1. **Broad Equity Markets**
   - Daily Index Values; Rolling 12-Month History
   - Indexed to 12 Months Ago

<table>
<thead>
<tr>
<th>Index</th>
<th>August 19</th>
<th>October 19</th>
<th>December 19</th>
<th>February 20</th>
<th>March 20</th>
<th>April 20</th>
<th>May 20</th>
<th>June 20</th>
<th>July 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSCI Global ESG Index</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>S&amp;P/TSX Composite</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Dow Jones</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
</tbody>
</table>

   Broad market indices are one of the many vital signs measuring the health of the economy. Energy demand is a function of economic health.
   - Source: Bloomberg, ARC Financial Corp.

2. **Oil and Gas E&P Indices**
   - Daily Index Values; Rolling 12-Month History
   - Indexed to 12 Months Ago

<table>
<thead>
<tr>
<th>Index</th>
<th>August 19</th>
<th>October 19</th>
<th>December 19</th>
<th>February 20</th>
<th>March 20</th>
<th>April 20</th>
<th>May 20</th>
<th>June 20</th>
<th>July 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC Junior E&amp;P Index</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>S&amp;P 500 E&amp;P</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>S&amp;P/TSX E&amp;P Index</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
</tbody>
</table>

   Performance of Canadian and US oil & gas equities are compared against each other.
   - Source: Bloomberg, ARC Financial Corp.

3. **Oil & Gas Service and Midstream Indices**
   - Daily Index Values; Rolling 12-Month History
   - Indexed to 12 Months Ago

<table>
<thead>
<tr>
<th>Index</th>
<th>August 19</th>
<th>October 19</th>
<th>December 19</th>
<th>February 20</th>
<th>March 20</th>
<th>April 20</th>
<th>May 20</th>
<th>June 20</th>
<th>July 20</th>
</tr>
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<tbody>
<tr>
<td>Philadelphia Service Index</td>
<td>120</td>
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<tr>
<td>PSAC Canadian Index</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>S&amp;P/TSX Oil &amp; Gas Storage &amp; Transportation Index</td>
<td>120</td>
<td>110</td>
<td>100</td>
<td>90</td>
<td>80</td>
<td>70</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
</tbody>
</table>

   The performance of Canadian oil and gas service and midstream equities are plotted in tandem with the corresponding US Oilfield index.
   - Source: Bloomberg, Petroleum Services Association of Canada

4. **Canadian Currency Exchange**
   - Daily Close Values; Rolling 24-Month History

<table>
<thead>
<tr>
<th>Currency</th>
<th>August 18</th>
<th>December 18</th>
<th>April 19</th>
<th>June 19</th>
<th>November 19</th>
<th>March 20</th>
<th>July 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>$US/$Cdn</td>
<td>0.80</td>
<td>0.78</td>
<td>0.76</td>
<td>0.74</td>
<td>0.72</td>
<td>0.70</td>
<td>0.68</td>
</tr>
</tbody>
</table>

   Much of Canada’s oil and gas production is sold in US dollars. As such, the exchange rate significantly impacts corporate revenues and profits.
   - Source: Bloomberg

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Please see **Advisories and Disclaimers** at the end of the publication for important cautionary advisory and disclaimer language.
5 United States: New and Active COVID-19 Cases
Daily (5-Day Rolling Average); March 9, 2020 to Current

New Cases (Thousands)
Active Cases (Thousands)

Daily infection rates and active cases of COVID-19 will determine reopening and recovery of the world’s largest economy.
Source: Worldometer

7 TomTom Traffic Index: Chicago, U.S.
Congestion Level of Last 7 Days Compared with Year Prior

Traffic congestion levels show a real-time picture of the number of vehicles on the road; an indication of gasoline demand and economic recovery.
Source: TomTom International BV

9 U.S. Weekly Jobless Claims
Initial and Continuing Claims

Jobless claims are an important leading indicator on the state of the employment situation and the health of the economy.
Source: US Labor Department

10 TSA Checkpoint Screening Numbers
Number of Travelers in 2020 as % of Same Period in 2019

Monitoring the daily number of passengers screened at TSA checkpoints in the United States is a leading indicator of recovery in air travel.
Source: Transportation Security Administration
**11 WTI Crude Oil Price and Differential to Brent**
Near-Month WTI and Brent Differential; Rolling 12-Month History

North American crude oil prices can sometimes disconnect from global prices depending on regional supply and demand dynamics.
*Source: Bloomberg*

**12 US Crude Oil Futures**
West Texas Intermediate (WTI), Next 36 Months

Forward prices for WTI are plotted for the next 36 contracts, and compared against the same contracts one month prior.
*Source: Bloomberg*

**13 Canadian Heavy Oil Price Differential to WTI**
Western Canadian Select (WCS) Differential; Rolling 12-Month History

The differential should reflect quality differences and transportation costs. Greater discounts can result from infrastructure or refinery outages.
*Source: Bloomberg*

