



New Reality of the Global Oil Market

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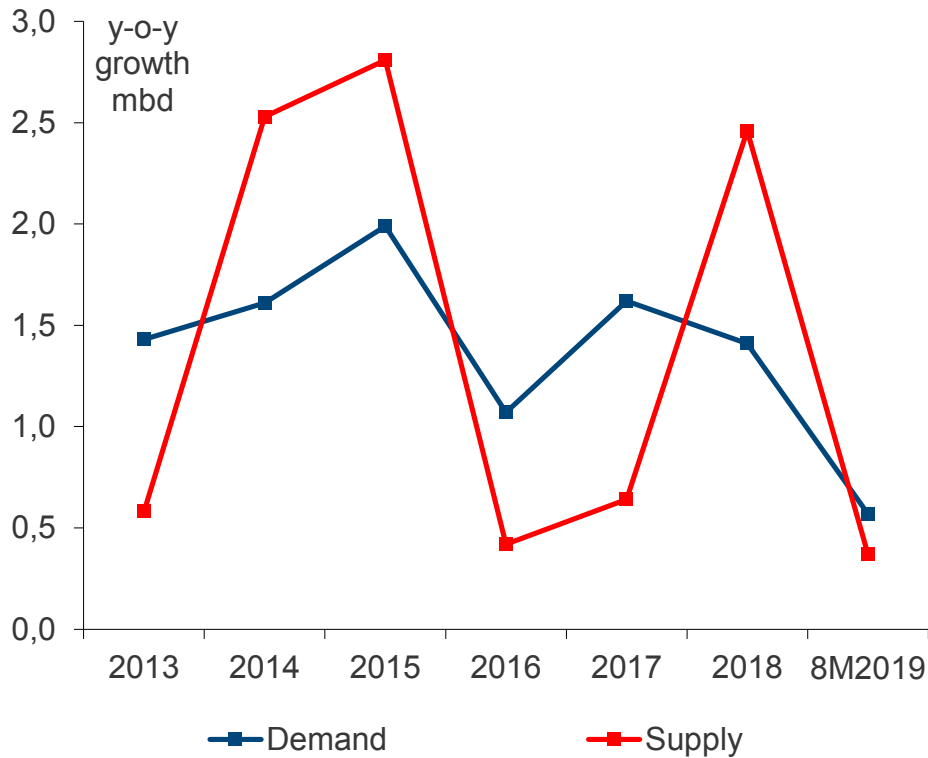
Preparatory Workshop for T2o Saudi Arabia

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Current Oil Market Landscape Huge Uncertainty

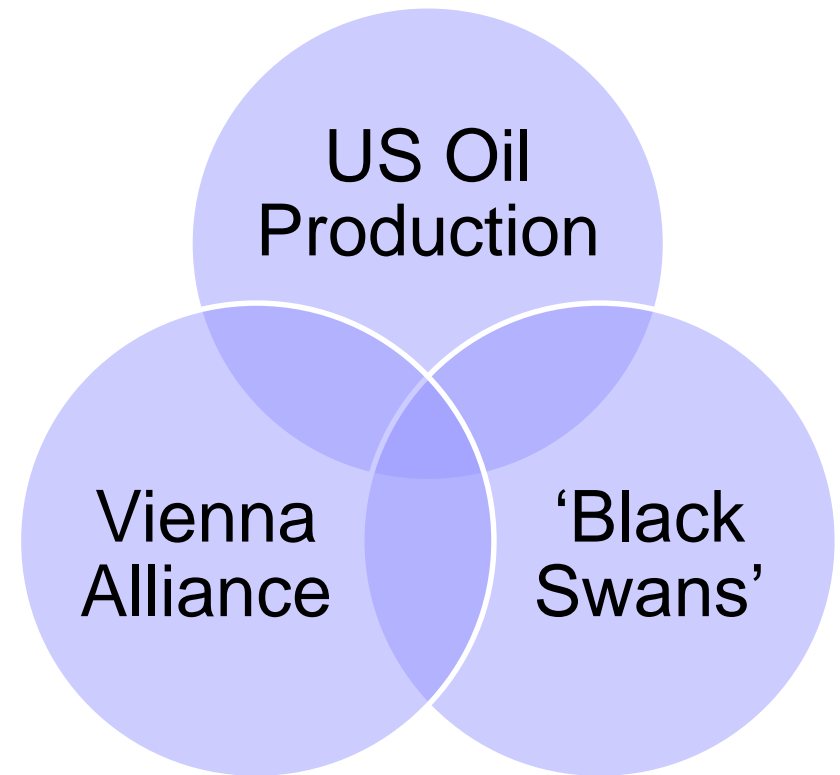
Oil market go up and down due to three main drivers

