

2021/22 Oil Outlook:

**Fundamental Oil Outlook Is
Still Much More Bullish Than
Oil Futures Prices Suggest**

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What Is More Likely to Happen?

- **Oil Prices rise steadily through 2020 as inventories begin to fall**
- **Oil prices rise more sharply in 2021 as inventories fall well below normal**
- **OPEC must increase production in 2021 to max capacity by year end 2021**
- **US oilfield activity recovers slowly in 2020 then ramps sharply with higher oil in 2021**

Bottom Line.....

- **Global oil inventories already falling**
- **Inventories now BELOW normal Jan-2021**
- **2020 oil prices improve much faster**
- **OPEC+ must ramp to full capacity in 2021**
- **Mid-2021 prices double current futures?**
- **Oilfield activity recovers slowly through 2020 then accelerate higher in 2021**

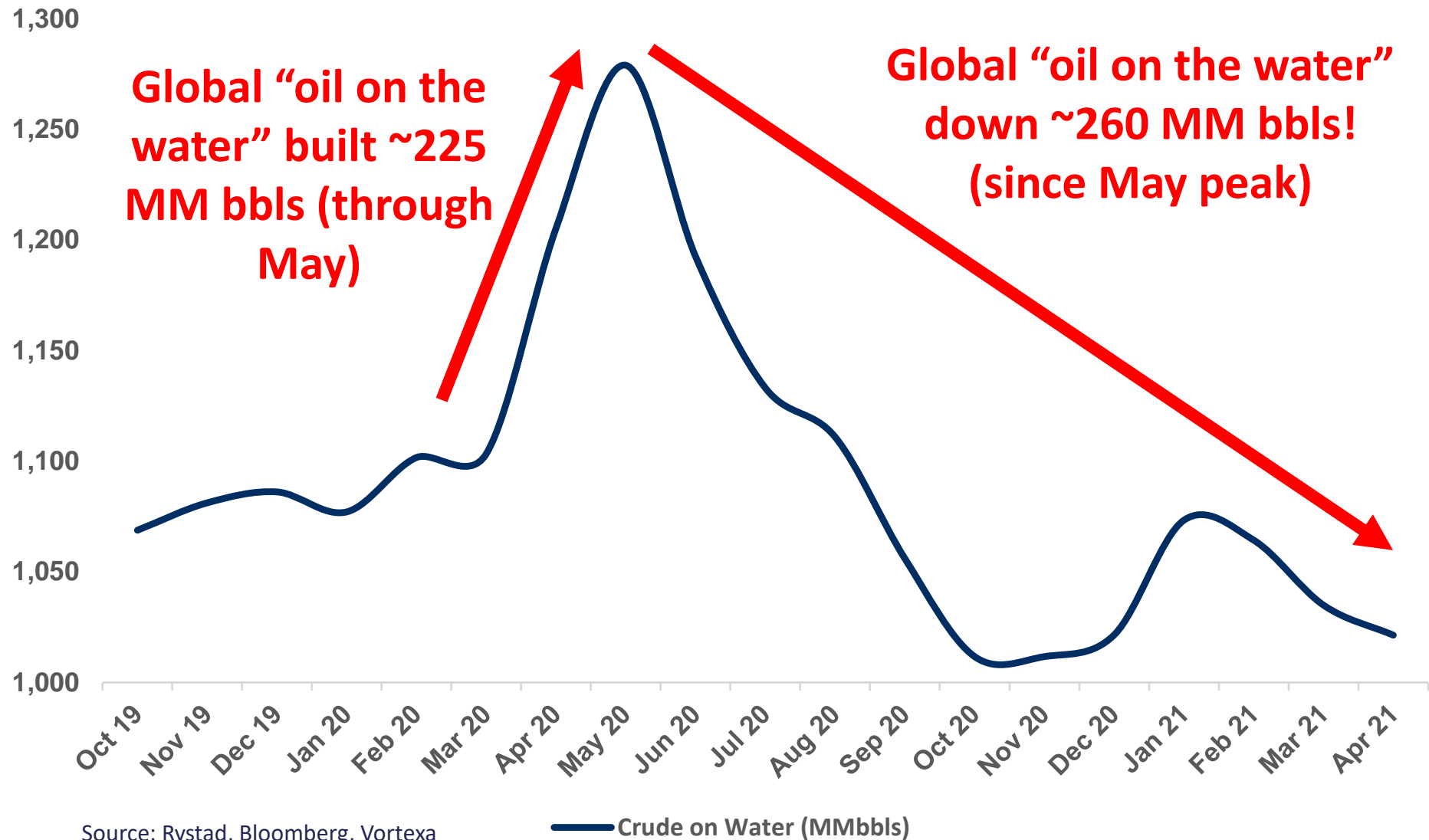
Is There Still More Upside to Oil?

- Damage to the US (and global) oil and gas industry & supply will take years to reverse
- Recovering demand and lower supply has already led to an undersupplied oil market and falling oil inventories
- Demand surge should accelerate over next 6 months
- OPEC will be totally maxed out within next 6-12 months
- Global oil inventories already near normal now and heading to well below normal by YE 2021
- **Fundamentals point to over \$75/bbl in next six months**

Where Is The Market Missing It?

- 1) **Follow Inventories!** 1H 2020 oil builds were much smaller than most believe
- 2) **Global inv. already near normal**
- 3) Oil demand recovery has been & will continue to be stronger than expected
- 4) Simple math = shortfall by YE2021
- 5) OPEC maxed out by mid-2022

“Oil On The Water” below Early 2020!



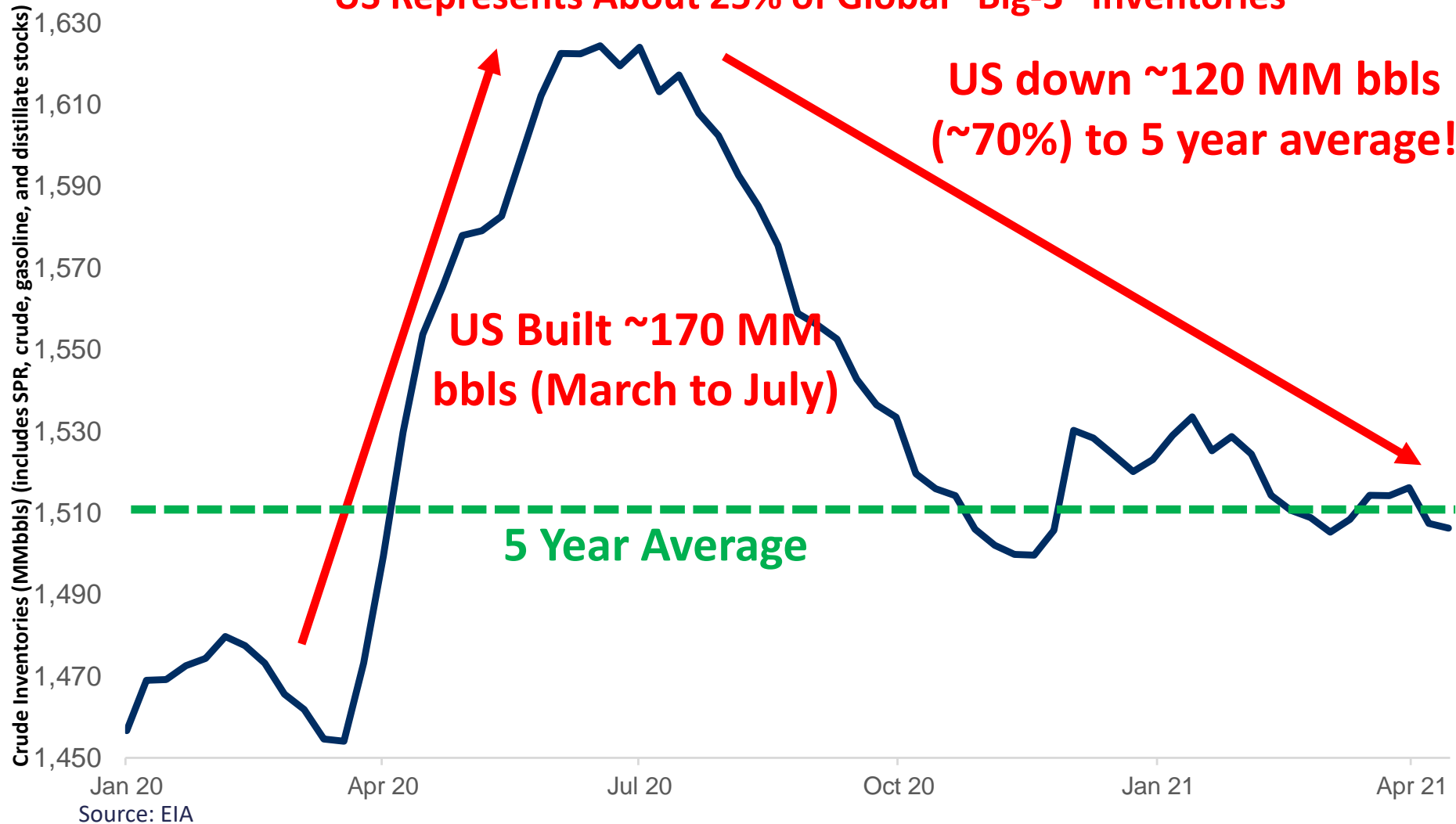
US Down ~110 MM bbls to 5 yr avg!

US Represents About 25% of Global "Big-3" Inventories

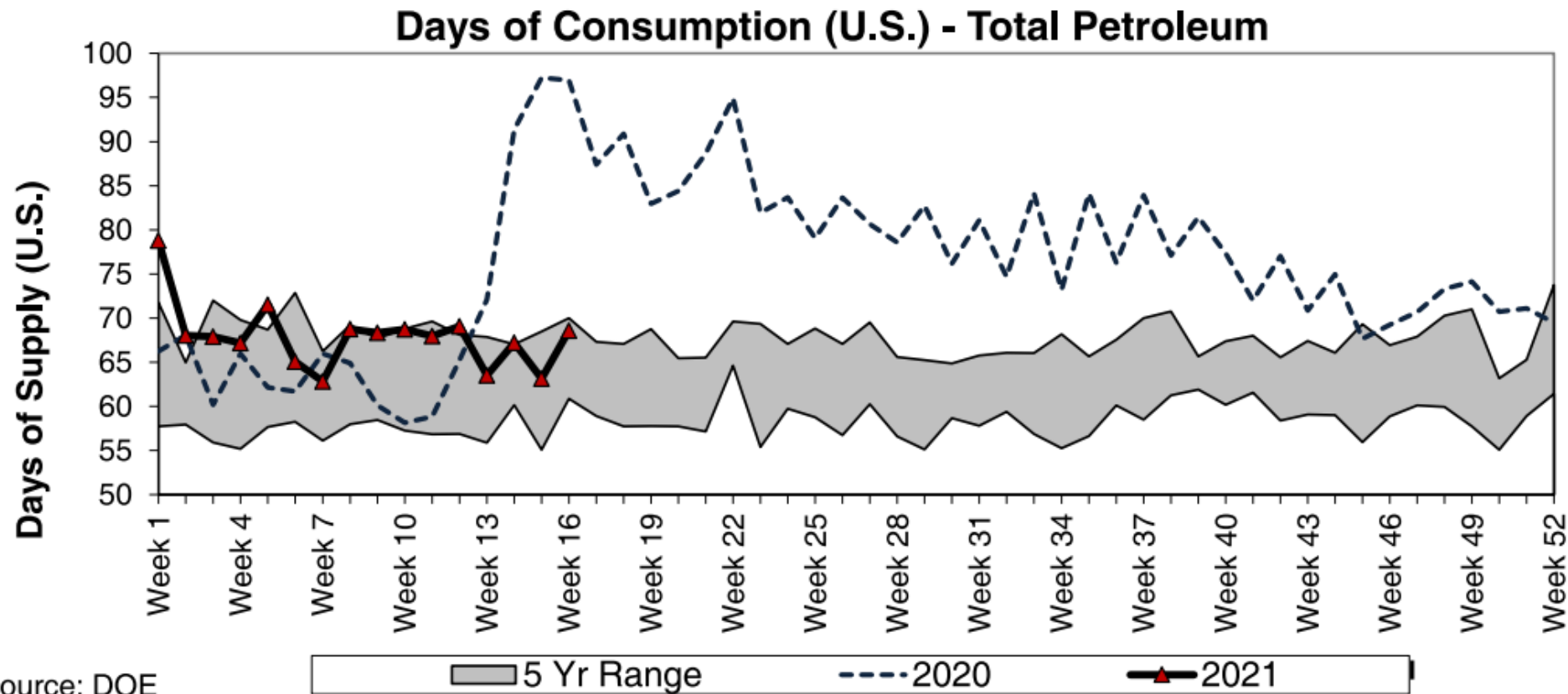
US down ~120 MM bbls
(~70%) to 5 year average!

