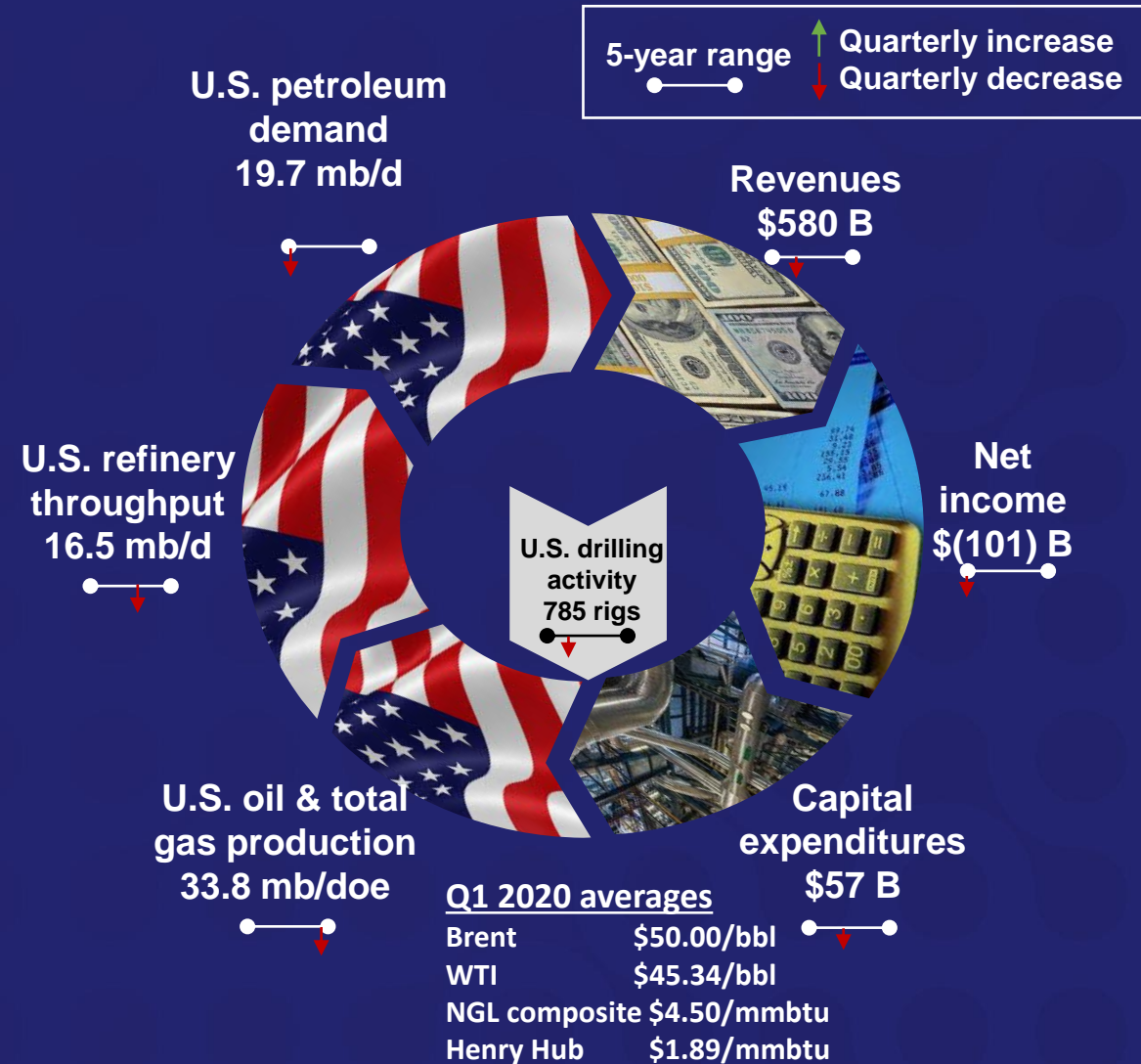


API Industry Outlook Second Quarter 2020

June 18, 2020

API industry health dashboard

Q1 2020



* Financial compilation based on API 200 companies with shares listed on U.S. stock exchanges. sources: EIA, API MSR, Bloomberg, Baker Hughes, API Team Analysis

Key points

» Where we are currently

- **Macroeconomy.** After a record shock, third-party consensus expectations are for a rebound to **4.4% y/y** growth in 2021
- **Oil markets** – Historic demand and supply changes
 - Low prices can be painful for industry, but beneficial to consumers and oil & gas competitiveness
 - Oil demand fell by record amounts with the global pandemic, but appeared to bottom out in April and recover in May
 - Historically large supply responses occurred in global oil prices, U.S. drilling activity and production
- **U.S. natural gas.** Dedicated natural gas drilling now represents **90%** of U.S. gas drilling and supported a record **38.9%** market share in electricity generation

» Key drivers and uncertainties

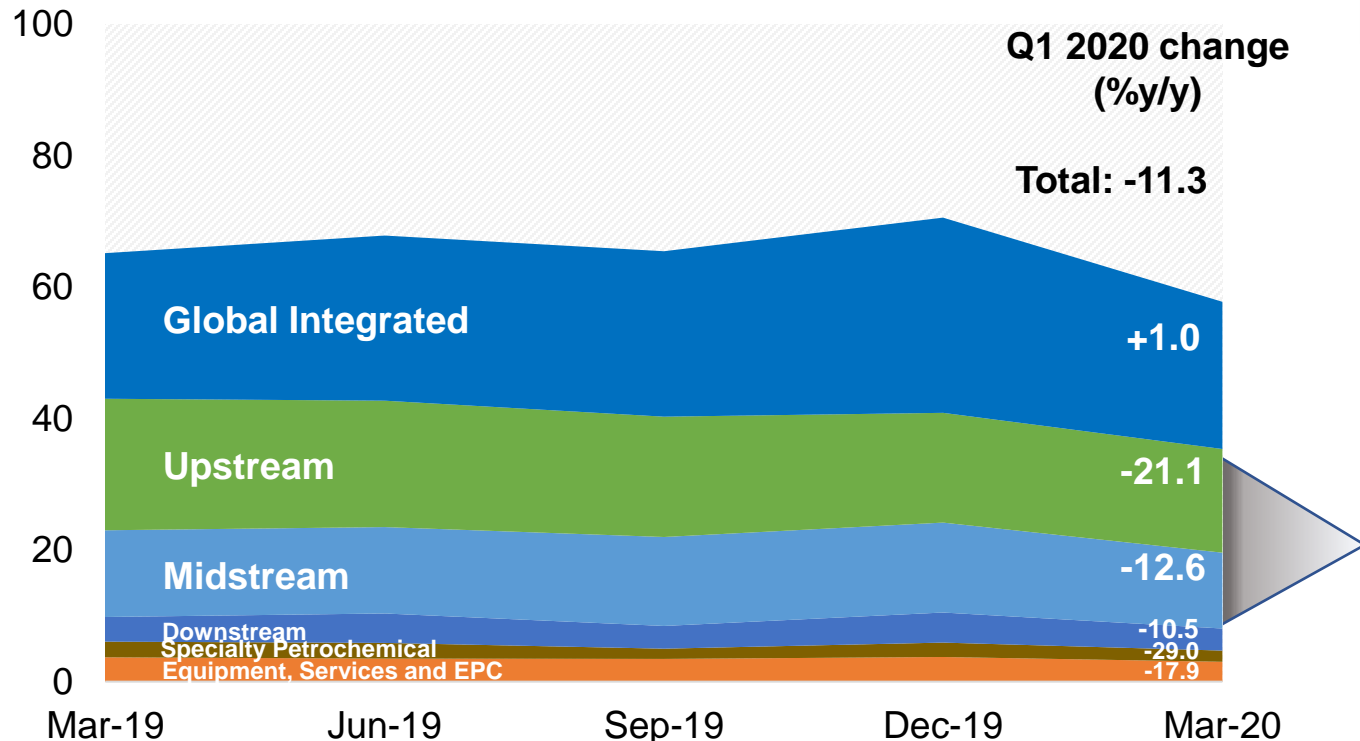
- Pace of global economic and pandemic recovery
 - Inflation/deflation, debt, foreign exchange rates
- Industry financial strength
- U.S. oil & gas well productivity
- Global gas market evolution
- International trade

The industry invested \$57.8 billion in Q1 2020, down from an average of \$67.2 billion per quarter in 2019, due to market conditions

- Most global integrated companies invested steadily through Q1 2020 but recently announced capex reductions
- Upstream companies made the largest reductions in their capital expenditure

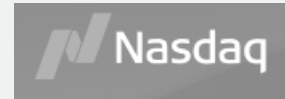
Capital expenditures by industry segment

Billion dollars



* All other oil & gas industry companies
sources: Bloomberg, publicly-available company reports

Headlines – Q2 2020



US Oil & Gas Rig Tally Sets Record Lows for 3 Straight Weeks



U.S. E&Ps Sharply Reduce Capital Spending as Coronavirus Strips Demand for Oil, Gas

