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:

Non-OPEC Production Shut-Ins
- While OPEC+ production agreement took effect in May, output from the US, Canada and other producers is set to fall further. This could lead to a historic decline of 12 mb/d and cut global supply to 88 mb/d – the lowest in nine years according to the IEA.

Additional Voluntary Productions Adjustments
- Kuwait, and the UAE join Saudi Arabia that announced an additional voluntary oil production adjustment of 1m b/d beyond the OPEC+ targets on 11 May to take effect in June. The UAE will reduce its output by an additional 100 kb/d and Kuwait by an extra 80 kb/d on top of the 9.7 mb/d adjustment by OPEC+ that took effect in May.

Oil Market Recovery
- A partial re-opening of economies in some countries, a greater dependence on driving as opposed to public transportation, and non-OPEC production shut-ins have led to a modest recovery in oil market demand in comparison to last month.

I trust this month’s analysis helps to sharpen focus on 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 projections converge in May.**
  - The IEA's world demand assessments increased by 670 kb/d to reach an overall demand decline of -8.63 mb/d – marginally less than last month’s supply decline of -9.30 mb/d.
  - OPEC decreased its demand forecast by 2.22 mb/d for an overall decline of -9.07 mb/d which brings it more in line with the IEA forecast. The IEA and OPEC estimates for absolute world demand are below the 100 mb/d threshold at 91.23 mb/d and 90.59 mb/d, respectively.

- **OPEC reports a greater OECD demand decline than the IEA while there is general agreement on non-OECD growth.**
  - The IEA's OECD demand assessment increased by 1.17 mb/d for a total demand decline of -4.52 mb/d, while OPEC growth decreases by 1.20 mb/d for an overall decline of -5.19 mb/d.
  - The IEA’s estimate for non-OECD demand decreases by 490 kb/d to reach a total decline of -4.11 mb/d for 2020. OPEC’s estimate decreases by 1.03 mb/d for a total decline of -3.88 mb/d.
  - The IEA and OPEC differ by 0.28 kb/d and 0.37 kb/d on absolute non-OECD and OECD demand, respectively.

2.2 SUPPLY

- **The IEA and OPEC overall supply projections converge in May.**
  - The IEA's May 2020 assessment for non-OPEC supply is down by 960 kb/d to reach a total decline of -3.27 mb/d while OPEC's assessment has decreased by 2.03 mb/d for a total decline of -3.53 mb/d. In absolute values, the IEA and OPEC estimate non-OPEC supply at 62.27 mb/d and 61.50 mb/d respectively for 2020.
  - The IEA reports OECD supply decline at -1.26 mb/d, down by 820 kb/d. OPEC records OECD decline at -1.62 mb/d, a decrease of 1.66 mb/d from April. In absolute values, the IEA and OPEC estimate OECD supply estimates at 27.30 mb/d and 28.35 mb/d, respectively.

- **OPEC reports a greater non-OECD supply decline in May.**
  - The IEA's supply assessment decreased by 20 kb/d for a total decline of -1.52 mb/d while OPEC revised its assessment down by 120 kb/d to reach -1.72 mb/d.
  - In absolute values, the IEA and OPEC non-OECD supply estimates are 30.31 mb/d and 31.05 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 2961 mb, which is close to OPEC’s assessment of 3002 mb for OECD stock that is 46.7 mb and 88.6 mb above the five-year average, respectively. The divergence between OPEC and the IEA stands at 41 mb for May. Total US crude inventories (excluding SPR) amount to about 534 mb according to the US Energy Information Administration (EIA). The EIA reports U.S. crude oil inventories are 13 percent above the five-year average for this time of year. OPEC reports US commercial crude stocks at 532 mb that are above the five-year average by about 54 mb.