US Built ~170 MM
bbls (March to July)

5 Year Average

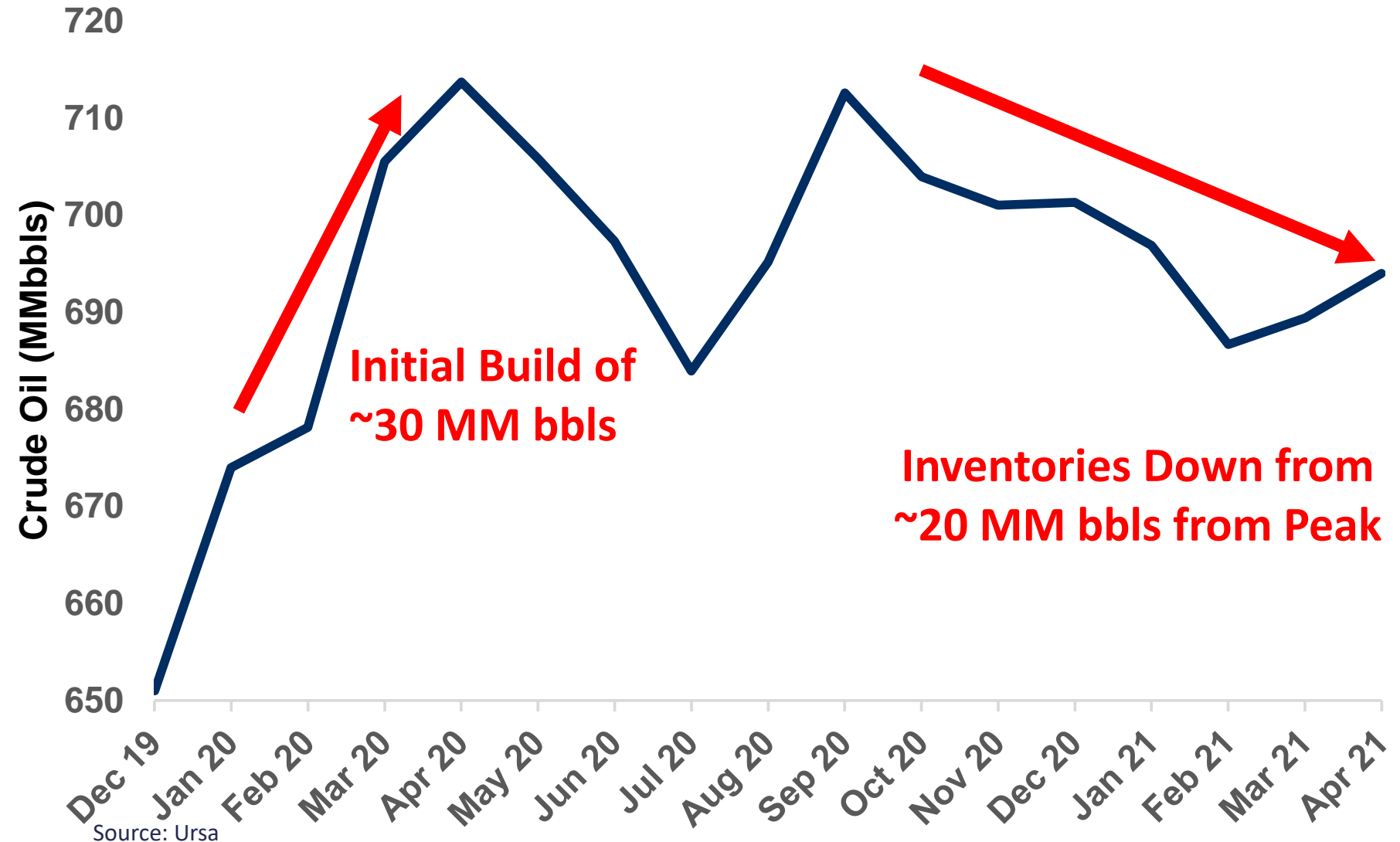


US Days of Consumption Near Normal



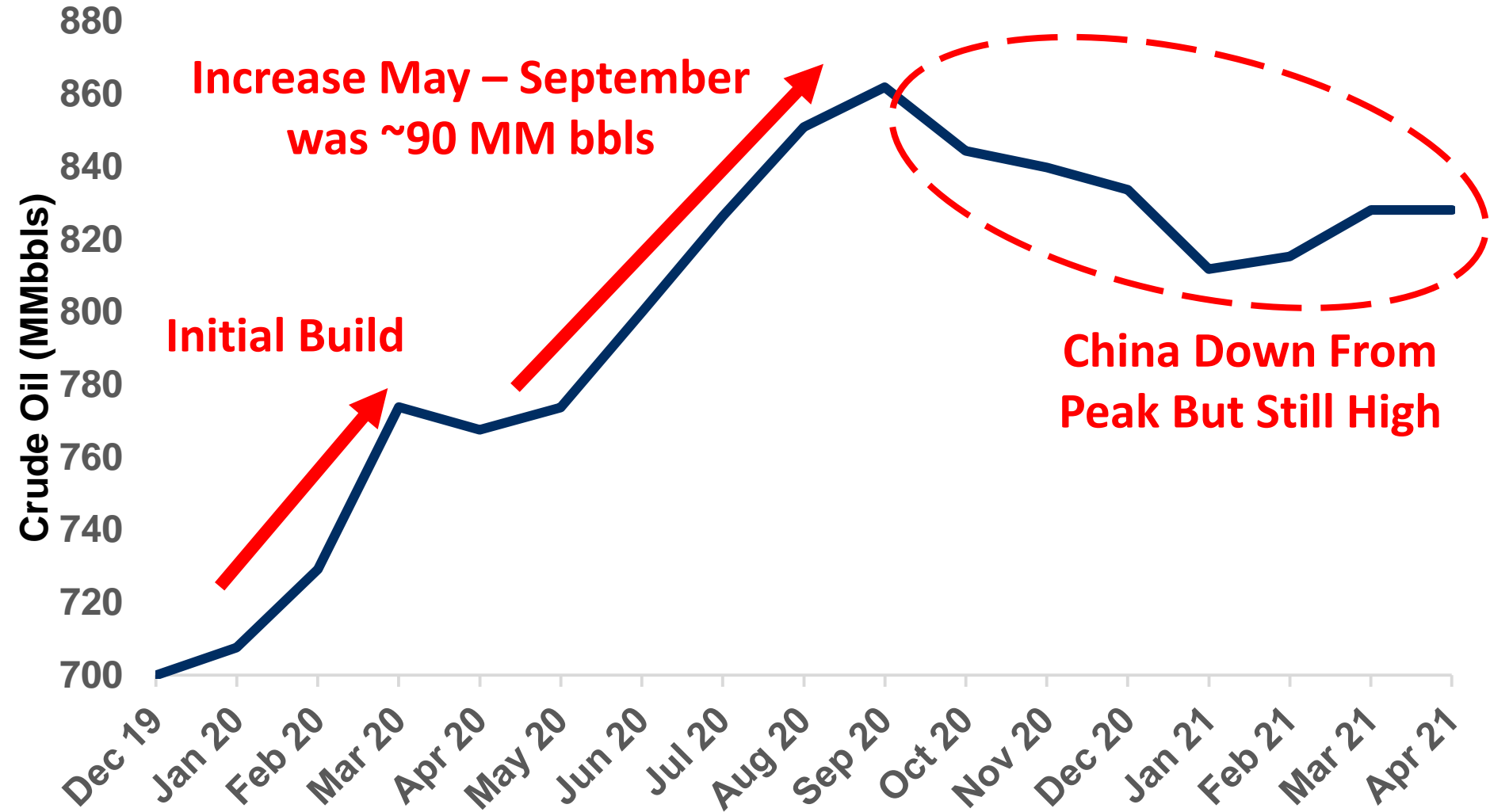
Source: DOE

Asia and MENA Also Near Normal



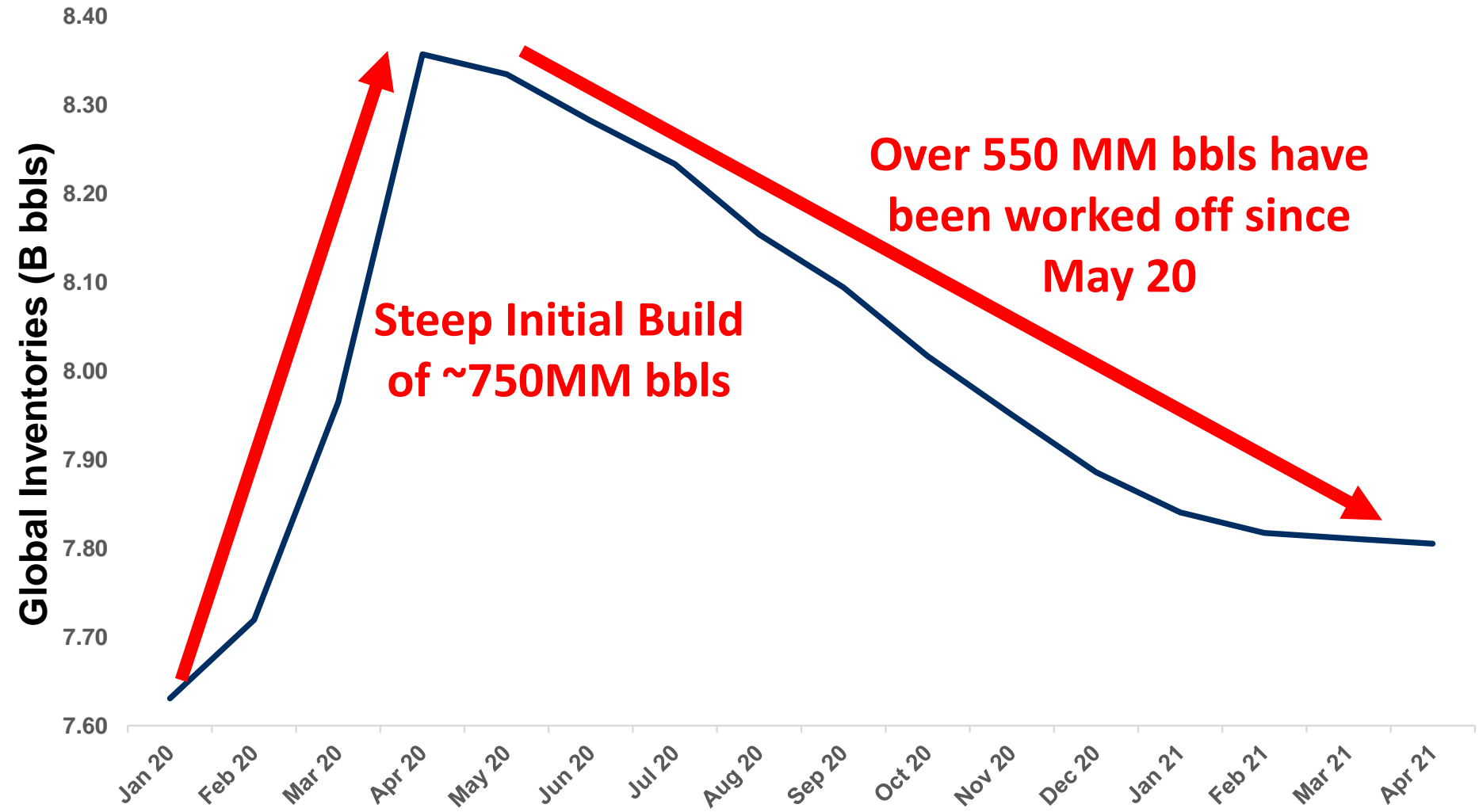
Source: Ursa

China Still 130 MM Above Pre-Covid



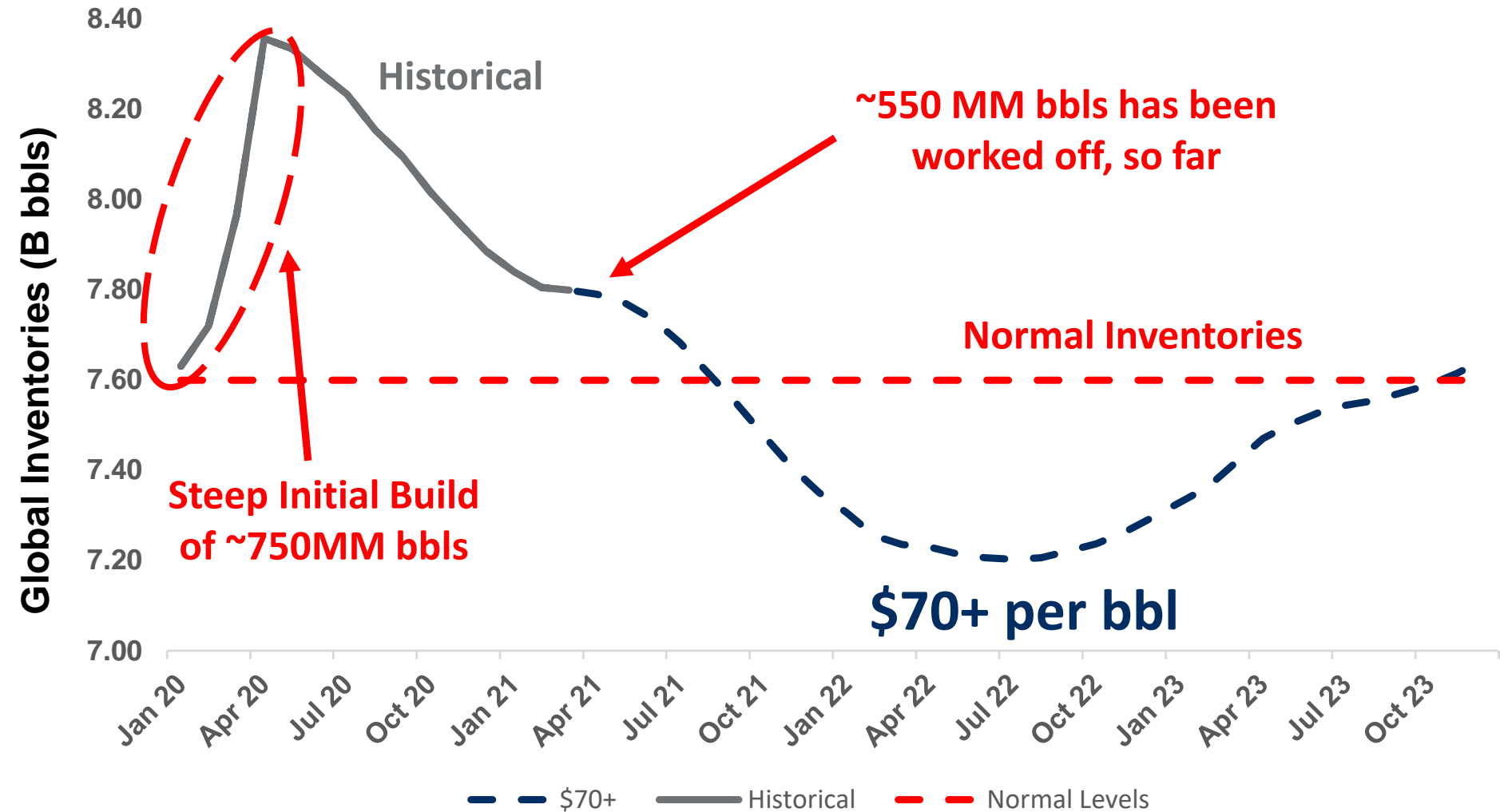
Source: Ursa

Global Inv. Down ~75% Since April 20



Source: Ursa, IEA, EIA, Bloomberg, Rystad, RJ Estimates

Global Inv. Headed BELOW Normal



Source: Ursa, IEA, EIA, Bloomberg, Rystad, RJ Estimates

Things The Oil Market Is Ignoring

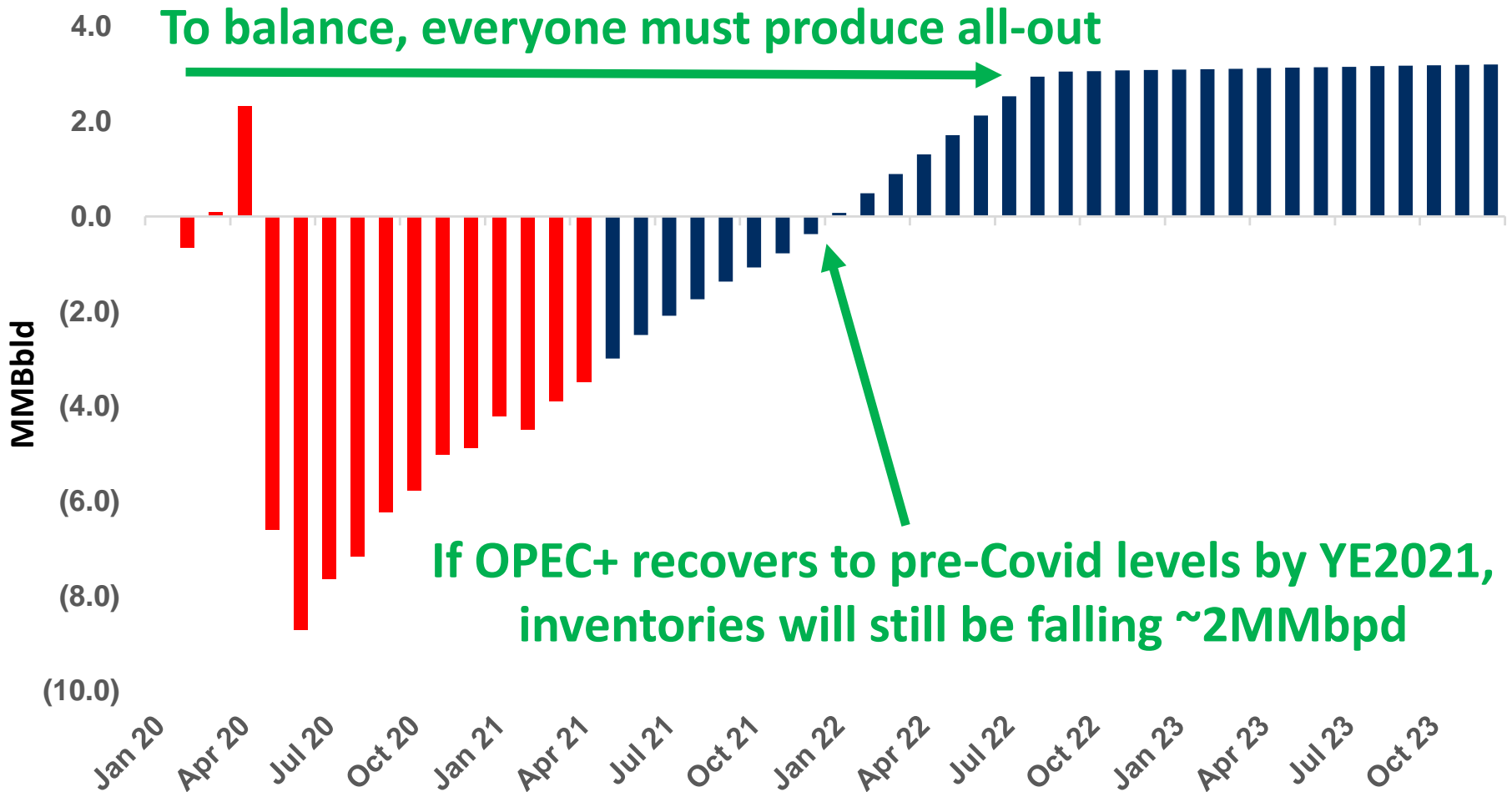
- **Global oil inventories down 2 million bpd May 20 - Jan 21! (US down ~ 1MM bpd)**
