Comparative Analysis of Monthly Reports on the Oil Market

Summary Findings from a Comparison of Data and Forecasts on the Oil Market by IEA and OPEC
1. NOTE BY THE SECRETARY GENERAL

The IEF conducts a comprehensive comparative analysis of the short-, medium-, and long-term energy outlooks of the IEA and OPEC, to inform the IEA-IEF-OPEC Symposium on Energy Outlooks that the IEF hosts in Riyadh as part of the trilateral work programme on a yearly basis.

To inform IEF stakeholders on how perspectives on the oil market of both organisations evolve over time more regularly, this monthly summary provides:

- Key findings and a snapshot overview of data points gained from comparing basic historical data and short-term forecasts of the IEA Oil Market Report and the OPEC Monthly Oil Market Report.

- A comparative analysis of oil inventory data reported by JODI, the IEA, OPEC and secondary sources in collaboration with the Rapidan Energy Group.

Moreover, international developments this month that will have an impact on oil market balances are as follows:

**Coronavirus disease (COVID-19)**

- The global spread of the Coronavirus is creating a demand shock that is impacting already fragile world energy market balances. Markets are continuing to assess the yet unknown risks of COVID-19 to the global economy as the disease continues to suppress economic activity.

**Oil Market Volatility**

- The absence of a production adjustment agreement at the 8th OPEC and non-OPEC Ministerial Meeting held on 6 March has turned cooperation on market stability to competition for market share. This has created a supply shock that is adding further downward pressure on oil markets that are testing lower price floors due to COVID-19.

**Refined Products and Inventories**

- Low oil prices combined with the inelastic nature of refined product supply and demand is usually a boon to refining margins. However, COVID-19 also impacts downstream profitability caused by erosion in demand. The combination of sustained shocks to supply and demand will cause product inventories to rise to new highs.

I trust this month’s analysis helps to sharpen focus on the evolving short-term market perspectives.

Dr Sun Xiansheng  
Secretary General  
International Energy Forum
2. KEY POINTS

2.1 DEMAND

- OPEC and the IEA’s overall demand growth projections decrease sharply in March due to the COVID-19 outbreak.
  - IEA world growth assessments have decreased by 920 kb/d to reach overall demand growth of -0.09 mb/d – the first contraction in global demand growth since 2009.
  - OPEC also decreased its forecast by 930 kb/d for overall growth of 0.06 mb/d. The IEA and OPEC estimates for absolute world demand have come back below the 100 mb/d threshold and are now 99.90 mb/d and 99.73 mb/d, respectively.

- The IEA and OPEC disagree on non-OECD demand growth.
  - The IEA’s estimate for non-OECD demand growth decreases by 480 kb/d to reach a total growth of 0.15 mb/d. OPEC’s growth estimate decreases by 610 kb/d for a total growth of 0.37 mb/d.
  - The IEA’s OECD growth decreased by 440 kb/d for total growth of -0.24 mb/d, while OPEC growth decreases by 320 kb/d for overall growth of -0.31 mb/d.
  - The IEA and OPEC differ by 130 kb/d and 70 kb/d on non-OECD and OECD demand growth, respectively.

2.2 SUPPLY

- The IEA and OPEC disagree on non-OPEC and OECD supply growth.
  - The IEA’s March 2020 assessment for non-OPEC growth is up by 30 kb/d to reach 2.08 mb/d while OPEC’s growth assessment has decreased by 490 kb/d for a total growth of 1.76 mb/d. In absolute values, the IEA and OPEC estimate non-OPEC supply at 67.07 mb/d and 66.74 mb/d respectively for 2020.
  - The IEA reports OECD growth at 1.69 mb/d, unchanged from last month. OPEC records OECD growth at 1.27 mb/d, a decrease of 440 kb/d from February. In absolute values, the IEA and OPEC estimate OECD supply estimates at 30.22 mb/d and 31.21 mb/d, respectively.

- The IEA and OPEC non-OECD supply growth estimates converge.
  - The IEA’s growth assessment increased by 50 kb/d for a total growth of 0.28 mb/d while OPEC revised its assessment down by 50 kb/d to reach 0.44 mb/d.
  - In absolute values, IEA and OPEC non-OECD supply estimates are 31.59 mb/d and 33.19 mb/d respectively for 2020.