World oil supply is more volatile than demand



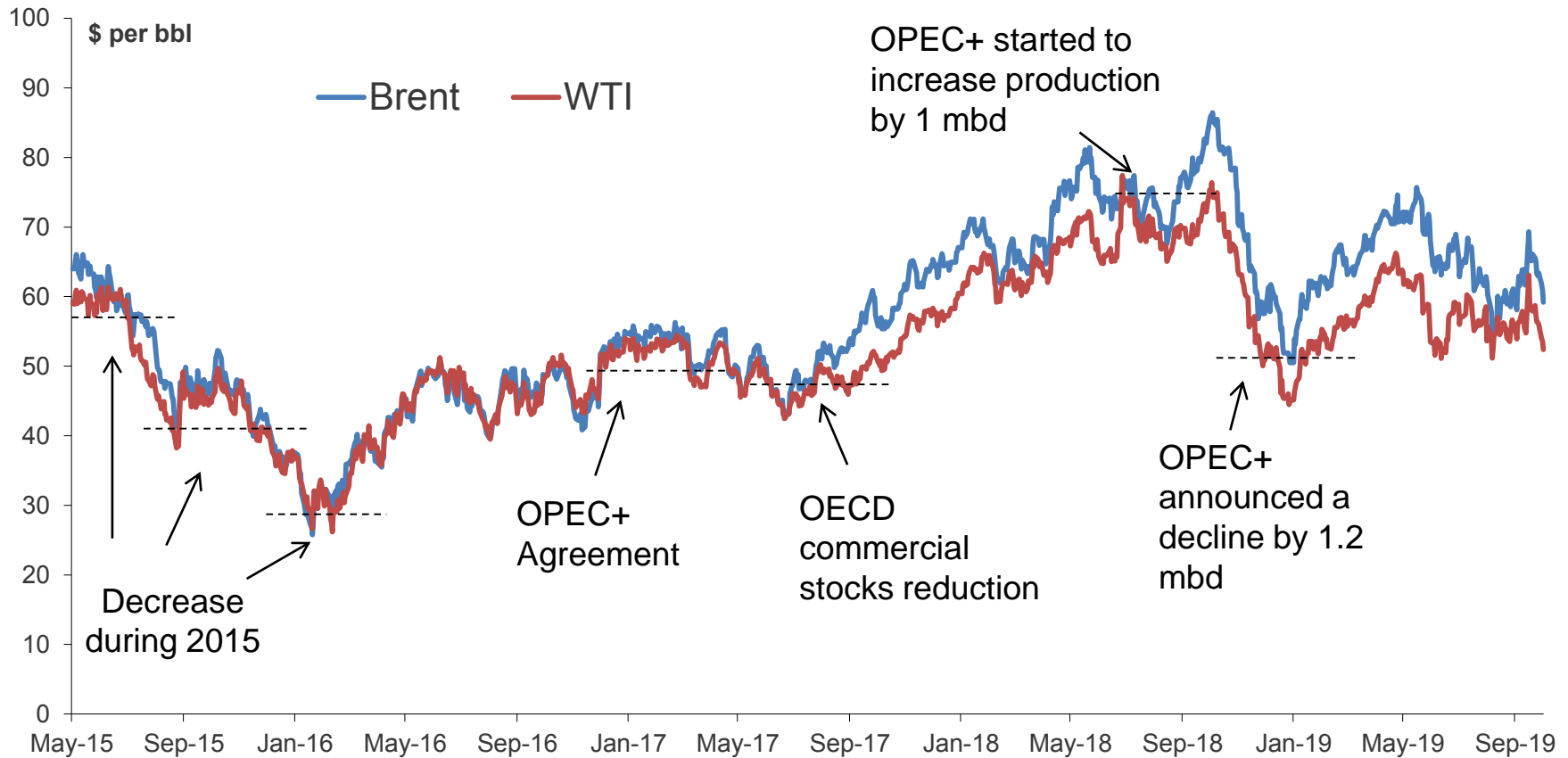
Source: EIA, IEA, OPEC

Three factors form the current oil market landscape



- Currently, global oil supply set the changes in the physical (so-called fundamental) indicators of the oil market: price movements, supply-demand gap and OECD commercial stocks.
- Vienna Alliance try to smooth out global oil demand and supply volatility and avoiding supply shortage or glut

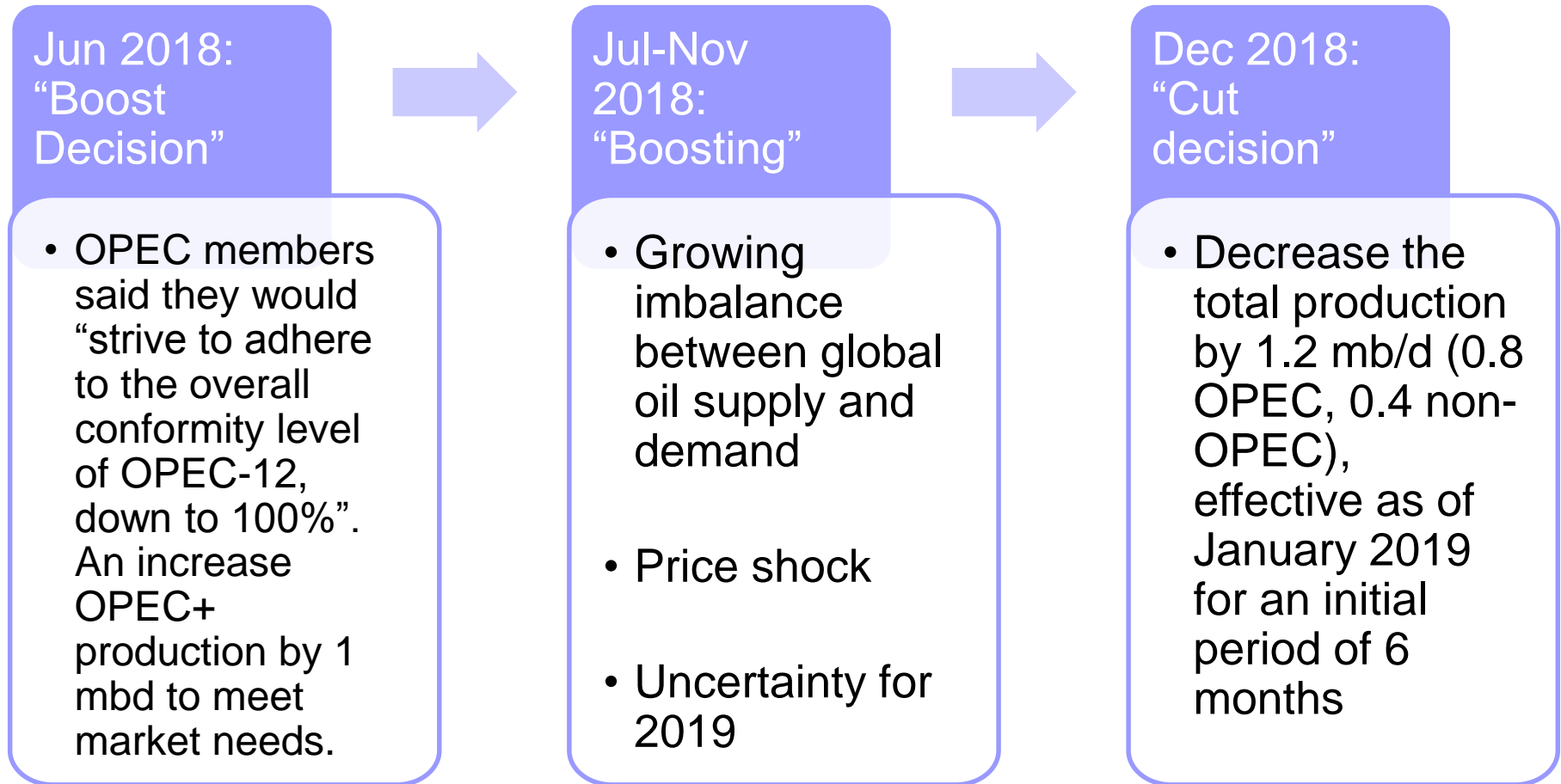
Do the OPEC+ Actions really smooth market volatility?



