

API Industry Outlook

3rd Quarter 2020

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Chief Economist

September 17, 2020

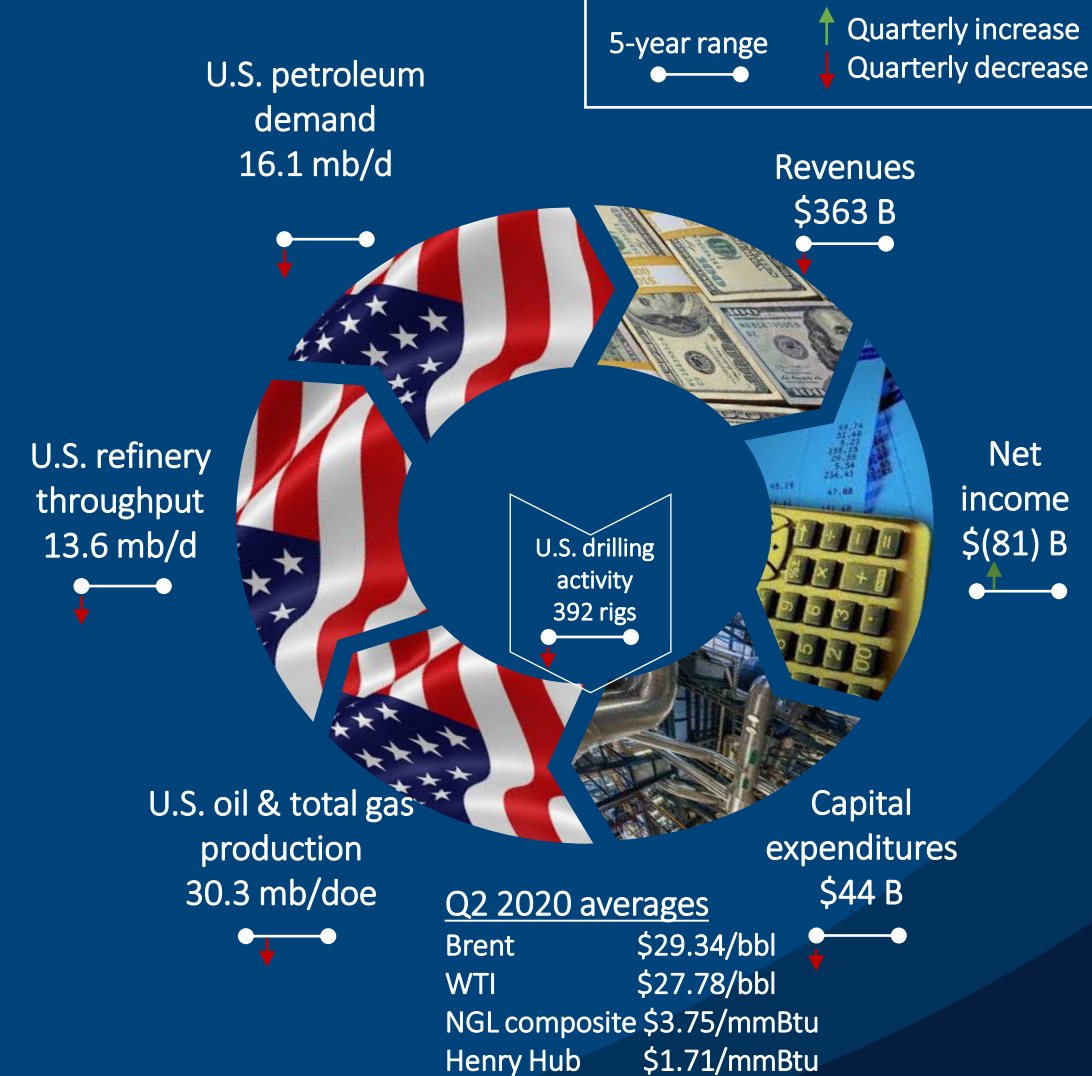


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Key points



- ▶ **Economy** - 2020 is broadly expected to be a 'one-and-done' recession
 - Following the 2020 COVID-19 global recession, 3rd party consensus expectations for a rebound to 4.4% y/y growth in 2021
 - Emerging markets have driven the majority of economic and energy demand growth
- ▶ **Oil markets** – Q3 global demand has exceeded supply
 - Global oil demand has exceeded supply in Q3 2020 per EIA, and EIA expects prices to rise to about \$50 per barrel over the next year
 - U.S. shale oil productivity has risen and estimated breakeven prices have fallen
- ▶ **Natural gas** – U.S. natural gas held up relatively well despite a lull in global LNG
 - With record-low prices in Q2 2020, some global liquefied natural gas projects and expansions were placed on hold due to the 2020 COVID-19 global recession
 - U.S. natural gas supply/demand fundamentals remained solid, with prospective market opportunity hinging largely on the electricity generation sector per EIA



• 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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What we're watching now

- Global progression through COVID-19 and traction with economic stimulus programs
- Emerging market economic health, resilience, foreign exchange rates, and fiscal flexibility
- Small and medium-sized enterprise performance amid the 2020 COVID-19 recession
- The U.S. has remained the largest recipient of global Foreign Direct Investment (FDI) inflows that UNCTAD expects could be pressured due to trade frictions and COVID-19-related supply chain disruptions

GRAPHIC-\$15 trillion and counting:
global stimulus so far Reuters

OECD BETTER POLICIES FOR BETTER LIVES

Sovereign Borrowing Outlook for OECD Countries – Special COVID-19 Edition

The total market borrowing is expected to reach an unprecedented level of **\$28.8 trillion in bonds and bills** in 2020....the central government marketable **debt-to-GDP ratio** for the OECD area is projected to **increase by 13.4 percentage points**.

In the medium and long-term, preparedness for higher refinancing risk is critical for sovereign issuers with heavy debt repayment requirements

OECD, July 20, 2020

IMFBlog
IMF
IMF BLOG
IMF BLOG

COVID-19 Response in Emerging Market Economies: Conventional Policies and Beyond

Exchange rate market pressures in major Emerging Market Economies
Exchange rates adjusted to a larger extent, reserves were used sparingly.

A worrisome lack of fiscal space
One-third of Emerging Market Economies have limited or no room for fiscal policy to counter a prolonged crisis.

Martin Mühleisen, Tryggvi Gudmundsson, and Hélène Poirson Ward
Aug. 6, 2020

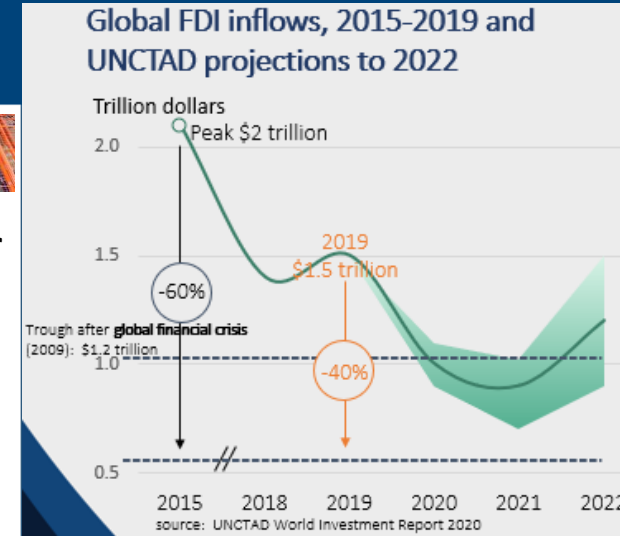
Harvard Business Review



A Financial Crisis Is Looming for Smaller Suppliers

....a less visible crisis deep within supply chains is destabilizing small and medium-sized enterprises (SMEs) and could add to the woes of the global economy.

