>Fair</td>
<td>Significant</td>
</tr>
<tr>
<td>Marathon Petroleum Corp.</td>
<td>BBB/Stable/A-2</td>
<td>Satisfactory</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Motiva Enterprises LLC</td>
<td>BBB/Stable/A-2</td>
<td>Fair</td>
<td>Significant</td>
</tr>
<tr>
<td>Valero Energy Corp.</td>
<td>BBB/Stable/--</td>
<td>Satisfactory</td>
<td>Intermediate</td>
</tr>
<tr>
<td>HollyFrontier Corp.</td>
<td>BBB-/Stable/--</td>
<td>Fair</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Tesoro Corp.</td>
<td>BBB-/Stable/--</td>
<td>Satisfactory</td>
<td>Intermediate</td>
</tr>
<tr>
<td>PBF Holding Co. LLC</td>
<td>BB/Stable/--</td>
<td>Fair</td>
<td>Significant</td>
</tr>
<tr>
<td>CVR Refining, LP</td>
<td>BB-/Stable/--</td>
<td>Weak</td>
<td>Significant</td>
</tr>
<tr>
<td>Alon USA Partners L.P.</td>
<td>B+/Stable/--</td>
<td>Vulnerable</td>
<td>Significant</td>
</tr>
<tr>
<td>United Refining Co.</td>
<td>B+/Stable/--</td>
<td>Vulnerable</td>
<td>Intermediate</td>
</tr>
<tr>
<td>Philadelphia Energy Solutions Refining and Marketing LLC</td>
<td>B/Stable/--</td>
<td>Vulnerable</td>
<td>Aggressive</td>
</tr>
<tr>
<td>CITGO Holding, Inc.</td>
<td>B-/Stable/--</td>
<td>Fair</td>
<td>Highly Leveraged</td>
</tr>
<tr>
<td>CITGO Petroleum Corp.</td>
<td>B-/Stable/--</td>
<td>Fair</td>
<td>Highly Leveraged</td>
</tr>
<tr>
<td>Calumet Specialty Product Partners</td>
<td>B-/Negative/--</td>
<td>Weak</td>
<td>Highly Leveraged</td>
</tr>
</tbody>
</table>

* As of June 23, 2017.
Financial Leverage Has Increased As Refining Margins Come Back To Earth And Midstream Business Grows

Consolidated Credit Measures

Thank you

Michael Grande
Director, Energy Infrastructure Ratings
michael.grande@spglobal.com
Credit Outlook for Exploration & Production and Oilfield Service Companies
U.S. E&P/integrated rating & outlook distribution

U.S. E&P Rating Distribution
Data as of June 16, 2017

U.S. E&P Outlook Distribution

58%
30%
12%

Stable
Positive
Negative

S&P Global Ratings
U.S. E&P/integrated sector outlook

• S&P Global Ratings Services' WTI oil and Henry Hub natural gas price assumptions for 2017 are $50/bbl oil and $3.00/mmBTU, respectively

• We expect overall onshore upstream capital spending to increase at least 20% in 2017 versus 2016, up significantly more for most small-to-midsized U.S. E&P companies

• We expect offshore spending to continue to decline as returns continue to look unfavorable in this price environment

• We expect oilfield services costs to rise in North America, primarily in pressure pumping and for tier 1 land rigs

• We estimate about one-half of the cost reductions since 2014 are due to improved efficiency and will be sustained
U.S. oilfield services & contract drilling rating & outlook distribution

Ratings Distribution of US Oilfield Services Companies by Category as of June 16, 2017

Outlook Distribution of US Oilfield Services Companies as of June 16, 2017
U.S. oilfield services sector outlook

• We expect revenues in the onshore sector to improve along with E&P spending

• Margins will lag except for completion equipment and tier-1 onshore drilling rigs

• The offshore sector is expected to continue to suffer from low drilling activity & over capacity

• In 2017, we believe OFS companies could achieve price increases anywhere between 10% or greater, especially completion work

• The total U.S. oil rig count currently stands at 747, up over 100% from the May 2016 low
Summary

• Under our base case WTI & Henry Hub price assumptions, we expect credit quality to generally improve across all sectors except the offshore segment
• The outlook is generally stable for the E&P industry, but remains negative for oilfield services
• Improvement will be somewhat uneven with E&P companies in more oil prone areas, especially the Permian Basin, completion equipment & tier-1 rigs in oilfield services and onshore contract drilling showing greater resilience
• Many oilfield companies will continue to have limited, if any, pricing power until equipment supply and demand tighten, completion equipment being the exception
• Offshore contract drilling will remain weak until the 2nd half of 2019, when we believe that crude oil prices, under our price assumptions, will recover, and development costs will decline sufficiently to support drilling
Thank you

David Lagasse
Associate
T: 212.438.1203
david.lagasse@spglobal.com
Questions?

Thank you for joining us.

Visit our hot topics pages:
www.SPRatings.com/oilandgas
www.SPRatings.com/infrastructure