Source: Bloomberg

- OPEC+ actions affect oil price fluctuations but not smooth.
- One of the OPEC+ goals is to smooth oil prices shocks and reduce volatility. Oil prices rose steadily in 2017, but an OPEC+ actions in mid-2018 led to prices shock.
- Oil price remains volatile in 2019

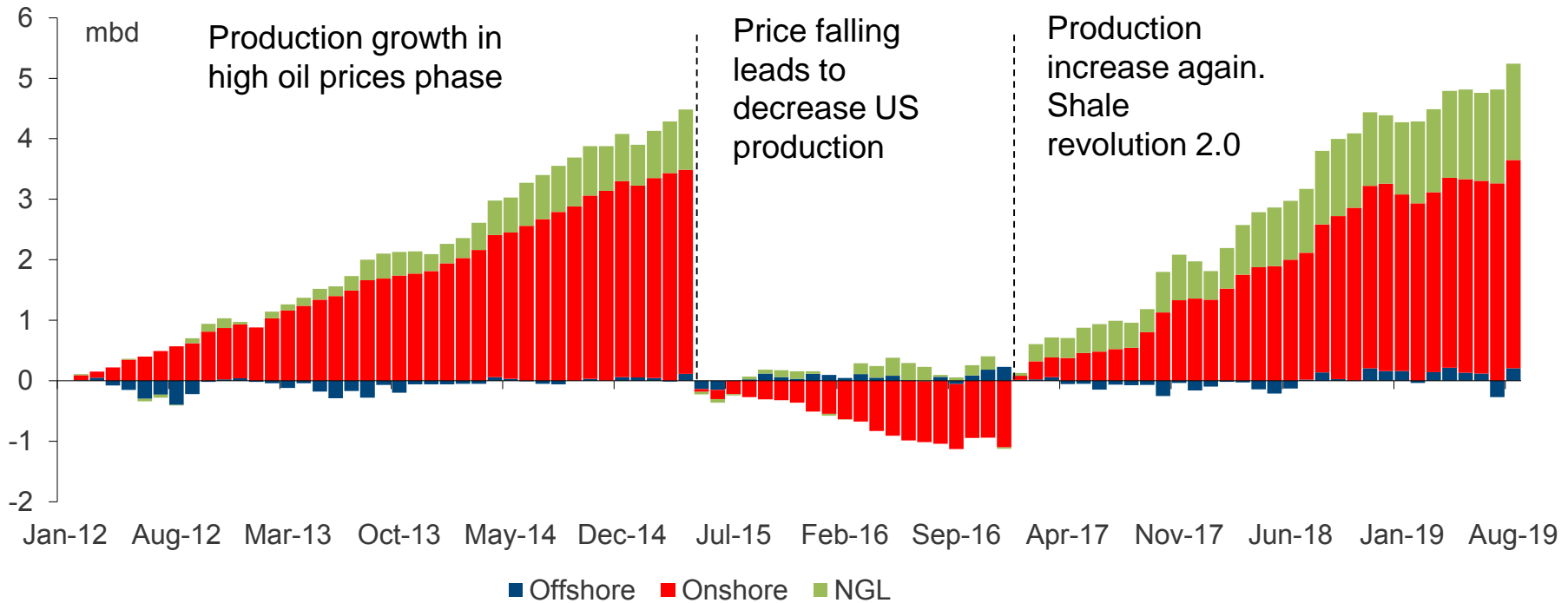
OPEC+ actions was successful in 2017, but ineffective in 2018. “Boost and Cut” case



- OPEC's ineffective actions in 2018 led to OPEC choosing a strategy without change production quota in 2019.
- OPEC has become more attentive to the signals that it sends to the market

Do OPEC+ actions impact on US oil production?