Federico Caniato, Antonella Moretto and James B. Rice, Jr.
Aug. 6, 2020



Global economy & oil markets

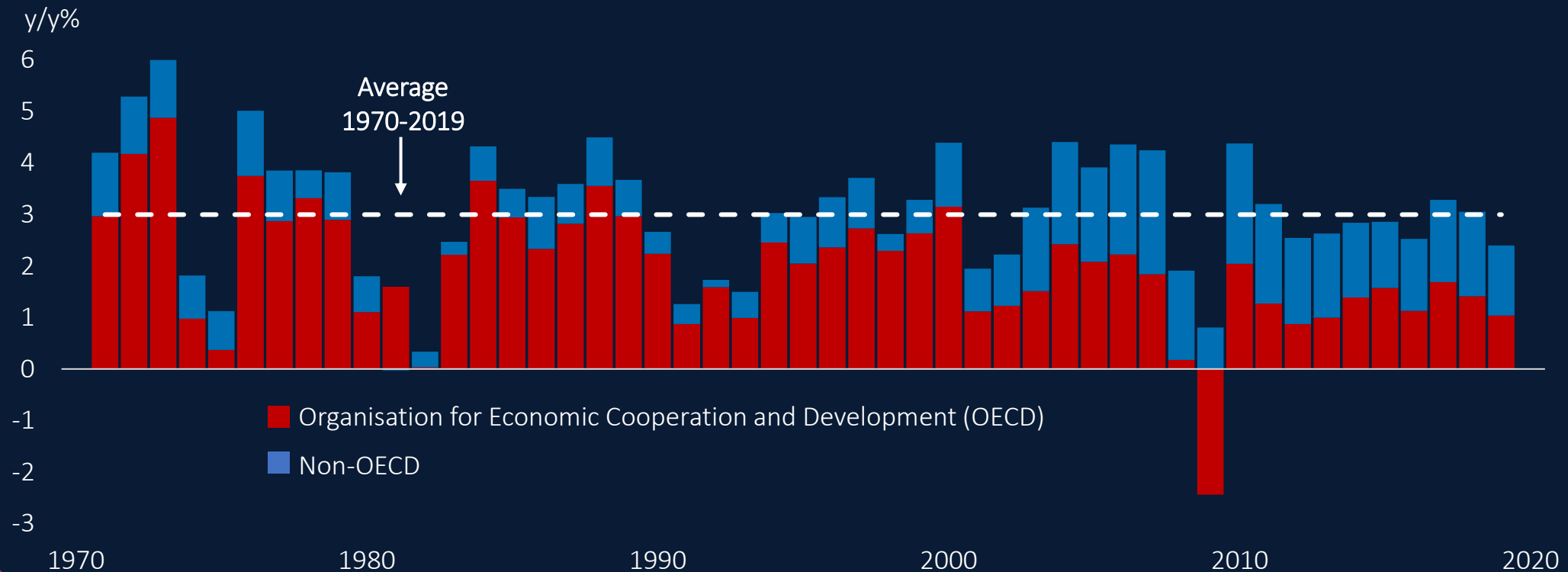


Emerging economies have generally contributed the most to global economic growth since the early 2000s



- Global GDP growth has historically been volatile and cyclical, averaging 3.0% per year between 1970 and 2019
- Since 2003, emerging economies (Non-OECD) have generally contributed more to global growth than OECD economies

Global GDP growth and contributions by region, 1970-2019*



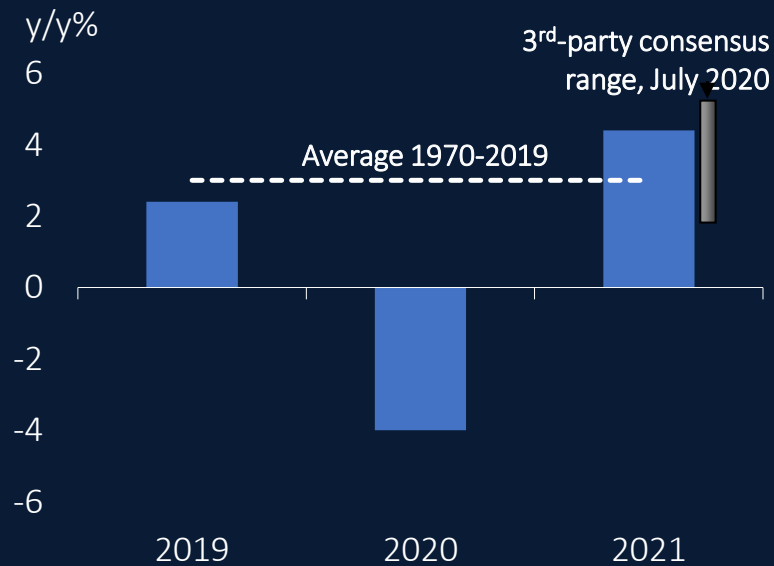
sources: IMF; Bloomberg * Market exchange rate basis

World Bank and Bloomberg consensus expect a “one-and-done” recession



- ▶ The Bloomberg consensus expects economic recovery to take hold beginning in Q3 2020
- ▶ The COVID-19 global recession has been the most synchronized on record – and with the sharpest deterioration across multiple measures since 1960
- ▶ Consistent with the Bloomberg consensus, World Bank expect global economic growth to resume in 2021, and oil consumption has historically grown in tandem with the economy

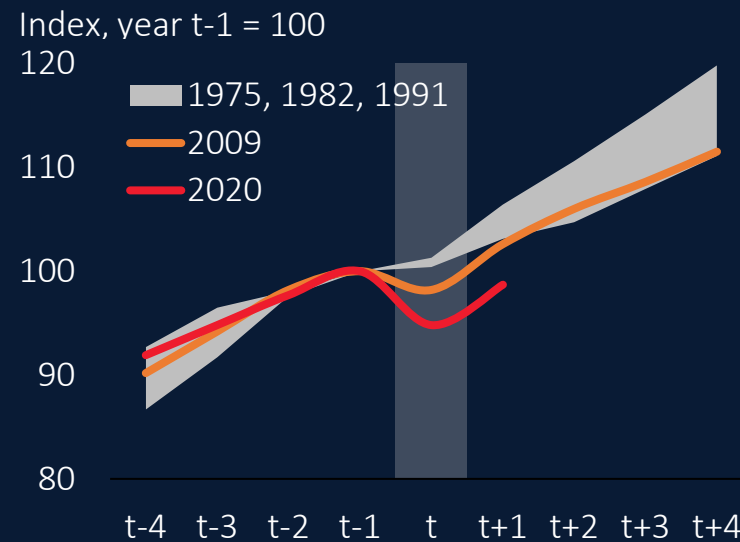
Global real GDP outlook



sources: IMF; Bloomberg * Market exchange rate basis

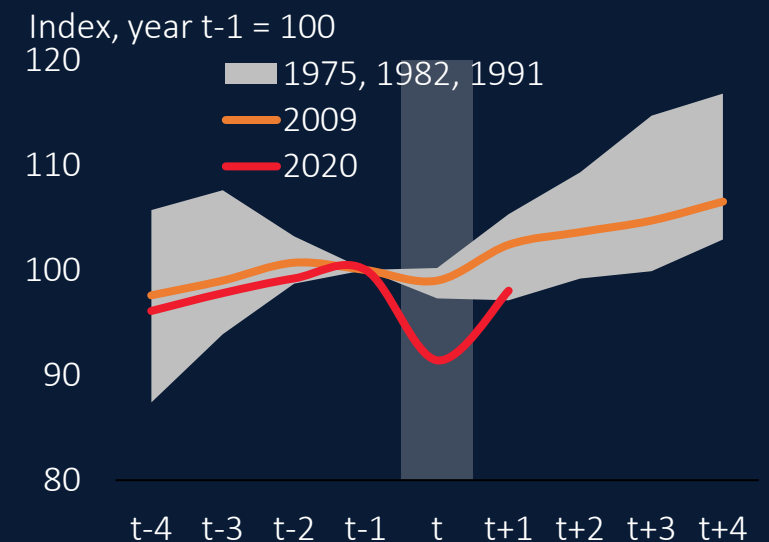
Global activity comparisons during economic recessions, 1960 -2020

Global real GDP



sources: World Bank; Kose, Sugawara, and Terrones (2019, 2020)

Oil consumption



sources: World Bank; IEA; EIA; Kose, Sugawara, and Terrones (2019, 2020)

As the global economy goes, historically so has oil demand...