**14 Canadian Light Crude Oil Price Differential to WTI**
WTI and Edmonton Light differential; Rolling 12-Month History

The differential should reflect the transportation cost from Alberta to Cushing. Greater discounts can result from infrastructure or refinery outages.
*Source: Bloomberg*

**15 Daily NGL Prices as a % of Edmonton Light**
NGL Prices at Edmonton, AB, 10 Day Rolling Average Shown

Natural gas liquids have become critical contributors to producer’s cash flow. Prices are influenced by the price of oil as well as local supply and demand.
*Source: Bloomberg, ARC Financial Corp.*

**16 Long and Short Contracts - WTI**
Managed Money - Futures

Long contracts take the position that WTI oil price will increase, while short contracts expect a decline.
*Source: Bloomberg, U.S. Commodity Futures Trading Commission*
US crude oil stock levels can affect crude oil prices. Stock levels for the current year are represented by the blue line. 
*Source: U.S. Energy Information Administration*

US weekly refinery utilization rates change the supply of refined products, impacting price. Utilization for the current year is blue. 
*Source: U.S. Energy Information Administration*

Weekly production is modelled by the EIA. It is less accurate than monthly reported numbers, but is instructive of up to date changes. 
*Source: U.S. Energy Information Administration*
**Arc Energy Charts**

**Crude Oil**

**23** US Crude Oil Imports  
Weekly Data; 2016 to Present  

Crude oil imports from Canada are taking market share from overseas imports.  
*Source: U.S. Energy Information Administration*  

**24** US Exports of Crude Oil and Refined Products  
Weekly Data; 2016 to Present  

The US exports more refined products than crude oil. With the rapid growth of tight oil, most export growth should come from crude oil exports.  
*Source: U.S. Energy Information Administration*  

**25** Total US Oil Production  
Monthly; 2010 to Present  

The advancement of drilling and completion methods is increasing US crude oil production.  
*Source: Bloomberg, U.S. Energy Information Administration*  

**26** OPEC and Russian Oil Production  
Monthly; Rolling 60-Month History  

OPEC’s production levels relative to its sustainable and spare capacity influences global crude prices. Note: scale has been expanded.  
*Source: Petroleum Intelligence Weekly*  

**27** Alberta Oil Production  
Monthly; Conventional and Oil Sands  

Most of Canada’s oil production comes from Alberta; split between oil sands and conventional production.  
*Source: Alberta Energy Regulator*  

**28** OECD Total Industry Oil Stocks  
Monthly; 2012 to Present  

OECD stock levels can affect crude oil prices.  
*Source: International Energy Agency*
29 Near-Month North American Natural Gas Prices  
Daily Prices; Rolling 12-Month History

Near-month prices at AECO track Henry Hub prices, the exchange rate and the cost of transportation. Local factors can also affect price.

Source: Bloomberg

30 US Natural Gas Futures  
Nymex (Henry Hub) Next 36 Months

Forward contract prices are plotted for the next 36 months, and compared against the curve one month prior.

Source: Bloomberg

31 Long and Short Contracts – Henry Hub  
Managed Money - Futures

Long contracts take the position that Henry Hub gas price will increase, while short contracts expect a decline.

Source: U.S. Commodity Futures Trading Commission

32 Canadian Natural Gas Futures  
AECO Hub (Bloomberg Estimate) Next 36 Months

AECO forward prices mimic Henry Hub futures minus a differential.

Source: Bloomberg

33 Global Natural Gas Prices  
Japanese LNG, UK NBP, Henry Hub; Average Monthly Prices

International natural gas prices strongly impact the economics of proposed LNG projects.

Source: Bloomberg, Japanese Ministry of Economy, Trade and Industry

34 US Coal and Natural Gas Power Generation Cost  
Converted to a $/MWh Equivalent

This graph illustrates when it may be economic to begin coal-gas switching in power generation. Average power plant efficiencies are assumed.

Source: Bloomberg
Closing Spot Prices at North American Natural Gas Hubs
Superimposed on Relative Physical Volumes Traded

North America has an integrated natural gas market. Prices are determined by regional supply and demand, and pipeline flows.

Source: Bloomberg

Pipeline Flows Out of Western Canada
Daily; Historical Tracks and Current Year Levels

The ability of gas producers to move gas out of the WCSB to eastern markets and the US is a major factor in local natural gas prices.

Source: Various Pipeline Companies

US Natural Gas Exports – Excluding Canada
Daily; Historical Tracks and Current Year Levels

Between exports to Mexico and LNG shipments, the US is growing as a natural gas exporter. Robust US supply growth has driven this trend.

Source: S&P Global Platts
Alberta natural gas demand has grown steadily in recent years, largely driven by new oil sands demand and power generation projects. Source: TransCanada Pipelines

Total US demand fluctuates in the summer and during the winter as weather is an important driver of consumption. Source: S&P Global Platts

This includes receipts on the TCPL, Alliance, WestCoast and TransGas pipelines. Source: Various Pipeline Companies

US production started ramping up in late 2007 and continues to grow year over year. Source: S&P Global Platts

Canada’s natural gas storage level provides a good metric if the country is well stocked. Abnormally high or low storage can affect the basis. Source: Bloomberg

The EIA reports changes in US natural gas inventories held in underground storage facilities on a weekly basis. Source: U.S. Energy Information Administration
44 Canada: Weekly Gas Drilling Activity
Baker Hughes Drilling Rig Count; Current Year and Historical Range

Unlike US drilling activity, Canadian rigs are dispatched seasonally. Capital allocation by operators is driven by views of future oil and gas prices.
Source: Baker Hughes

Gas drilling increased again last week; now up to 33. This is still a record low for this time of year.