Accumulated increase/decrease in the US crude oil and NGL production

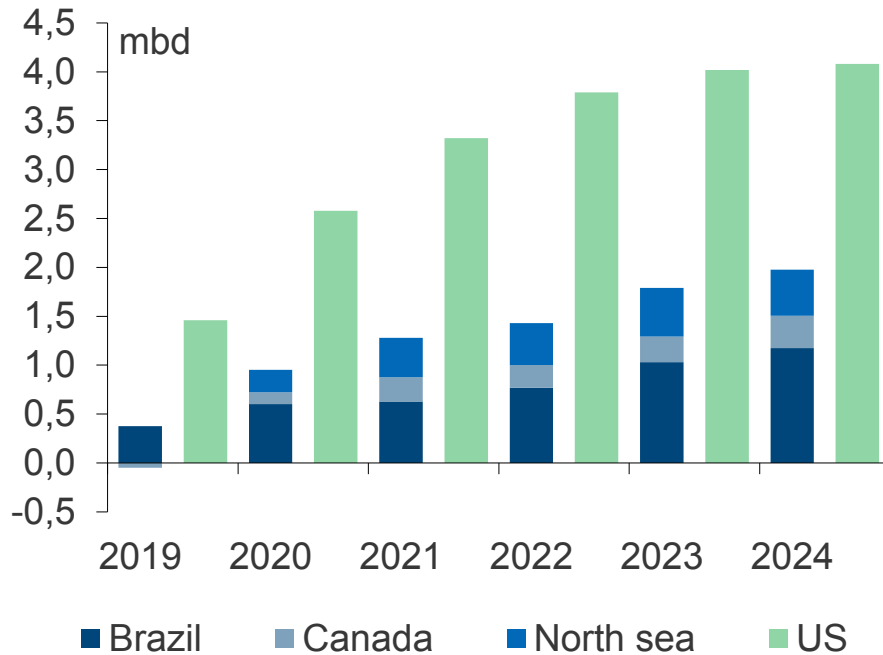


Source: EIA

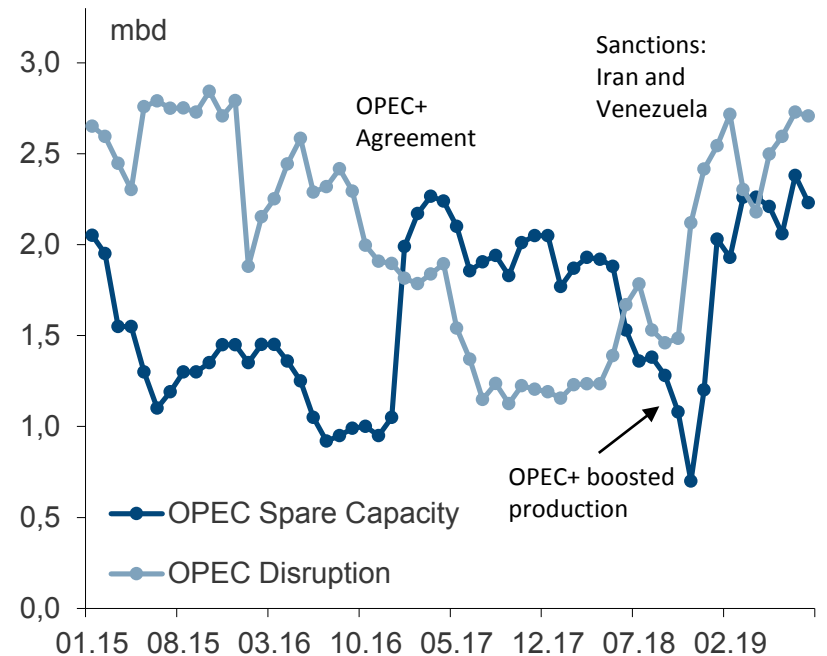
- In 2017 US shale producers quickly re-entered the industry.
- US producers had a lower unit costs and reported higher production growth rates than they had before the price drop.
- Could the OPEC+ actions or no actions prevent such US oil production increase?
- Can the actions by the Alliance members significantly affect the structural changes in the market? Or spikes only?

Other uncertainties for Global oil supply: Non-OPEC production and OPEC unplanned outages

Cumulative oil production growth rate in 2019-2024



OPEC' spare capacity vs unplanned outages

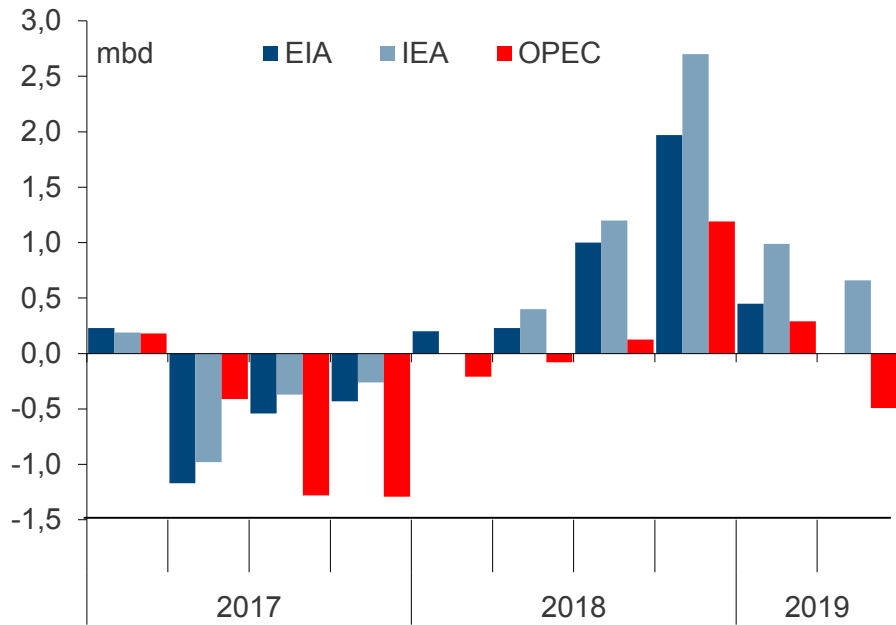


- Production growth in Brazil, Canada, and in the North Sea may reach 50% of the US production growth in medium term.
- In Norway, long-awaited projects are coming on stream earlier than expected and may ramp up to peak production ahead of schedule. Oil production in Brazil is growing fast, reaching 3 mb/d in August, 0.4 mb/d higher than just two months earlier.
- Spare production capacities and production outages in OPEC countries are extremely volatile
- Current high oil production outage level is a risk factor that can sharply increase volatility in global crude oil supply