- ▶ Global oil demand has historically changed in tandem with the economy

Global oil demand and GDP

Million barrels per day

100

85

70

55

40

0

1970

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

Great Financial
Crisis (2008-2009)

2020

2021
EIA estimates

Real GDP (Trillion 2010\$)

*Market exchange rate basis
sources: EIA; Bloomberg; IMF; API Team calculations



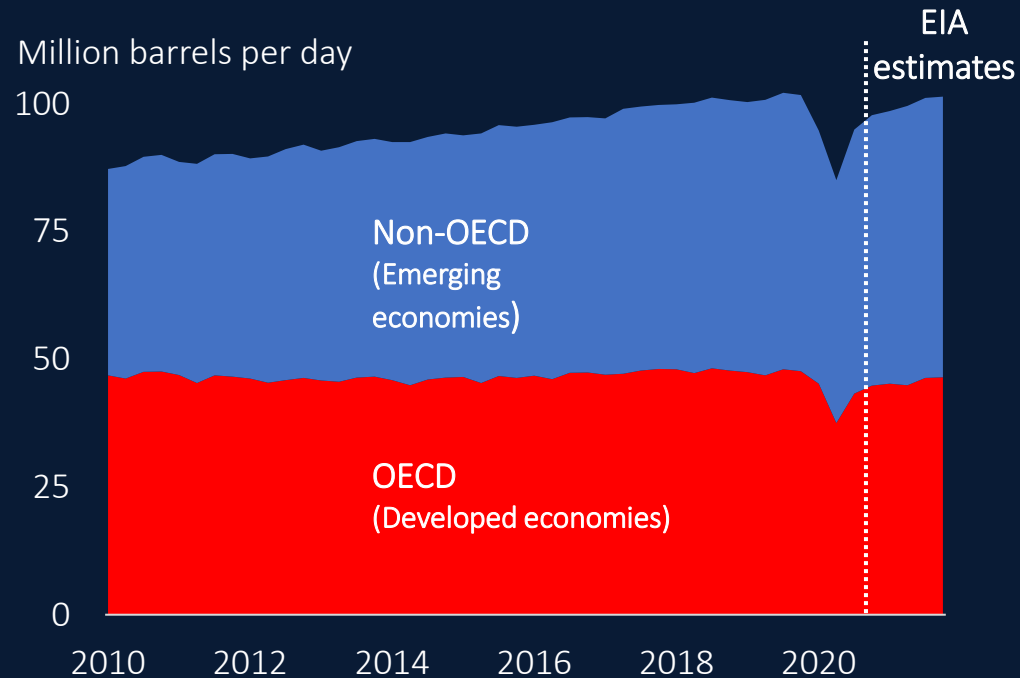
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Global oil demand has outstripped supply in Q3 2020 per EIA

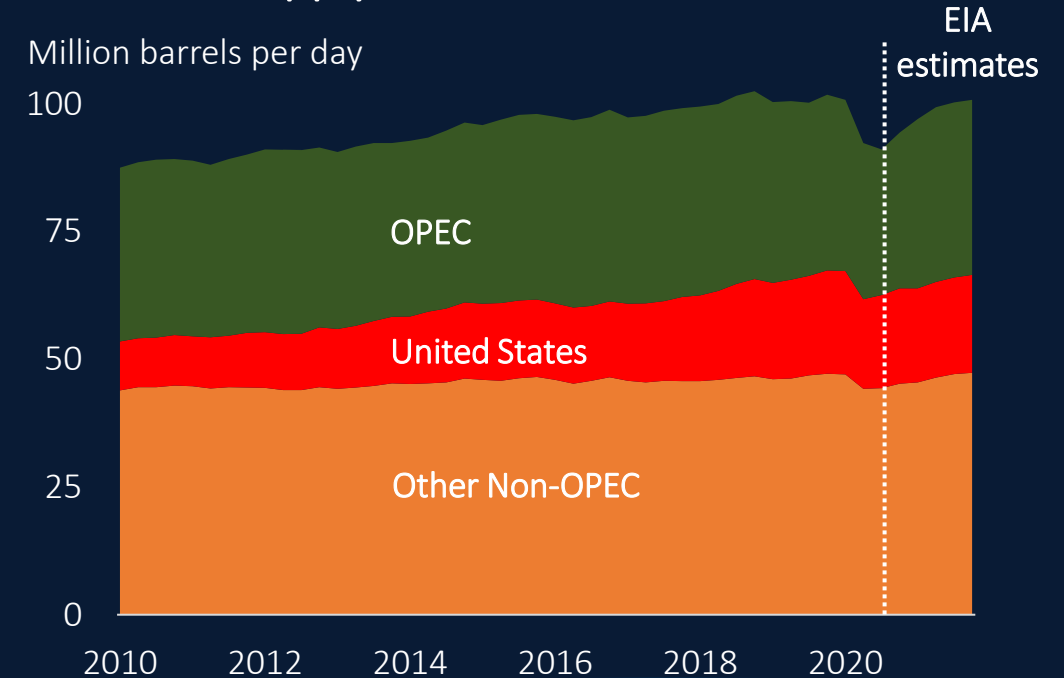


- In Q3 2020, oil demand among OECD economies fell by 4.7 million barrels per day, compared with 2.4 mb/d among Non-OECD economies per EIA
- By contrast, Q3 2020 global supply was down by 9.7 million barrels per day compared with one year ago with cuts led by OPEC nations

Global oil demand



Global oil supply



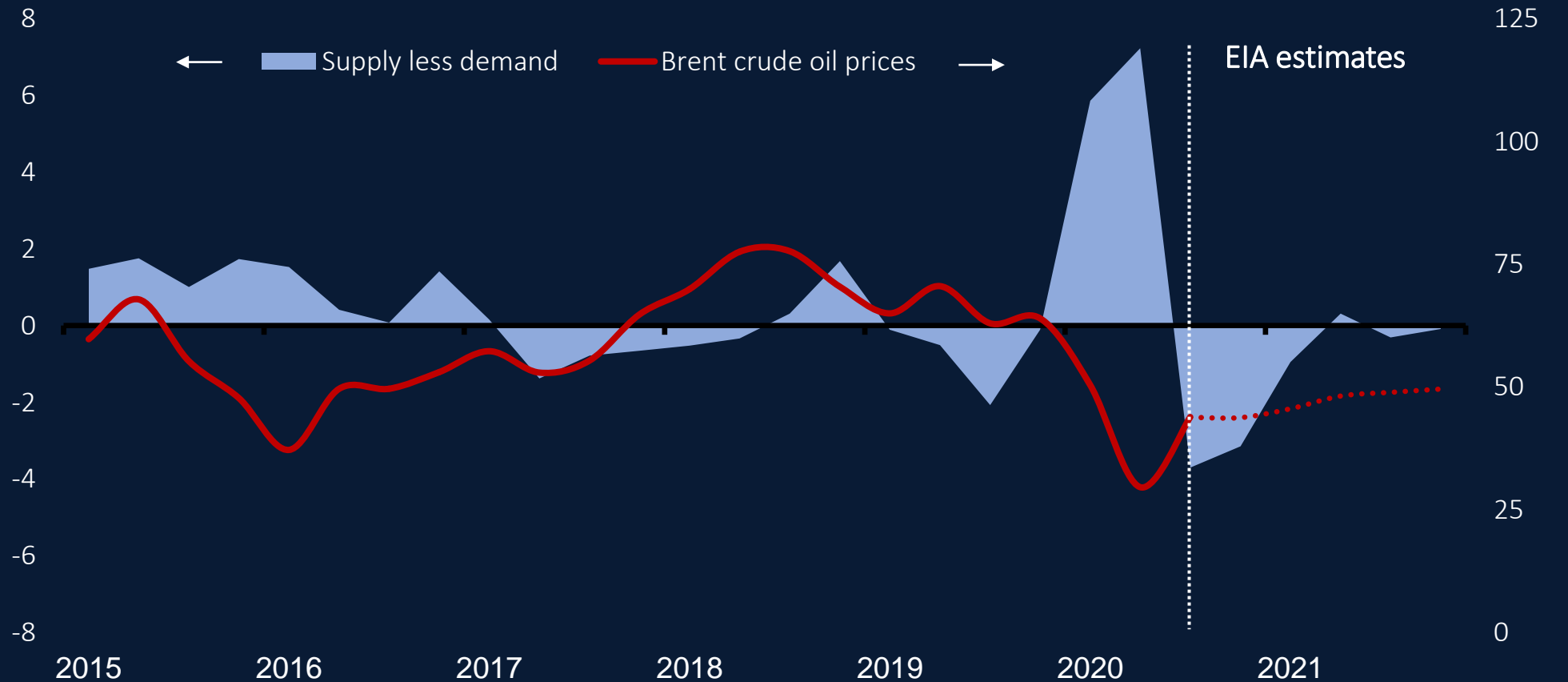
source: EIA STEO (September 2020)