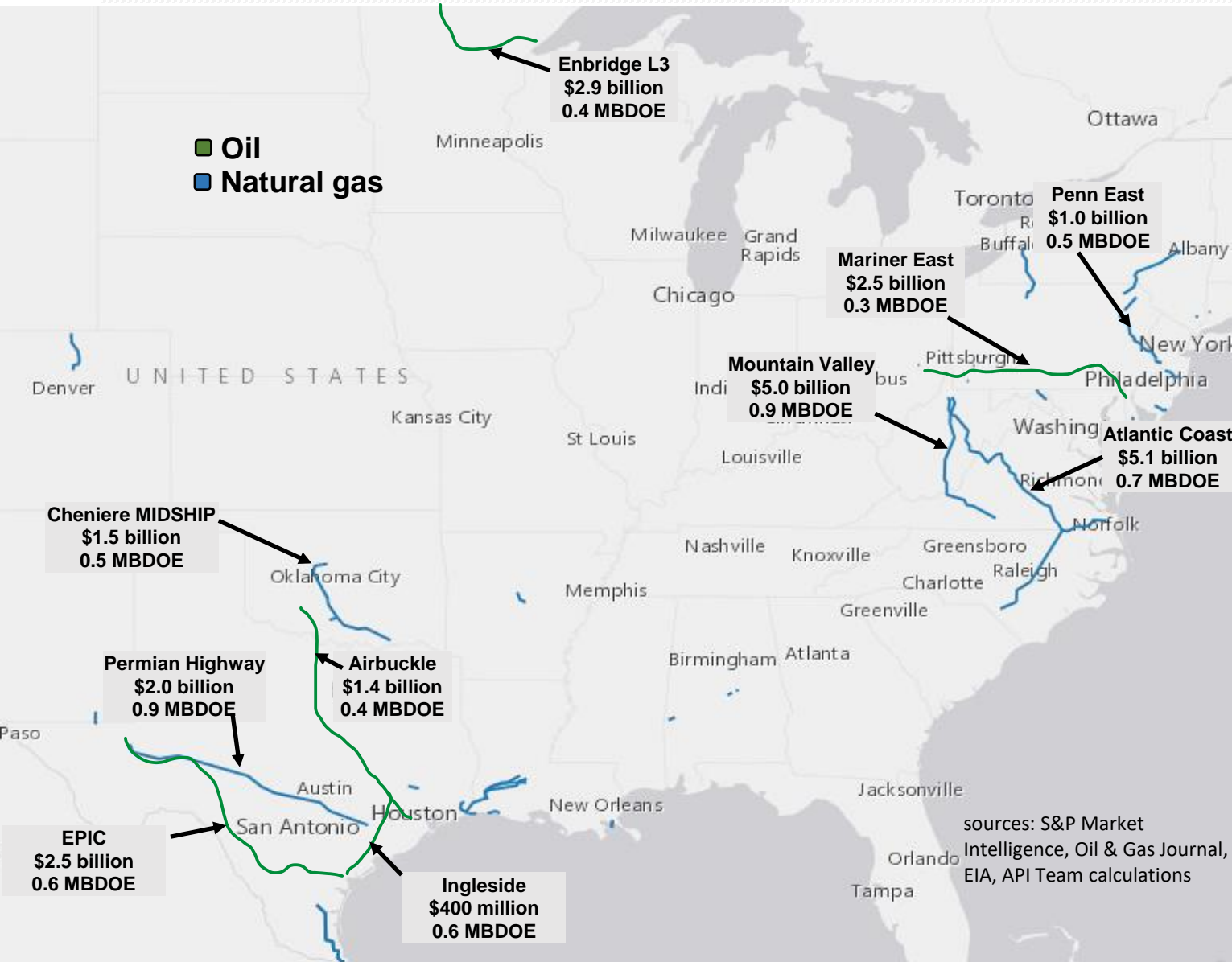


Midstream Companies Slash Capex By 50% After Oil Crash

What's at stake? U.S. pipeline project map

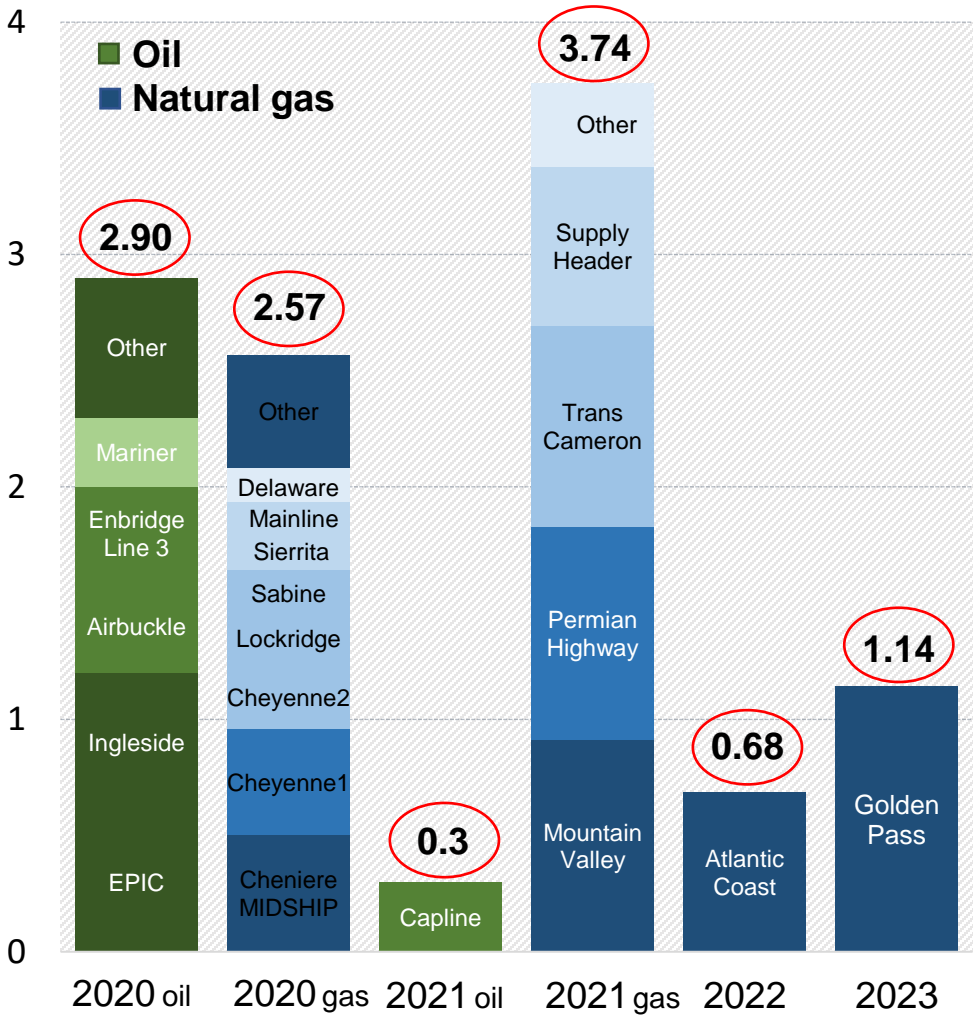


72 pipeline projects and 11.3 MBDOE of additional planned capacity may face liquidity, permitting and construction delays



O&G pipeline project capacity additions

Million barrels per day oil-equivalent



Global economy & oil markets



Deflation is the prime global concern due to unprecedented shocks spurring zero interest rates and \$8+ trillion in stimulus



Headlines – Q2 2020

Bloomberg

Dangerous Disinflationary Shock Slams Reeling World Economy

Oil Posts Worst Quarter Ever While Physical Market Craters

INTERNATIONAL MONETARY FUND

A Global Crisis Like No Other Needs a Global Response Like No Other



Crashing oil demand drives a 17 MMbpd global output cut in Q2



Post-Crisis Recovery: Oil Supply and Demand is Moving Back Towards Equilibrium with China Leading the Way

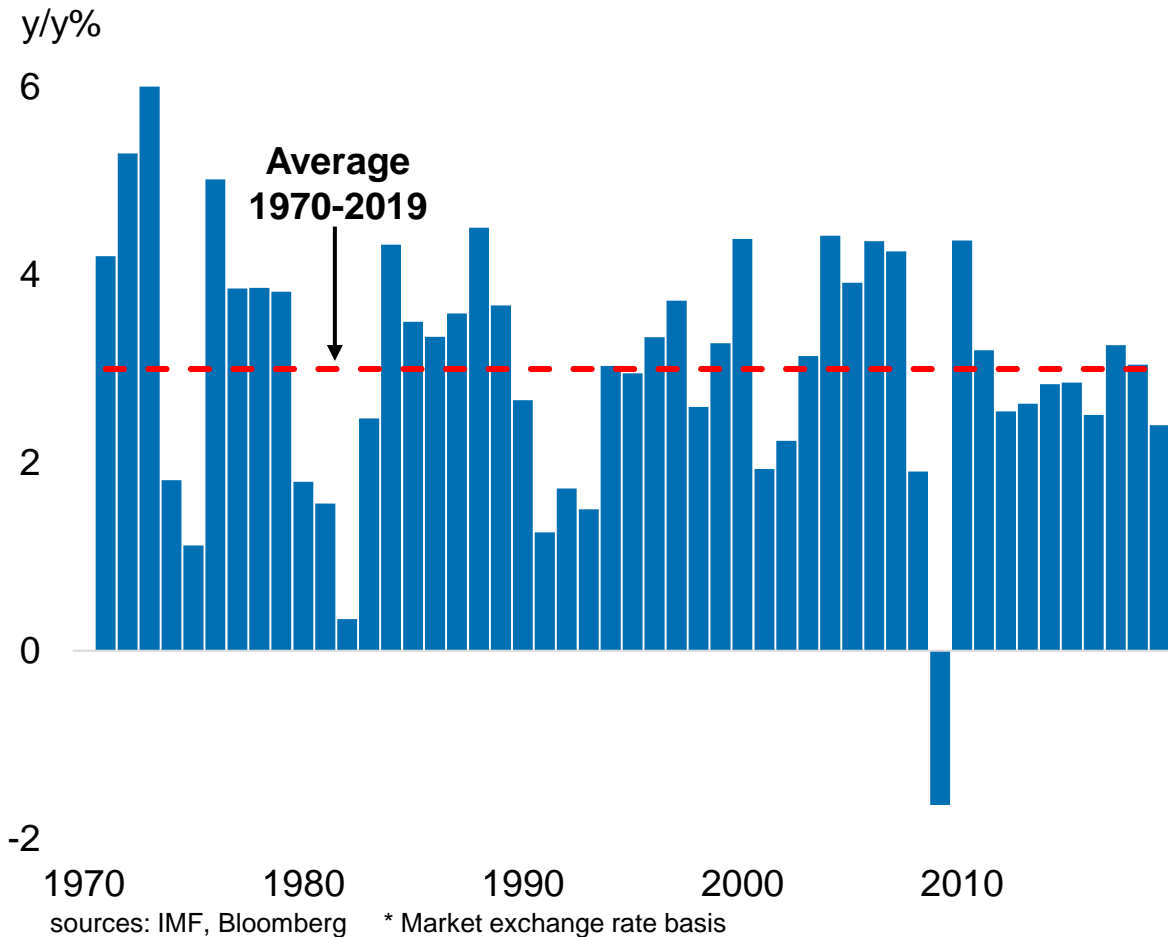


Global GDP growth could rebound strongly to 4.4% in 2021, according to third-party consensus estimates