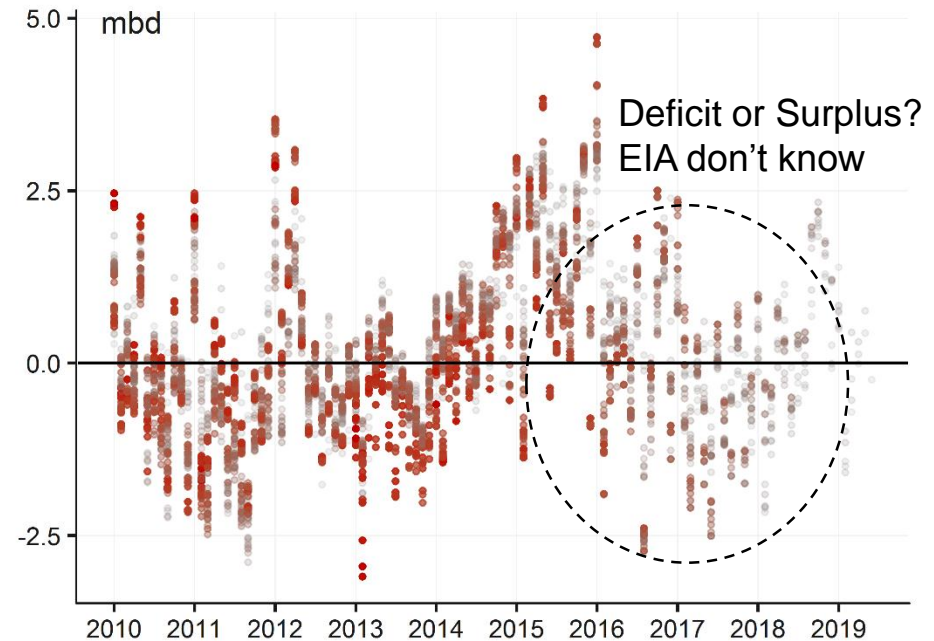
Do Energy Outlooks help reduce Uncertainty?

There is just not enough certainty to believe in current market balance estimates

Demand/Supply Balance



Demand/Supply Balance in STEO



Source: EIA, IEA, OPEC

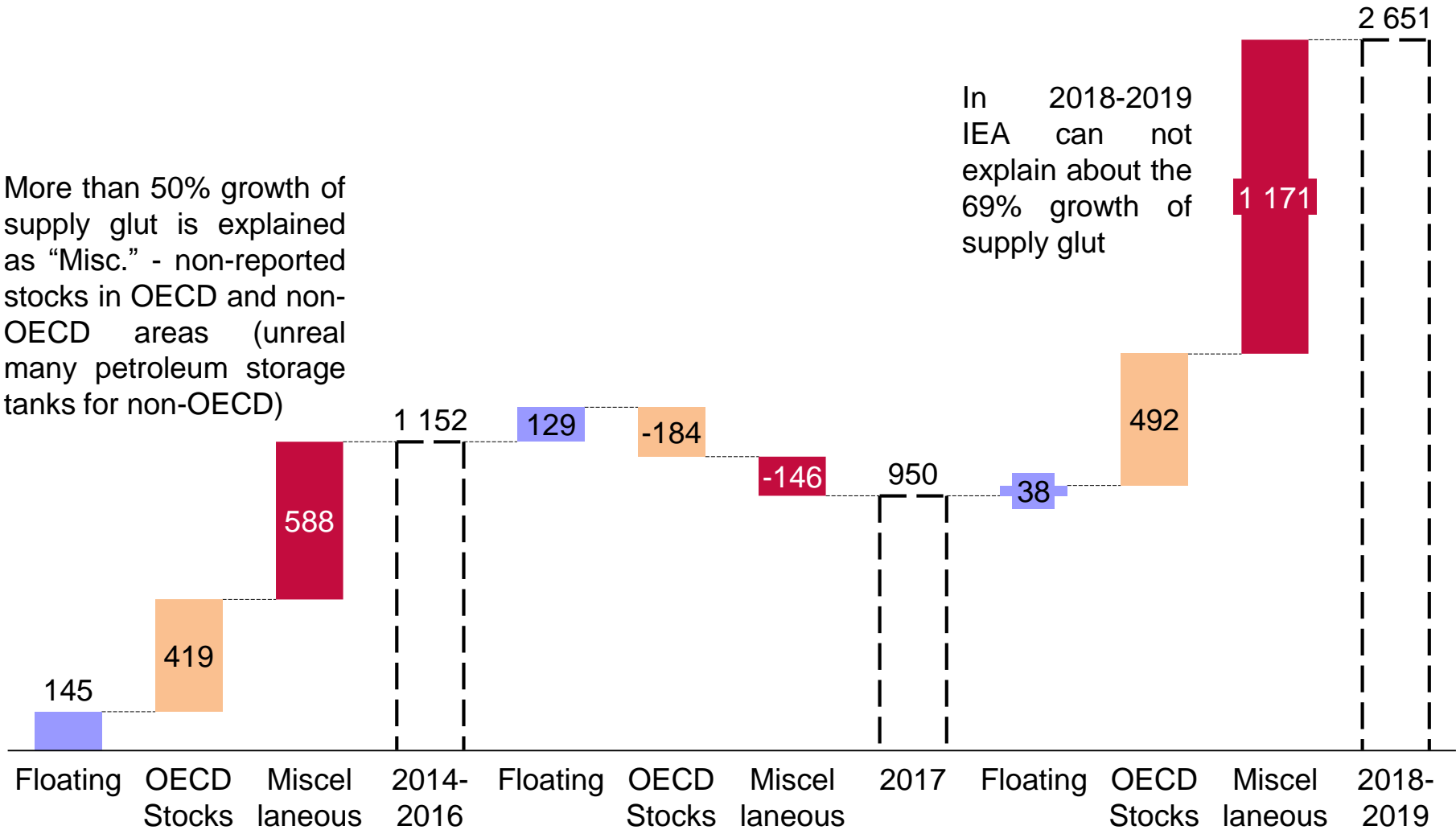
- Market balance is effectively a difference between current demand and supply, both of which are uncertain
- Estimates for supply-demand gap made by energy agencies differ significantly - for 2Q18 from -0,5 to 0,7 mbd
- Current estimates of global balance market in STEO have an uncertainty range near 3 mbd and will be revise significantly in future.