- **Global inventories hit “normal” mid-21**
- **Demand poised to surge 5.5 MMbpd by YE21**
- **Non-OPEC down over ~4.0 MMbpd (US oil supply is about ½ (or 2 MMbpd) of decline**
- **OPEC must hit max capacity by mid-2022**

Let's Do The Math...Version #1

- **OPEC+ currently has ~3.5 MMbpd off-line (compared to Dec19)**
- **Global demand poised to surge 5.5 MMbpd by YE21 (still 1.5 MMbpd below pre-Covid)**
- **OPEC must back off all cuts and increase ANOTHER 2.0 MMbpd to balance the market by YE21**

Measured OPEC+ Supply Reduction

Measured OPEC+ Supply Reduction vs. Jan-20



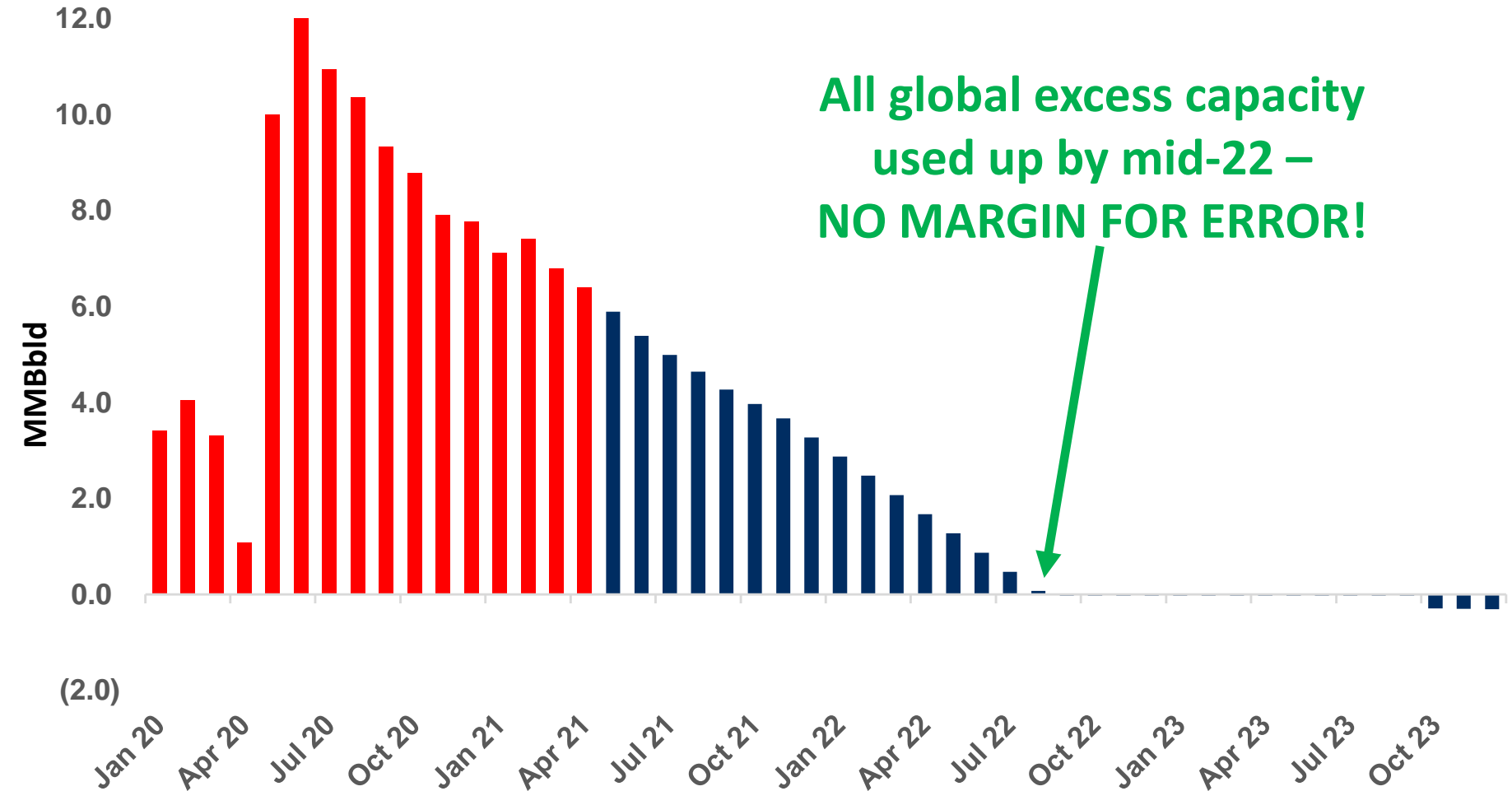
Source: IEA, EIA, Rystad, Ursa, RJ Estimates