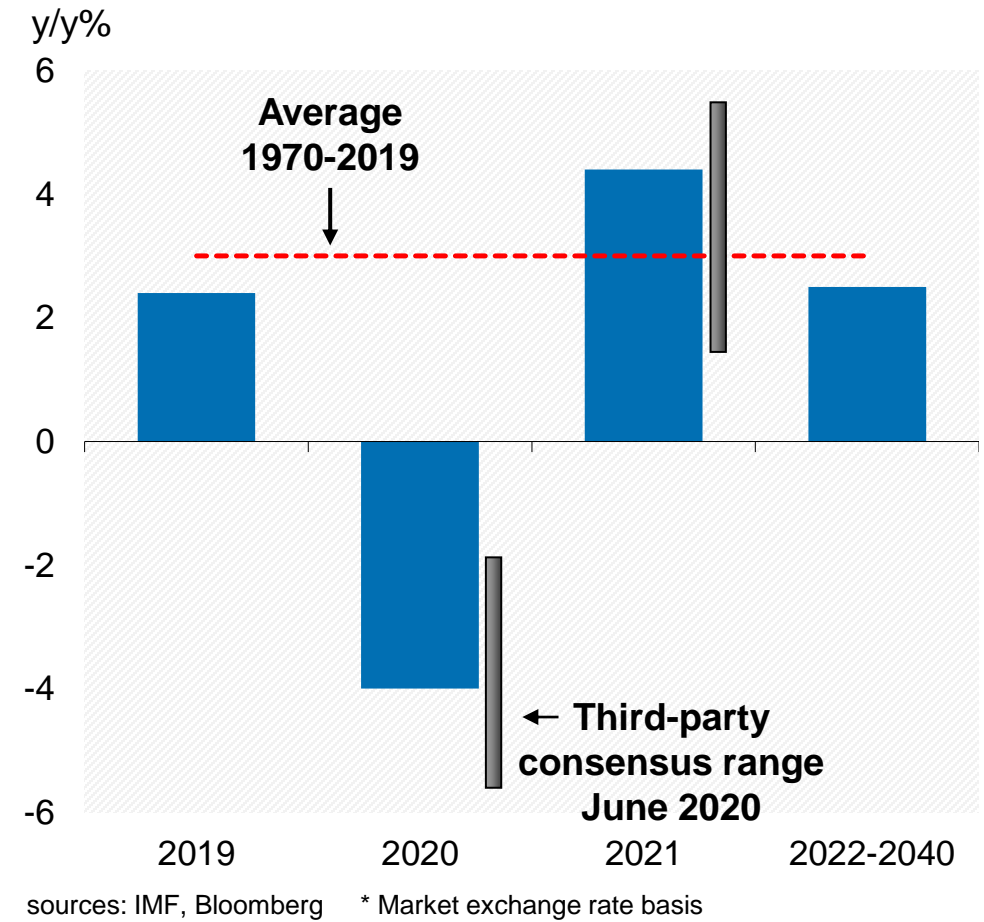


- ▶ Historical global real GDP growth averaged 3.0% per year (1970-2019) but can be volatile and cyclical
- ▶ The third-party consensus expects growth of 4.4% in 2021, a rebound following a contraction of 4.0% in 2020

Global GDP growth, 1970-2019*



Global GDP outlook*



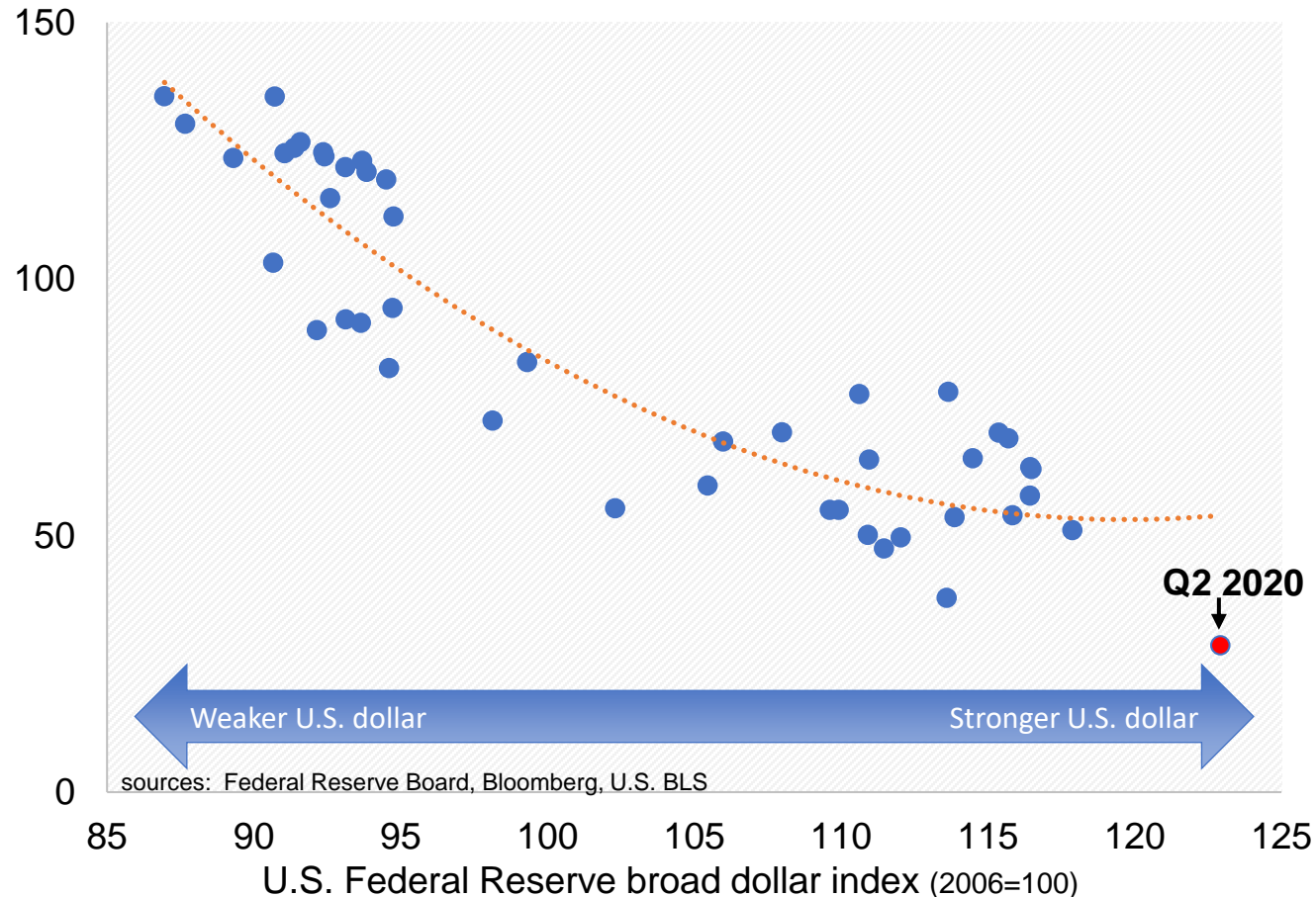
The U.S. dollar remained a global safe haven and reached its strongest foreign exchange rate in April 2020



- Many factors contribute to oil prices, but a strong U.S. dollar tended to correlate with low oil prices over the last decade
- Oil prices fell by record amounts in Q2 2020, largely due to the same underlying macroeconomic factors

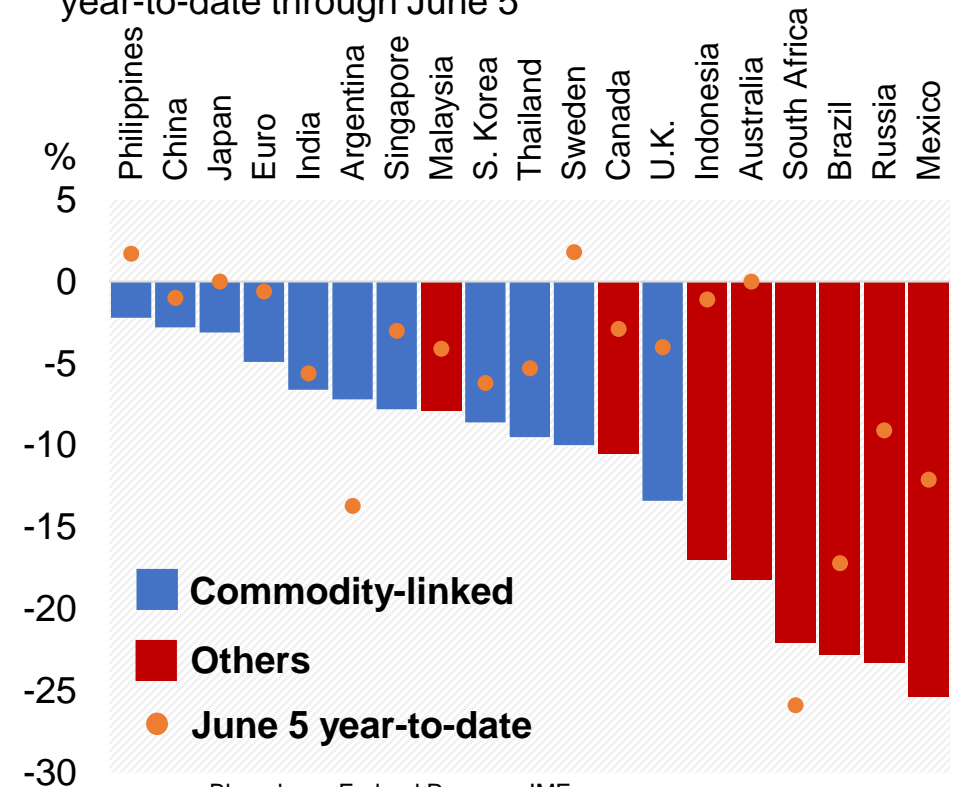
U.S. broad dollar index and Brent crude oil prices, 2009-2020

Brent crude oil (2020 constant dollars per barrel)



Currency performance versus U.S. dollar

Bars are max depreciation in Q1 2020; points are changes year-to-date through June 5



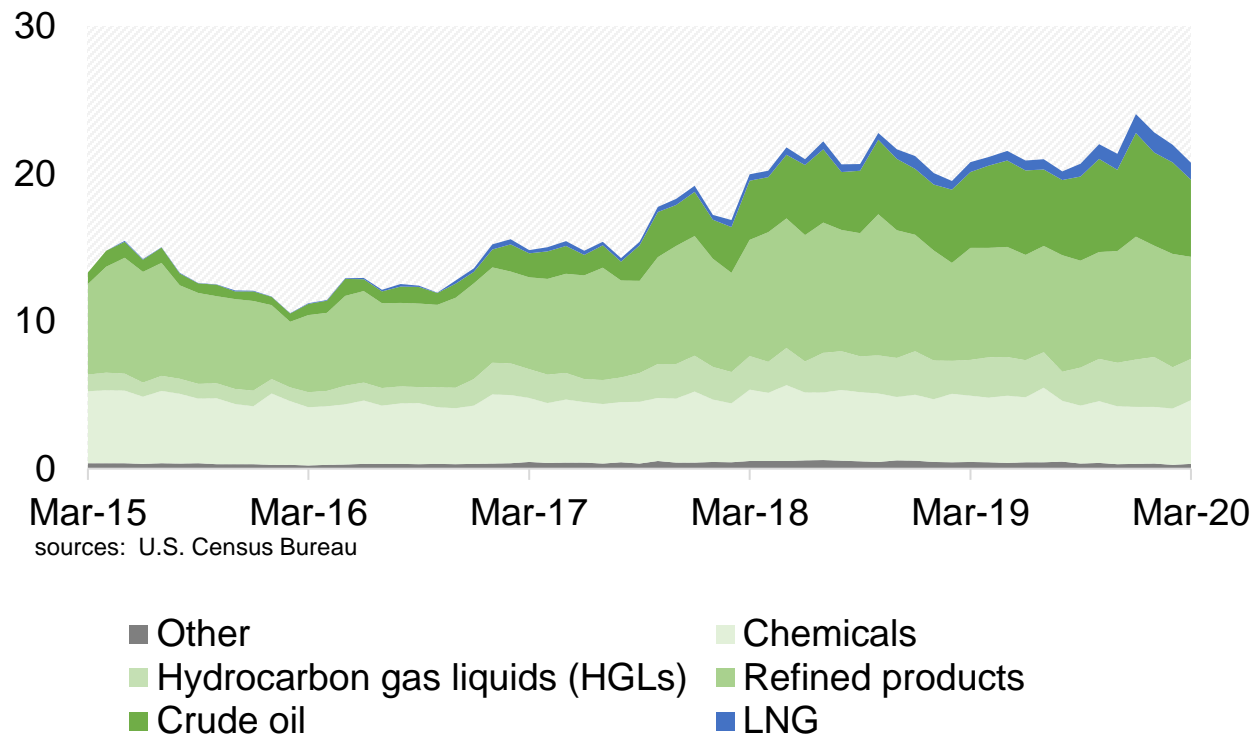
U.S. energy trade has remained resilient