An imbalance structure only adds uncertainty. “Shadow oil”

Cumulative Demand/Supply Balance (1Q 2014 – 2Q 2019), mln barrels

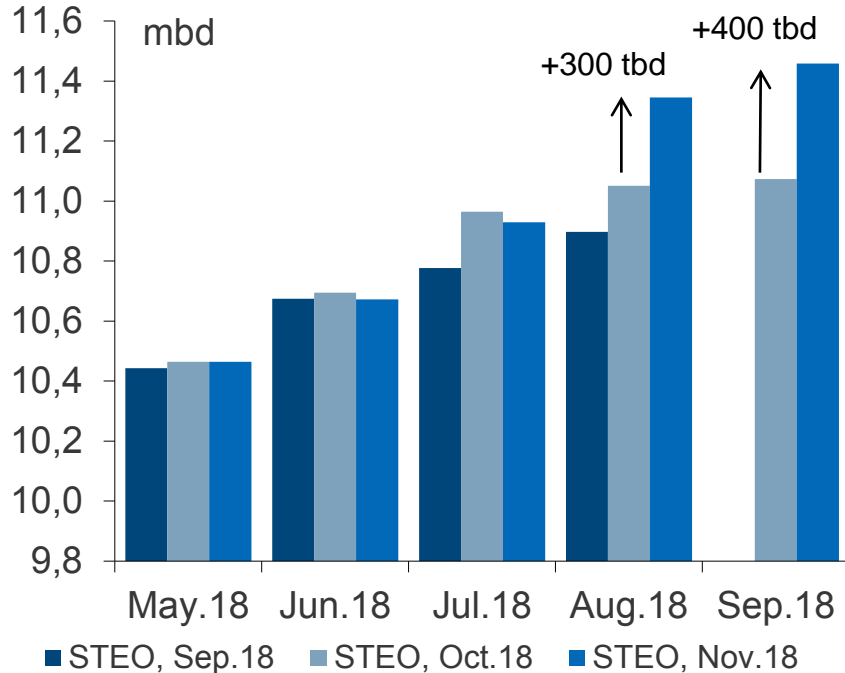
More than 50% growth of supply glut is explained as “Misc.” - non-reported stocks in OECD and non-OECD areas (unreal many petroleum storage tanks for non-OECD)

In 2018-2019 IEA can not explain about the 69% growth of supply glut

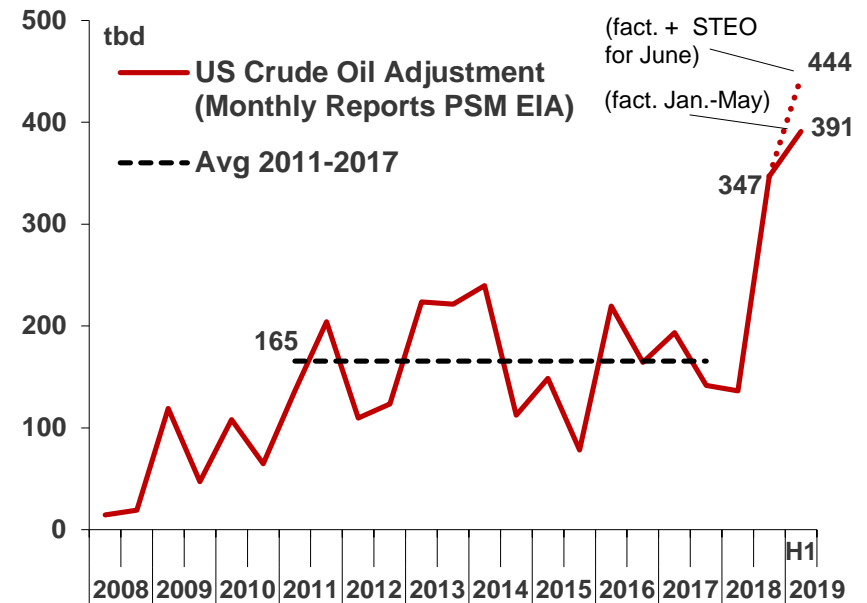


Even US oil statistics makes contribution to uncertainty of Oil Market estimates

US Crude Oil production estimates by STEO issues



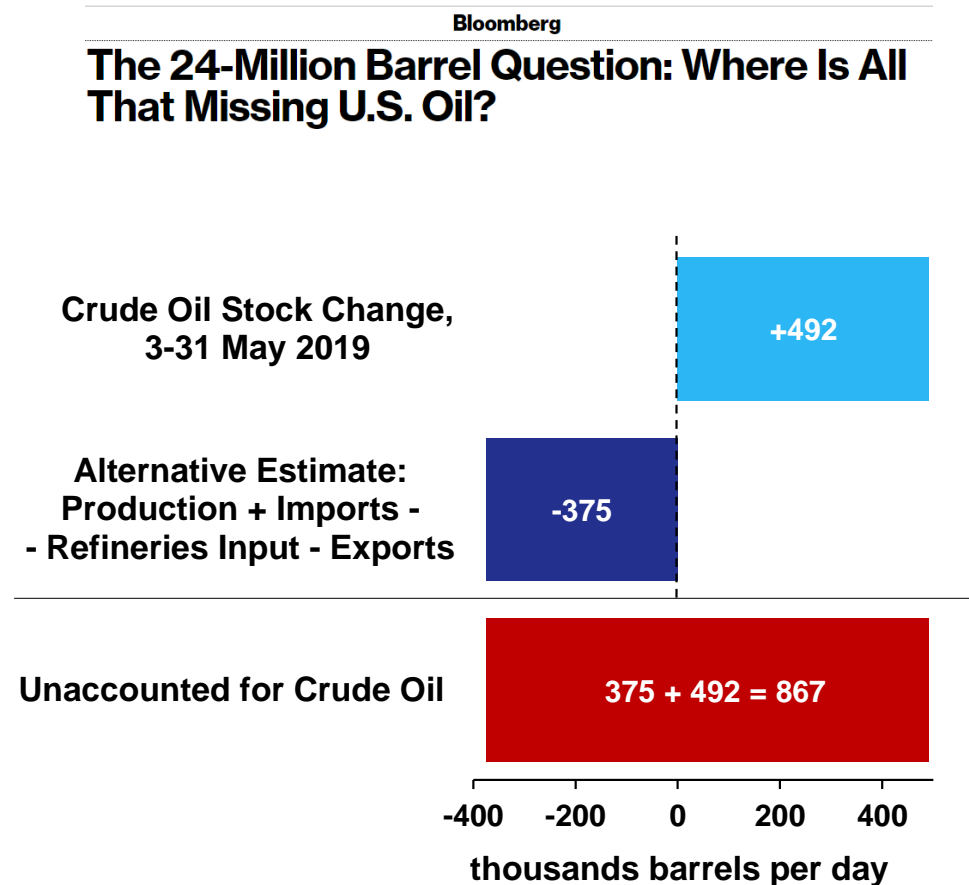
Crude Oil Adjustment («Unaccounted for Oil») in US oil balance



