COMPARATIVE ANALYSIS OF MONTHLY REPORTS ON THE OIL MARKET

SUMMARY FINDINGS FROM A COMPARISON OF DATA AND FORECASTS ON THE OIL MARKET BY THE INTERNATIONAL ENERGY AGENCY (IEA) AND ORGANIZATION OF THE PETROLEUM EXPORTING COUNTRIES (OPEC).

FEATURING A COMPARATIVE ANALYSIS OF OIL INVENTORY DATA REPORTED BY JODI, THE IEA, OPEC AND SECONDARY SOURCES IN COLLABORATION WITH THE RAPIDAN ENERGY GROUP.

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IEF | COMPARATIVE ANALYSIS OF MONTHLY REPORTS ON THE OIL MARKET | RIYADH, SAUDI ARABIA | FEBRUARY 2020
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
- The spread of the Coronavirus continues to impact energy markets by impacting China’s energy demand (See enclosed IEF Insight Brief on The Coronavirus and its impact on the energy sector).

Libya Oil Blockade
- Continuing instability in Libya in has resulted in falling oil output due to a blockade of oil fields causing production to plunge to about 160 kb/d from approximately 1mb/d.

Canada Energy Developments
- Canada saw blockades on strategic railway points across the country as Indigenous groups protested the construction of a gas pipeline that crosses their traditional territory. Furthermore, Teck Resources, a Canadian mining company, shelved a proposed multi-billion dollar energy project citing political uncertainty about oil-and-gas development in the country.

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 growth projections decrease in February.** IEA world growth assessments have decreased by 360 kb/d to reach overall demand growth of 0.83 mb/d – the lowest recorded demand growth by the IEA since 2011. OPEC also decreased its forecast by 230 kb/d for overall growth of 0.99 mb/d. The IEA and OPEC estimates for absolute world demand have broken the 100 mb/d barrier and are now 100.97 mb/d and 100.73 mb/d, respectively.

- **The IEA and OPEC disagree on non-OECD and OECD demand growth for 2020.** The IEA’s estimate for non-OECD demand growth decreases by 290 kb/d to reach a total growth of 0.63 mb/d. OPEC’s growth estimate decreases by 150 kb/d for a total growth of 0.98 mb/d. The IEA’s OECD growth decreased by 70 kb/d for total growth of 0.20 mb/d, while OPEC growth decreases by 80 kb/d for overall growth of 0.01 mb/d. The IEA and OPEC differ by 350 kb/d and 190 kb/d on non-OECD and OECD demand growth, respectively.

2.2 SUPPLY

- **IEA and OPEC non-OPEC supply growth decreases in February.** The IEA’s February 2020 assessment for non-OPEC growth is down by 80 kb/d to reach 2.05 mb/d while OPEC’s growth assessment has decreased by 100 kb/d for a total growth of 2.25 mb/d. In absolute values, the IEA and OPEC estimate non-OPEC supply at 67.03 mb/d and 66.60 mb/d respectively for 2020. The IEA reports OECD growth at 1.69 mb/d, a decrease of 140 kb/d from last month. OPEC records OECD growth at 1.71 mb/d, a decrease of 120 kb/d from January. In absolute values, the IEA and OPEC estimate OECD supply estimates at 30.22 mb/d and 31.62 mb/d, respectively.

- **The IEA and OPEC disagree on non-OECD supply growth for 2020.** The IEA’s growth assessment increased by 50 kb/d for a total growth of 0.23 mb/d while OPEC revised its assessment by 30 kb/d to reach 0.49 mb/d. In absolute values, IEA and OPEC non-OECD supply estimates are 31.54 mb/d mb/d and 32.64 mb/d respectively for 2019.

2.3 STOCKS

- **The IEA and OPEC continue to report strong alignment on stock figures.** The IEA reports OECD stock levels at 2915 mb, which is close to OPEC’s assessment of 2918 mb for OECD stock that is 26.4 mb and 29.5 mb above the five-year average, respectively. The divergence between OPEC and the IEA stands at 3 mb for February. Total US crude inventories (excluding SPR) amount to about 443 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 435 mb that are below the five-year average by about 13 mb.
### 2.4 SNAPSHOT (mb/d)

<table>
<thead>
<tr>
<th>Demand</th>
<th>IEA</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>Non-OECD</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>World</th>
<th>Growth</th>
<th>Δ m/m</th>
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<th>IEA</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>Non-OECD</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>NOPEC</th>
<th>Growth</th>
<th>Δ m/m</th>
<th>OPEC</th>
<th>Growth</th>
<th>Δ m/m</th>
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<td>30.22</td>
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<th>Stocks (mb)</th>
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<th>US</th>
<th>OECD to 5-Year Average</th>
<th>US to 5-Year Average</th>
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<td>-</td>
<td>26.4 mb above</td>
<td>-</td>
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<td>OPEC</td>
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<td>435</td>
<td>29.5 mb above</td>
<td>12.5 mb below</td>
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<td>EIA</td>
<td>443</td>
<td>-</td>
<td>3 percent below</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 demand growth sees overall decrease in February
IEA and OPEC still disagree on OECD and Non-OECD demand growth

- Absolute Demand
  - The IEA’s estimate for global demand growth decreased by 360 kb/d to 0.83 mb/d for an absolute demand of 100.97 mb/d in 2020. Demand growth for 2020 continues to be driven by continuing demand growth in non-OECD Asia although it has been revised down to 0.47 mb/d in February from 0.83 mb/d last month due to the outbreak of the Coronavirus.
  - OPEC’s global demand outlook also decreased by 230 kb/d for a total growth of 0.99 mb/d in 2020. Absolute demand remains above the 100 mb/d mark at 100.73 mb/d.