EIA expects the global oil market to rebalance in Q3 2020 and support oil prices of about \$50 per barrel in 2021



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

Million barrels per day (mb/d)



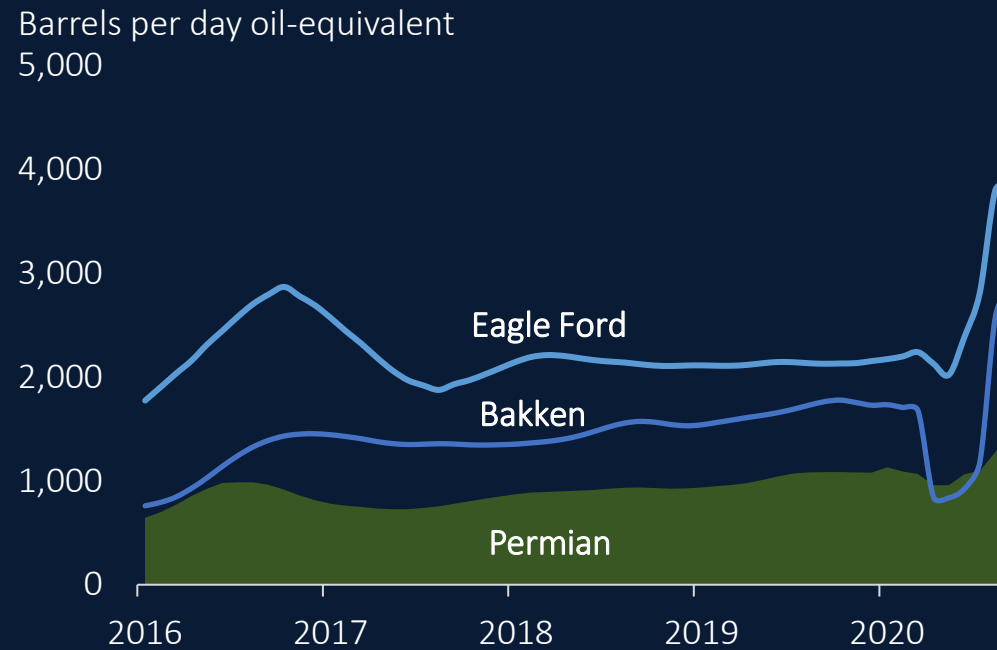
sources: EIA STEO (September 2020); Bloomberg

U.S. oil well productivity gains have lowered estimated breakeven prices



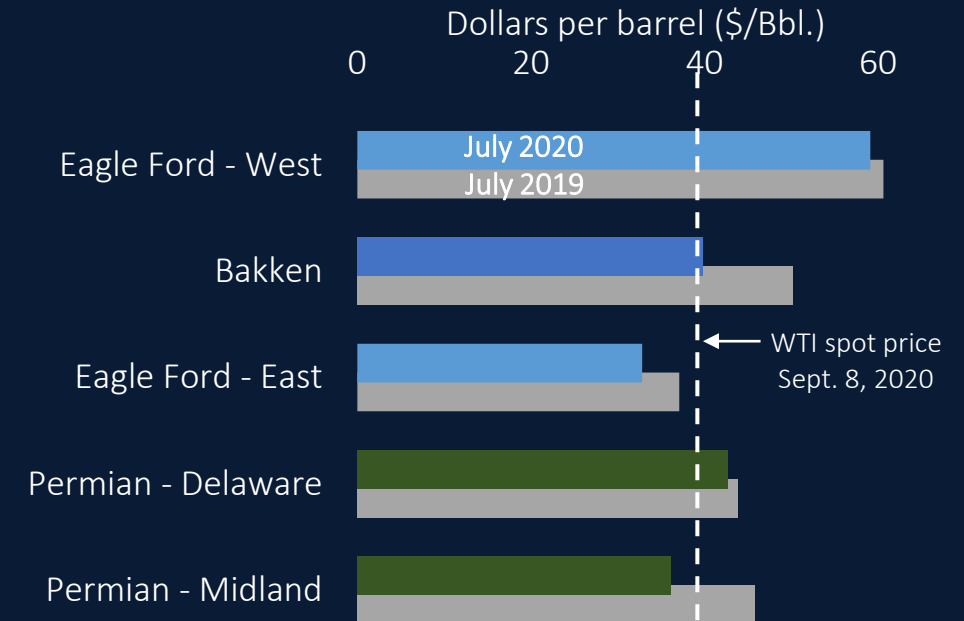
- EIA reported increased new well productivity as companies drilled tended to drill only their most prospective targets
- BTU Analytics estimated breakeven prices were near or below recent market prices among the major U.S. oil producing basins

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



source: EIA Drilling Productivity Report

Oil estimated breakeven prices – July 2020*



*Half cycle breakevens assuming 10% discount factor. source: BTU Analytics

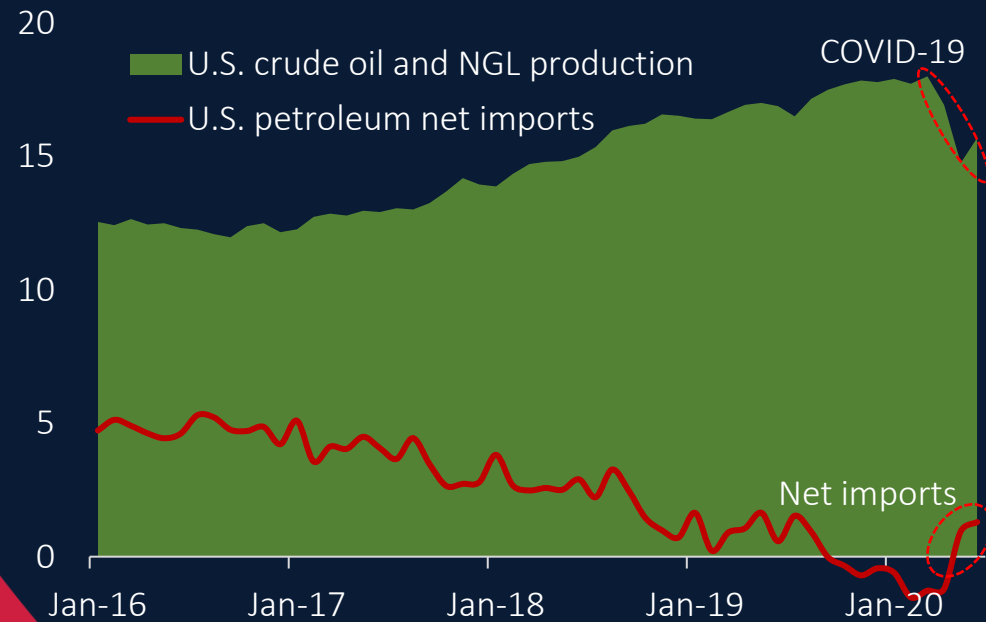
The U.S. reverted to being a petroleum net importer due to the 2020 COVID-19 recession, but global petroleum demand recovery could support U.S. exports



- As U.S. crude oil and natural gas liquids (NGL) production rose, petroleum net imports fell – and vice versa so far through COVID-19
- Crude oil contributed the most historical growth of U.S. petroleum exports but have remained relatively steadier than refined product exports through the COVID-19 pandemic, which suggests global economic and oil demand recovery could be the key

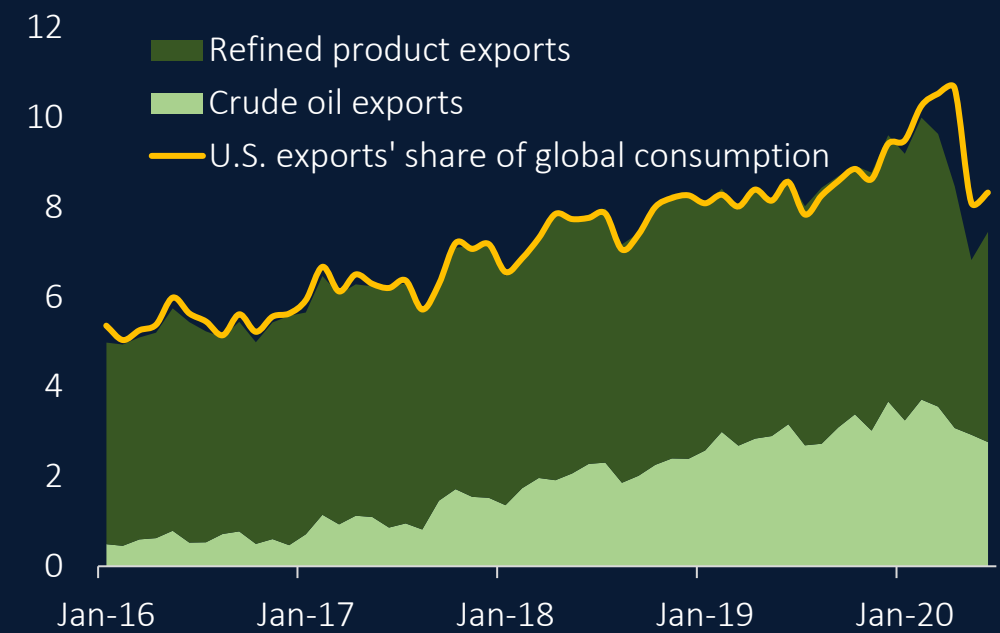
U.S. liquids production and petroleum net imports