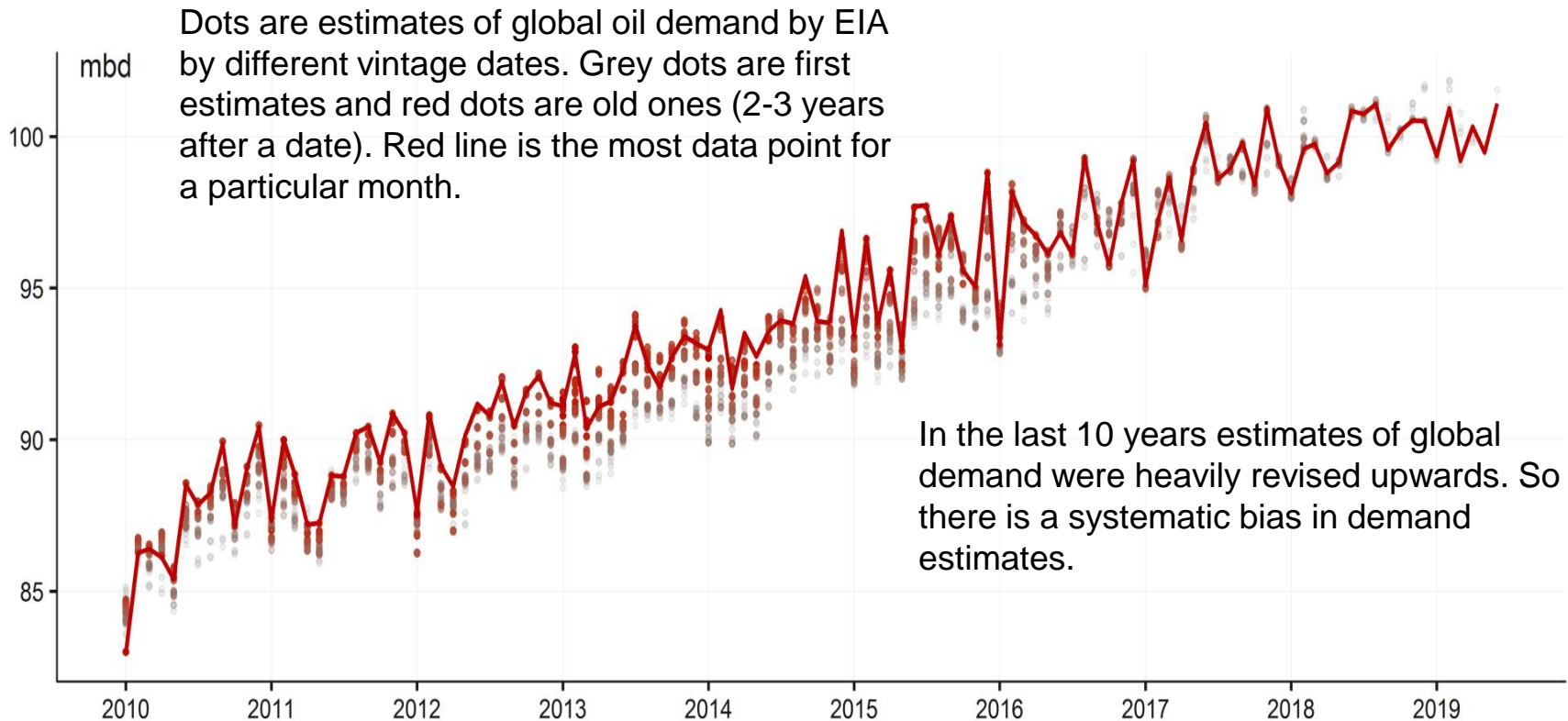
- In November 2018 STEO US August and September oil production was significantly increased due to an upward revision from its earlier estimate. This was a surprise for market participants and for OPEC, which in June 2018 decided to increase production.
- Average current uncertainty of measurement for US Oil market balance (implied by "Oil Adjustment") is 0.4 mbd. For Liquids it's 0.6 mbd.

May 2019: 0.87 mbd (!) of unaccounted US oil

- OECD oil balances are considered as a transparent and high-quality statistics, a «visible part» of the market. But statistical discrepancies in OECD oil statistics have also grown up.
- In May 2019 «Unaccounted for Crude Oil» in weekly US oil balance amounted 0,87 mbd (24.3 mln barrels in total). «Unaccounted for Crude Oil» is additional oil, needed to equal «oil resources» and «oil disposition».
- That has a significant effect on market balance estimates. From 3 to 31 May 2019 crude oil stocks increased on +492 tbd. Alternative estimate, based on balance, was starkly different: -375 tbd.
- What are the reasons? NGL? Unreported oil production? Overestimation of oil exports or US stocks increase?