- OECD Demand
  - The IEA sees OECD oil demand growth at 0.20 mb/d, down from last month’s figure of 0.27 mb/d driven primarily by Europe and the Americas. The IEA anticipates total OECD consumption for 2019 at 47.84 mb/d.
  - OPEC’s growth projection for the OECD region increases by 80 kb/d to 0.01 mb/d in total demand growth with total OECD demand for 2019 at 47.98 mb/d.
• Non-OECD Demand

- The IEA and OPEC anticipate continued growth in non-OECD demand for this year at 0.63 mb/d and 0.98 mb/d, respectively. The discrepancy could be due to differing views on the Coronavirus and the extent to which it will impact demand short-term. Total non-OECD demand forecasts average 53.13 mb/d and 52.75 mb/d, respectively.

- China Demand

  - The Coronavirus has impacted Chinese demand with January demand forecasted to fall by 90 kb/d year-over-year (y-o-y) while the decrease could accelerate to 790 kb/d y-o-y in February according to the IEA. Overall, Chinese demand is expected to grow by 0.15 kb/d in 2020, the lowest annual increase since 2008.

  - According to OPEC, the Coronavirus outbreak will impact oil demand particularly during 1H20 leaving jet fuel demand vulnerable along with the transportation and industrial sectors. For 2020, oil demand growth is projected at 0.23 mb/d compared to 0.35 mb/d in 2019.

- India Demand

  - According to the IEA, India’s oil demand rose by 45 kb/d y-o-y with gasoline consumption growing by 20 kb/d. Air traffic rose just 5 percent in December 2019 compare to 19 percent in 2018. Penetration of LPG into households continues as demand rose by 75 kb/d in December. 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.

  - According to OPEC, India’s oil demand remained stagnant in December. Growth of LPG in the residential, transportation, and industrial sectors continues to grow along with gasoline. Demand for 2020 is forecast to grow by 0.14 mb/d compared to 0.12 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 Non-OPEC supply growth decreases in February
IEA and OPEC disagree on Non-OECD supply growth

- 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, Canada, and Guyana. The IEA forecasts non-OPEC supply at **67.03 mb/d** with a growth of **2.05 mb/d**, 80 kb/d less than last month.
    - The US comprises the bulk of this growth at 1.06 mb/d with total production estimated at 18.27 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 360 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 February assessment of total non-OPEC supply for 2020 stands at **66.60 mb/d**. Supply growth decreases by 100 kb/d to **2.25 mb/d** driven by the US (1.26) Norway (0.32 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 1.71 mb/d with total supply reaching 30.22 mb/d and 31.62 mb/d respectively in 2020.

- The IEA's data also shows OECD Americas oil supply growth at 1.23 mb/d to reach 25.93 mb/d in total. OPEC reports larger growth of 1.32 mb/d growth with total oil supply reaching 27.04 mb/d in 2020. Growth within the region is led by the US at 1.26 mb/d to reach 19.65 mb/d in total according to OPEC, while the IEA projects less US growth of 1.06 mb/d to amount to 18.27 mb/d in total.

- OPEC’s assessment for total OECD Europe production in 2020 is 4.03 mb/d with a growth of 0.31 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 180 kb/d month-over-month (m-o-m) to reach 28.86 mb/d – the lowest level since the global recession of 2009. This was mostly due to OPEC + cuts that took effect in January. However, Libya accounted for half of OPEC’s net decline in January with output falling 360 kb/d due to a blockade. UAE production also fell by 300 kb/d.

- OPEC reports that total OPEC-14 preliminary crude oil production averaged 28.86 mb/d in January according to secondary sources. This is a decrease of 509 kb/d m-o-m (month-over-month). Crude oil output increased mainly in Saudi Arabia and Nigeria while production decreased in Libya, Iraq, and Kuwait.

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 decreased by 1.2 mb m-o-m in December to 2915 mb and are 26.4 mb above the five-year average.

- According to OPEC, preliminary data for July showed that total OECD commercial oil stocks fell by 8.8 mb m-o-m to 2918 mb and are now 29.5 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

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

IEA and OPEC begin to diverge on stock balances over time
IEA stocks return above the five-year average

IEF comparative analysis of IEA and OPEC Monthly Reports on the Oil Market February 2020
### 3.3.1 GLOBAL STOCK ANALYSIS

**IEA and JODI inventory data imply crude and product stocks drew by 5.3 mb in December**

- IEA estimates OECD inventories fell by a smaller-than-seasonal 1.2 mb in December to 2,915 mb. Product stocks built by more than three times the seasonal amount at 23.1 mb. IEA shows total inventories now stand 26.4 mb above the latest 5-year average. Notably, IEA revised up historical OECD stock levels for a fifth consecutive month. November stock builds were revised up by 5 mb (primarily product inventories in OECD Americas).

- OPEC estimates OECD stocks rose by 6.8 mb in December to 2,918 – 30 mb above the latest five-year average, but 0.1 days below the average in days cover terms.

- JODI non-OECD* data for December imply crude stocks drew by 20.3 mb and product stocks built by 20.4 mb. Over half of the crude draws occurred in Saudi Arabia at -11.8 mb. Over the course of the year, Saudi crude stocks have drawn by 50.2 mb. More than half of the product builds occurred in China at 11.4 mb. Together, IEA’s OECD and JODI’s non-OECD* inventory data imply global crude and product stocks drew by 5.3 mb in December.

*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.

#### Global Inventory Changes

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*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.
**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

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**Accumulative OECD and Non-OECD* Crude + Product Builds Since End-2014**

* 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