2.3 STOCKS

- The IEA and OPEC continue to report strong alignment on stock figures. The IEA reports OECD stock levels at 2930 mb, which is close to OPEC’s assessment of 2940 mb for OECD stock that is 2.9 mb and 12.9 mb above the five-year average, respectively. The divergence between OPEC and the IEA stands at 10 mb for March. Total US crude inventories (excluding SPR) amount to about 455 mb according to the US Energy Information Administration (EIA). The EIA reports U.S. crude oil inventories are 3 percent below the five-year average for this time of year. OPEC reports US commercial crude stocks at 444 mb that are below the five-year average by about 18 mb.
### 2.4 SNAPSHOT (mb/d)

#### Demand

<table>
<thead>
<tr>
<th></th>
<th>OECD</th>
<th>Growth</th>
<th>( \Delta ) m/m</th>
<th>Non-OECD</th>
<th>Growth</th>
<th>( \Delta ) m/m</th>
<th>World</th>
<th>Growth</th>
<th>( \Delta ) m/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEA</td>
<td>47.36</td>
<td>-0.24</td>
<td>-0.44</td>
<td>52.54</td>
<td>0.15</td>
<td>-0.48</td>
<td>99.90</td>
<td>-0.09</td>
<td>-0.92</td>
</tr>
<tr>
<td>OPEC</td>
<td>47.59</td>
<td>-0.31</td>
<td>-0.32</td>
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<td>0.41</td>
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<td>0.13</td>
<td>0.17</td>
<td>0.15</td>
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#### Supply

<table>
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<tr>
<th></th>
<th>OECD</th>
<th>Growth</th>
<th>( \Delta ) m/m</th>
<th>Non-OECD</th>
<th>Growth</th>
<th>( \Delta ) m/m</th>
<th>NOPEC</th>
<th>Growth</th>
<th>( \Delta ) m/m</th>
<th>OPEC</th>
<th>Growth</th>
<th>( \Delta ) m/m</th>
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<tr>
<td>IEA</td>
<td>30.22</td>
<td>1.69</td>
<td>0</td>
<td>31.59</td>
<td>0.28</td>
<td>0.05</td>
<td>67.07</td>
<td>2.08</td>
<td>0.03</td>
<td>28.34</td>
<td>-0.55</td>
<td>0.16</td>
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<tr>
<td>OPEC</td>
<td>31.21</td>
<td>1.27</td>
<td>-0.44</td>
<td>33.19</td>
<td>0.44</td>
<td>-0.05</td>
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<tr>
<td>Difference</td>
<td>0.99</td>
<td>0.42</td>
<td>0.44</td>
<td>1.60</td>
<td>0.16</td>
<td>0.10</td>
<td>0.33</td>
<td>0.32</td>
<td>0.52</td>
<td>0.57</td>
<td>0</td>
<td>0.20</td>
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</table>

#### Stocks (mb)

<table>
<thead>
<tr>
<th></th>
<th>OECD</th>
<th>US</th>
<th>OECD to 5-Year Average</th>
<th>US to 5-Year Average</th>
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<tbody>
<tr>
<td>IEA</td>
<td>2930</td>
<td>-</td>
<td>2.9 mb above</td>
<td>-</td>
</tr>
<tr>
<td>OPEC</td>
<td>2940</td>
<td>444</td>
<td>12.9 mb above</td>
<td>17.6 mb below</td>
</tr>
<tr>
<td>EIA</td>
<td>455</td>
<td>-</td>
<td>3 percent below</td>
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3. GLOBAL ANALYSIS

3.1 DEMAND DATA

See the graph below for the monthly revisions of IEA and OPEC annual estimates for 2019 and new estimates for 2020 demand.

*monthly estimates rounded to the nearest barrel.

IEA and OPEC overall demand growth decreases sharply in March

IEA and OPEC disagree on Non-OECD demand growth

- Absolute Demand
  - The IEA’s estimate for global demand growth decreased by 920 kb/d to -0.09 mb/d for an absolute demand of 99.90 mb/d in 2020. Demand growth for 2020 will continue to depend on the extent and severity of the novel coronavirus that has significantly impacted the world economy and continues to erode global demand.
  - As the traditional driver of demand growth, non-OECD Asia demand has been revised down further to -0.02 mb/d in March from 0.47 mb/d last month.
  - OPEC’s global demand outlook also decreased by 930 kb/d for a total growth of 0.06 mb/d in 2020. Absolute demand is below the 100 mb/d mark at 99.73 mb/d.