Million barrels per day



U.S. petroleum exports & share of global consumption

Million barrels per day; %



sources: EIA; API Monthly Statistical Report

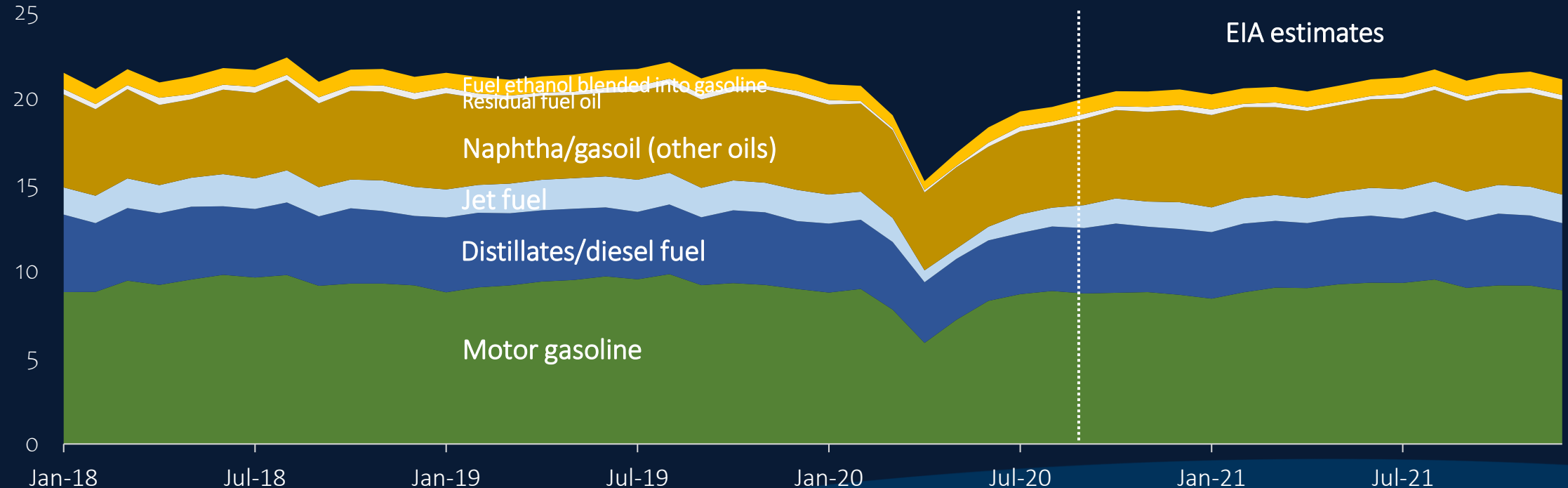
U.S. liquids fuel consumption could return to strong 2019 levels by the second half of 2021 per EIA



- EIA projects positive year-on-year growth for every major refined product by April 2021, with the strongest recoveries in gasoline and jet fuel while distillates/diesel fuel being the weakest

U.S. liquid fuel consumption by fuel

Million barrels per day



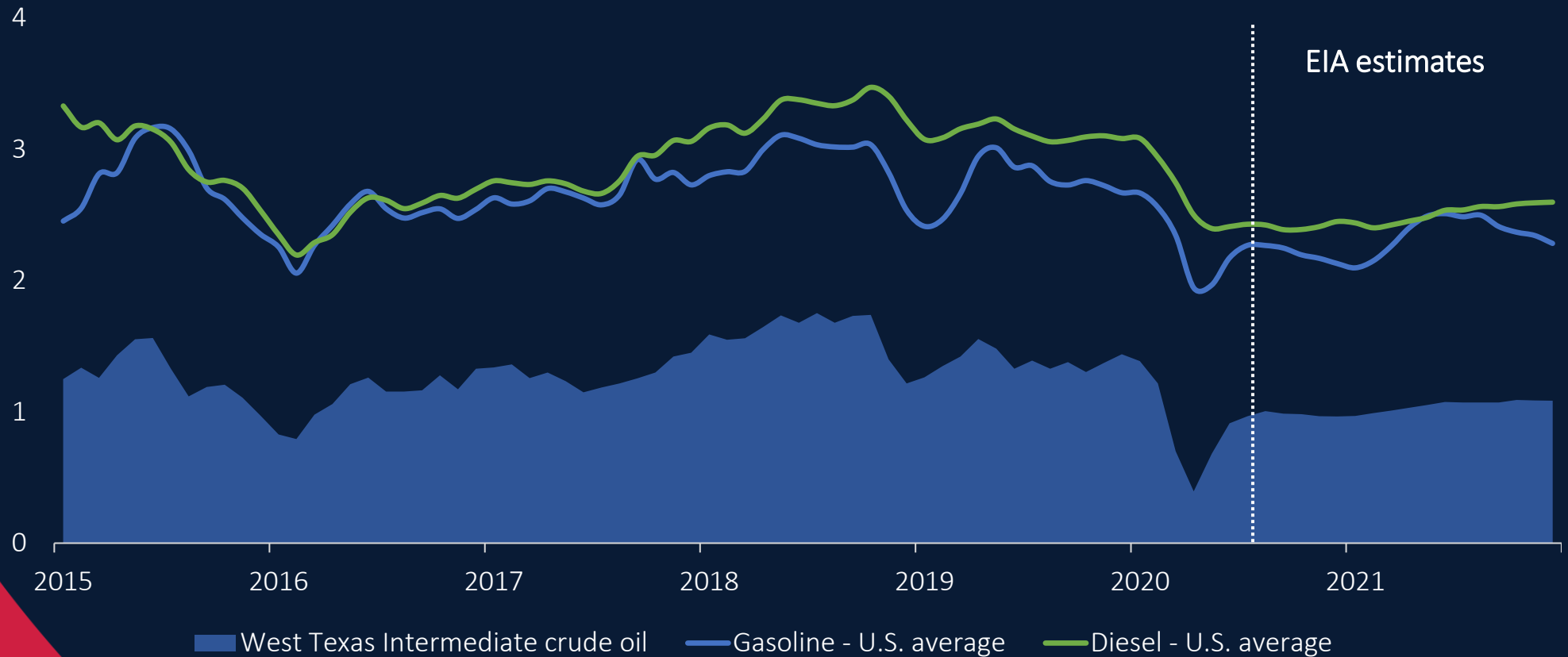
source: EIA STEO

Motor gasoline and diesel fuel prices have generally moved with crude oil



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

Dollars per gallon (2020\$)