Let's Do The Math...Version #2

- **Total global excess oil production capacity is currently about 6.5 MMbpd**
- **Global oil demand is currently ~ 7 MMbpd below pre-Covid (Dec 19) levels**
- **If global demand recovers to pre-Covid levels by mid-2022 (and modest supply growth elsewhere), then world is under-supplied with NO excess capacity by mid-22**

Total Global Excess Productive Capacity

Total Global Excess Productive Capacity vs. Jan-20



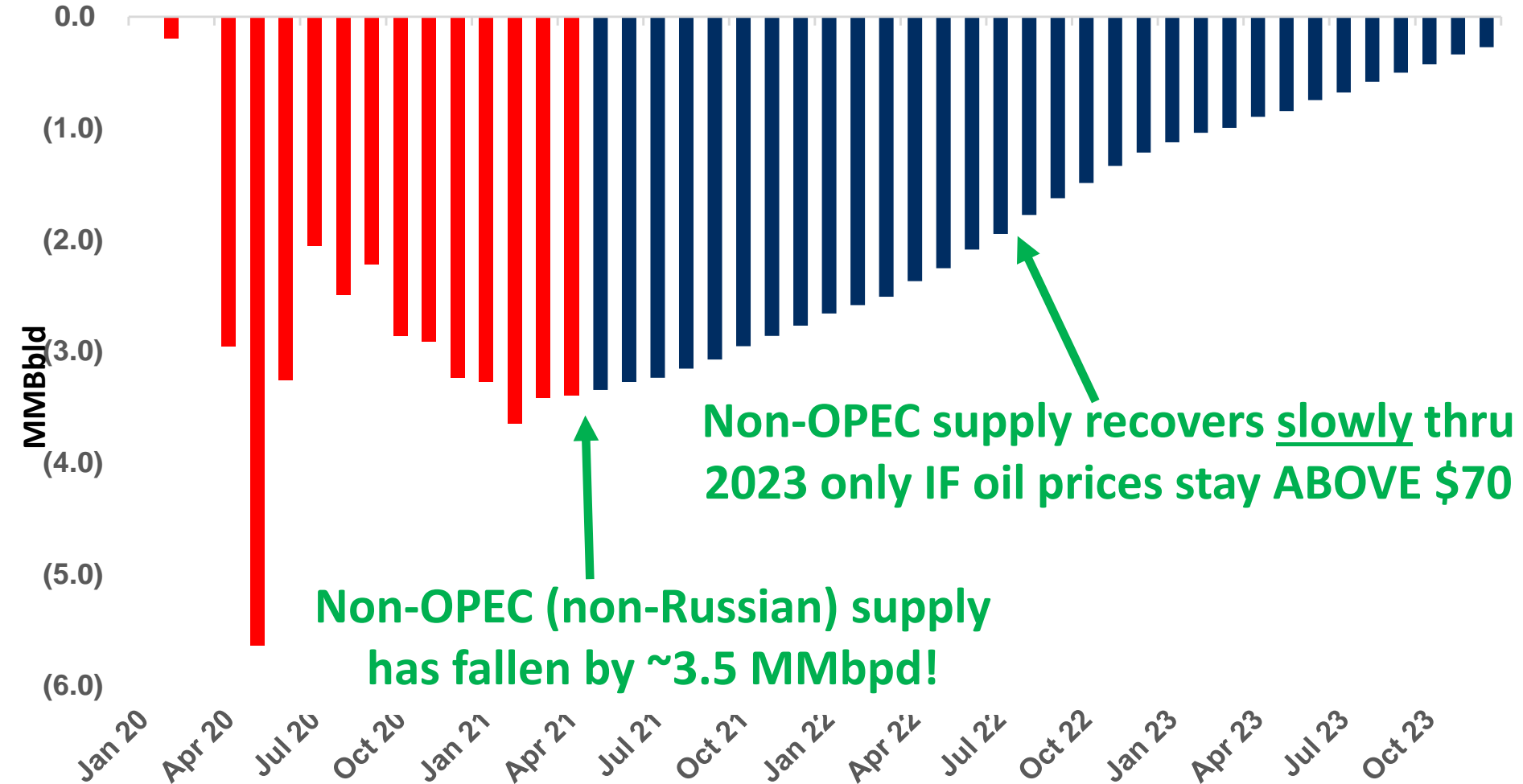
Source: IEA, EIA, Rystad, Ursa, RJ Estimates

Let's Do The Math...Version #3

- **Oil production outside of OPEC is down about 4.0 MMbpd** due to lower spending and natural declines – this will be slow to reverse
- **Pre-covid OPEC excess capacity was about 3.5 MMbpd** (*1.7 Iran, 0.5 Libya, 1.3 Saudi*)
- If global demand recovers to pre-Covid levels (up 7 MMbpd) **by mid-2022, then Iran, Saudi, Libya and all others must be producing all out & we are still short of oil**

Non-OPEC (ex-Russia) Prod. Change

Non-OPEC non-Russia Production Change vs. Jan-20



Source: IEA, EIA, Rystad, Ursa, RJ Estimates

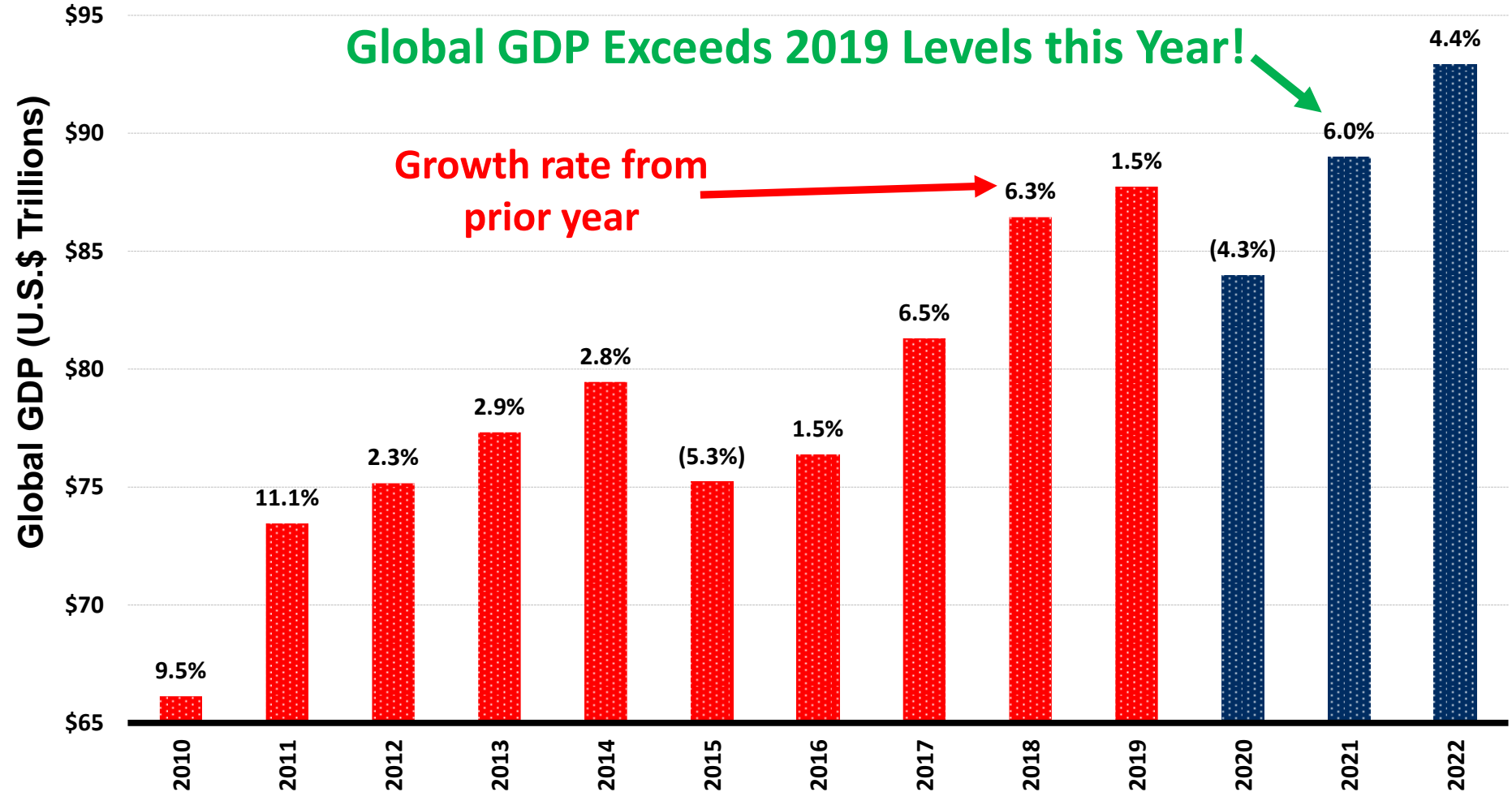
Key Timing Variables To Watch

- How soon can demand recover to 100MM/d?
- How fast will demand grow in 2022/23?
- How much & how soon can Iran recover?
- Has Russian capacity shrunk?
- How fast will Non-US, non-CLS grow?
- How fast will US supply rebound?
- **At what price will Saudi increase supply?**

What Are The Latest Oil Demand Trends and When Will Global Oil Demand Return to Pre-Covid Levels?