- ▶ In Q1 2020, U.S. energy exports rose 8.5% y/y, but flattened in March versus year-ago levels as COVID-19 emerged
- ▶ Crude oil and liquefied natural gas (LNG) have primarily driven U.S. energy trade gains
- ▶ Trade with China has been relatively small, but may increase under the U.S.-China trade agreement

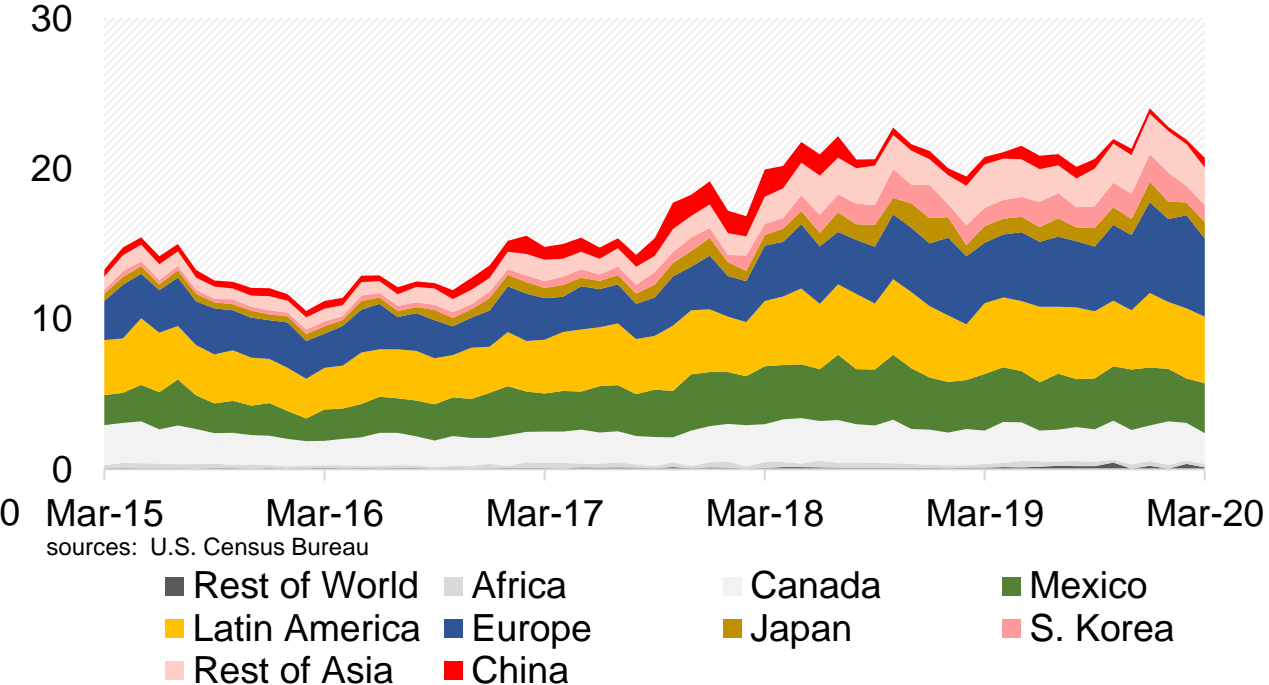
U.S. monthly exports of energy goods

Billion 2020 dollars



U.S. select energy exports by country/region

Billion 2020 dollars

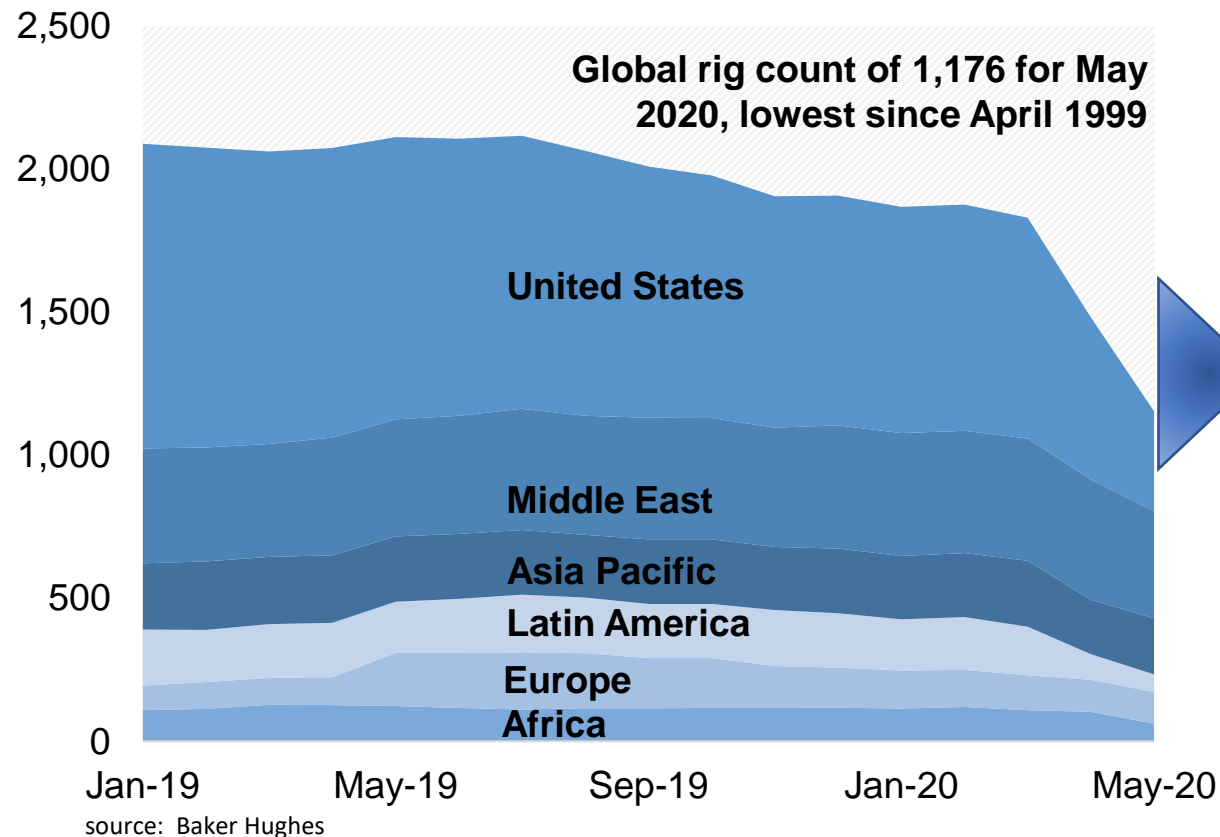


Global oil supply responded strongly to price market signals, with May bringing the largest decreases in drilling on record since 1975

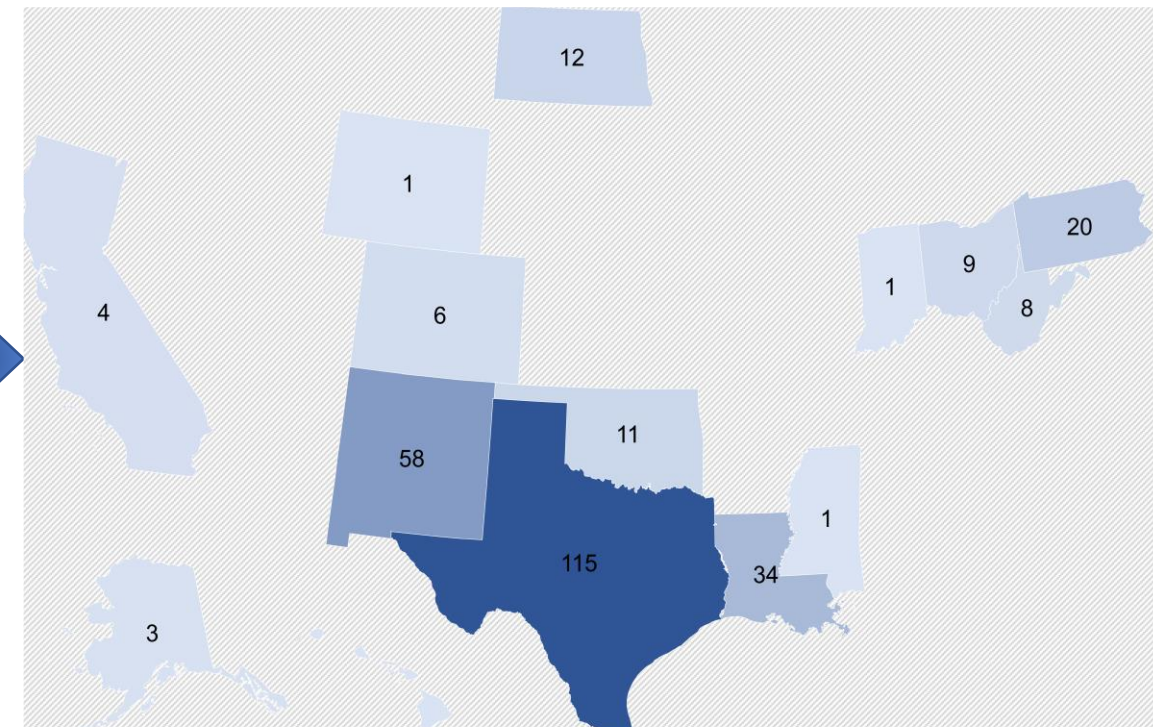


- With recent low oil prices, the U.S. drilling activity fell the most globally per Baker Hughes
- U.S. drilling activity fell by 64% year-to-date to a record low 284 rigs as of June 5

