

# API Industry Outlook

## First Quarter 2021

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March 18, 2021

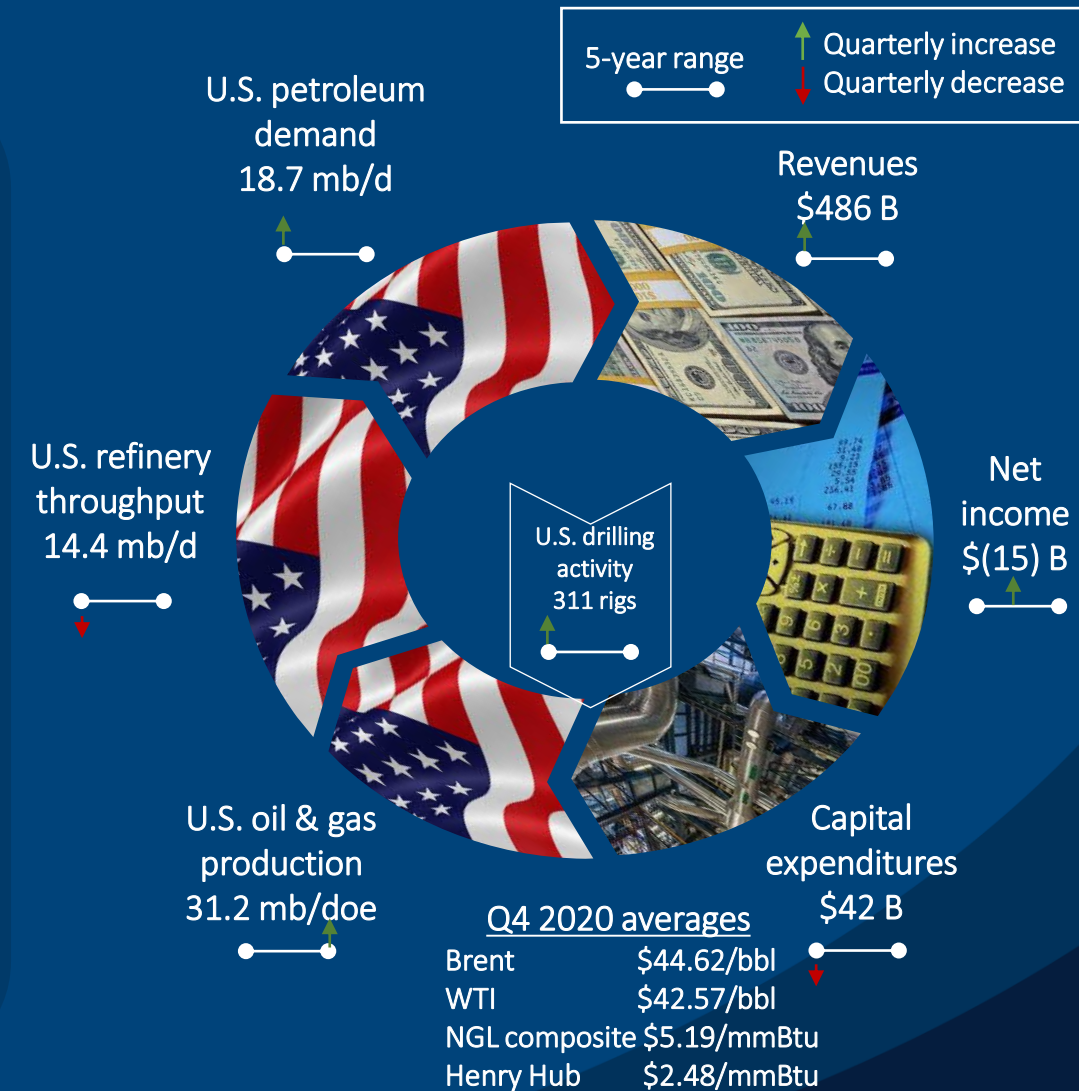


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# Key points



- **Strong global economic rebound broadly expected this year and in 2022**
  - Led by emerging markets, 3<sup>rd</sup> party consensus estimates for global real GDP growth have risen to 4.7% y/y in 2021 and 4.0% y/y in 2022
- **Record global oil demand growth could stretch supply** – EIA projects record two-year demand growth of +5.3 mb/d in 2021 and +3.8 mb/d in 2022 – and new global highs by Q4 2022
  - OPEC & Russia could redeploy 4.6 mb/d of capacity by Q4 2022 per EIA
  - The U.S. could add 3.0 mb/d of liquids production for a record-high of 20.8 mb/d by Q4 2022 per EIA
- **Natural gas – Strong productivity helped sustain production despite historically low drilling activity**
  - U.S. solid (regionally disparate) winter demand; record natural gas exports
  - Natural gas remains integral to planned U.S. power generation capacity additions, but global coal-fired power additions could outpace it



• Financial compilation based on API 200 companies with shares listed on U.S. stock exchanges.  
sources: EIA; API Monthly Statistical Report; Bloomberg and company reports; Baker Hughes; API Team analysis



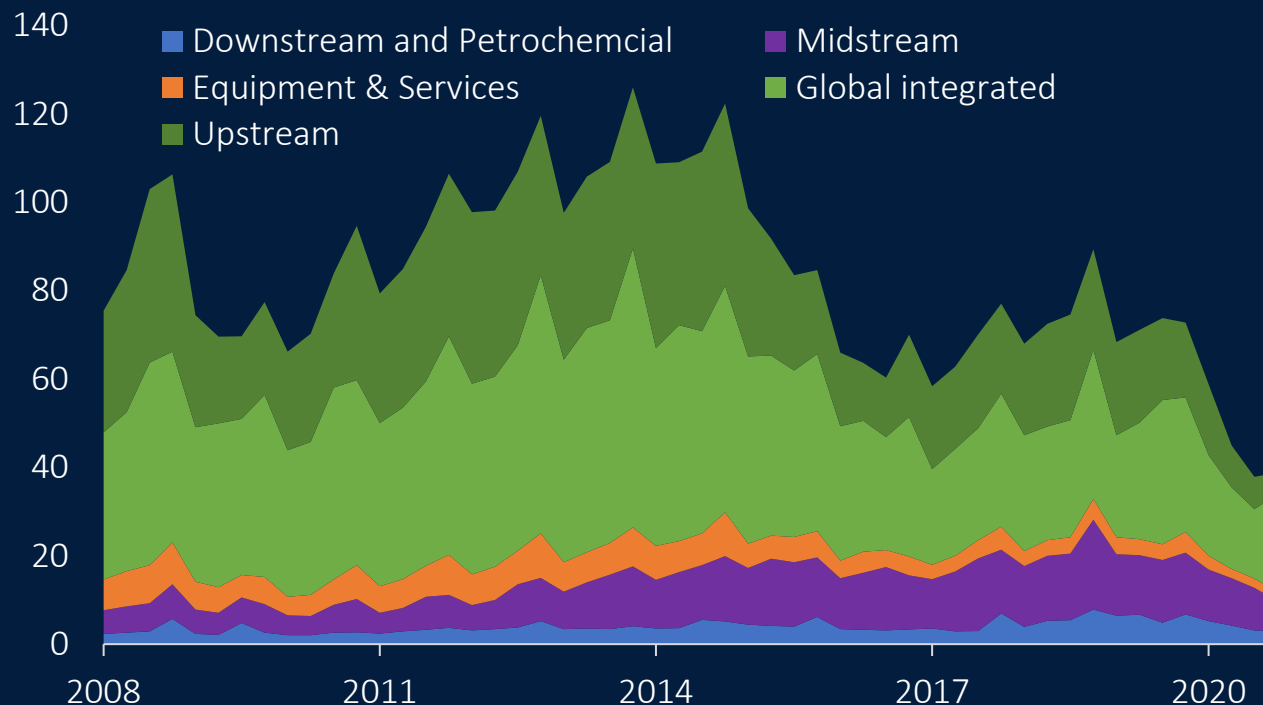
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# Industry capital expenditures remained historically low in Q4 2020, and the backlog of U.S. projects under construction has fallen by \$50 billion y/y