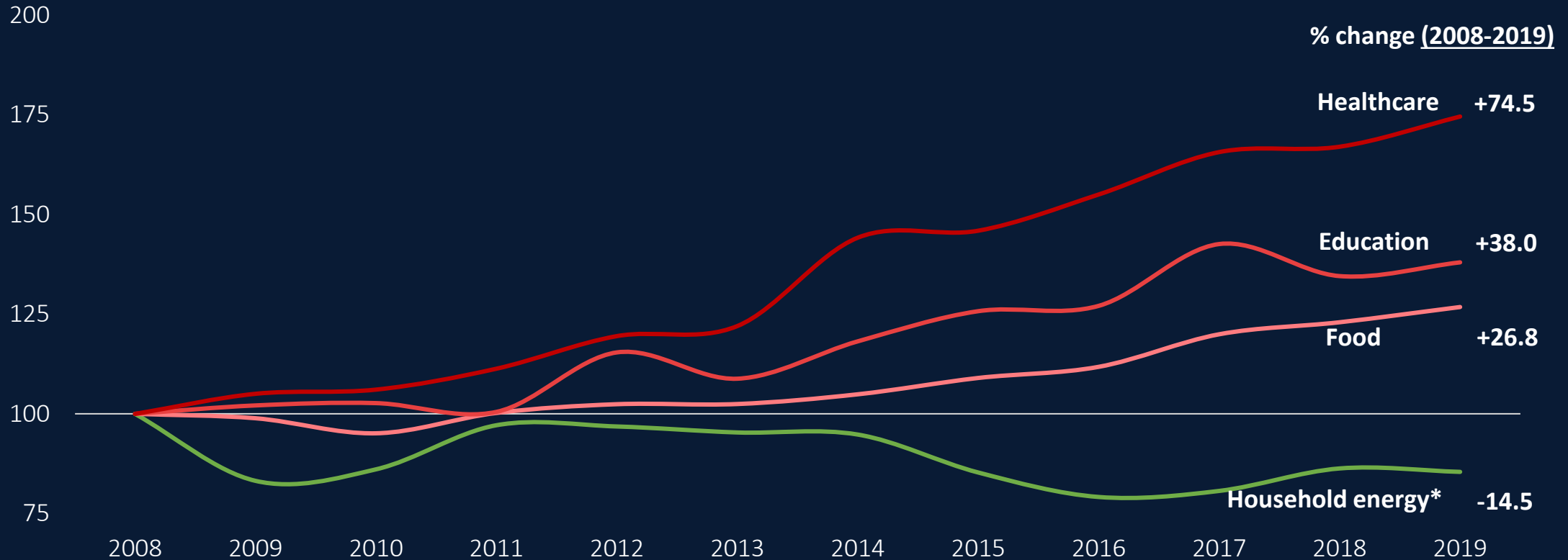
sources: EIA; AAA; Bloomberg; BLS

Decreased energy prices and spending have enabled households to cope with increased food, education and healthcare spending needs



U.S. household expenditures

Index (2008=100)



source: Bureau of Labor Statistics' Consumer Expenditure Survey (2020)

* Includes motor fuels, natural gas, fuel oil and electricity

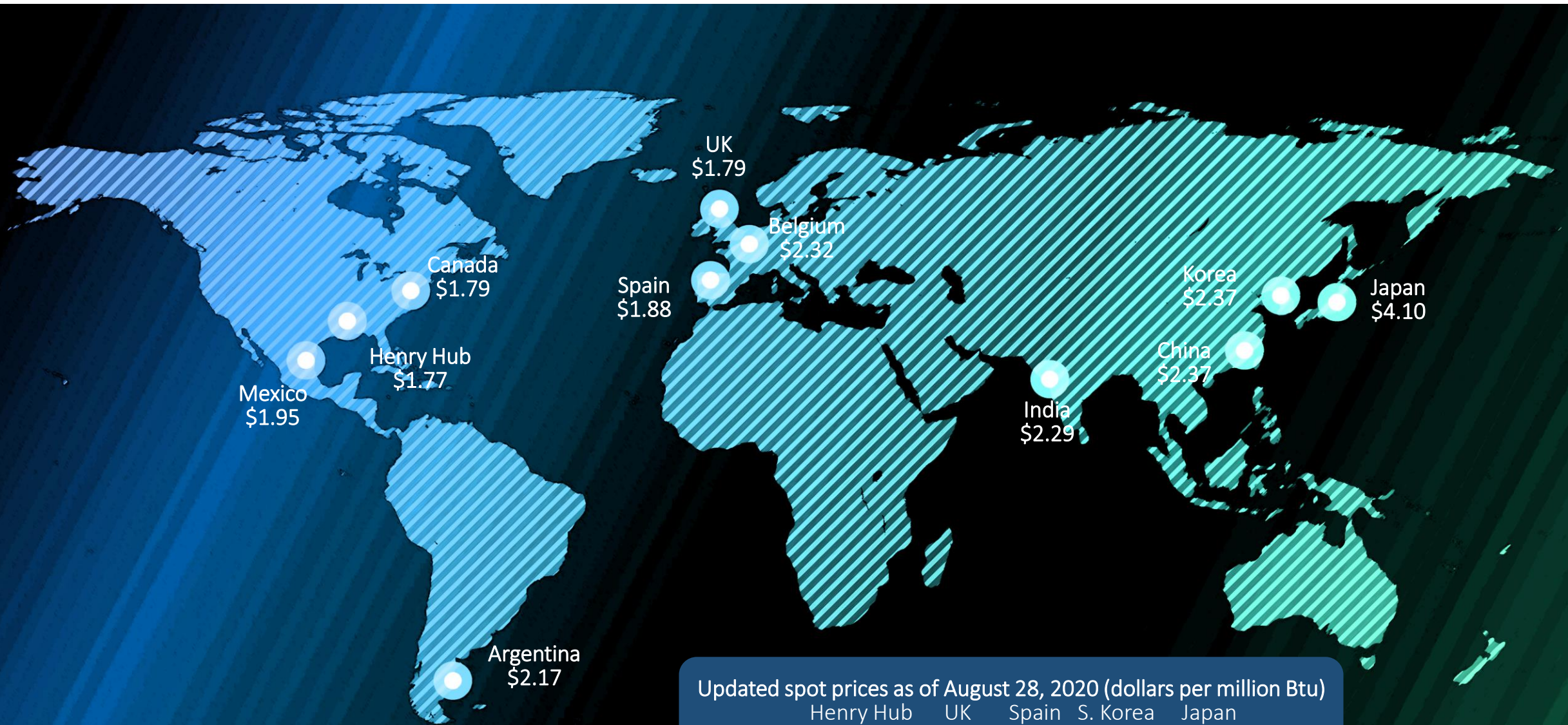


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Natural gas



Global natural gas prices in July 2020 (dollars per million Btu) showed signs of regional recovery in August



Updated spot prices as of August 28, 2020 (dollars per million Btu)

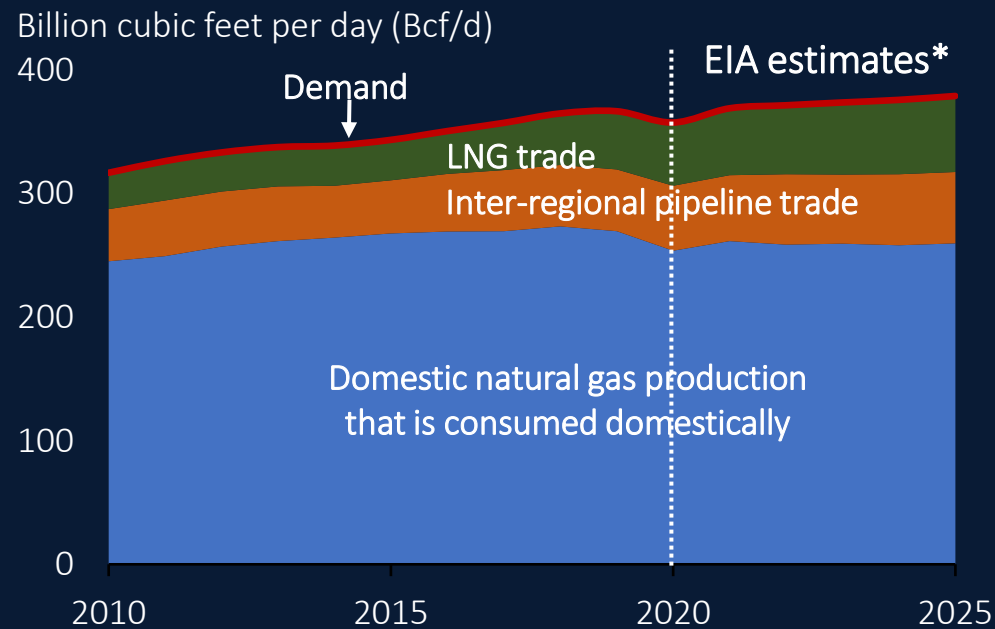
Henry Hub	UK	Spain	S. Korea	Japan
2.48	1.80	4.30	6.70	6.70

