Oil Prices Outlook
2018-2022

December, 2017
United States
Key Messages

1.Further price increases in the short-run supported by robust demand and inventory correction

2. Geopolitical factors could lift prices further

3. In the mid-term, supply is expected to catch up with higher prices, intensifying the fight for market share

4. A more competitive environment and structural changes in energy markets will make it difficult to keep prices above $60/b for a prolonged period

5. The main uncertainty comes from the lagged effects of CAPEX cuts and the impact on future supply
Sustained price increases in 2H17 reignited a bullish sentiment. Is the worst finally over?

**Crude oil prices**
(2017, $ per barrel)

- WTI
- Brent
- Estimated long-term equilibrium

**Crude oil non-commercial long contracts**
(2017, light-sweet, futures only)

Source: BBVA Research and Haver Analytics
Higher prices have been supported mainly by demand

**NYFed: cumulative weekly decomposition**
(Jul 07- Nov-2017)

**Oil product demand**
(YoY % change, million barrels per day)

Source: New York Fed

Source: BBVA Research and Haver Analytics
Oil Prices Outlook

OPEC and Russia’s commitment to the output deal have also helped. The deal was extended for the entire 2018.

Change in crude oil production
(Dec-16 to Nov-17, thousand barrels per day)

<table>
<thead>
<tr>
<th>Country</th>
<th>Change in Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saudi Arabia</td>
<td>28.5</td>
</tr>
<tr>
<td>Russia</td>
<td>29.0</td>
</tr>
<tr>
<td>Iraq</td>
<td>29.5</td>
</tr>
<tr>
<td>UAE</td>
<td>30.0</td>
</tr>
<tr>
<td>Kuwait</td>
<td>30.5</td>
</tr>
<tr>
<td>Angola</td>
<td>31.0</td>
</tr>
<tr>
<td>Gabon</td>
<td>31.5</td>
</tr>
<tr>
<td>Venezuela</td>
<td>32.0</td>
</tr>
<tr>
<td>Algeria</td>
<td>32.0</td>
</tr>
<tr>
<td>Qatar</td>
<td>32.0</td>
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<tr>
<td>Ecuador</td>
<td>32.0</td>
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<tr>
<td>Nigeria</td>
<td>32.0</td>
</tr>
<tr>
<td>Iran</td>
<td>32.0</td>
</tr>
<tr>
<td>Libya</td>
<td>32.0</td>
</tr>
</tbody>
</table>

Source: BBVA Research and Haver Analytics

OPEC crude oil production*
(Million barrels per day)

*Excluding Libya and Nigeria
Source: BBVA Research and Haver Analytics
Inventories will continue to decline, but are likely to remain above their 5-year average for some more time

**U.S. Stocks of crude oil**
(Excl SPR, eop, million barrels)

**U.S. Stocks of motor gasoline**
(Eop, million barrels)

**OECD Oil inventories**
(Eop, billion barrels)

**Global commercial oil inventories: days supply**
(Eop, number of days)

Source: BBVA Research and Haver Analytics
The forward curve is in backwardation, implying stronger demand and further destocking in the short-run.

Source: BBVA Research and Bloomberg
Geopolitical factors could lift prices further in the short-run

- **Saudi Arabia.** There is uncertainty on the success of the Crown Princes’ anti-corruption crackdown and his plans for major reforms such as Vision 2030, which includes the Saudi Aramco IPO.

- **Intensification of proxy-conflict between Iran and Saudi Arabia** (Syria, Lebanon, Yemen, Qatar, Pakistan, etc.).

- **Iraq.** The Kurdish independence referendum and the attack on Kirkuk could anticipate a more open conflict that could escalate into military confrontation. In such scenario, the oil fields within the Kurdish area and the pipeline to Ceyhan, Turkey would become targets.

- **Iran.** President Trump’s decision not to certify Iran’s compliance with the 2015 nuclear deal adds uncertainty about whether the U.S. will impose fresh sanctions on Iran, limiting its capacity to export crude.

*Source: BBVA Research, Bloomberg and Haver Analytics*
Expect higher prices in the short-run, but convergence to $60/b thereafter

Crude oil prices forecast
(Brent, $ per barrel, avg.)

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Upside</th>
<th>Downside</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>52.8</td>
<td>52.8</td>
<td>52.8</td>
</tr>
<tr>
<td>2016</td>
<td>45.2</td>
<td>45.2</td>
<td>45.2</td>
</tr>
<tr>
<td>2017</td>
<td>53.9</td>
<td>54.4</td>
<td>53.4</td>
</tr>
<tr>
<td>2018</td>
<td>65.9</td>
<td>72.1</td>
<td>50.3</td>
</tr>
<tr>
<td>2019</td>
<td>64.1</td>
<td>79.2</td>
<td>38.2</td>
</tr>
<tr>
<td>2020</td>
<td>62.1</td>
<td>90.6</td>
<td>35.5</td>
</tr>
<tr>
<td>2021</td>
<td>61.5</td>
<td>108.6</td>
<td>33.2</td>
</tr>
<tr>
<td>2022</td>
<td>60.0</td>
<td>123.3</td>
<td>30.8</td>
</tr>
</tbody>
</table>

Source: BBVA Research
The gap between WTI and Brent has widened, creating arbitrage opportunities

Source: BBVA Research and Haver Analytics
U.S. supply may not catch up quickly with higher prices. Productivity has eased while investors are seeking profitability rather than growth

U.S. New well productivity per rig  
(Barrels per day)

U.S. shale operators cash flows  
($ bn)

Source: BBVA Research, Haver Analytics and Bloomberg
More than half of liquids from new supply sources are expected to be commercial at less than $60/b

Global liquids production by life cycle and breakeven price
(Million barrels per day)

Source: Rystad Energy
An intense fight for market share would make it difficult for prices to remain above $60/b for a long period.
However, from a cyclical perspective, the main uncertainty is the impact that subpar CAPEX could have on future production.

Global capital expenditures in crude oil
(Billion USD)

Source: Rystad Energy
Demand will continue growing but its pace may ease over time. Most of the expansion will be concentrated in Asia.
The electrification of transportation could displace several million barrels from the market

Electric vehicle sales projections
(Share of new car sales)

Global fuel demand displacement from electric vehicles
(Million barrels per day)

Source: Bloomberg New Energy Finance
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