- The industry invested \$42.1 billion in Q4 2020, compared with \$70.5 billion in the same quarter one year ago
- Across the energy value chain, API is monitoring 77 oil & gas-related projects currently under construction worth \$194 billion

## Capital expenditures by industry segment

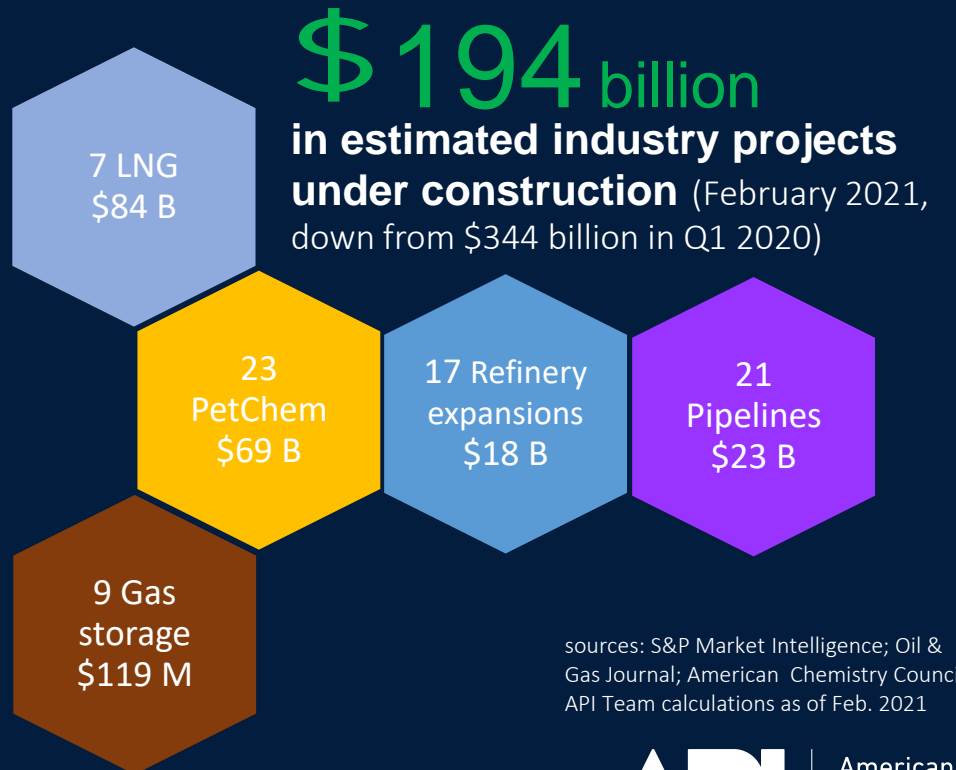
Billion dollars (2021\$)



\* All other oil & gas industry companies

sources: Bloomberg; publicly-available company reports; BLS

## \$194 billion in current U.S. energy infrastructure investments



sources: S&P Market Intelligence; Oil & Gas Journal; American Chemistry Council; API Team calculations as of Feb. 2021





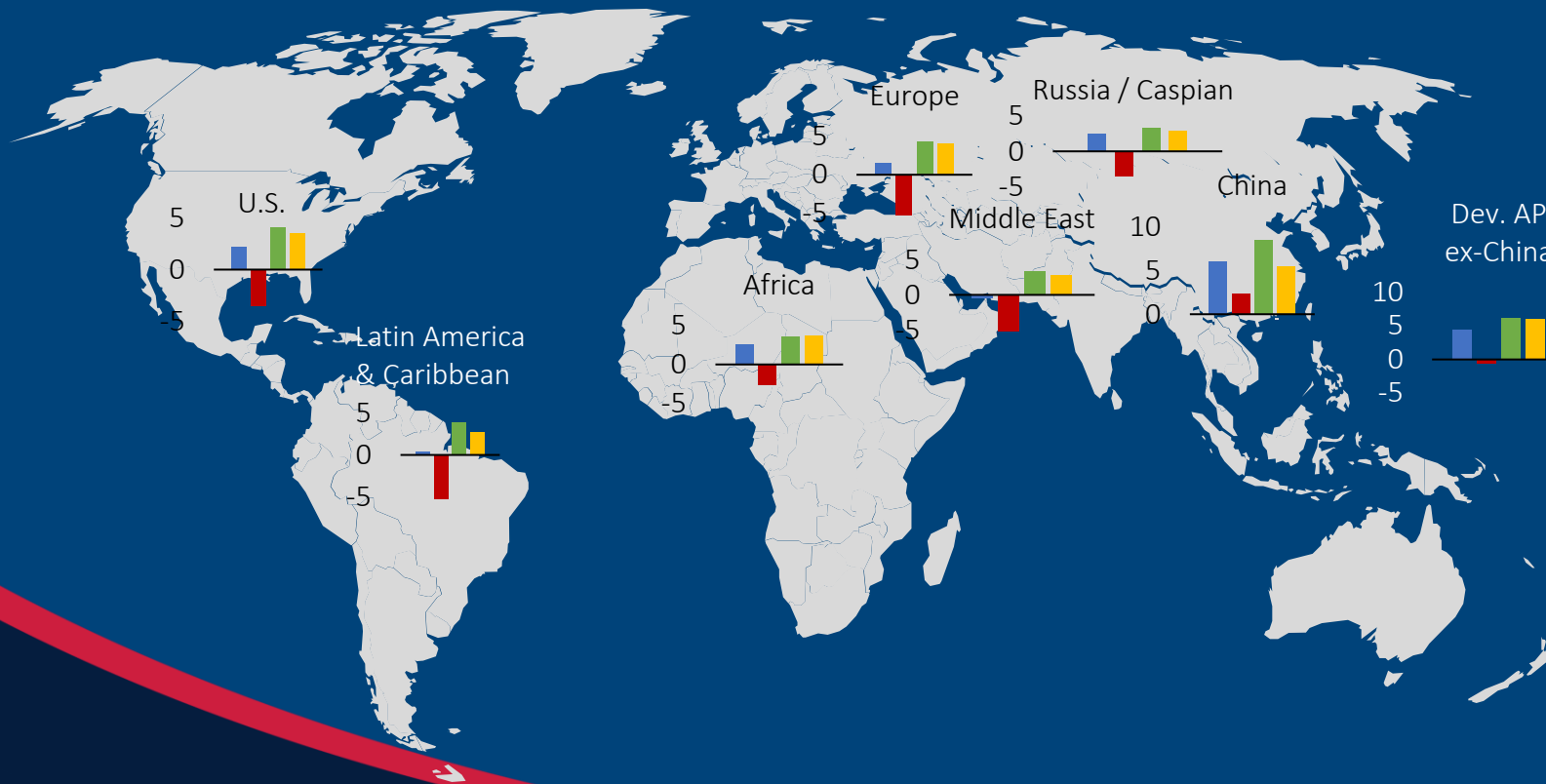
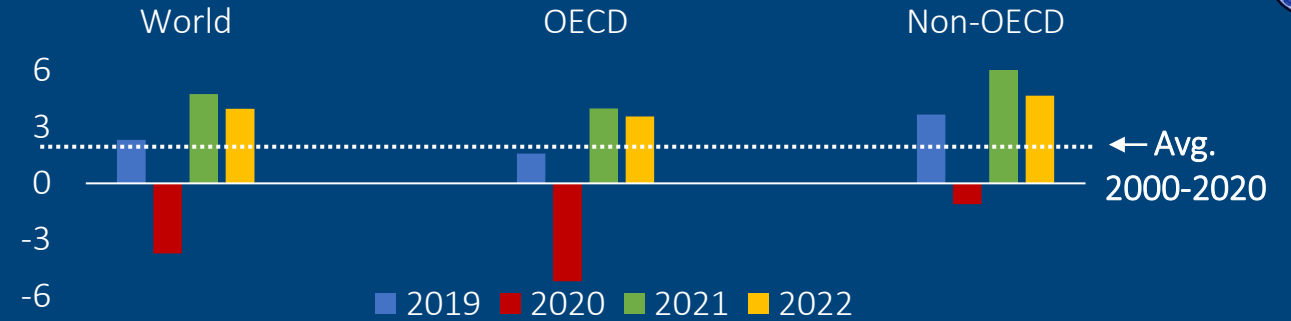
# Global Economy