2.4 SNAPSHOT (mb/d)

<table>
<thead>
<tr>
<th>Demand</th>
<th>IEA (mb/d)</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>Non-OECD Growth</th>
<th>Δ m/m</th>
<th>World Growth</th>
<th>Δ m/m</th>
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<tbody>
<tr>
<td>IEA</td>
<td>43.08</td>
<td>-4.52</td>
<td>1.17</td>
<td>48.16</td>
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<td>42.71</td>
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<td>-3.88</td>
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<td>Difference</td>
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<td>0.67</td>
<td>2.37</td>
<td>0.28</td>
<td>0.23</td>
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<table>
<thead>
<tr>
<th>Supply</th>
<th>IEA (mb/d)</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>Non-OECD Growth</th>
<th>Δ m/m</th>
<th>NOPEC Growth</th>
<th>Δ m/m</th>
<th>OPEC Growth</th>
<th>Δ m/m</th>
<th>Difference</th>
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<tr>
<td>IEA</td>
<td>27.30</td>
<td>-1.26</td>
<td>-0.82</td>
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<td>OPEC</td>
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<td>Difference</td>
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<td>0.36</td>
<td>0.84</td>
<td>0.74</td>
<td>0.20</td>
<td>0.77</td>
<td>0.26</td>
<td>0.32</td>
<td>0.58</td>
<td>0.72</td>
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<table>
<thead>
<tr>
<th>Stocks (mb)</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>2961</td>
<td>-</td>
<td>46.7 mb above</td>
<td>-</td>
</tr>
<tr>
<td>OPEC</td>
<td>3002</td>
<td>532</td>
<td>88.6 mb above</td>
<td>54 mb above</td>
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<tr>
<td>EIA</td>
<td>534</td>
<td>-</td>
<td>13 percent above</td>
<td>-</td>
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*Totals in table may not exactly reflect content due to independent rounding.
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 decline figures converge in May**
**The IEA is more optimistic than OPEC on demand decline**

![Image of graph showing demand estimates]

...
• Non-OECD Demand

- The IEA and OPEC anticipate demand declines in non-OECD demand for this year at **-4.11 mb/d** and **-3.88 mb/d** respectively driven largely by the Americas, Middle East, and the Americas. The discrepancy is largely due to differing views on COVID-19 and the extent to which it will impact short-term demand. A second wave of the virus also remains a major risk. Total non-OECD demand forecasts average **48.16 mb/d** and **47.88 mb/d**, respectively.

- **China Demand**
  - Demand slightly rebounded in March after slumping in January and February, however it remains 940 kb/d below last year’s levels. Overall oil demand in 2020 is expected to decline by 960 kb/d.
  - According to OPEC, demand fell by 2 mb/d year-on-year (y-o-y) in March as government lockdown measures led to poor demand. Demand for products is expected to remain low for this year but may improve in the second half of 2020 due to a gradual recovery in economic activity. Demand for 2020 is forecast to drop by around 950 kb/d y-o-y.

- **India Demand**
  - India went into lockdown on 24 March shutting down key sectors of its economy impacting mobility in the process. For gasoline demand in both April and May, the y-o-y fall is estimated at almost 60 percent. Overall, Indian demand is expected to drop by 415 kb/d in 2020. Gasoil, diesel, and gasoline will be the most affected.
  - According to OPEC, in March, India’s oil demand fell by 0.78 mb/d y-o-the largest decline ever recorded. Lockdown measures by the government have impacted demand for almost all products with gasoline and jet fuel taking the brunt of the decline. Indian demand for 2020 is expected to fall by 490 kb/d.
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 see sharper declines in overall supply in May**

**IEA and OPEC largely agree on the extent of supply declines**

### Monthly Revisions of Annual Non-OPEC Liquids Supplies Estimates

2019/18, and 2020/19 from May 2020

- Non-OPEC Supply
  - The IEA forecasts non-OPEC supply at **62.27 mb/d** with a supply decline of **-3.27 mb/d** for 2020, 0.96 mb/d less than last month.
    - By April, non-OPEC production fell by more than 3 mb/d since the start of the year, led by large-scale shut-ins in the US and Canada, but those decreases were offset by increases in OPEC production.
    - The OPEC+ production adjustments that entered into effect in May along with further shut-ins from non-OPEC producers can result in a historic global decline that can reduce global supply to 88 mb – the lowest in nine years.
    - US and Canadian production is expected to decline by 1.11 mb/d and 480 kb/d respectively in 2020.
    - A greater non-OPEC supply decline of -3.27 mb/d in May stands in contrast to last month’s decline of -2.31 mb/d.
  - OPEC’s April assessment of total non-OPEC supply for 2020 stands at **61.50 mb/d**. Supply growth decreases by 2.03 mb/d with a total decline of **-3.53 mb/d**. Most of the decrease is coming from the US (-1.44 mb/d), Canada (-0.42 mb/d), and Russia (-1.30 mb/d) due to its role in the OPEC+ agreement. Norway, Brazil, Guyana, and Australia are forecast to be the key drivers of growth.
OECD Supply

- The IEA forecasts OECD supply decline at **-1.26 mb/d** for 2020 while OPEC reports a slightly larger decline at **-1.62 mb/d** with total supply reaching **27.30 mb/d** and **28.35 mb/d** respectively in 2020.