Global rig count by region



U.S. rig count by state as of June 5



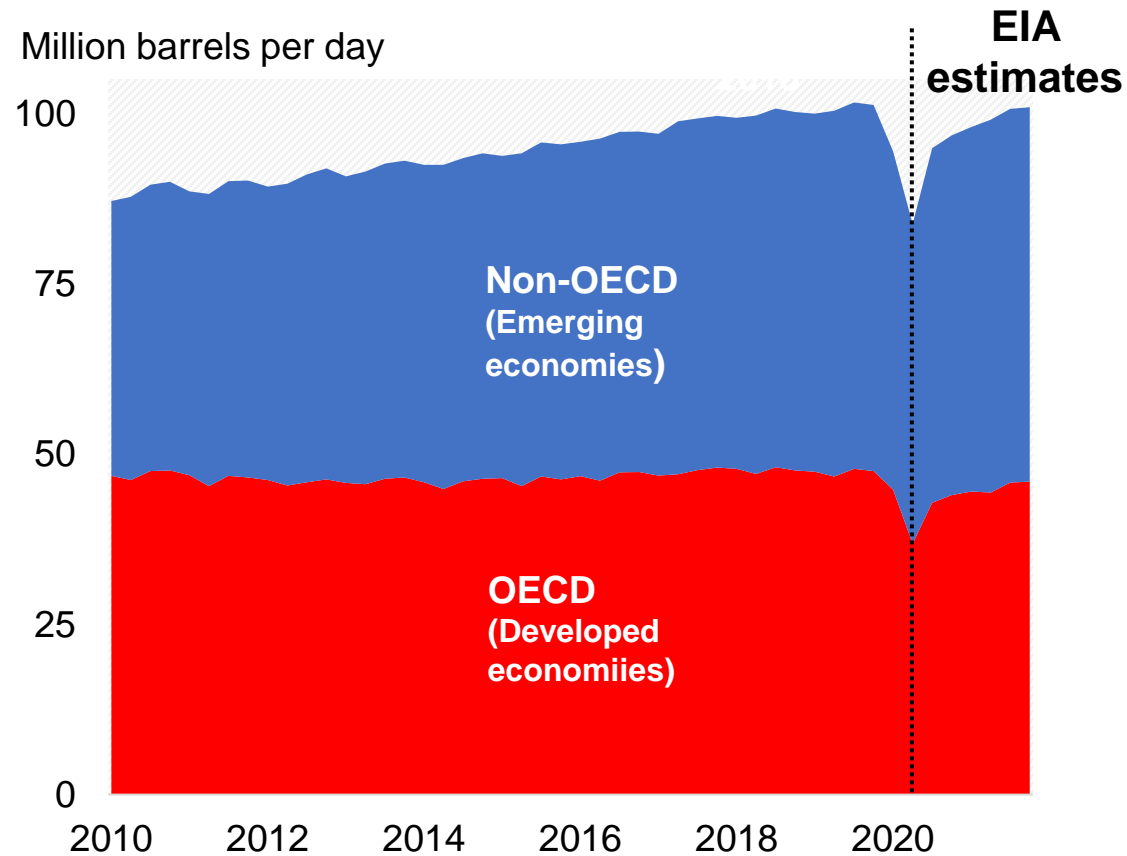
source: Baker Hughes

Global oil demand fell faster than supply, and EIA expects relatively faster demand recovery after Q2 2020



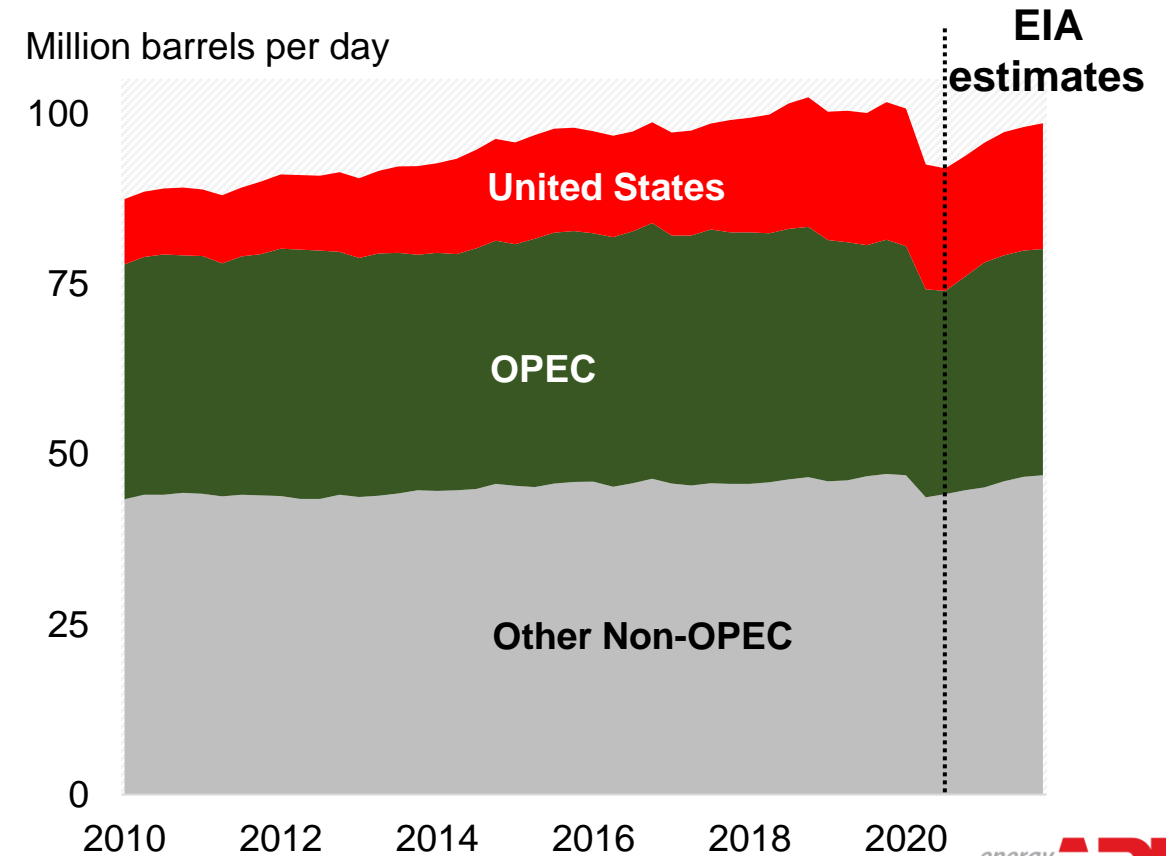
- EIA projects U.S. production to decline, offset by other Non-OPEC nations and OPEC to global markets

Global crude oil and liquids consumption



www.api.org sources: EIA

Global crude oil and liquids production

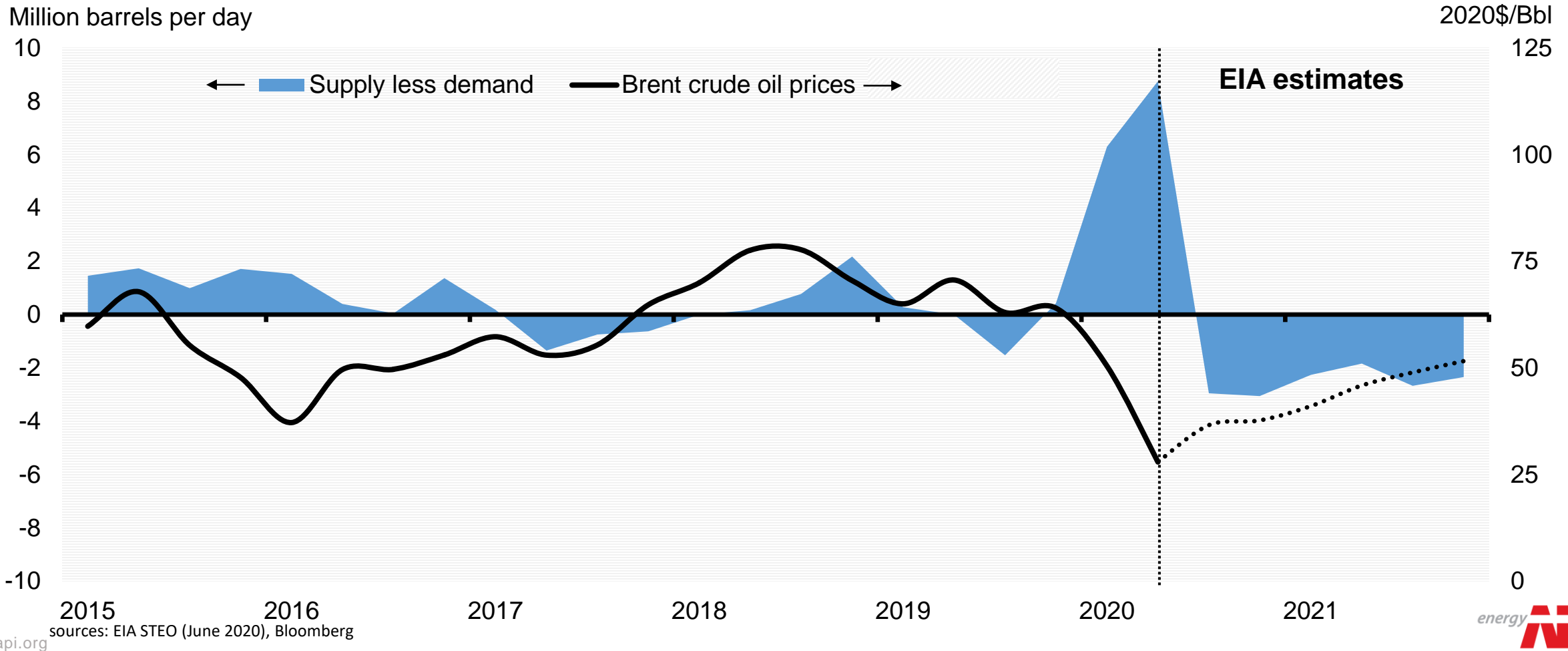


source: EIA

After the immediate demand shock, EIA expects the global oil market to rebalance by Q3 2020



EIA global supply/demand and Brent price estimates as of June 2020

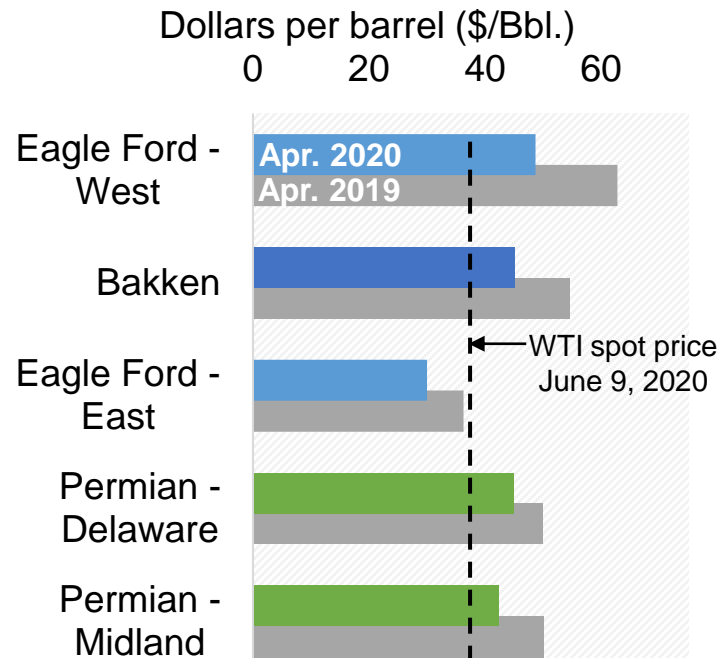


U.S. oil drilling requires at least \$40 per barrel in most basins per Btu Analytics, so drilling slowed despite solid productivity