# Global real GDP outlook

- ▶ Led by emerging markets, 3<sup>rd</sup> party consensus estimates are for global real GDP growth of 4.7% y/y in 2021 and 4.0% y/y in 2022

## Real GDP growth (percentage points, year-on-year)



- ▶ Every region is expected to grow in 2021 and 2022, but China and the rest of Developing Asia Pacific economies have remained on a greater scale with relatively mild 2020 recessions and strong resumed growth
- ▶ China could overtake the U.S. as the world's largest economy by 2028 per [Bloomberg](#)

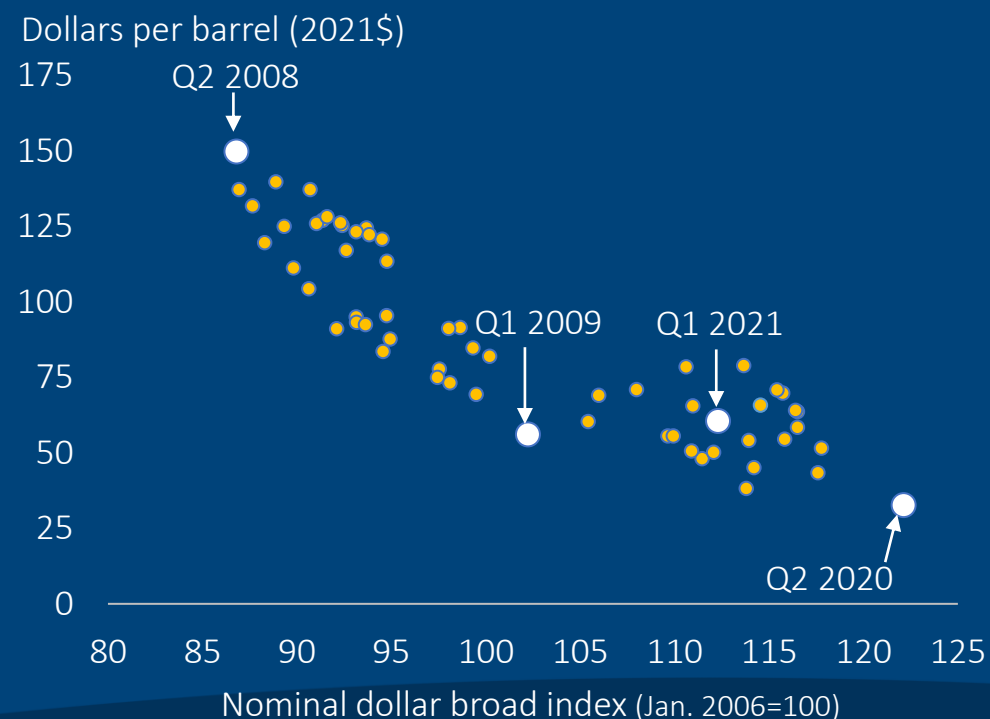
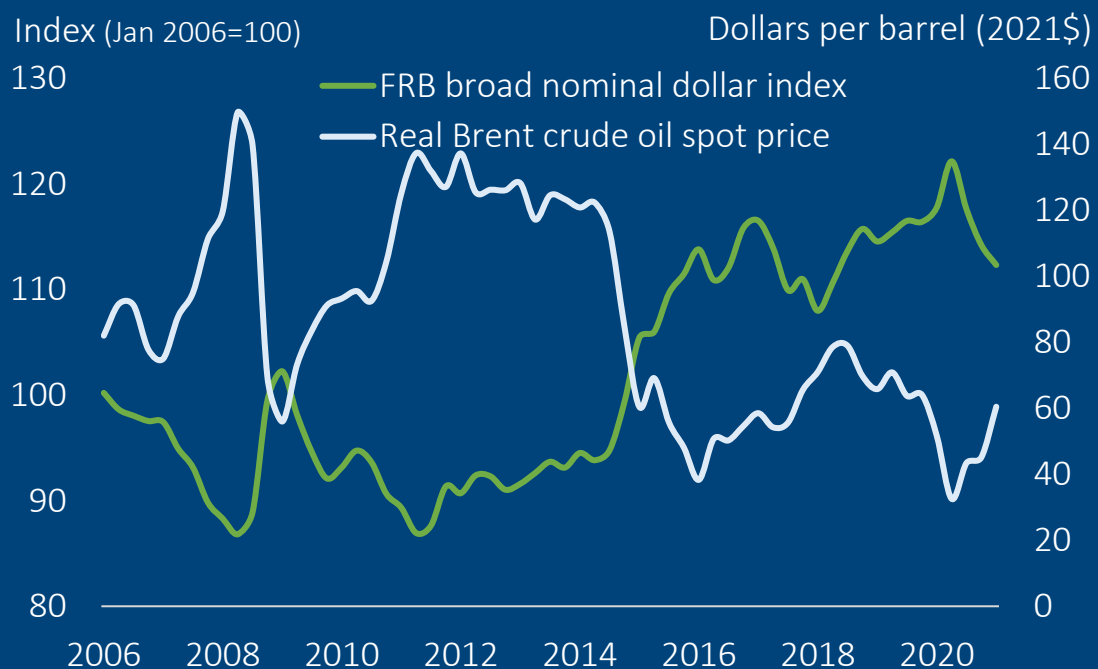
sources: IMF; Bloomberg \* Market exchange rate basis



# Recent U.S. dollar depreciation has correlated with increased oil prices

- » Global oil prices have historically been inversely correlated with the U.S. dollar's broad foreign exchange value
- » Three quarters after the onset of the Great Financial Crisis in 2008, the U.S. dollar appreciated, and oil prices fell. By contrast with the 2020 COVID-19 recession, the U.S. dollar depreciated, and oil prices rose

## Two perspectives on Brent crude oil spot prices and the U.S. dollar's foreign exchange value



sources: Federal Reserve Board; Bloomberg; U.S. Bureau of Labor Statistics



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# What we're watching now

- Although uncertainties on the path of global recovery remain, natural gas and oil demand is generally expected to be led by emerging markets. Central Bank Digital Currencies may present a credible threat to the U.S. dollar's global status

## Global economy on firmer ground, but with divergent recoveries amid high uncertainty

- **Improved outlook.** Upgraded 2021 and 2022 GDP forecasts by +0.8% and +0.2%, respectively
- **Divergent impacts.** Disproportionate losses in countries reliant on tourism, commodity exports and those with "limited policy space to respond"
- **High uncertainty remains** with the health crisis
- **Policy priorities** vary by country but generally should boost productive capacity, foster efficient resource allocations, and scale back gradually ("avoid sudden cliffs")

[International Monetary Fund](#), April 2021

## Ready, steady, go? Results of the 3<sup>rd</sup> BIS survey on central bank digital currency

- **Central banks** collectively representing a fifth of the world's population are likely to issue a central bank digital currency (CBDC) in the next three years --- a transparent and stable version of blockchain-based cryptocurrency
- In emerging market and developing economies, financial inclusion and payments efficiency objectives motivate the shift towards CBDCs

C. Boar and A. Wehrli, [Bank of International Settlements](#), Jan. 2021

## Oil Market Report, April 2021

- The global oil market "changes dramatically in the latter half of this year as nearly 2 mb/d of extra supply may be required to meet expected demand growth - even after factoring in the announced ramp-up of OPEC+ production"