45 United States: Weekly Gas Drilling Activity
Baker Hughes Gas Rig Counts; 2019 to Present

Tracking US gas drilling by major play provides insight into the composition of US gas supply and growth trends.
Source: Baker Hughes

46 Canada: Weekly Oil Drilling Activity
Baker Hughes Drilling Rig Count; Current Year and Historical Range

Unlike US drilling activity, Canadian rigs are dispatched seasonally. Capital allocation by operators is driven by views of future oil and gas prices.
Source: Baker Hughes

47 United States: Weekly Oil & Gas Drilling Activity
Baker Hughes Drilling Rig Count; Current Year and Historical Range

Tracking total US rigs provides insight into oil field services demand and total industry activity.
Source: Baker Hughes

48 Canada: Monthly Wells Drilled
Current Year vs Years Prior

Total rig-releases for exploratory and development wells are highlighted in this chart. Rig releases for the current year are shown in red.
Source: Daily Oil Bulletin/JWN

49 United States: Monthly Wells Drilled
Current Year vs Years Prior

Total wells drilled in US Drilling Productivity Report regions are shown. These are the most active onshore US plays.
Source: EIA
Estimated Capital Flow in the Canadian Oil and Gas Economy for 2020

Industry Revenue, Cash Flow, Reinvestment, Drilling Activity and Production

$C 25.72 per BOE

Oil & Gas Prices

$C 69.3 Billion

E&P Revenue

7.9 Million BOE/day

Capital Flow

7,900 - 3,100 Wells Drilling Activity

2,400 - 3,100 Wells Reserve Additions

Service Sector Revenue

Canadian Industry Metrics

<table>
<thead>
<tr>
<th>Price</th>
<th>Production Volume</th>
<th>Capital Inflow</th>
<th>Reinvestment</th>
<th>Drilling</th>
<th>Well Split</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C/BOE</td>
<td>Edmonton Par AECO</td>
<td>Conv. Liquids</td>
<td>Bitumen + Synthetic</td>
<td>Natural Gas</td>
<td>Total Volume</td>
</tr>
<tr>
<td>2010</td>
<td>48.41 77.55 3.79</td>
<td>1830 1403 2434</td>
<td>5.668</td>
<td>10,1056 45,369</td>
<td>35,666 17,895 1.9</td>
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<tr>
<td>2011</td>
<td>55.32 95.24 3.44</td>
<td>1873 1482 2386</td>
<td>5.740</td>
<td>11,890 53,448</td>
<td>40,619 22,491 1.9</td>
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<tr>
<td>2012</td>
<td>50.60 86.38 2.27</td>
<td>1905 1743 2327</td>
<td>5.975</td>
<td>11,389 48,908</td>
<td>39,733 27,899 1.7</td>
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<tr>
<td>2013</td>
<td>55.95 93.47 3.02</td>
<td>2023 1940 2343</td>
<td>6.306</td>
<td>12,878 54,711</td>
<td>43,865 30,809 1.35</td>
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<td>2014</td>
<td>60.69 95.07 4.23</td>
<td>2085 1964 2480</td>
<td>6.530</td>
<td>14,660 66,977</td>
<td>46,872 33,868 1.21</td>
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<tr>
<td>2015</td>
<td>37.34 57.63 2.56</td>
<td>1995 2381 2531</td>
<td>6.907</td>
<td>94,127 29,985</td>
<td>31,609 22,929 1.82</td>
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<tr>
<td>2016</td>
<td>32.61 53.09 2.06</td>
<td>2013 2421 2564</td>
<td>6.998</td>
<td>83,298 23,701</td>
<td>23,040 16,426 1.62</td>
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<tr>
<td>2017</td>
<td>39.18 62.42 2.10</td>
<td>2118 2674 2605</td>
<td>7.399</td>
<td>105,788 45,031</td>
<td>28,712 18,803 0.94</td>
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<td>2018</td>
<td>39.57 69.24 1.46</td>
<td>2292 2737 2737</td>
<td>7.942</td>
<td>114,705 48,322</td>
<td>27,374 11,661 0.81</td>
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<tr>
<td>2019e</td>
<td>41.29 69.02 1.71</td>
<td>2237 2758 8.013</td>
<td>120,781 53,029</td>
<td>25,309 15,024 0.70</td>
<td>4,886 24 70 30</td>
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<td>2020e</td>
<td>25.72 43.11 2.00</td>
<td>1786 2895 2703</td>
<td>7.384</td>
<td>69,322 33,737</td>
<td>9,025 6,012 1.2</td>
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</tbody>
</table>

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