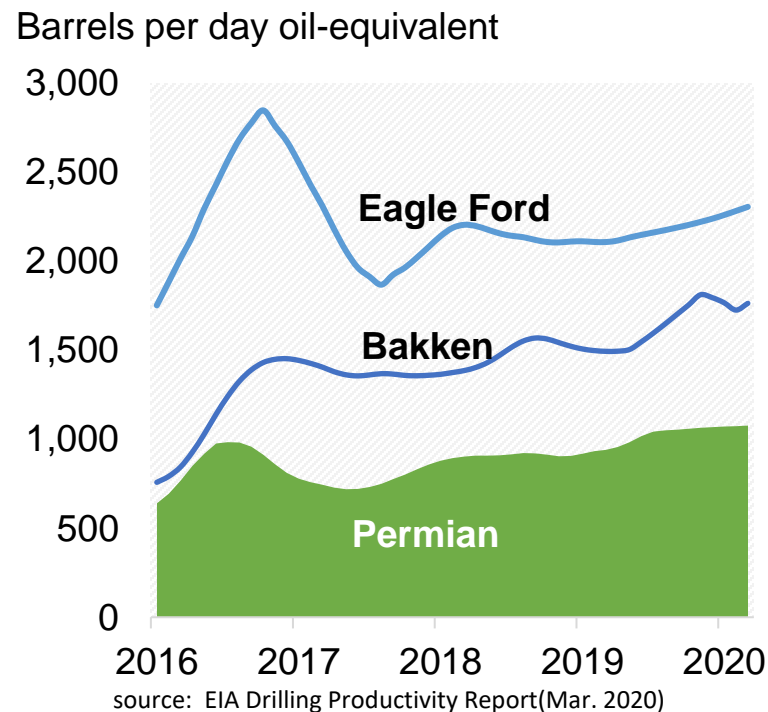
- ▶ BTU Analytics estimates breakeven prices exceeded recent oil prices in most producing regions
- ▶ EIA reported solid oil well productivity, but with the oil price drop drilling fell by the most on record to 206 rigs as of June 5

Oil estimated breakeven prices – April 2020*

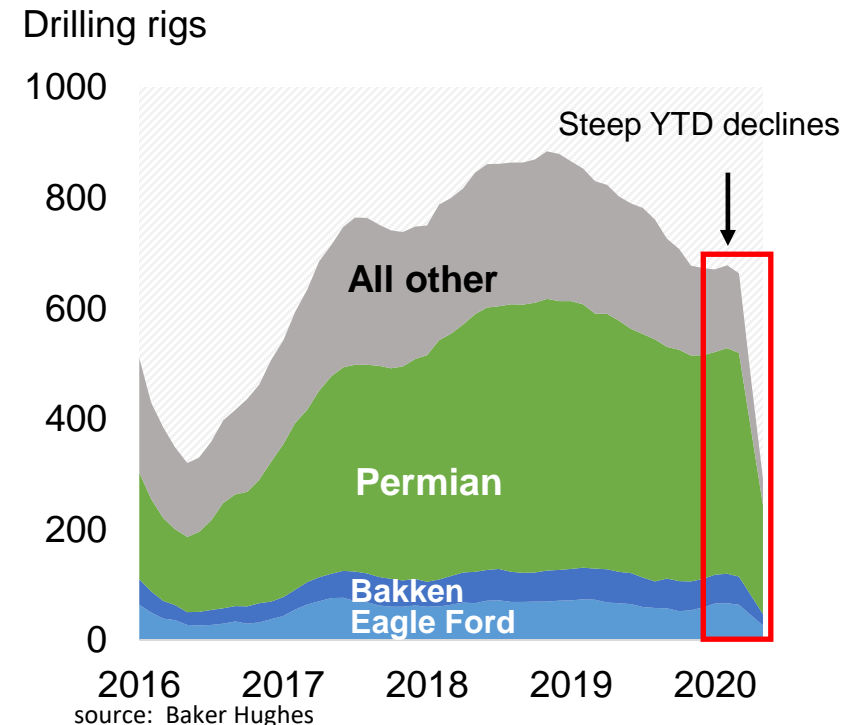


*Half cycle breakevens assuming 10% discount factor and play-specific costs
source: BTU Analytics

U.S. oil well productivity – new production per rig



Oil-directed drilling activity



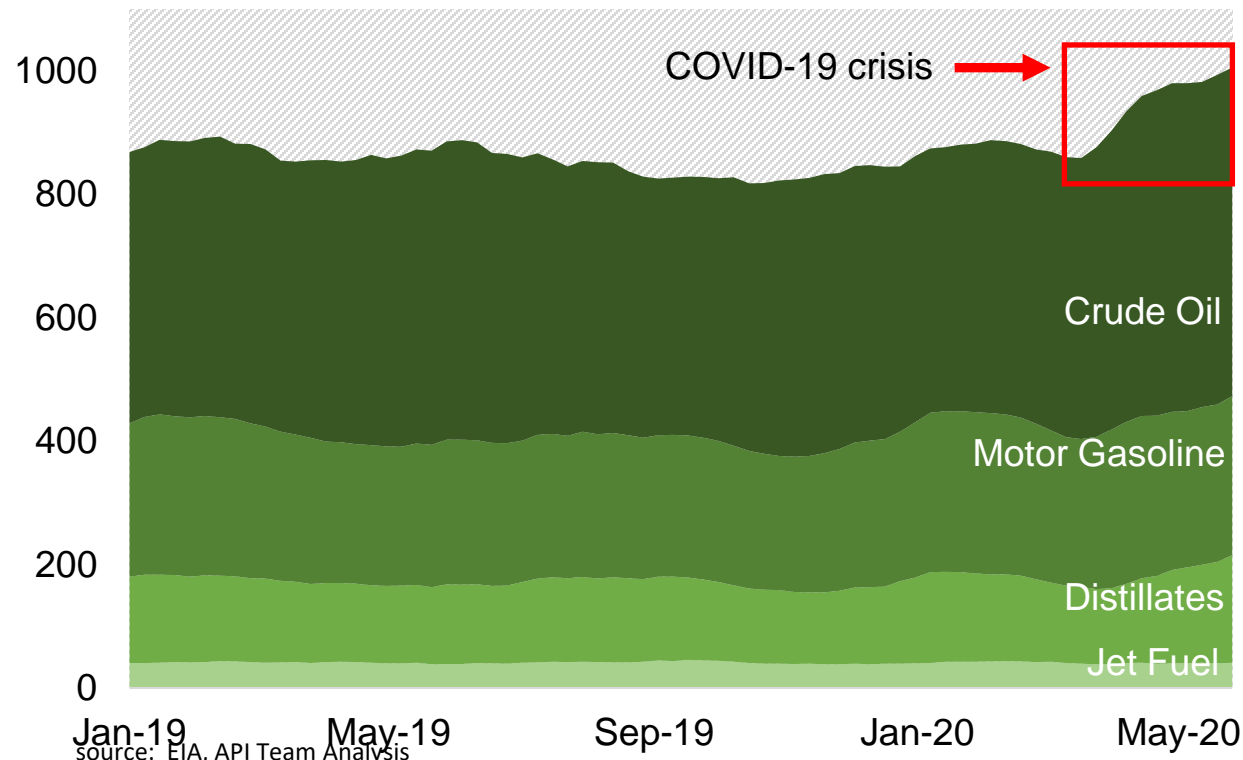
Crude oil storage building paused after an unprecedented increase due to the COVID-19 demand impact



- Strategic Petroleum Reserve leasing of 23 million barrels of storage capacity and also procuring 15.0 million barrels since April helped alleviate energy market concerns
- A potential upside to consumers is that strong inventories could cushion the market through the hurricane season