IEA upgraded its world oil demand growth projection to **5.7 mb/d** in 2021 due to "robust prompt indicators"

- IEA expects flat U.S. oil production in 2021

[International Energy Agency](#), April 2021



# Oil Markets





# Global oil demand recovery in 2021 and 2022 could become the largest two-year increase on record since 1950



► EIA projects global oil demand was 96.7 mb/d in February - within 1.0% of its February 2020 level of 97.7 mb/d – and could rise by a total of 9.1 mb/d this and next year (5.3 mb/d in 2021 and 3.8 mb/d in 2022)

## Global oil demand

Million barrels per day

120

100

80

60

40

20

0

1950

1960

1970

1980

1990

2000

2010

2020

Double-dip recession,  
front-wheel drive and  
CAFE standards  
(1980-1982)

Great Financial  
Crisis (2008-2009)

2020  
COVID-19  
recession

EIA estimates

2022  
2021

\*Market exchange rate basis  
sources: IEA; EIA; Bloomberg

Real GDP (Trillion 2010\$)



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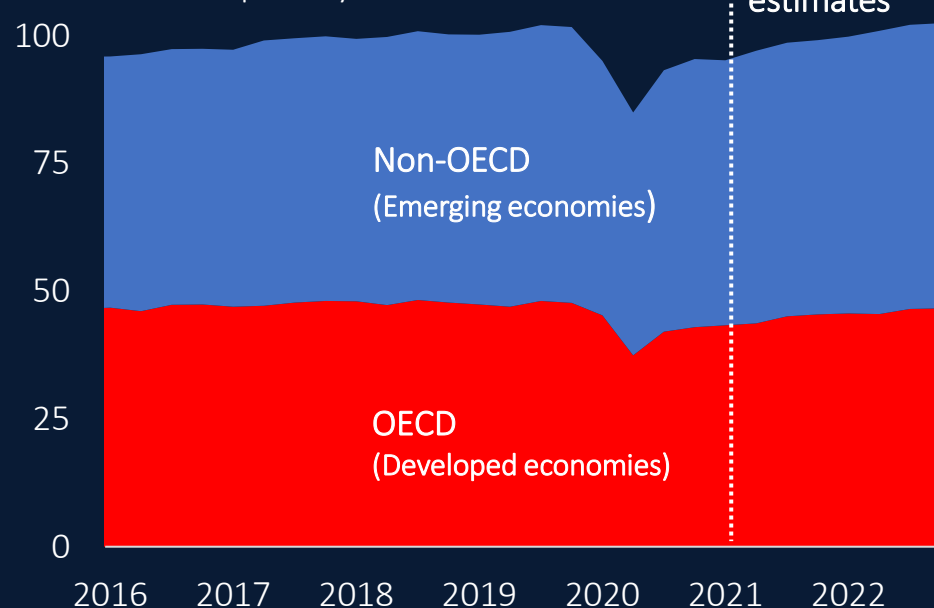
# Global oil demand could set a new record-high by the end of 2022 per EIA



- ▶ EIA projects global oil demand of 102.4 mb/d in Q4 2022, with similar increases (Q1 2021 to Q4 2022) by developed (+3.4 mb/d) and emerging economies (+3.9 mb/d)
- ▶ For global supply by Q4 2022, EIA projects OPEC and Russian & Caspian producers to redeploy 4.7 mb/d of spare capacity, while U.S. production could rise by 1.7 mb/d by Q4 2021 and add another 1.4 mb/d to reach a new high for U.S. liquids production of 20.8 mb/d in Q4 2022

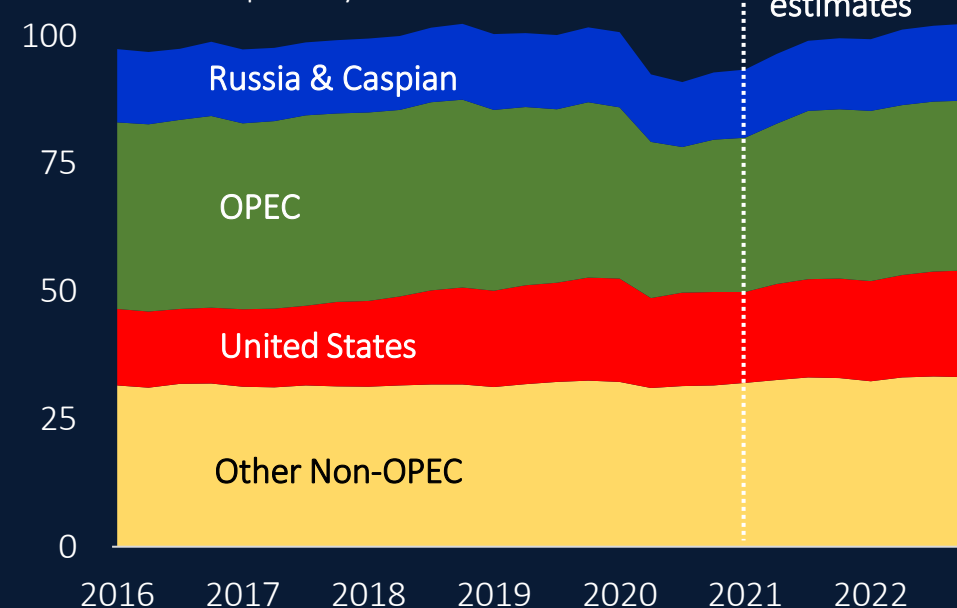
## Global oil demand

Million barrels per day



## Global oil supply

Million barrels per day



source: EIA STEO (March 2021)



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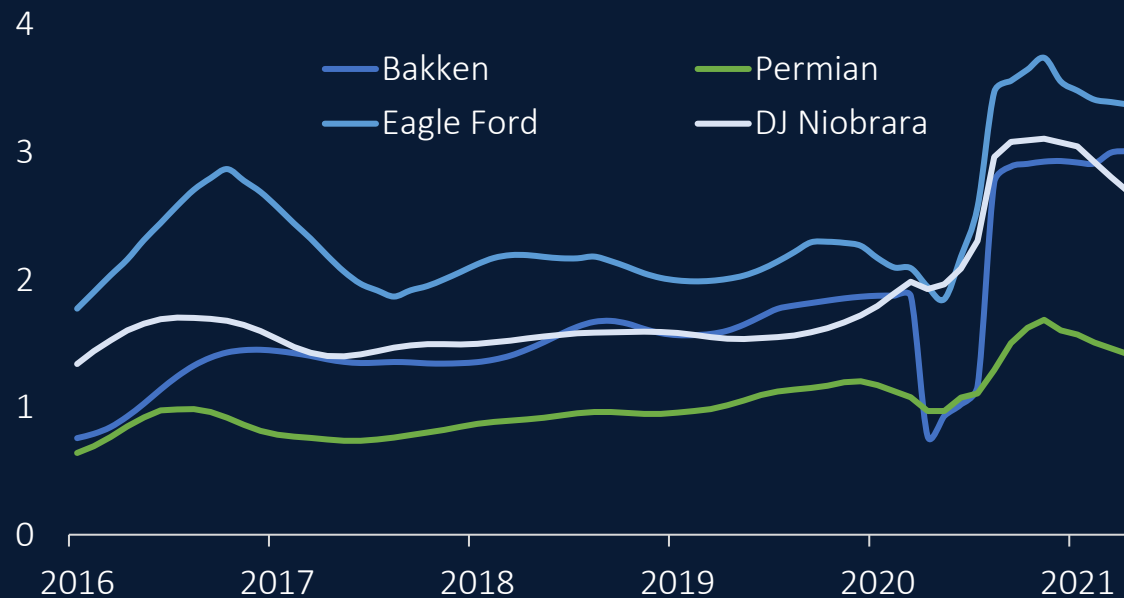
# Strong sustained U.S. oil well productivity has kept downward pressure on estimated breakeven prices