Global GDP to Rebound Sharply

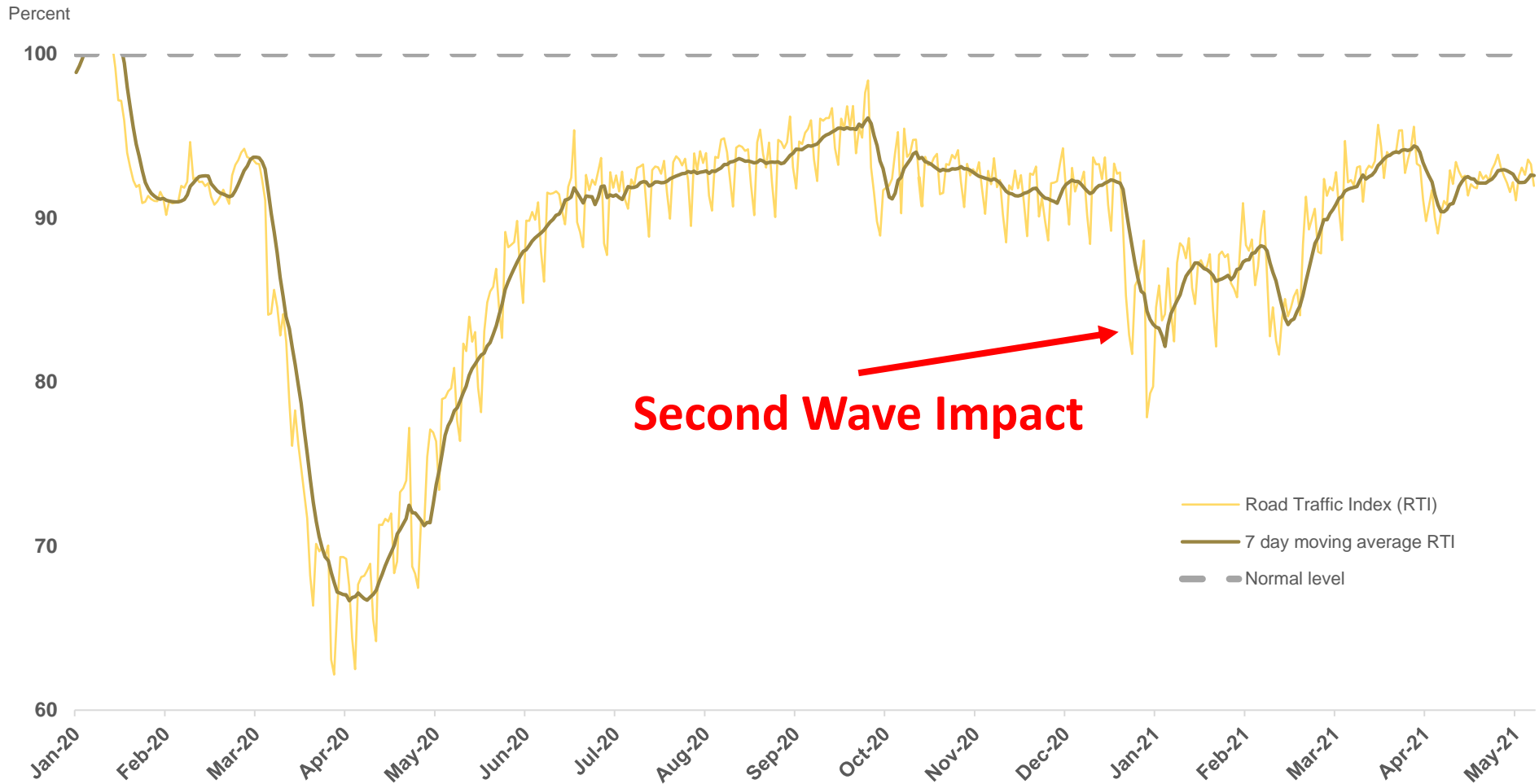
Global GDP (with World Bank Projections)



Source: World Bank, IMF

Road Traffic Improving With Vaccines

Global daily road traffic index (active fleet this year/ active fleet in 2019)