Global natural gas markets have appeared to be adequately supplied

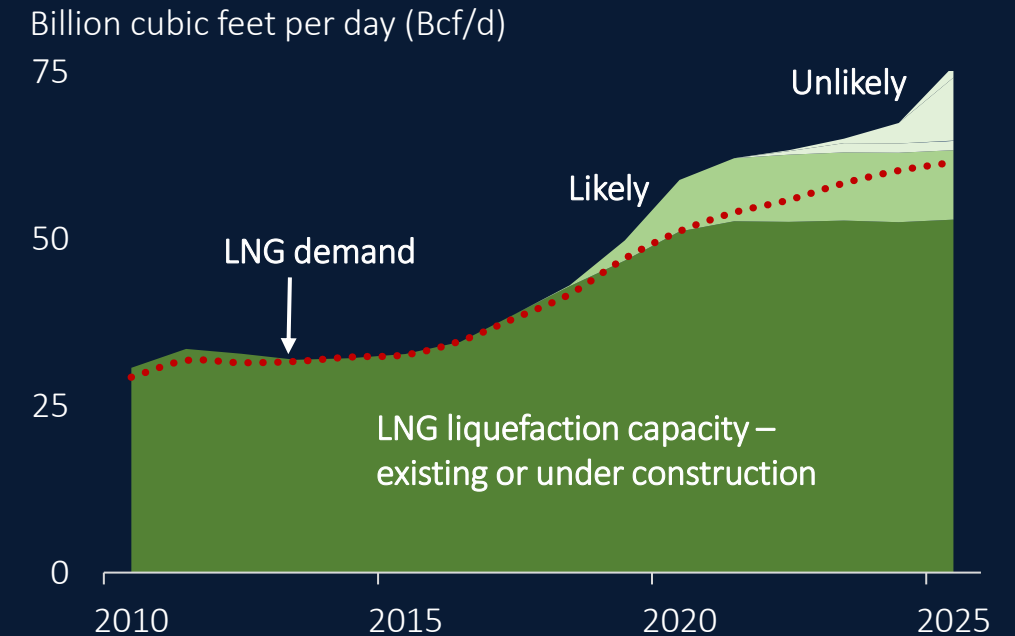


- Despite low prices, global natural gas demand has been down so far in 2020 due to COVID-19 prevention measures
- With the startup of new liquefaction capacity, global LNG markets could be over-supplied

Global natural gas demand and supply by source



Global LNG demand and supply

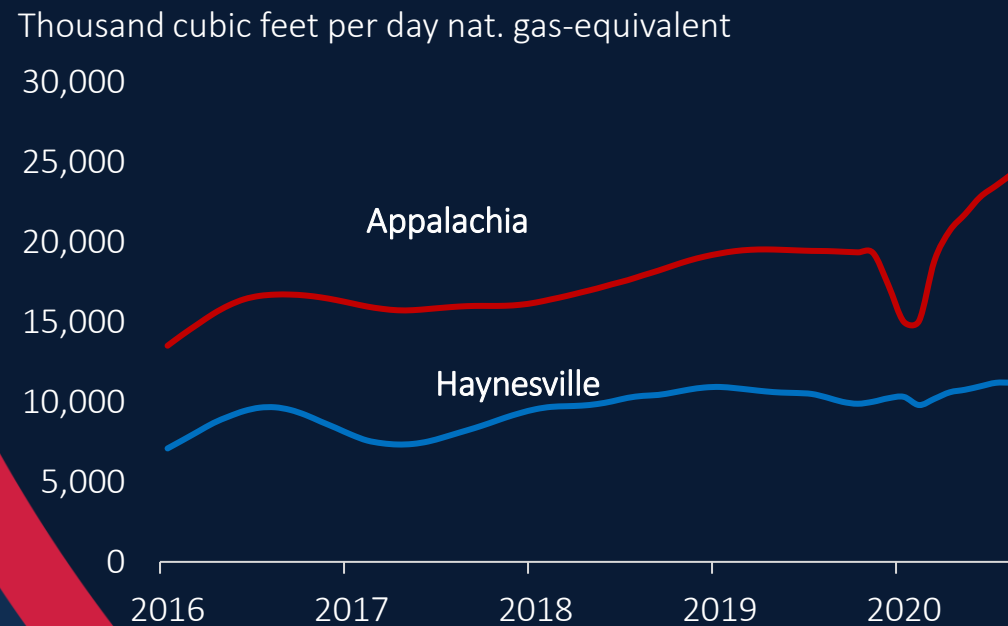


Natural gas drilling productivity gains appeared to lower estimated breakeven prices



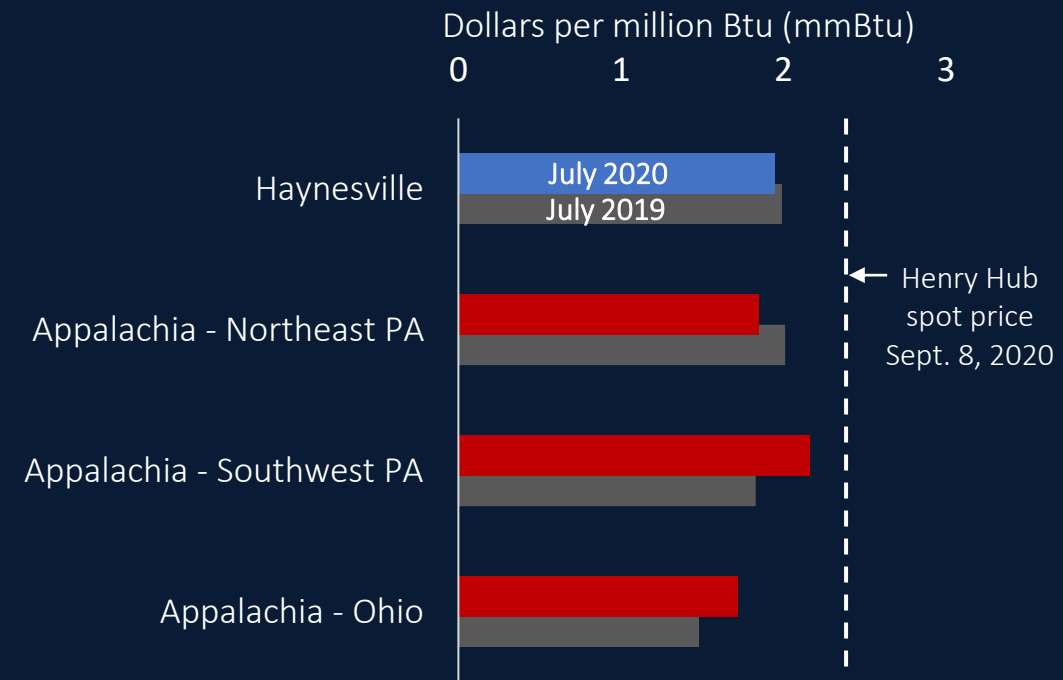
- As drillers became even more selective through the 2020 COVID-19 recession, dry natural gas well productivity rose per EIA
- Estimated breakeven prices were below recent prices for major U.S. dry gas production regions per BTU Analytics

Natural gas well productivity –production per rig



source: EIA Drilling Productivity Report

Natural gas estimated breakeven prices – July 2020



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



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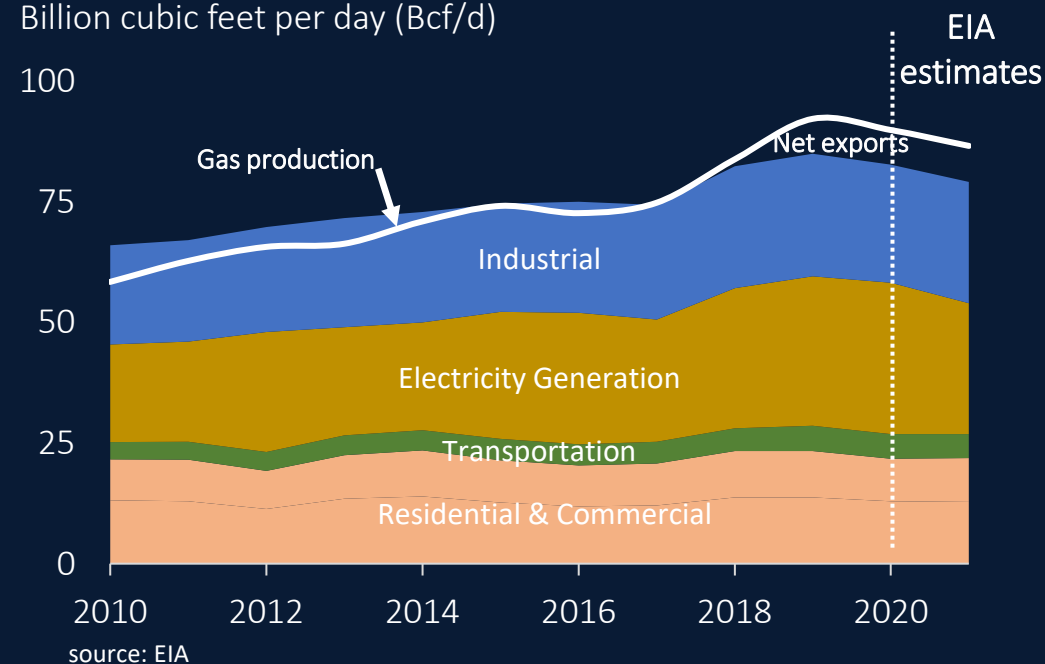
Prolific and cost-effective U.S. natural gas production has enabled record consumption and penetration into electricity generation