- ▶ EIA reported solid well productivity even as companies have begun to re-deploy rigs and crews that were idled
- ▶ BTU Analytics estimated breakeven prices were below recent market prices among major U.S. oil producing basins

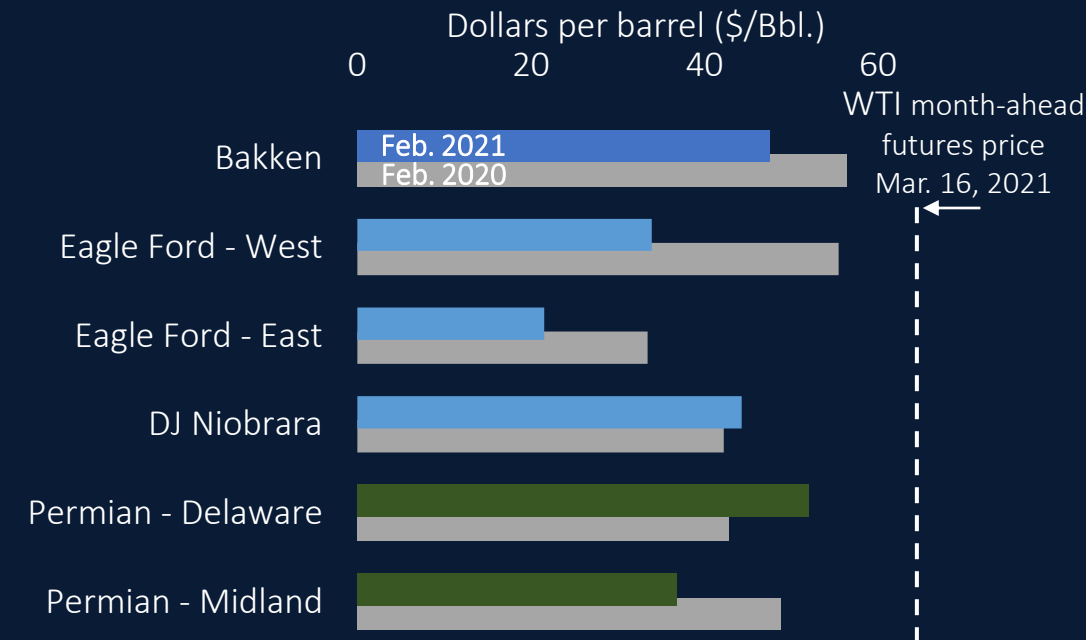
## U.S. oil well productivity – new production per rig

Million barrels per day oil-equivalent



source: EIA Drilling Productivity Report

## Oil estimated breakeven prices\*



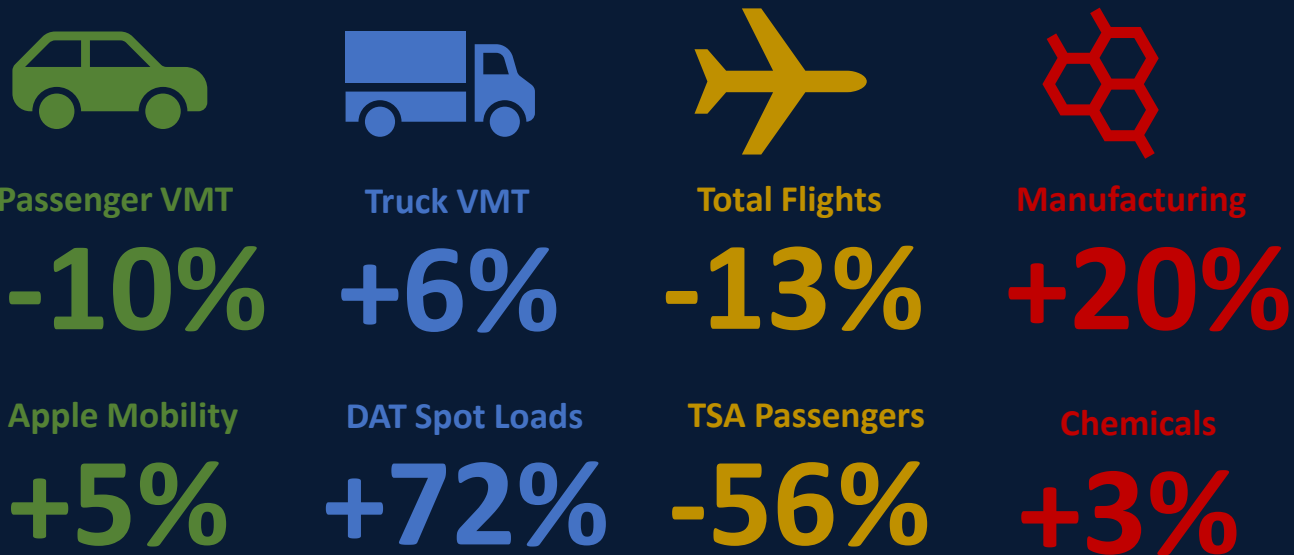
\*Half cycle breakevens assuming 10% discount factor. sources: BTU Analytics; CME Group

# EIA projects U.S. liquid fuels consumption could return to its 2019 levels by the second half of 2021



- Indicators of industrial and chemical production, daily flights and mobility statistics, and vehicle miles traveled tracking show broad recovery from Q2 2020 lows, but ongoing year-on-year declines as of Q1 2021
- EIA projects Q2 2021 total consumption for refined products to reach that of pre-COVID levels, with the strongest recoveries in motor and jet fuels

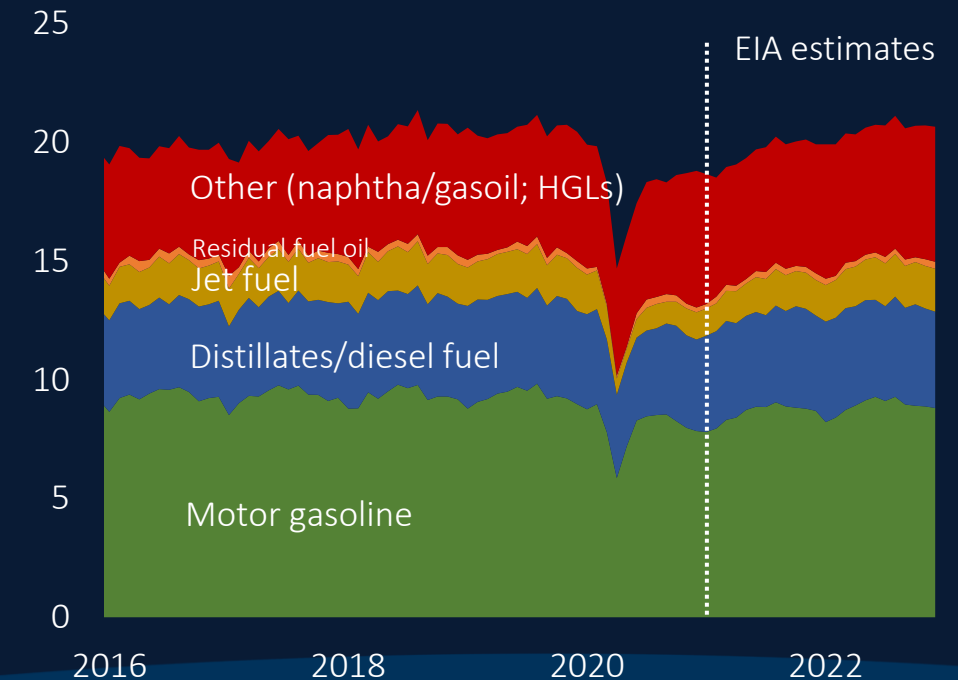
## Refined product key U.S. demand indicators, As of March 2021 YoY



source: U.S. Federal Highway Administration; FlightRadar24; ISM PMI; ACC; TSA; Apple; DAT