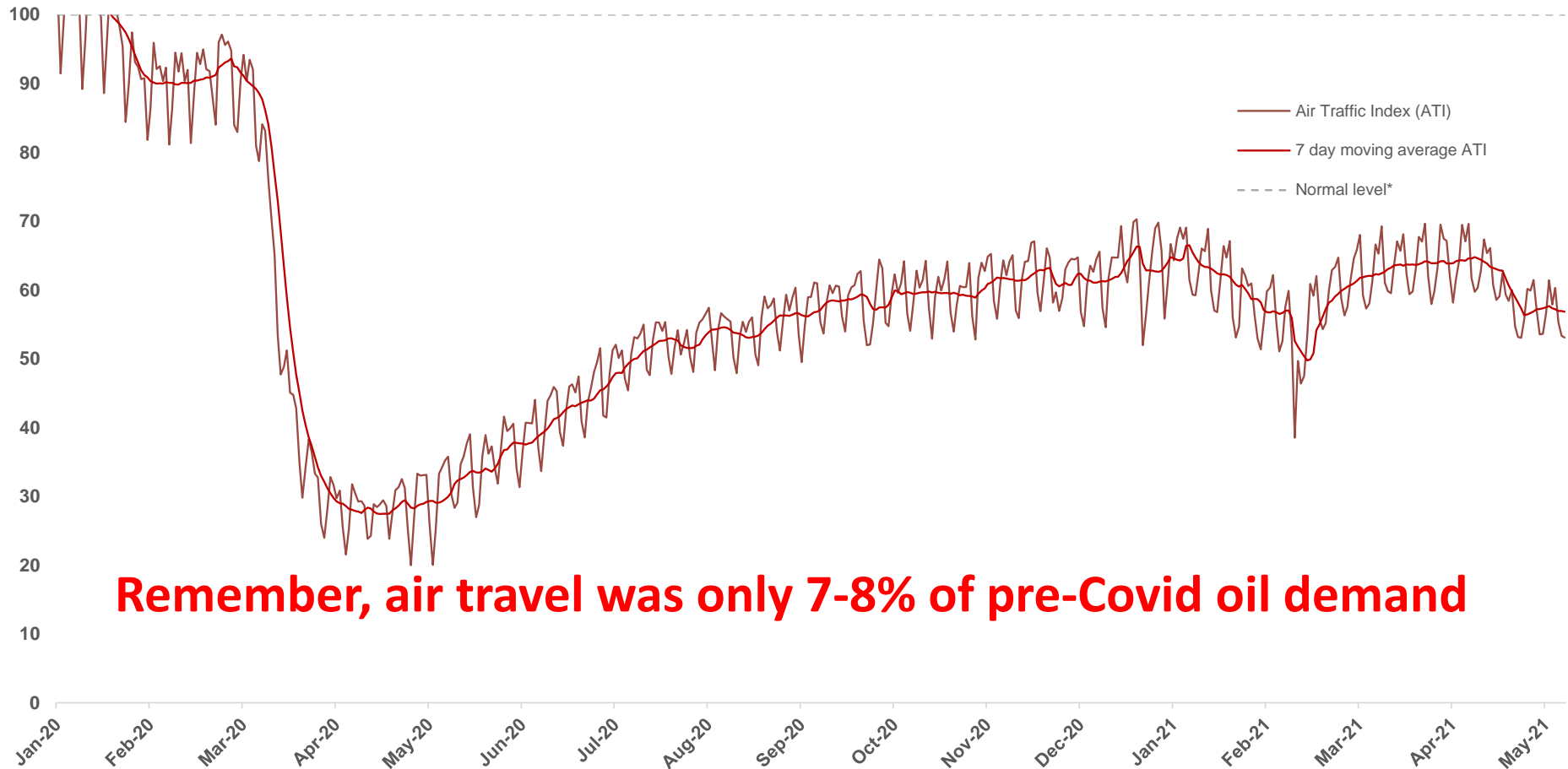


Source: Rystad Energy

Air Travel Slowly Grinding Higher

Global daily air traffic index

Percent

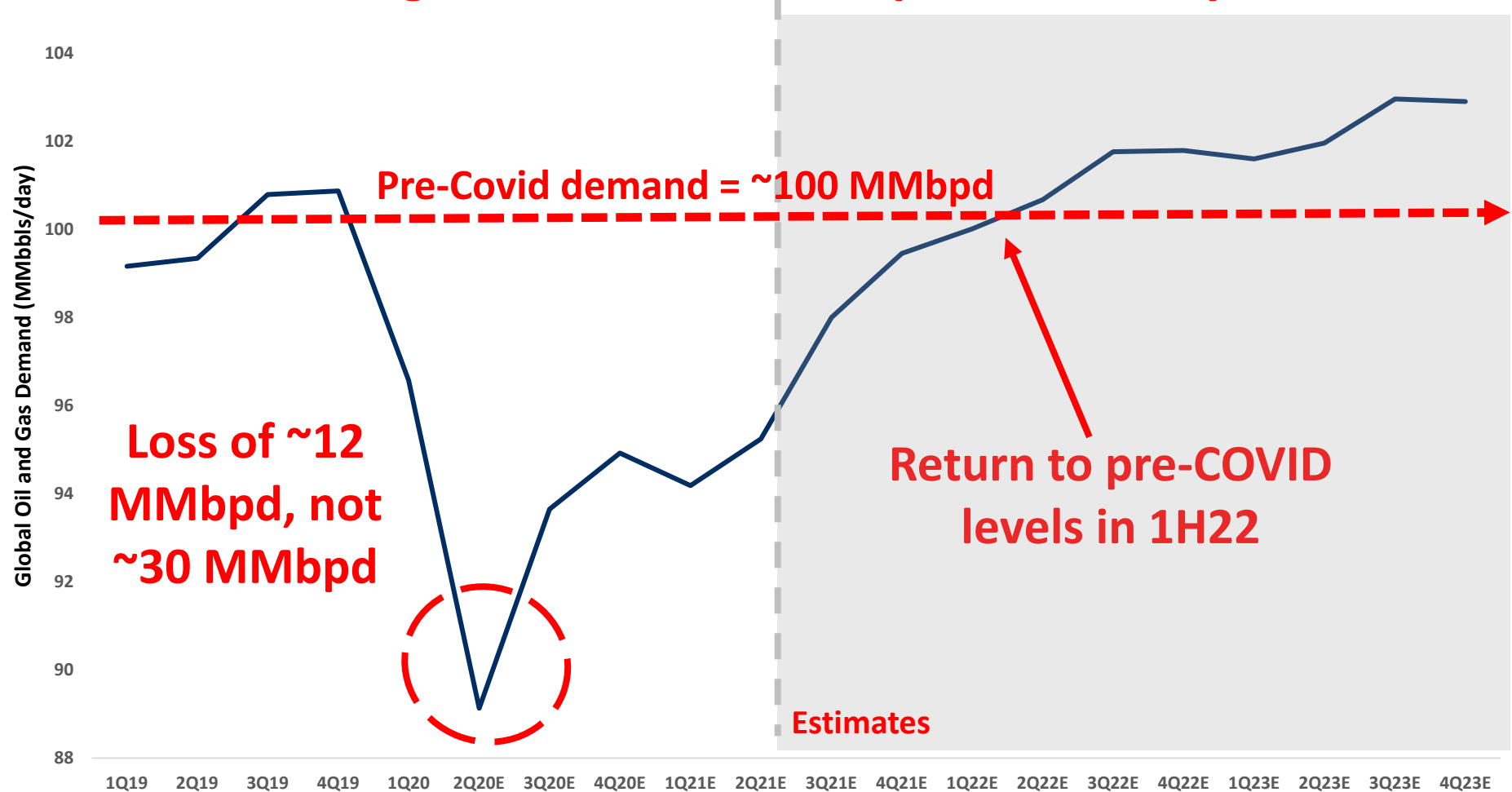


Remember, air travel was only 7-8% of pre-Covid oil demand

Source: Rystad Energy

Oil Demand Poised to Rebound

We are modeling return to 100 MMbpd demand by mid 2022



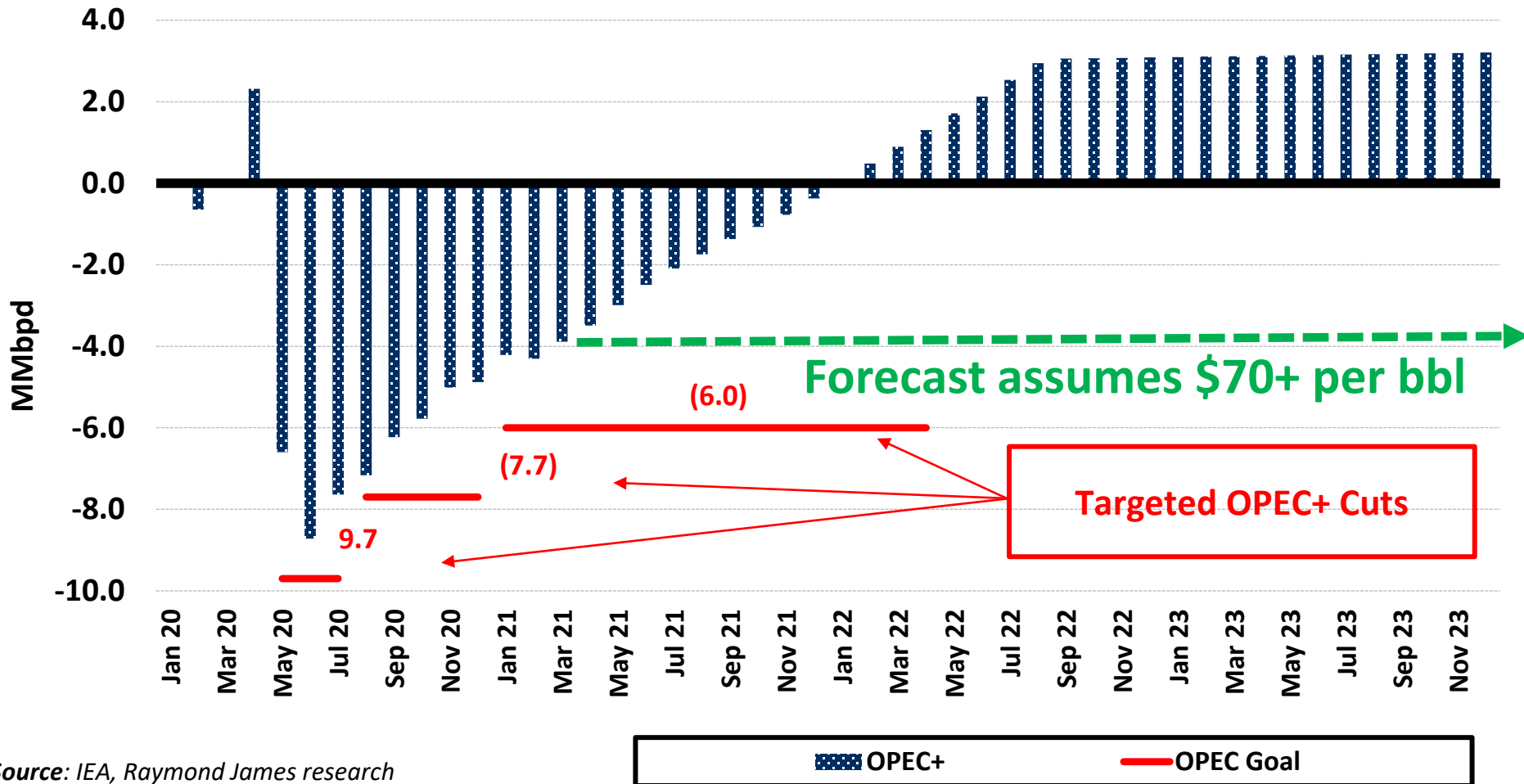
Source: EIA

What About OPEC Supply?

- OPEC cut plan fading with higher oil prices
- OPEC+ currently producing ~3.5MMbpd less than pre-Covid levels
- Total OPEC+ excess capacity only ~6.5 MM
- OPEC must now totally max out production by mid-2022 – (if possible)!
- What price will Saudi want to increase?

OPEC+ Must Max Out by Mid-22

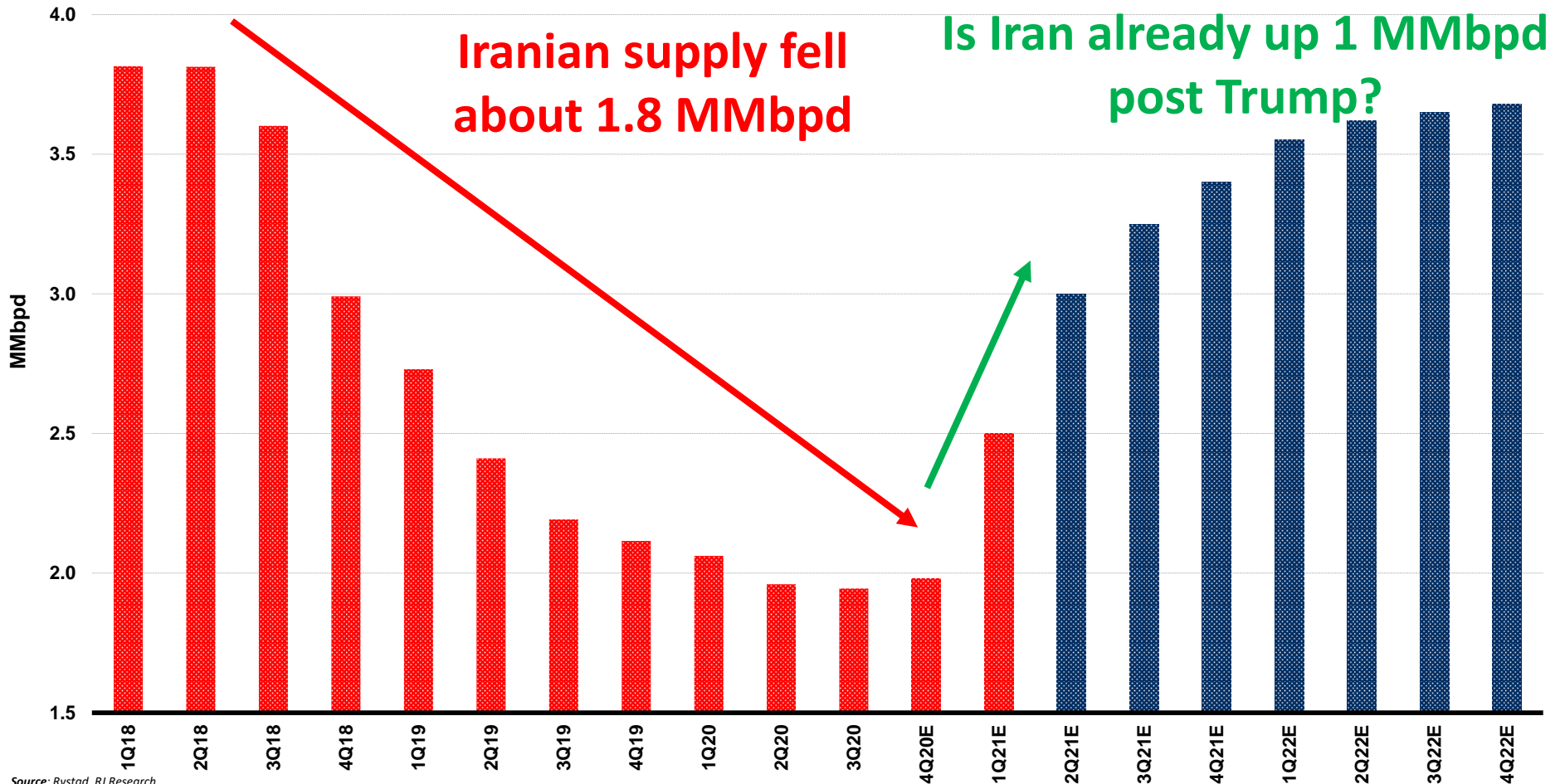
OPEC+ Production Changes Since YE19



Source: IEA, Raymond James research

That Means Iran Must Fully Return

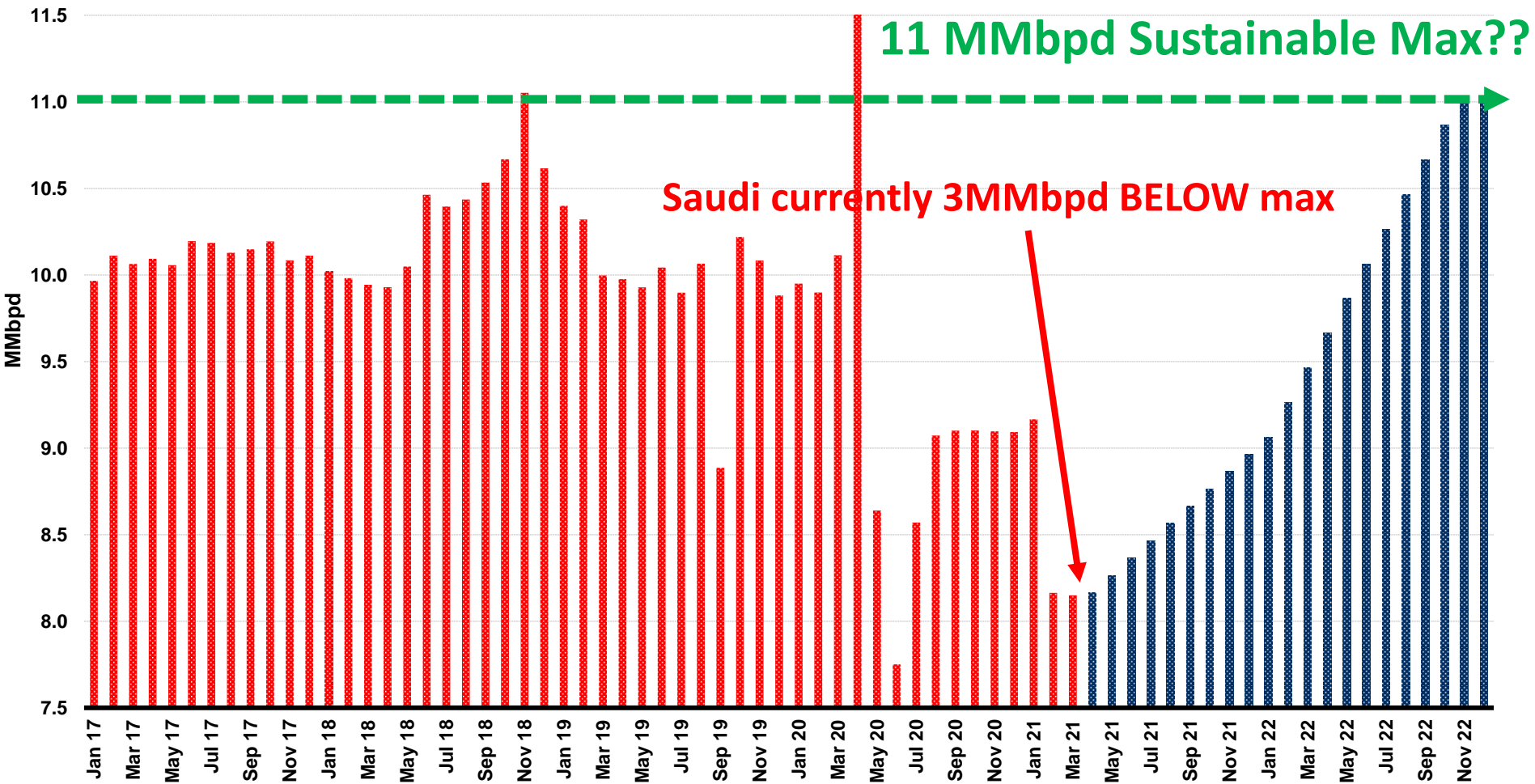
Modeled Total Iran Production Forecast (w Rystad Actuals)