- OECD Demand
  - The IEA sees OECD oil demand growth decline by -0.24 mb/d, down from last month’s figure of 0.20 mb/d with Europe comprising most of the decrease at -0.20 mb/d. The IEA anticipates total OECD consumption for 2020 at 47.59 mb/d.
  - OPEC’s growth projection for the OECD region decreases by 320 kb/d to -0.31 mb/d in total demand growth with total OECD demand for 2020 at 47.98 mb/d.
• **Non-OECD Demand**

  - The IEA and OPEC anticipate growth in non-OECD demand for this year at **0.15 mb/d** and **0.37 mb/d** respectively driven largely by the Americas and the Former Soviet Union. The discrepancy is largely due to differing views on COVID-19 and the extent to which it will impact demand short-term. Total non-OECD demand forecasts average **52.54 mb/d** and **52.13 mb/d**, respectively.

  - **China Demand**
    - COVID-19 has impacted Chinese demand with an annual decrease of 3.6 mb/d in February compared to 2019. Overall, Chinese demand is expected to contract by -0.27 mb/d in 2020.
    - According to OPEC, the COVID-19 outbreak could impact oil demand particularly during 1H20 leaving jet fuel demand vulnerable along with the transportation and industrial sectors. Lockdown policies could further impact demand growth. Overall oil demand growth is projected at -0.13 mb/d in 2020 compared to 0.36 mb/d in 2019.

  - **India Demand**
    - According to the IEA, India’s overall demand growth in 2020 is forecast to be 0.13 mb/d compared to 0.15 in 2019 due to a slowing economy in 2020. The potential increase of COVID-19 cases in India will also impact demand growth.
    - According to OPEC, India’s oil demand dropped in January due to a strong baseline in 2019. Growth of LPG in the residential use and gasoline for transportation are expected to be drivers for demand growth. Government spending on infrastructure is also expected to continue. Although COVID-19 could curb future demand, India’s demand is forecast grow by 0.09 mb/d in 2020 compared to 0.11 mb/d in 2019.
3.2 SUPPLY DATA

See the graph below for the monthly revisions of IEA and OPEC annual estimates for 2019 and new estimates for 2020 supply.

*monthly estimates rounded to the nearest barrel.

IEA and OPEC disagree on overall supply growth in March
OPEC growth falls while IEA growth increases or remains steady

![Monthly Revisions of Annual Non-OPEC Liquids Supplies Estimates](image)

### IEF comparative analysis of IEA and OPEC Monthly Reports on the Oil Market March 2020

#### Non-OPEC Supply

- According to the IEA, although the pace of US growth is slowing, it still accounts for the majority of the growth with support from Norway, Brazil, and Canada. The IEA forecasts non-OPEC supply at **67.07 mb/d** with a growth of **2.08 mb/d**, 30 kb/d more than last month.

  - The US comprises the bulk of this growth at 1.07 mb/d with total production estimated at 18.28 mb/d in 2020.
  
  - Brazil’s production is expected to grow by 290 kb/d with a total production of 3.19 mb/d in 2020 with growing production from the Berbigao field and the Atapu field that will start up later this year.
  
  - Norway’s production is expected to increase by 350 kb/d in 2020 largely due to the Johan Sverdrup field that is expected to increase capacity. Total production is expected to be 2.09 mb/d.

- OPEC’s March assessment of total non-OPEC supply for 2020 stands at **66.74 mb/d**. Supply growth decreases by 490 kb/d with total growth of 1.76 mb/d and most of the decrease coming from the US. OPEC’s non-OPEC growth is driven by the US (0.90), Norway (0.30 mb/d), Brazil (0.31 mb/d), and Canada (0.10 mb/d).
OECD Supply

- The IEA and OPEC forecast OECD growth at 1.69 mb/d and 1.27 mb/d with total supply reaching 30.22 mb/d and 31.21 mb/d respectively in 2020.

- The IEA’s data also shows OECD Americas oil supply growth at 1.24 mb/d to reach 25.94 mb/d in total. OPEC reports smaller growth of 0.90 mb/d growth with total oil supply reaching 26.66 mb/d in 2020. Growth within the region is led by the US at 0.90 mb/d to reach 19.30 mb/d in total according to OPEC, while the IEA projects greater US growth of 1.07 mb/d to amount to 18.28 mb/d in total.

- OPEC’s assessment for total OECD Europe production in 2020 is 4.00 mb/d with a growth of 0.29 mb/d after a decline from last year. The IEA’s assessment for OECD Europe supply records a higher increase by 0.39 mb/d for modestly lower total production of 3.73 mb/d.