## U.S. liquid fuel consumption by fuel

Million barrels per day



sources: EIA; API MSR

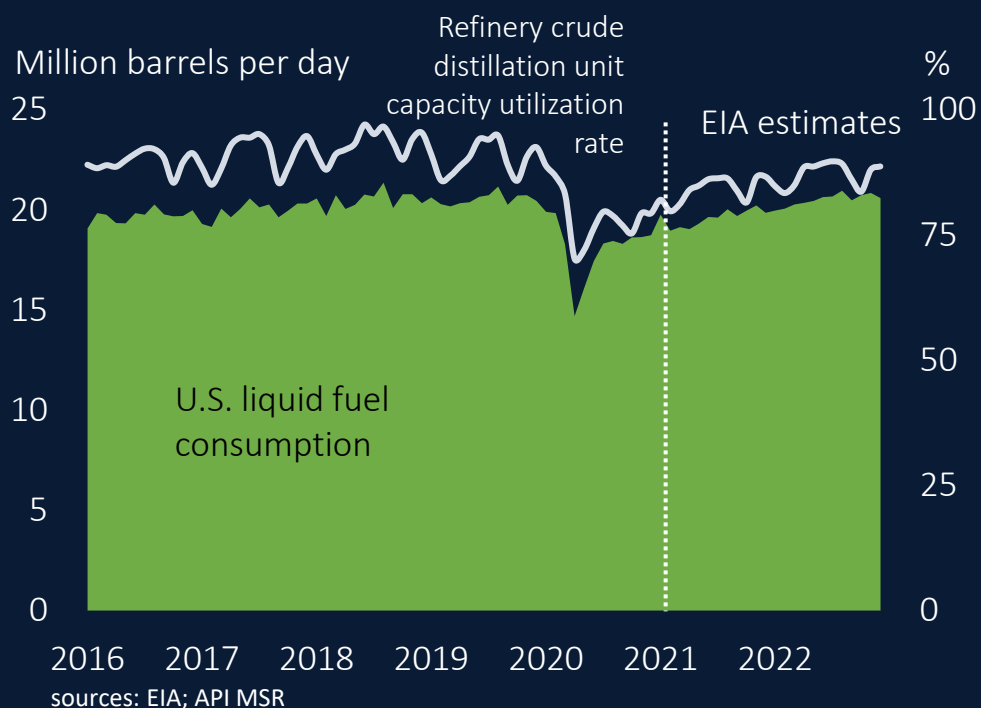


# U.S. refinery capacity utilization could recover gradually, but U.S. crude oil trade is projected to revert to net imports in Q2 2021 per EIA

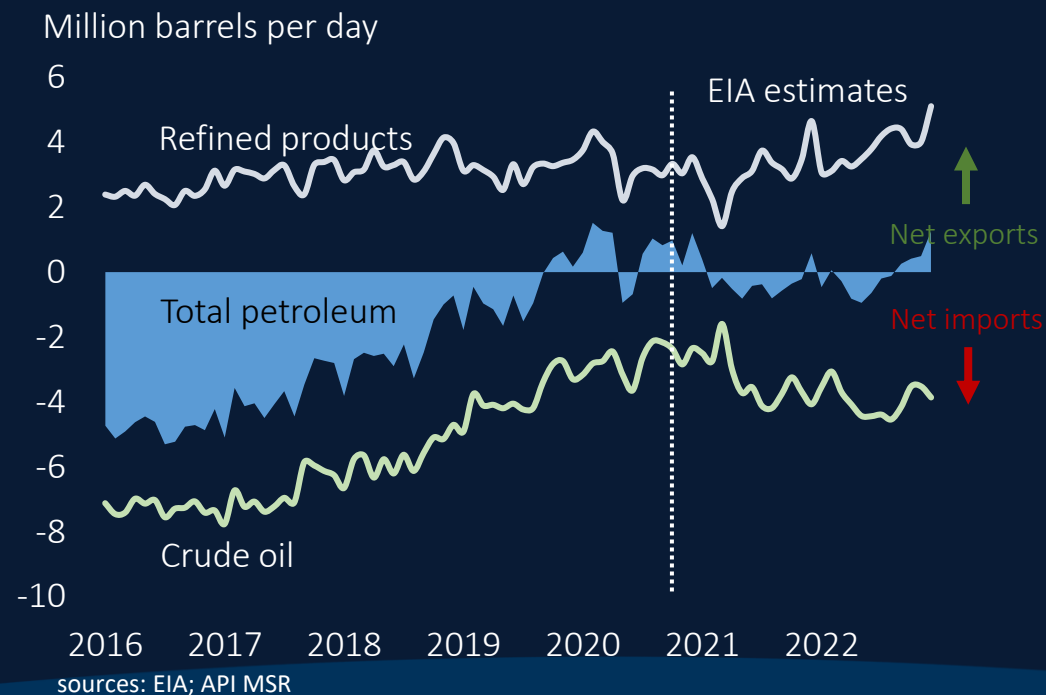


- ▶ EIA expects refinery capacity, domestic demand and refined product exports to re-strengthen over the next year, but lower U.S. drilling and production could set back U.S. crude oil exports

## U.S. liquid fuel consumption and refinery throughput



## U.S. petroleum net trade



# Natural Gas





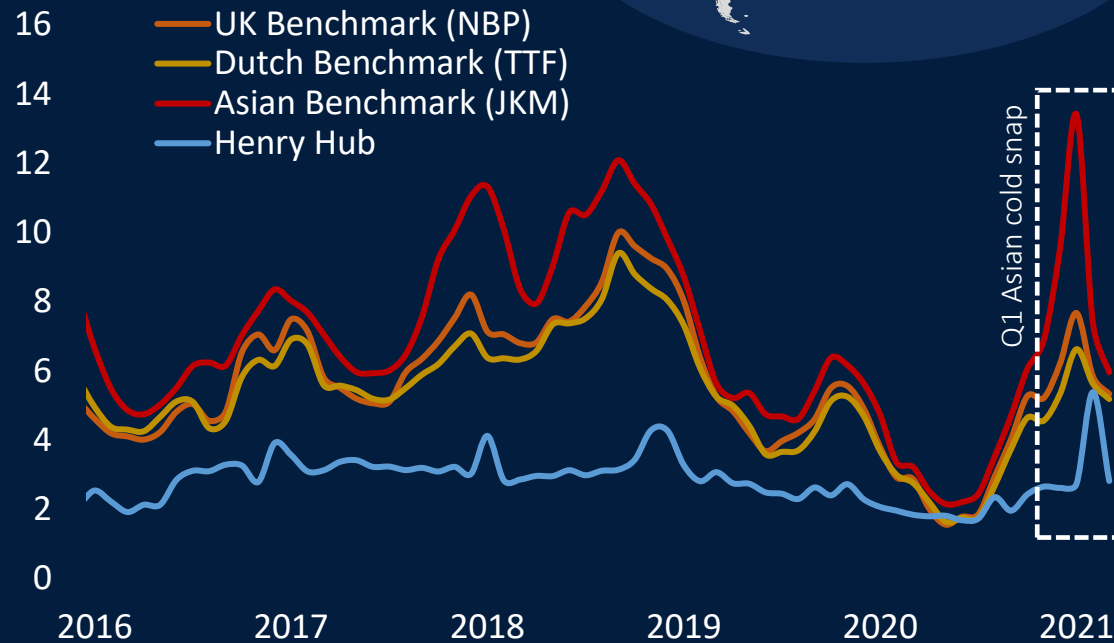
# Natural gas market recovery in Asia Pacific and Europe has keyed record trade and U.S. liquefied natural gas (LNG) exports



- ▶ Asia and Europe have consistently led in LNG imports, while the U.S. has emerged as an exporter with new infrastructure
- ▶ Following weakness in mid-2020, robust global growth LNG trade and record U.S. exports appeared in Q1 2021