Source: Rystad, RJ Research

And, Saudi Must Hit Sustainable Max

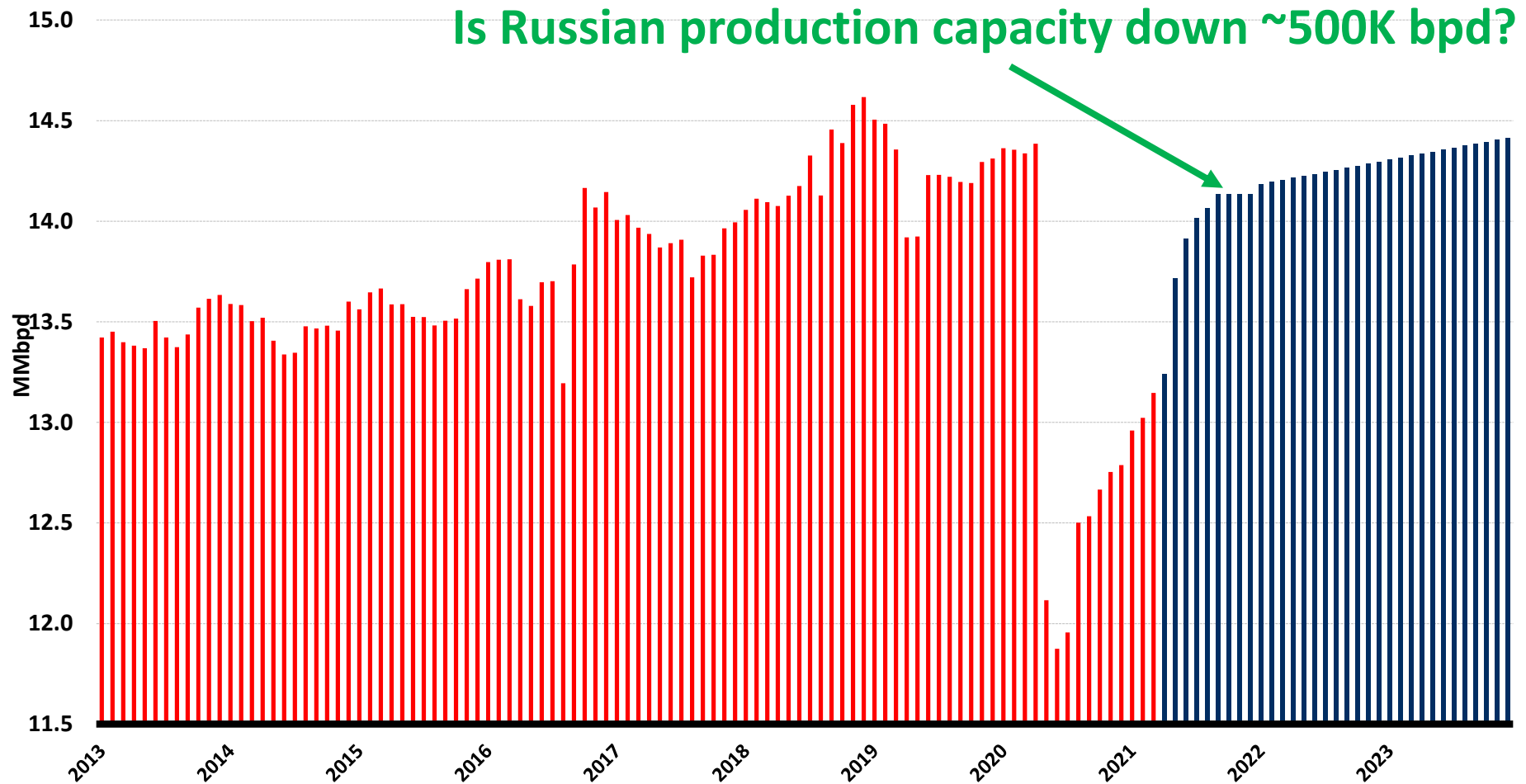
Modeled Saudi Arabia Production Forecast (w Rystad Actuals)



Source: Rystad, RJ Research

CIS Also Ramps Up to Max!

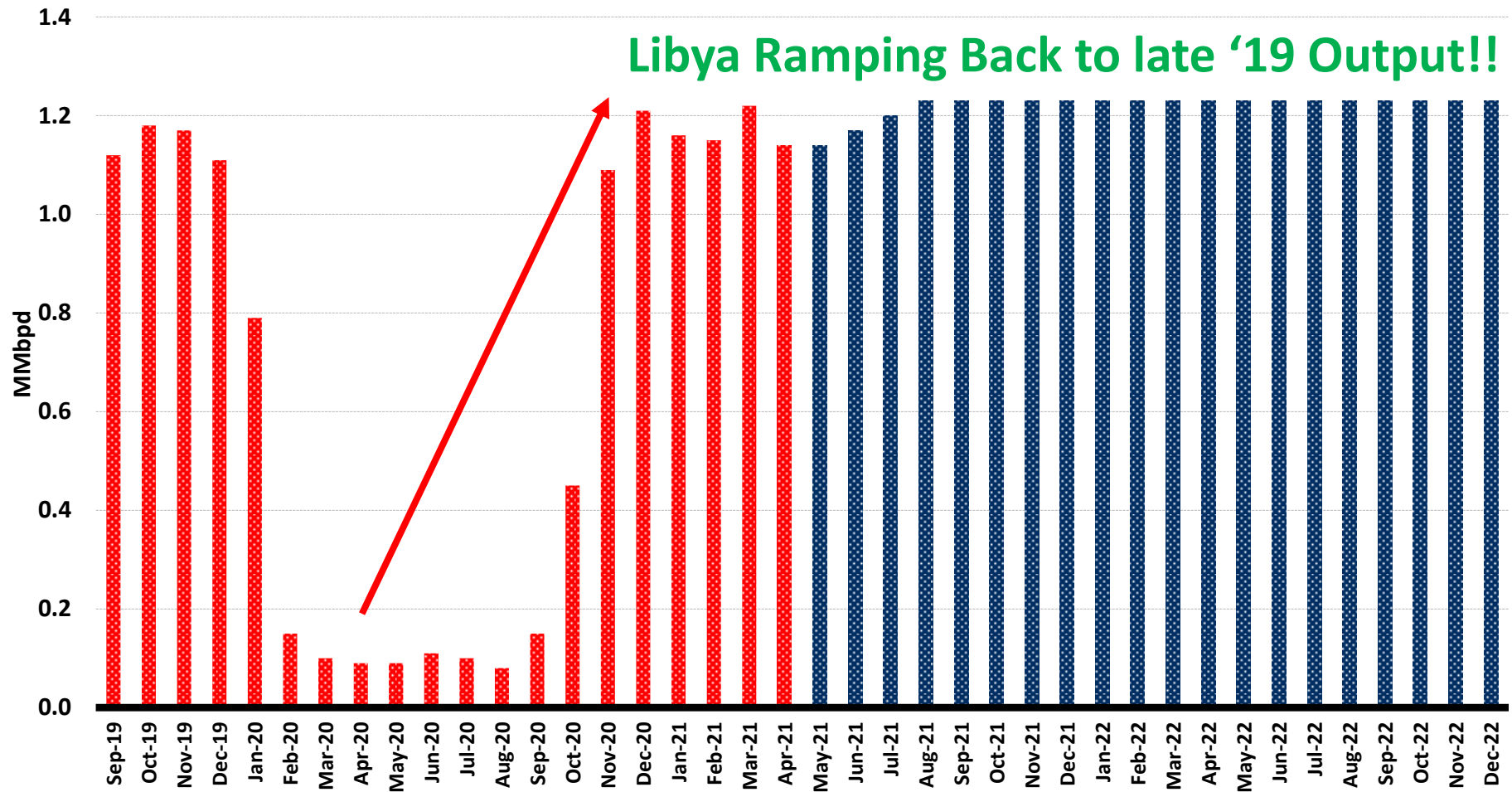
Modeled Total CIS Production Forecast (w Rystad Actuals)



Source: Rystad, RJ Estimates

Libya & Everyone Else Must Stay On

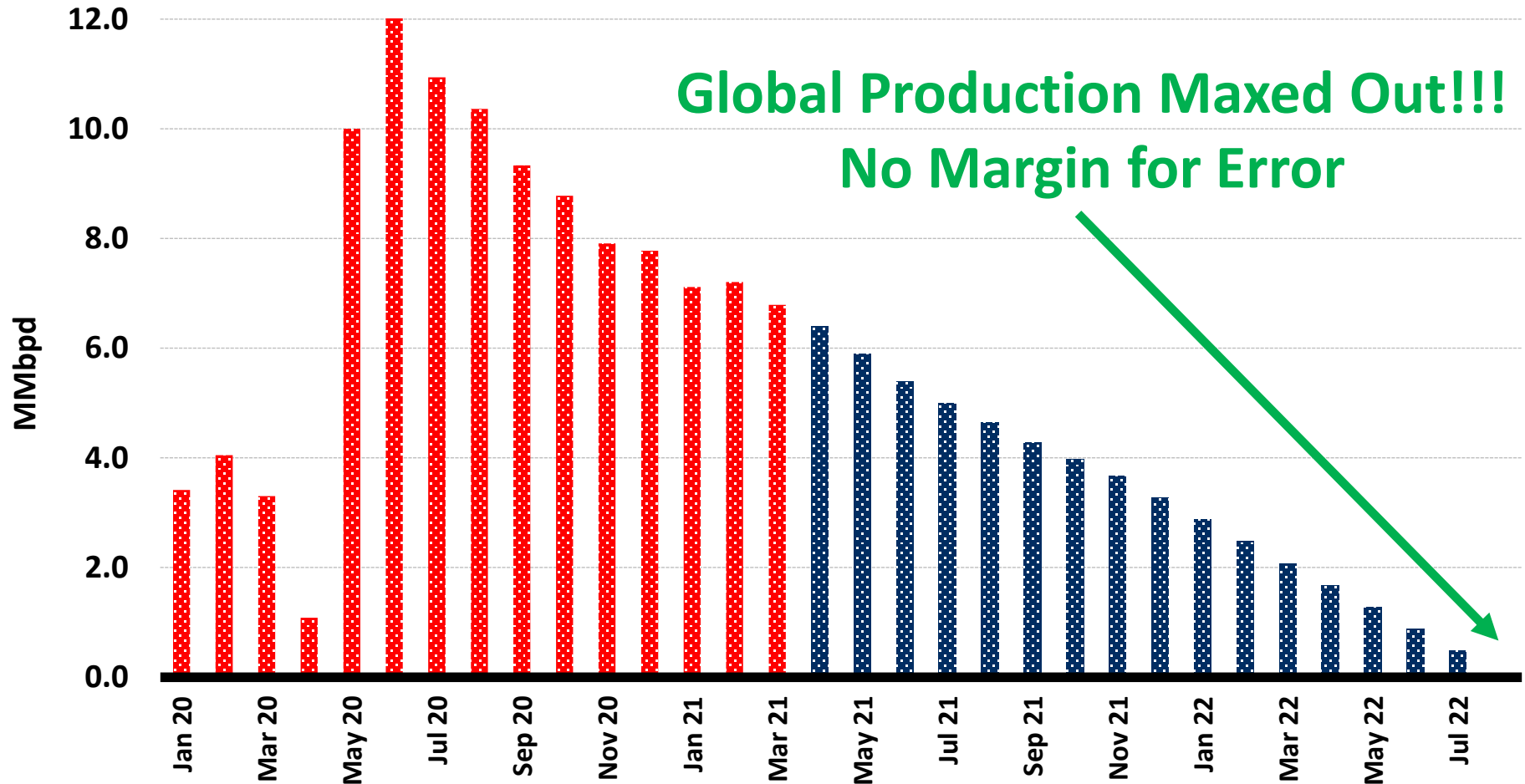
Modeled Total Libya Production Forecast (w Bloomberg Actuals)



Source: Bloomberg, RJ Estimates

Excess Oil Capacity Gone Mid-22!!!