U.S. inventories by petroleum product

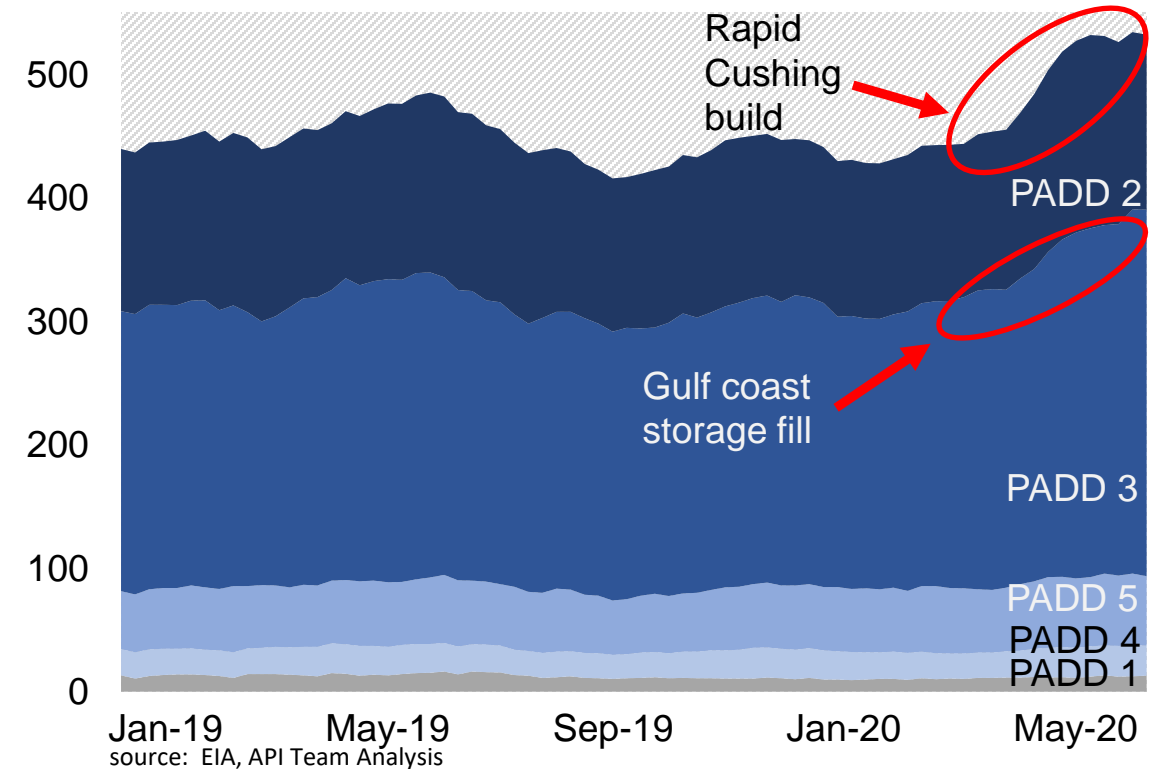
Million barrels



source: EIA, API Team Analysis
www.api.org

U.S. crude oil stocks by PADD

Million barrels



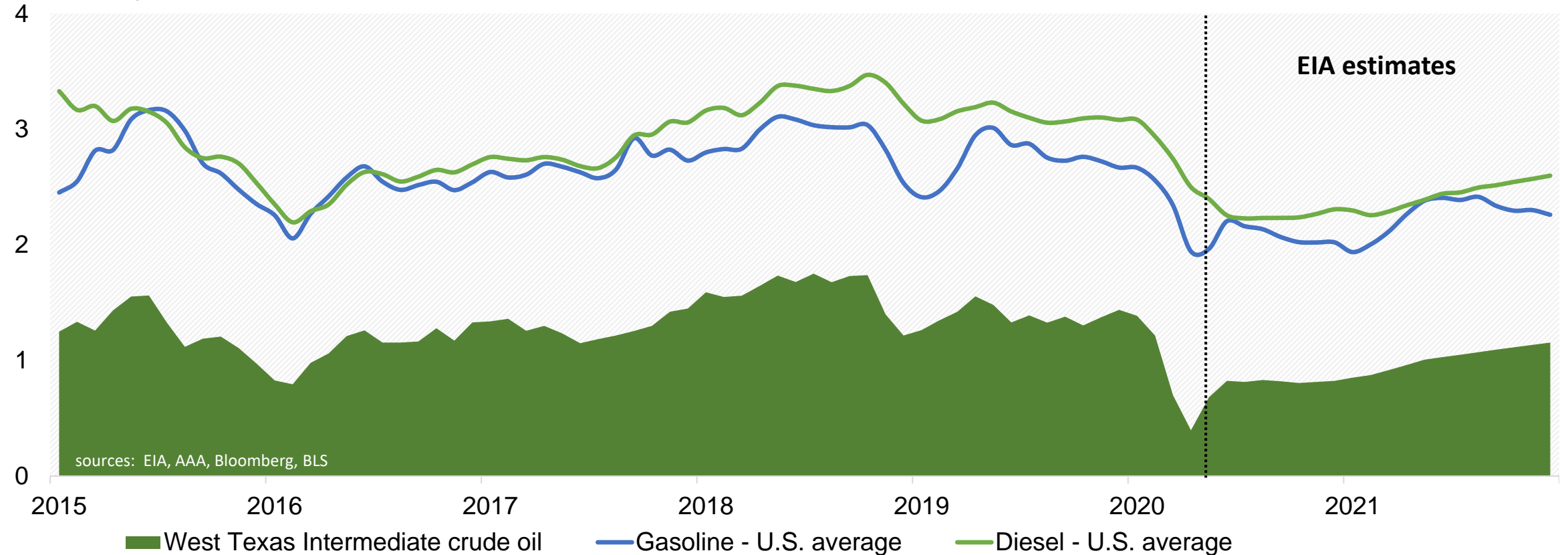
source: EIA, API Team Analysis

Motor gasoline and diesel fuel prices have generally moved with crude oil, and EIA expects limited impact from IMO 2020



Crude oil, retail gasoline and diesel fuel prices, adjusted for consumer price inflation

2020\$ per gallon



Natural gas



Global natural gas prices decreased to record lows in April 2020



sources: U.S. [FERC](#) (June 2020) and METI

With a rise in productivity, nearly 90% of U.S. natural gas drilling is concentrated in Appalachia and the Haynesville

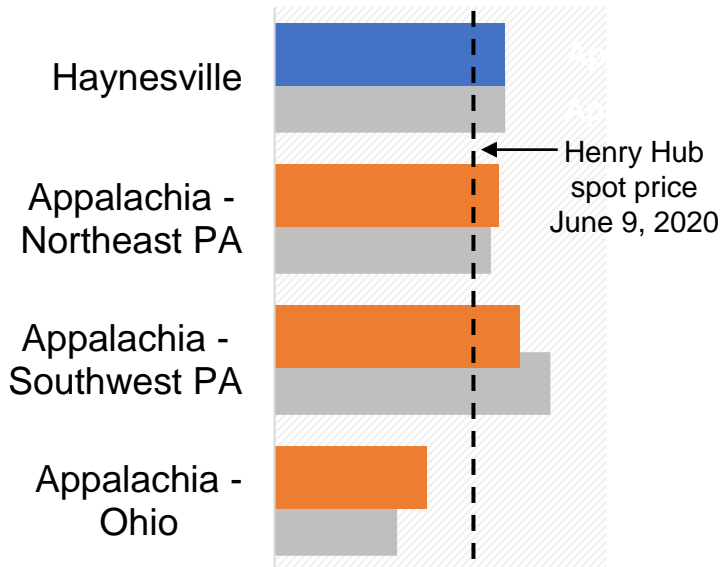


- ▶ BTU Analytics estimates breakeven prices in Appalachia and the Haynesville formation were competitive at recent prices
- ▶ EIA reported record gas well productivity, and with recent market events Appalachia and the Haynesville rose to account for nearly 90% of U.S. natural gas drilling activity

Natural gas estimated breakeven prices – April 2020*

Dollars per million Btu (mmBtu)

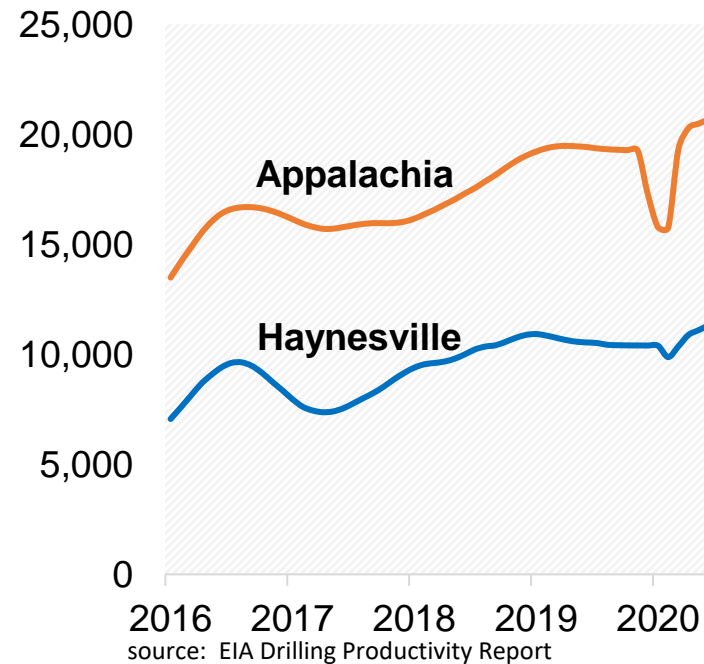
0 1 2 3



*Half cycle breakevens assuming 10% discount factor and play-specific costs
source: BTU Analytics

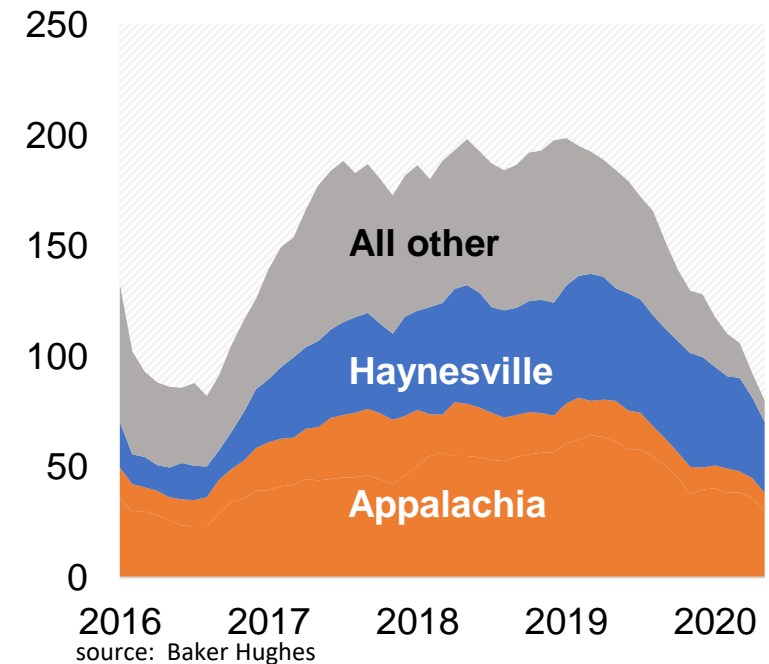
Natural gas well productivity – production per rig

Thousand cubic feet per day nat. gas-equivalent



Natural gas-directed drilling activity

Drilling rigs

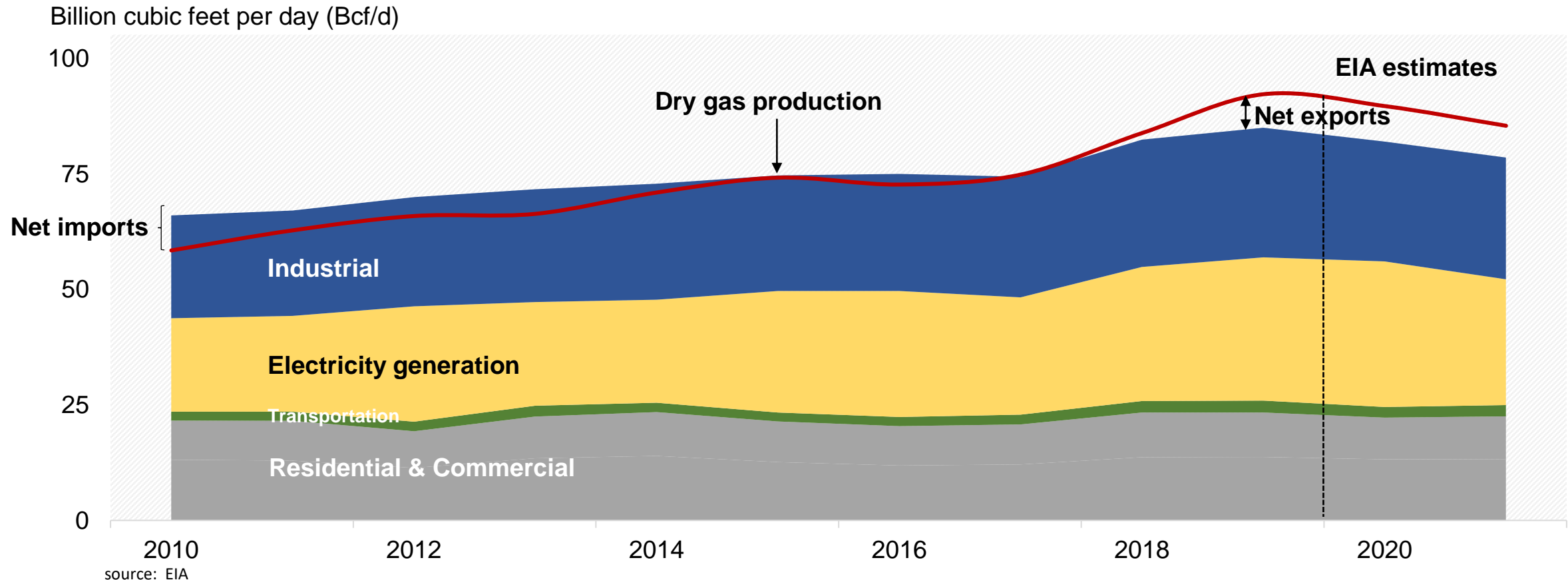


In a reversal of recent trends, EIA expects natural gas production and demand to decline