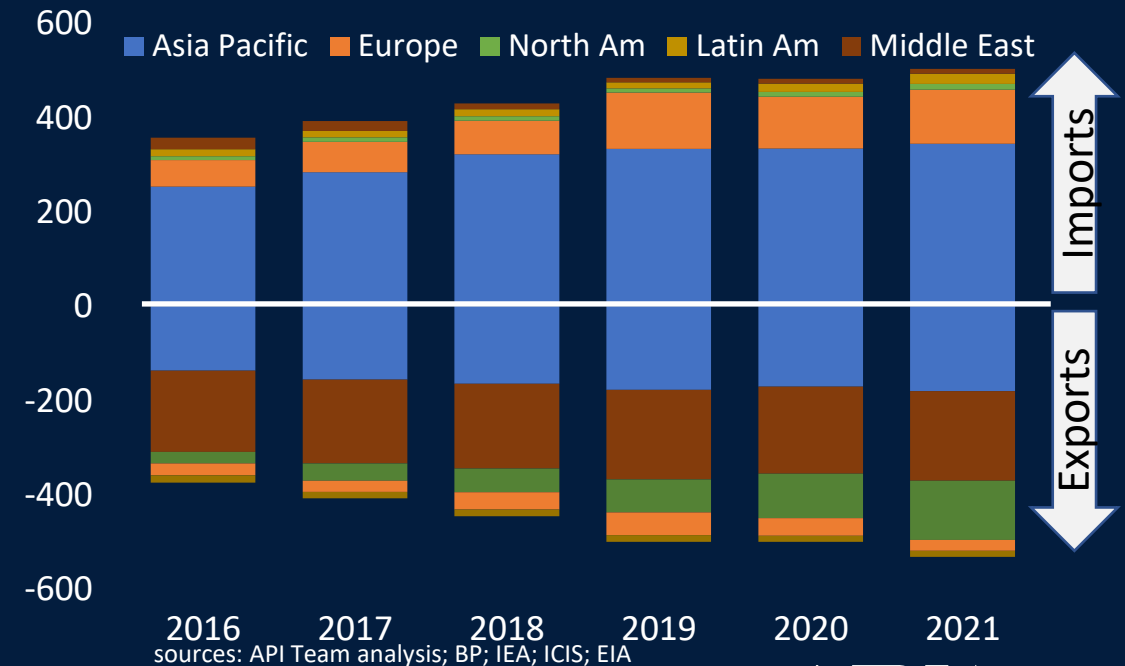
## Regional gas hub pricing

\$2021 per mmBtu, monthly



## Global LNG trade by region

Billion cubic meters



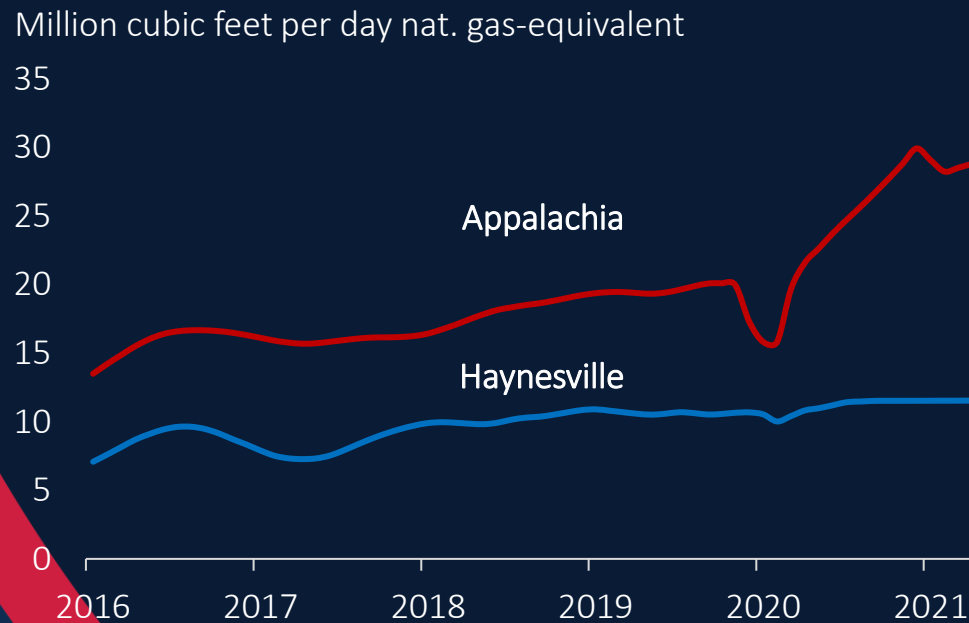
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# Recent natural gas futures prices have exceeded estimated breakeven prices among top producing regions



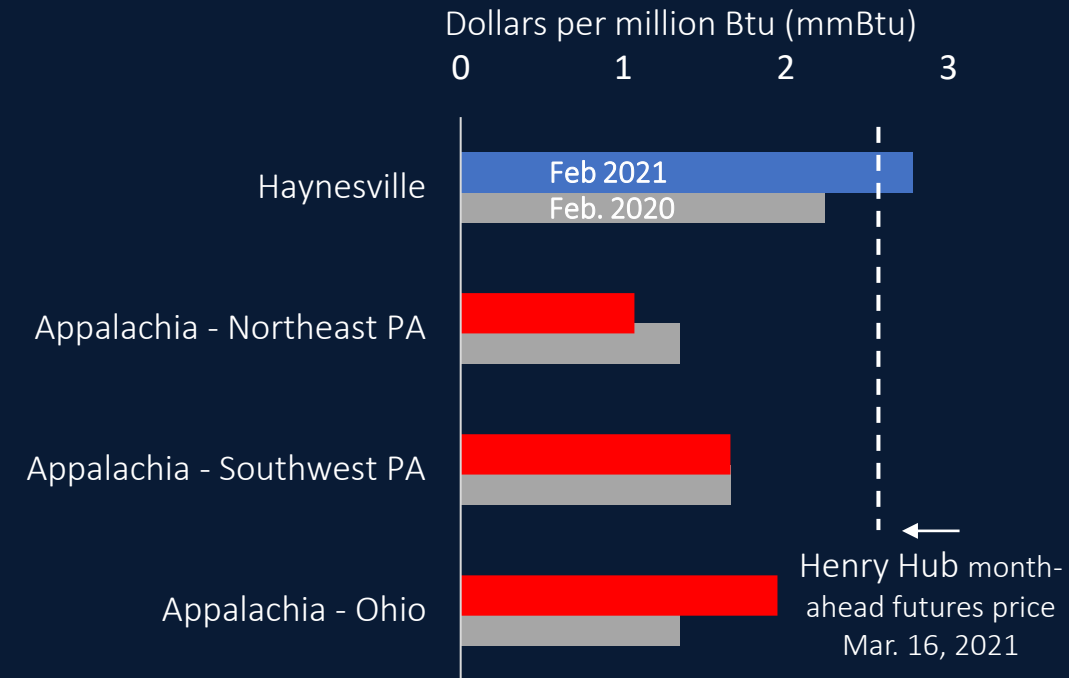
- Dedicated drilling for dry gas sustained solid productivity gains per EIA
- Estimated natural gas breakeven prices moved in different directions by producing region but generally remained below recent natural gas futures prices

## Natural gas well productivity –production per rig



source: EIA Drilling Productivity Report

## Natural gas estimated breakeven prices



\*Half cycle breakevens assuming 10% discount factor and play-specific costs  
sources: BTU Analytics; CME Group