World oil consumption. It's not easy to estimate

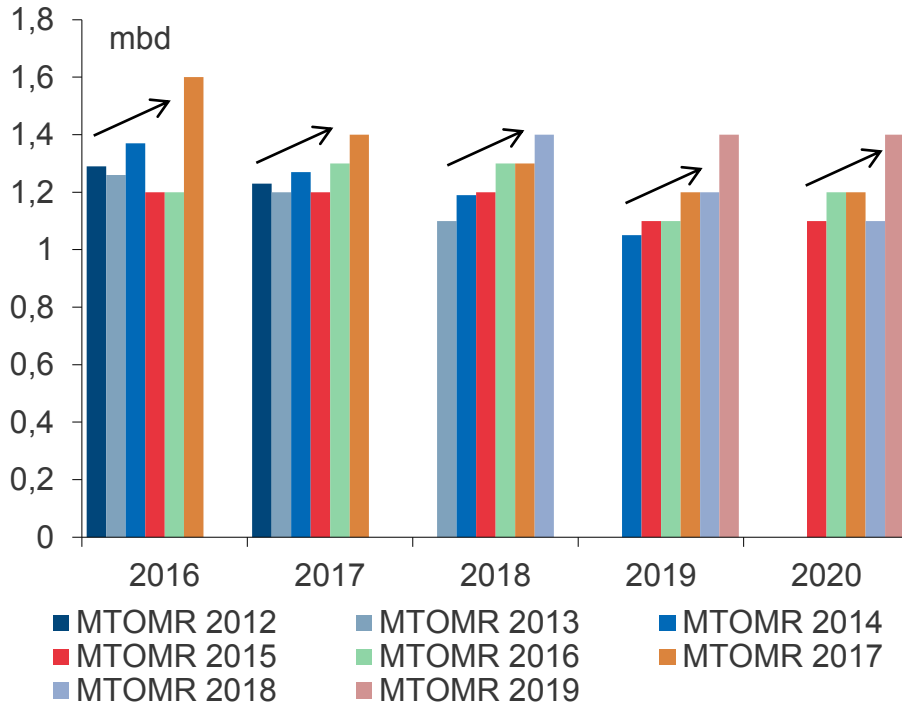


Source: EIA STEO releases from January 2010 to July 2019

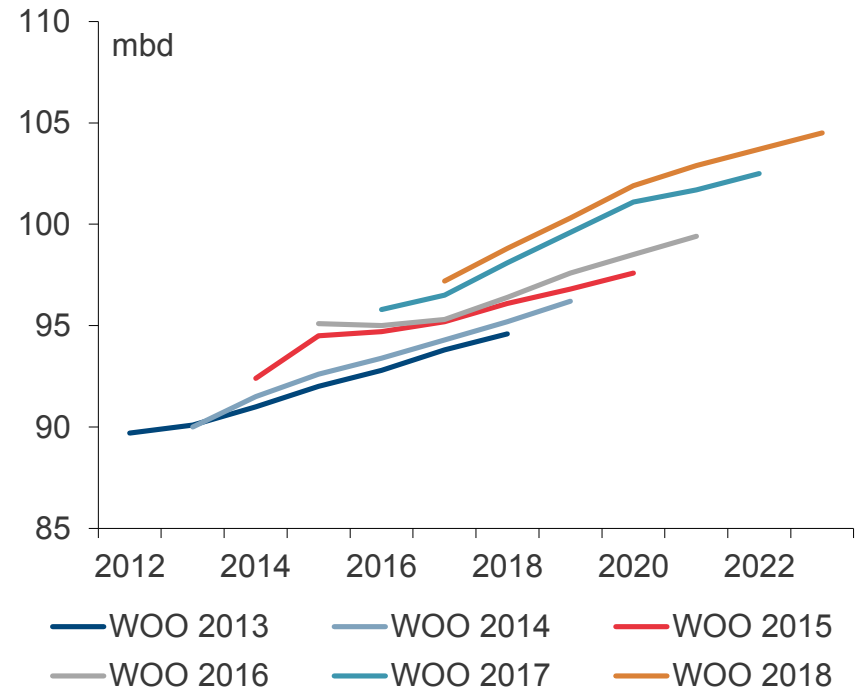
- We base our analysis mainly on EIA data as STEO (Short-Term Energy Outlooks) contain estimates on a monthly basis for a number of indicators of global oil market.
- Our preliminary analysis shows that conclusions are valid also for IEA and OPEC data.

Oil demand growth are stable at level which is higher than previously expected. When will the slowdown start?

Oil demand growth by IEA medium-term outlooks



Oil demand by OPEC World oil outlooks



- Over the course of 7 years both IEA and OPEC have been consistently underestimating the global demand growth rate
- Errors are not used to improve accuracy of the future forecasts, which will reduce value for users.

Conclusions

- Most of the most time there is just not enough certainty to believe in current market balance estimates.
- There is not enough information in conventional sources to support decision in real time.
- Current fluctuations are mostly just some noise.
- Uncertainty in current estimates of global oil market doesn't seem to change much in the last years.
- Uncertainty increases when prices start to fall. Unfortunately, It means that when it's most needed we should become less sure in estimates of the market balance.

We need New Energy Cooperation and Initiatives

Need for New Energy Initiatives

- Sustainable oil market is a not only an issue of OPEC+ cooperation, but of all market stakeholders interaction, and first of all, of experts, agencies and statistical organizations, in order to make the oil market landscape more transparent.
- A best case would be a **collective mechanism** (free, open and at the same time effective multilateral dialogue) to reveal the problems of delineation/quantification the uncertainty ranges for the sustainable energy development as well as exploring rational pathways to such development.