- ▶ EIA reports U.S. natural gas production declined beginning in November 2019 and does not project a rise before 2021
- ▶ EIA separately expects natural gas consumption to decline in 2020 and again in 2021

Natural dry gas production and consumption by segment

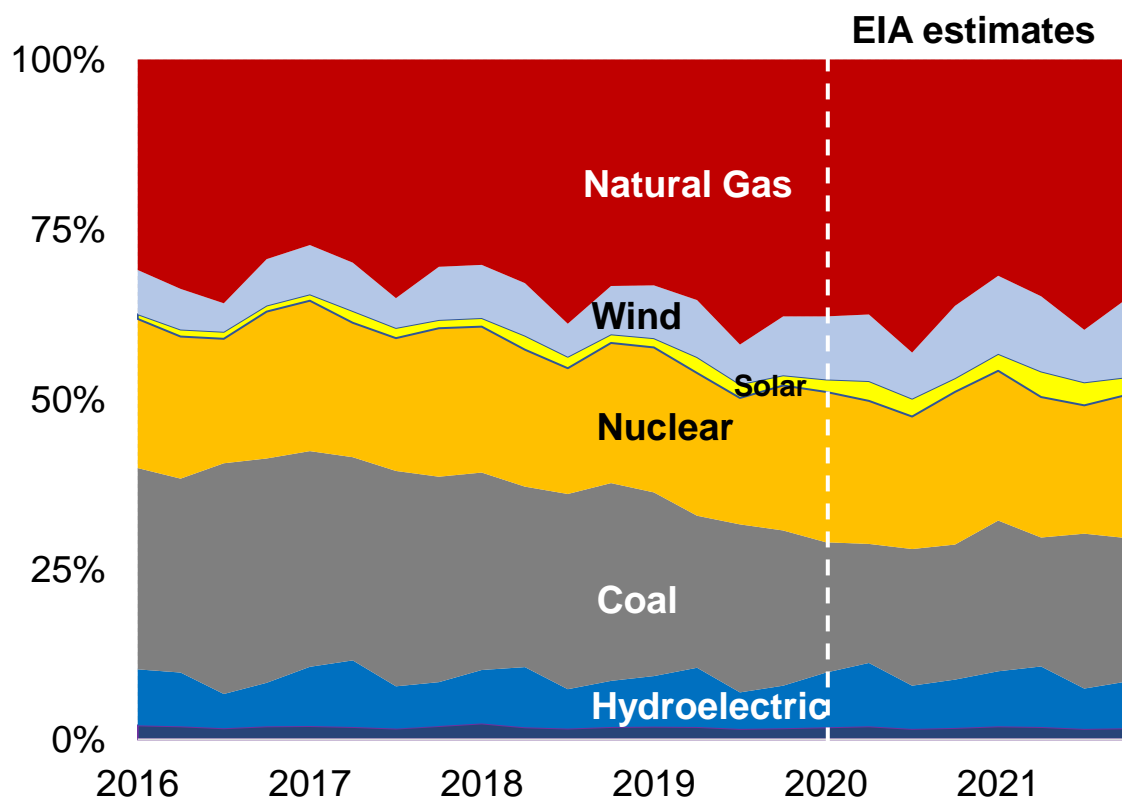


Natural Gas continued to gain share in power generation, and EIA expects low wholesale and retail prices



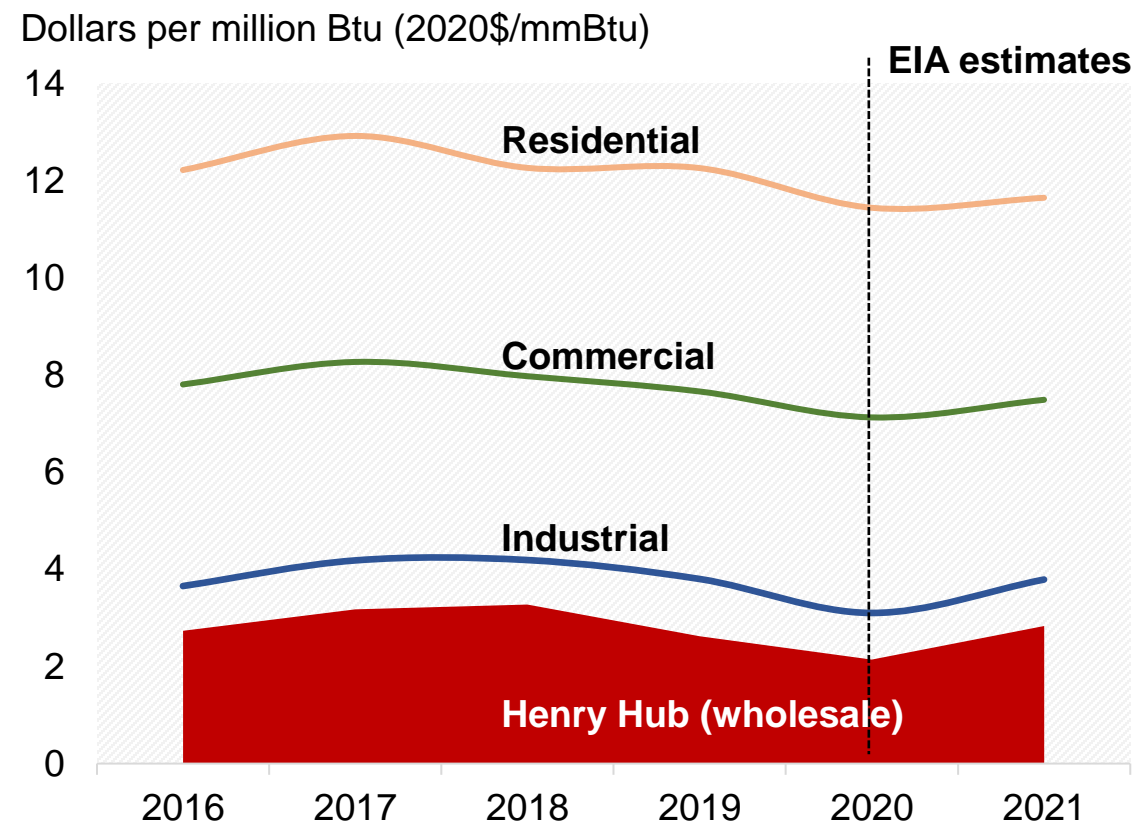
- ▶ EIA expects natural gas' share of electricity generation to reach 38.9% in 2020; prices at Henry Hub to remain below \$3.00 per million Btu through 2021; as well as lower retail margins above Henry Hub

U.S. electricity generation share by source



source: EIA

U.S. natural gas prices



source: EIA

API economics resources available at www.api.org

API'S MONTHLY STATISTICAL REPORT

Contains timely interpretation and analysis of recent developments for major products production, imports, refinery operations, and inventories - accompanied by API's estimates of these data for the most recent month and graphs of major series, including product deliveries, crude oil production, imports, refinery activity, and inventories for the past 24 months.


DOWNLOADS

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 [Petroleum Facts at a Glance](#)

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 [MSR Schedule of Release for 2020](#)

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API'S ECONOMIC INDUSTRY OUTLOOK



Dean Foreman (left) and podcast hosts

The API Industry Outlook, developed by API's Chief Economist, Dr. R. Dean Foreman, is a quarterly report that provides an overview of the natural gas and oil industry as it relates to the U.S. and global economies.

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 [Q1 2020 Quarterly Outlook \(Mar 2020\)](#)

File Size: 1.5 MB



Statistics Department Monthly Statistical Report

200 Massachusetts Ave. NW
Washington, DC 20001

Vol. 44 No. 3
Published April 16, 2020
March 2020

EXECUTIVE SUMMARY

U.S. petroleum market data for March were pervasively weak with decreases across most key metrics surveyed. However, the value of these data, which are based on weekly surveys of some 90% of the industry, is that they provide timely and statistically valid estimates in a time of tremendous uncertainty.

March highlights for U.S. petroleum markets:

- **Total petroleum demand of 19.4 mb/d** decreased by 0.9 million barrels per day (mb/d) (4.6%) from February and 0.8 mb/d (4.0%) compared with March 2019.
- **Crude oil production of 12.9 mb/d** fell for its first monthly decrease in March since 2010, before the U.S. energy revolution.
- **Refineries downshifted** to their lowest throughput and capacity utilization rates in five years or more.
- **Net petroleum trade returned the U.S. to a petroleum net importer** as exports fell by more than imports.
- **West Texas Intermediate (WTI) oil prices fell by the most on record since 1946**, as the global market imbalance expanded with decreased demand and OPEC supply increases. International Brent oil prices fell by more than West Texas Intermediate (WTI) prices, pushing WTI above Brent on selected days.
- **Leading economic indicators deteriorated**, including a record drop in the University of Michigan's consumer sentiment index, and weakening of the Institute of Supply Management's purchasing managers' index and API's distillate economic indicator, the API D-E-I™. Please see the following [chart](#) for details.

API Industry Outlook Second Quarter 2020

June 18, 2020



ENERGY TOMORROW BLOG

[1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [»](#)

Black Gold, Texas Tea, TxOPEC?

[oil production](#) [texas](#) [demand](#) [supply](#)



Dean Foreman
Posted April 16, 2020

Amid talk in Texas of production quotas ("proration") and other extreme policies that have been suggested to address the oil demand downturn, API's [Monthly Statistical Report](#) (MSR) shows that supply is responding in real time and that U.S. crude and refined storage capacities have some flexibility to adjust to the COVID-19 driven demand decrease - helping to alleviate the need for blanket policies or government interventions.

Notably, recent federal actions may help provide additional flexibility to the entire energy value chain. For example, the U.S. Department of Energy's [opening of crude oil storage capacity](#) within the Strategic Petroleum Reserve (SPR) to individual companies provides much-needed flexibility. Separately, [Federal Reserve measures](#) to either purchase corporate bonds or provide loans may perform additional triage for the energy industry and across the broader economy.

[More »](#)

Fuel Supply Networks Are Responding Properly

[fuel supply](#) [gasoline](#) [distillate demand](#) [jet fuel](#)



Dean Foreman
Posted March 26, 2020

Supply networks for refined products - including gasoline, diesel and jet fuel - appear to be responding properly and flexibly to sudden and sharp declines for transportation fuel stemming from the coronavirus (COVID-19) and global efforts to slow its spread.

Market conditions can shift, yet API's view at this point is that most refined products markets have continued to function well in keeping about a month's worth of storage.

We gauge this in part by comparing recent inventory levels for gasoline, diesel and jet fuel with their ranges over the past five years. Although some products appear to have more available storage capacity than others, if needed, it also is apparent that the pace at which refiners produce fuels can provide additional adjustments which will affect demand for storage.