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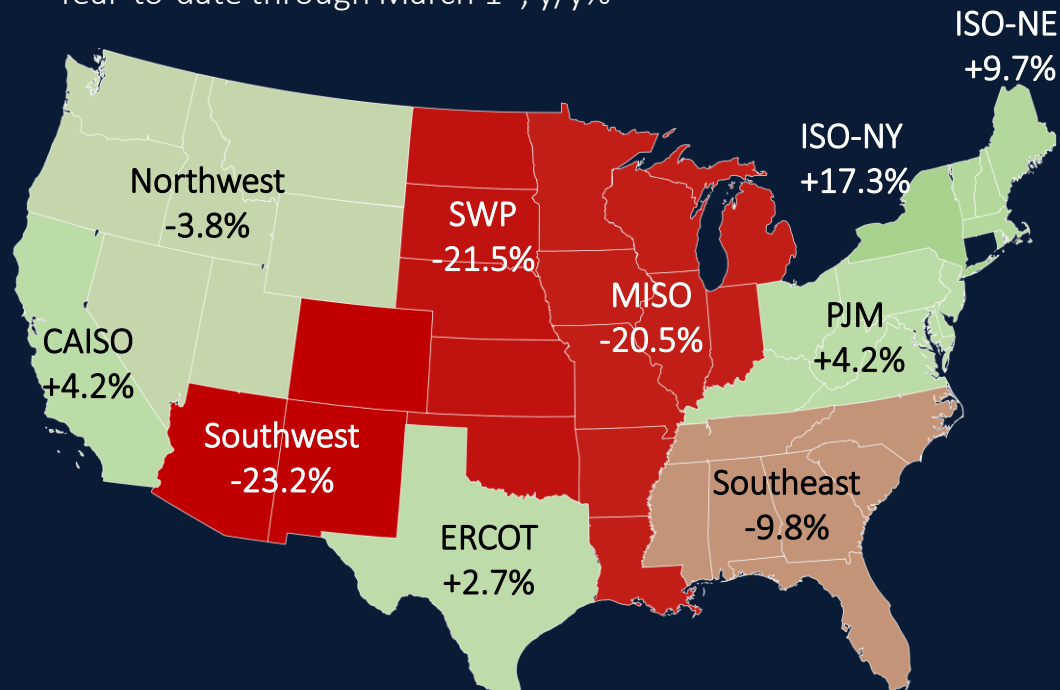
# U.S. natural gas exports could grow while supply and demand recede from 2019 highs per EIA, despite cold winter seasonality



- Q1 2021 brought a polar vortex and polarizing effects on gas demand for power by region, with large gains/losses as power competed with other fuels
- COVID-driven 2020 declines in demand and dry gas production could be extended into 2021 before broadly recovering per EIA

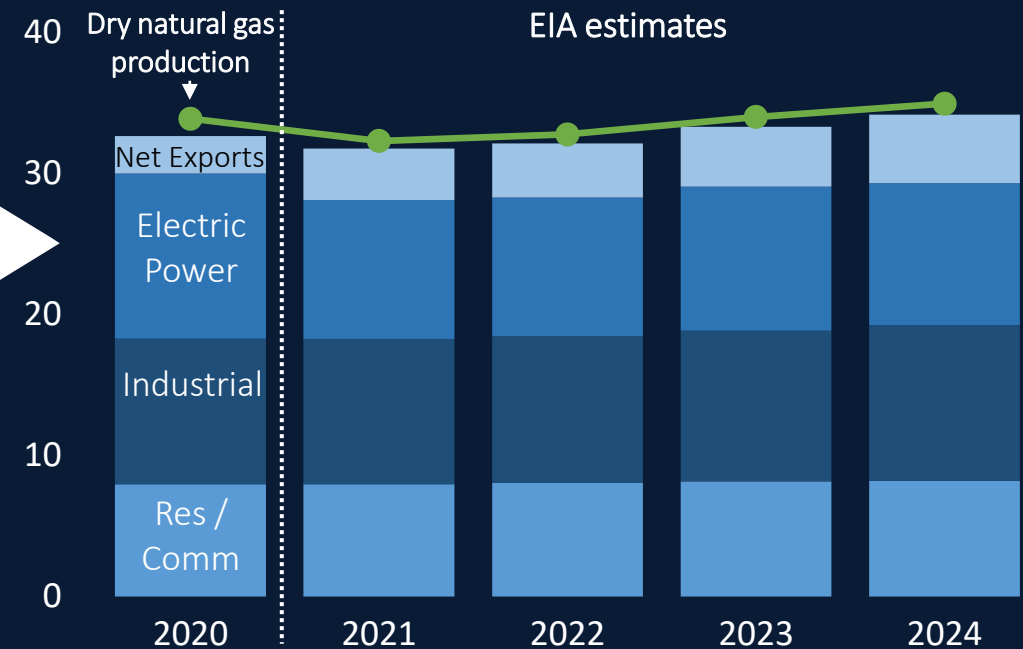
## U.S. power sector gas consumption

Year-to-date through March 1<sup>st</sup>, y/y%



sources: EIA Hourly Grid Monitor; FERC

## U.S. natural gas consumption and production by sector, Trillion cubic feet



sources: EIA AEO 2021



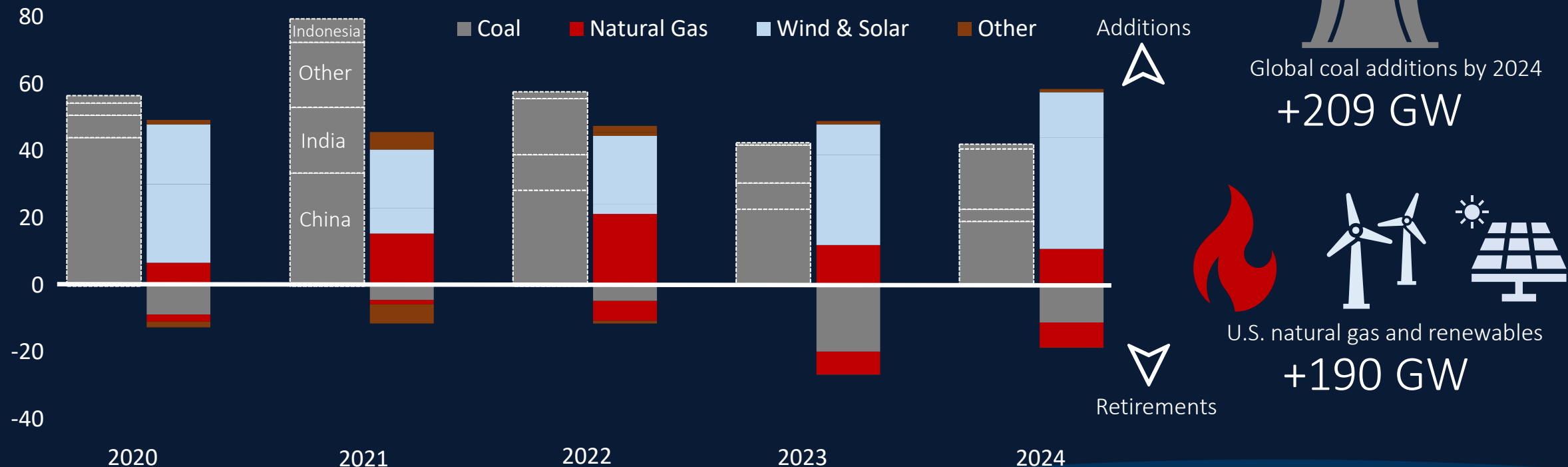
# While the U.S. is poised to add 190 GW of gas and renewable power through 2024, global coal capacity is expected to increase by over 200 GW



- ▶ Natural gas has remained competitive in the mix of U.S. electricity capacity additions with a 30% share through 2024
- ▶ By comparison, 209 GW of added coal capacity could come online by 2024 in emerging per the Global Energy Monitor estimates

## Global coal capacity additions vs. U.S. net generation capacity changes

Gigawatts



sources: Global Energy Monitor; IEA WEO 2020; EIA AEO 2021  
Projects listed as under construction or permitted

# API economics resources available at [www.api.org](http://www.api.org)



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*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.