OPEC Supply

- The IEA reports that OPEC production declined 550 kb/d month-over-month (m-o-m) to reach 28.34 mb/d.

- OPEC reports that total OPEC-14 preliminary crude oil production averaged 27.77 mb/d in February according to secondary sources. This is a decrease of 546 kb/d m-o-m (month-over-month). Crude oil output increased mainly in Iraq, Nigeria, Angola, Congo and the UAE, while production decreased primarily in Libya and Saudi Arabia.

3.3 STOCK DATA

See the graphs below for monthly estimates of OECD total commercial oil stocks and the monthly comparison versus the five-year average.

*monthly estimates rounded to the nearest barrel.

- IEA data shows OECD commercial inventories rose by 27.8 mb m-o-m in January to 2930 mb and are 2.9 mb above the five-year average.

- According to OPEC, preliminary data for July showed that total OECD commercial oil stocks rose by 37.8 mb m-o-m to 2940 mb and are now 12.9 mb above the latest five-year average.

- While both organisations report closely aligned data on OECD stocks due to a continuous and reliable data stream and data harmonisation efforts, comprehensive data on stock developments for non-OECD countries is still work in progress.
IEA and OPEC data shows convergence on OECD stock draws
Comprehensive non-OECD stock data remains missing

IEA and OPEC begin to converge on stock balances over time
Stocks remain above the five-year average
3.3.1 GLOBAL STOCK ANALYSIS

IEA OECD and JODI non-OECD inventory data imply crude and product stocks built by 34.9 mb in January

- IEA estimates OECD inventories rose by a seasonal 27.8 mb in January to 2930 mb. Larger than seasonal build in product stocks offset a counter-seasonal draw in crude. Inventories now stand 2.9 mb above the latest 5-year average. Similarly, OPEC estimates OECD stocks rose by 37.8 mb to 2940 in January – 12.9 mb above the latest five-year average and 0.4 days above the average in days cover terms.

- JODI non-OECD* data for January imply crude stocks built by 2.9 mb and product stocks built by 3.5 mb. Crude builds in Iraq (+4.6 mb) and Nigeria (+1.6 mb) were partially offset by draws in Brazil (-2.9 mb). Product builds occurred primarily in Argentina (+2.2 mb) and Brazil (+2.0 mb).

- IEA’s OECD and JODI’s non-OECD* inventory data imply global crude and product stocks built by 34.9 mb in January. However, JODI data did not include estimates for Chinese stock changes in January, but IEA estimates a near 1 mb/d build in China for the month. China usually combines January and February data together due to data availability constraints as a result of the Lunar New Year holidays. Additionally, IEA noted short-term floating storage built by 7.7 mb in January. Taken together, the available data implies a massive 73.6 mb stock build in January.

* Non-OECD data is the aggregate of country-level data through JODI. Not all non-OECD countries report inventory data and the countries in the aggregate may vary monthly depending on regularity of individual country reporting.

<table>
<thead>
<tr>
<th>Global Inventory Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>(mb)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>OECD Commercial (IEA)</td>
</tr>
<tr>
<td>OECD SPR (IEA)</td>
</tr>
<tr>
<td>Available JODI Non-OECD Data*</td>
</tr>
<tr>
<td>Total</td>
</tr>
<tr>
<td>IEA’s Implied Global Supply Surplus</td>
</tr>
<tr>
<td>OPEC’s Implied Global Supply Surplus</td>
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</tbody>
</table>

* Aggregate of all non-OECD data available through JODI. Not all non-OECD countries report inventory data and the countries in the aggregate may vary monthly depending on the regularity of individual country reporting.

Source: IEA, JODI, OPEC, Rapidan Energy Group.
COMPARATIVE ANALYSIS OF MONTHLY REPORTS ON THE OIL MARKET

RIYADH, SAUDI ARABIA

MARCH 2020

Monthly Change in OECD and Non-OECD* Crude + Product Inventories

* Aggregate of all non-OECD data available through JODI. Not all non-OECD countries report inventory data and the countries in the aggregate may vary monthly depending on the regularity of individual country reporting.

Source: IEA, JODI, Rapidan Energy Group

Accumulative OECD and Non-OECD* Crude + Product Builds Since Jan-2015

* Aggregate of all non-OECD data available through JODI. Not all non-OECD countries report inventory data and the countries in the aggregate may vary monthly depending on the regularity of individual country reporting.

Source: IEA, JODI, Rapidan Energy Group