- Natural gas demand and supply have held up relatively well through the COVID-19 pandemic and with low prices are expected to support record 38.9% penetration of natural gas into U.S. electricity generation in 2020 per EIA

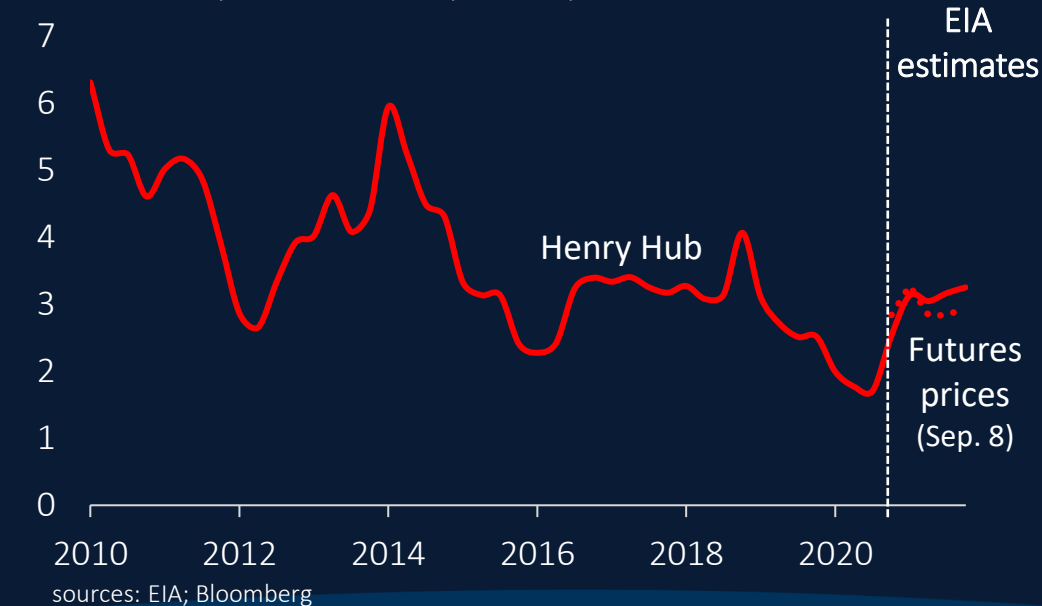
U.S. Natural dry gas production and consumption by sector

Billion cubic feet per day (Bcf/d)



U.S. natural gas prices at Henry Hub

2020 dollars per million Btu (mmBtu)



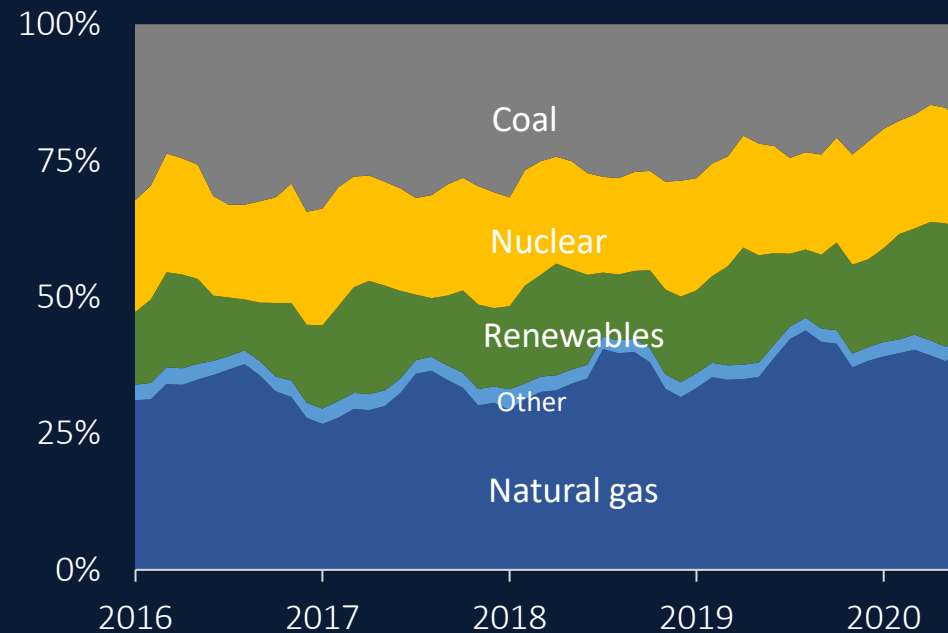
Record natural gas penetration into electricity generation has been a positive development so far through 2020



- ▶ Despite generally lower electricity demand due to COVID-19, natural gas gained market share for electricity generation across nearly every region

U.S. electricity net generation by source

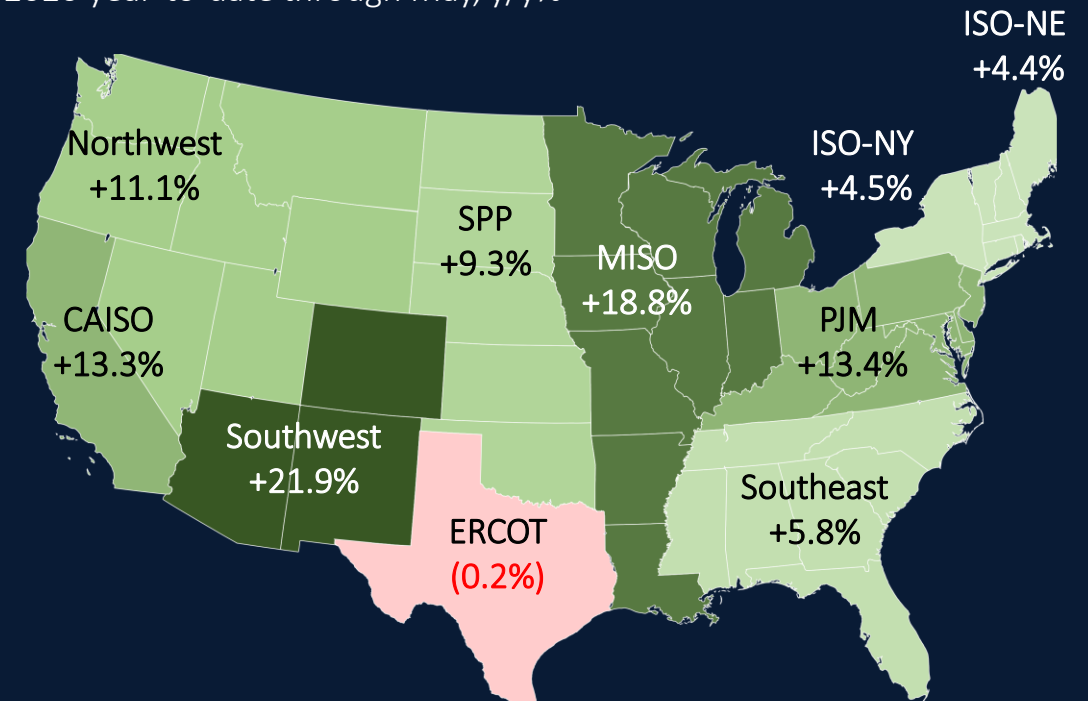
Market share



source: EIA Electric Power Monthly

U.S. natural gas consumption for electricity generation

2020 year-to-date through May, y/y%



sources: EIA; FERC

API economics resources available at 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.