- The IEA’s data also shows OECD Americas oil supply declines by -1.56 mb/d to reach 23.14 mb/d in total. OPEC reports a larger decline at -1.94 mb/d with total oil supply reaching 23.81 mb/d in 2020.

- OPEC’s assessment for total OECD Europe production in 2020 is 3.98 mb/d with a growth of 0.27 mb/d after a decline from last year. The IEA’s assessment for OECD Europe supply records an increase by 0.25 mb/d for lower total production of 3.59 mb/d led primarily by Norway.

OPEC Supply

- The IEA reports that OPEC production increased by 2.38 kb/d month-on-month (m-o-m) in April to reach total production of **30.73 mb/d**. This is expected to decrease drastically as the OPEC+ production adjustment went into effect in May.

- OPEC reports that total OPEC-14 preliminary crude oil production averaged **30.41 mb/d** in April according to secondary sources. This is an increase of 1.80 mb/d m-o-m. Crude oil output increased mainly in Saudi Arabia, the UAE, and Kuwait, while production decreased primarily in Angola, Nigeria, Iran, and Iraq.

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 68.2 mb m-o-m in March to **2961 mb** and are 46.7 mb above the five-year average.

- According to OPEC, preliminary data for March showed that total OECD commercial oil stocks rose by 57.7 mb m-o-m to **3002 mb** and are now 88.6 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 show alignment on OECD stock builds
Comprehensive non-OECD stock data remains missing

IEA and OPEC begin to diverge on stock balances over time
IEA and OPEC stocks are back above the five-year average
3.3.1 GLOBAL STOCK ANALYSIS

IEA and JODI inventory data imply crude and product stocks built by a massive 64.2 mb in March and 117.1 mb in 1Q20

- IEA estimates OECD inventories rose by 68.2 mb to 2,961 mb in March to stand 46.7 mb above the five-year average. OECD crude stocks rose four times the seasonal rate with a 61.3 mb build and products rose counter-seasonally by 6.5 mb. IEA has also begun including an estimate of global crude storage capacity and utilization. At the end of April, IEA estimates 4.6 bn bbls of crude were in storage, reaching 69% utilization. The agency noted that based on its global oil balance, crude stocks would likely near operational storage capacity limits by mid-year.

- OPEC estimates OECD inventories built by 57.7 mb in March to 3,002 mb and now stand 88.6 mb above the five-year average.

- JODI non-OECD* data for March imply crude stocks built by 18.6 mb and product stocks drew by 23.7 mb. The largest crude builds occurred in China (4.7 mb) and India (4.0 mb). Product draws occurred primarily in China (-26.2 mb).

- IEA’s OECD and JODI’s non-OECD* inventory data imply global crude and product stocks built by 64.2 mb in March. However, it is worth noting a striking divergence in China’s reported crude stock builds in JODI and IEA’s estimate of implied Chinese crude builds. JODI shows China crude stocks rose by 4.7 mb in March, while IEA’s crude balance implies a massive 48 mb build. For 1Q20, JODI Chinese data shows a 33.3 mb build and IEA shows a 173 mb build.

* 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 the regularity of individual country reporting.

<table>
<thead>
<tr>
<th>Global Inventory Changes</th>
<th>March 1Q20</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Crude</td>
<td>Products</td>
</tr>
<tr>
<td>OECD Commercial (IEA)</td>
<td>61.3</td>
<td>7.0</td>
</tr>
<tr>
<td>OECD SPR (IEA)</td>
<td>0.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Available JODI Non-OECD Data*</td>
<td>18.6</td>
<td>-23.7</td>
</tr>
<tr>
<td>Total</td>
<td>80.0</td>
<td>-15.8</td>
</tr>
<tr>
<td>IEA’s Implied Global Supply Surplus</td>
<td>- 602.1</td>
<td>- 224.1</td>
</tr>
<tr>
<td>OPEC’s Implied Global Supply Surplus</td>
<td>- 656.1</td>
<td>- 186.2</td>
</tr>
</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.
MAY 2020

COMPARATIVE ANALYSIS OF MONTHLY REPORTS ON THE OIL MARKET

RIYADH, SAUDI ARABIA

Million Barrels

Non-OECD* Products (JODI)
OECD Products (IEA)
Net Non-OECD* (JODI) and OECD (IEA) Crude + Products

* 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 End-2014

Million Barrels

Non-OECD* Products (JODI)
OECD Products (IEA)
Net Non-OECD* (JODI) and OECD (IEA) Crude + Products

* 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