Global Excess Capacity (MMbpd)

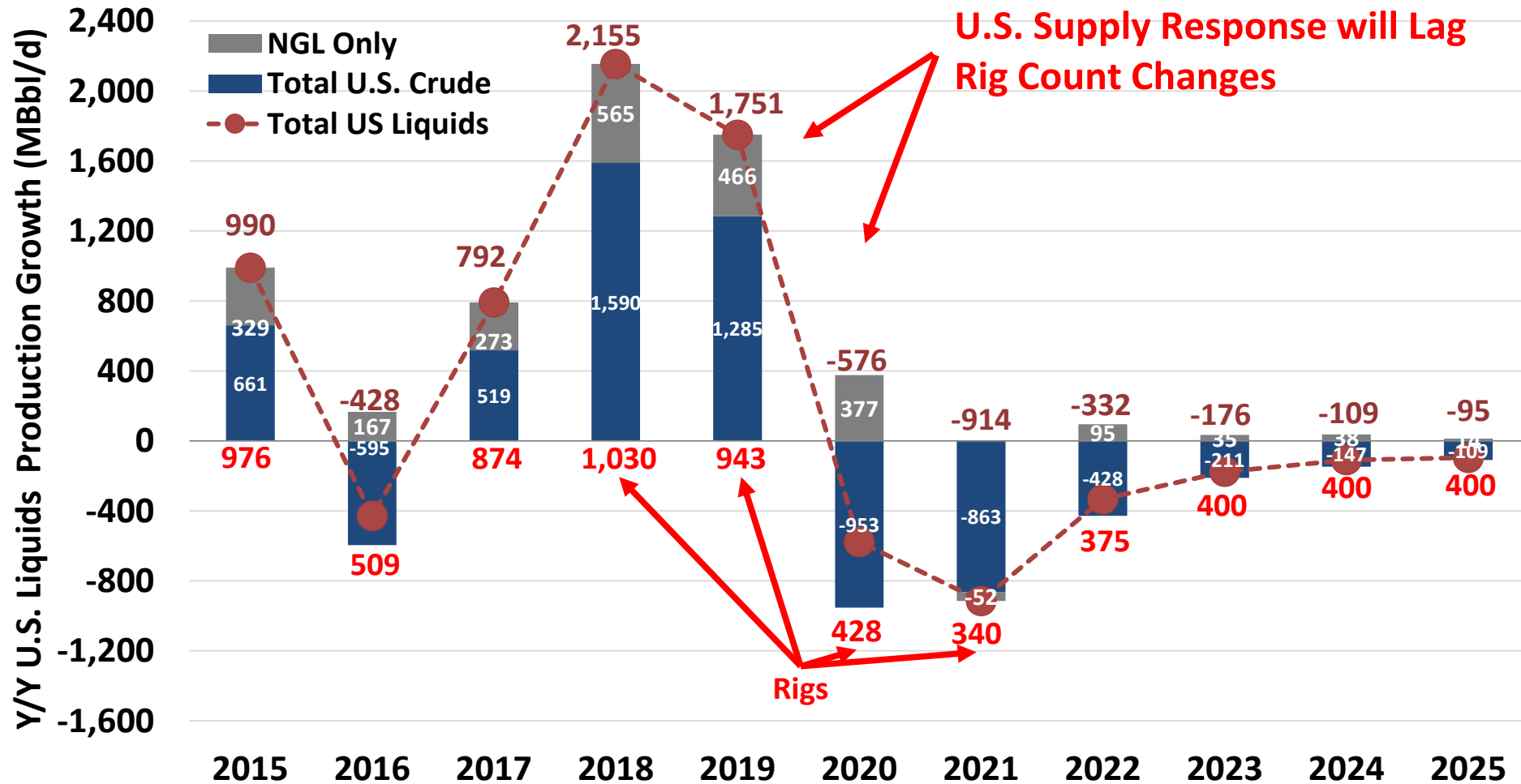


Source: Raymond James research

What Happens to U.S. Oil Production in a \$50 Oil Price World?

US Supply Falls in \$50 Price Case

U.S. Crude/Liquids Production Growth

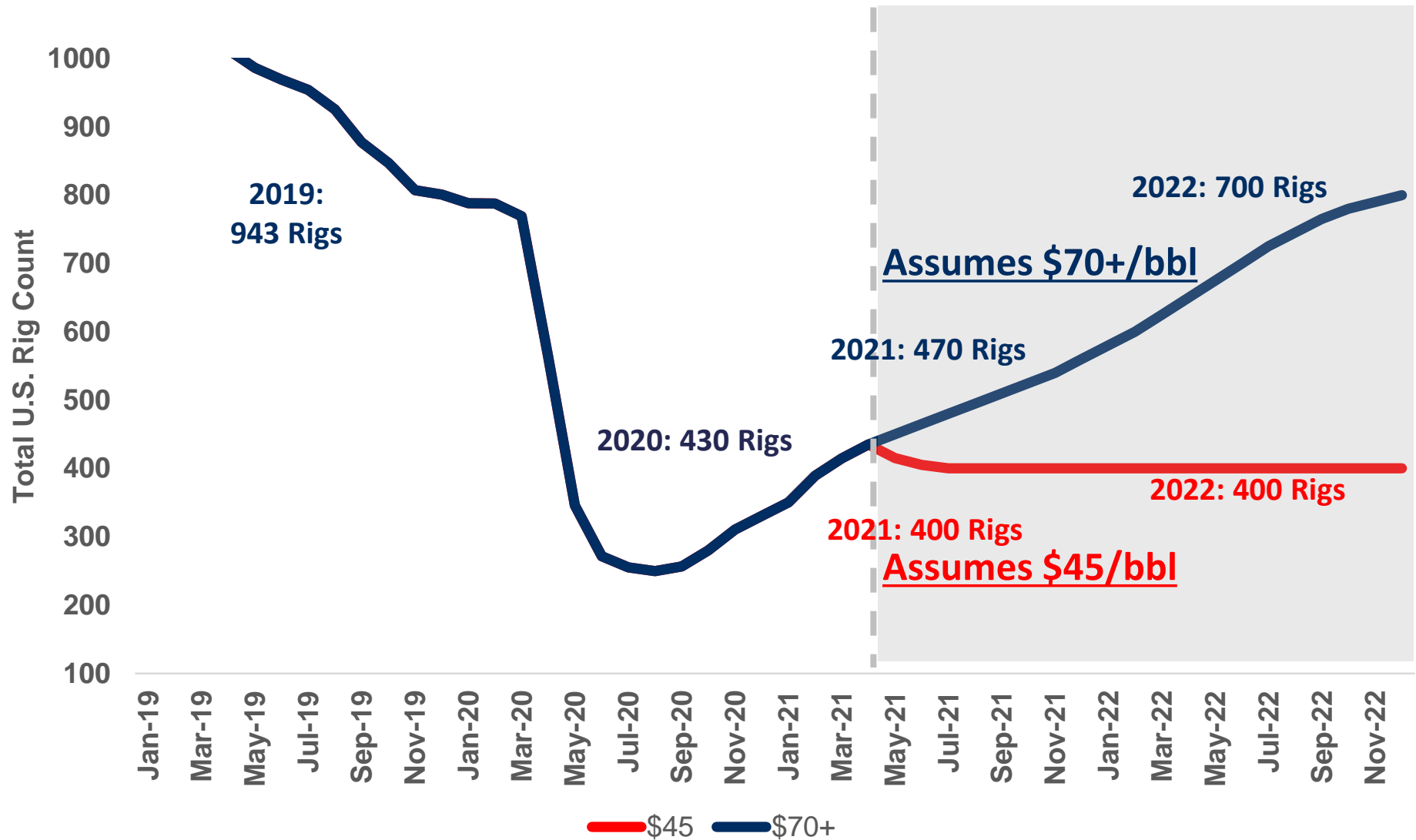


Source: EIA, Enverus, Raymond James research.

What Is More Likely to Happen?

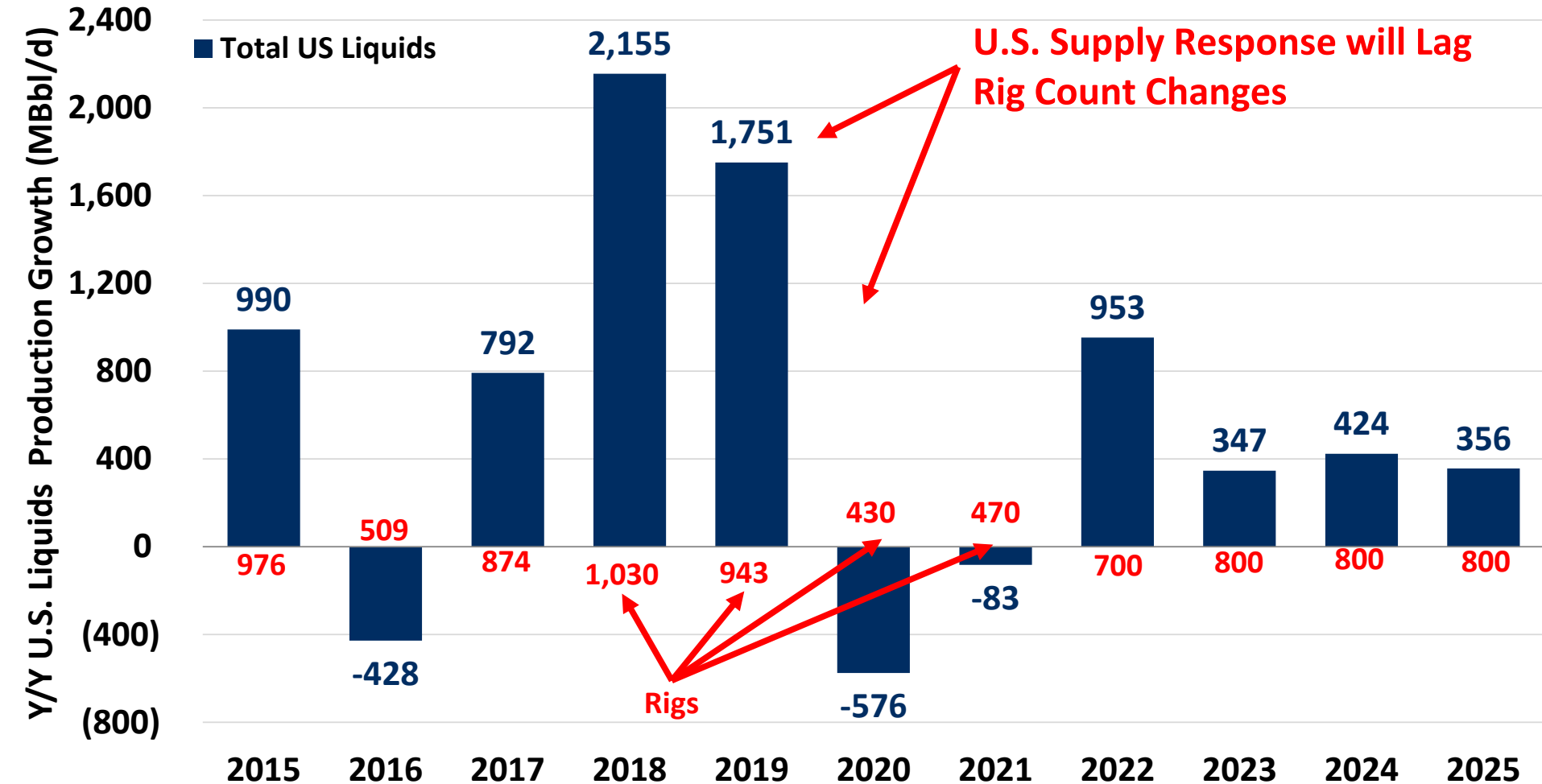
- **Oil prices rise gradually in early 2021 as inventories normalize**
- **Oil prices rise more sharply in 2H21 as inventories fall well below normal**
- **US oilfield activity ramps sharply higher in 2H21 and 2022 with higher oil prices**
- **US and global non-OPEC production increases MODESTLY over next 5 years**

2022 US Activity Oil Price Dependent



US '22 Prod. Finally Grows @ \$70/bbl

U.S. Crude/Liquids Production Growth



Source: EIA, Enverus, Raymond James research.

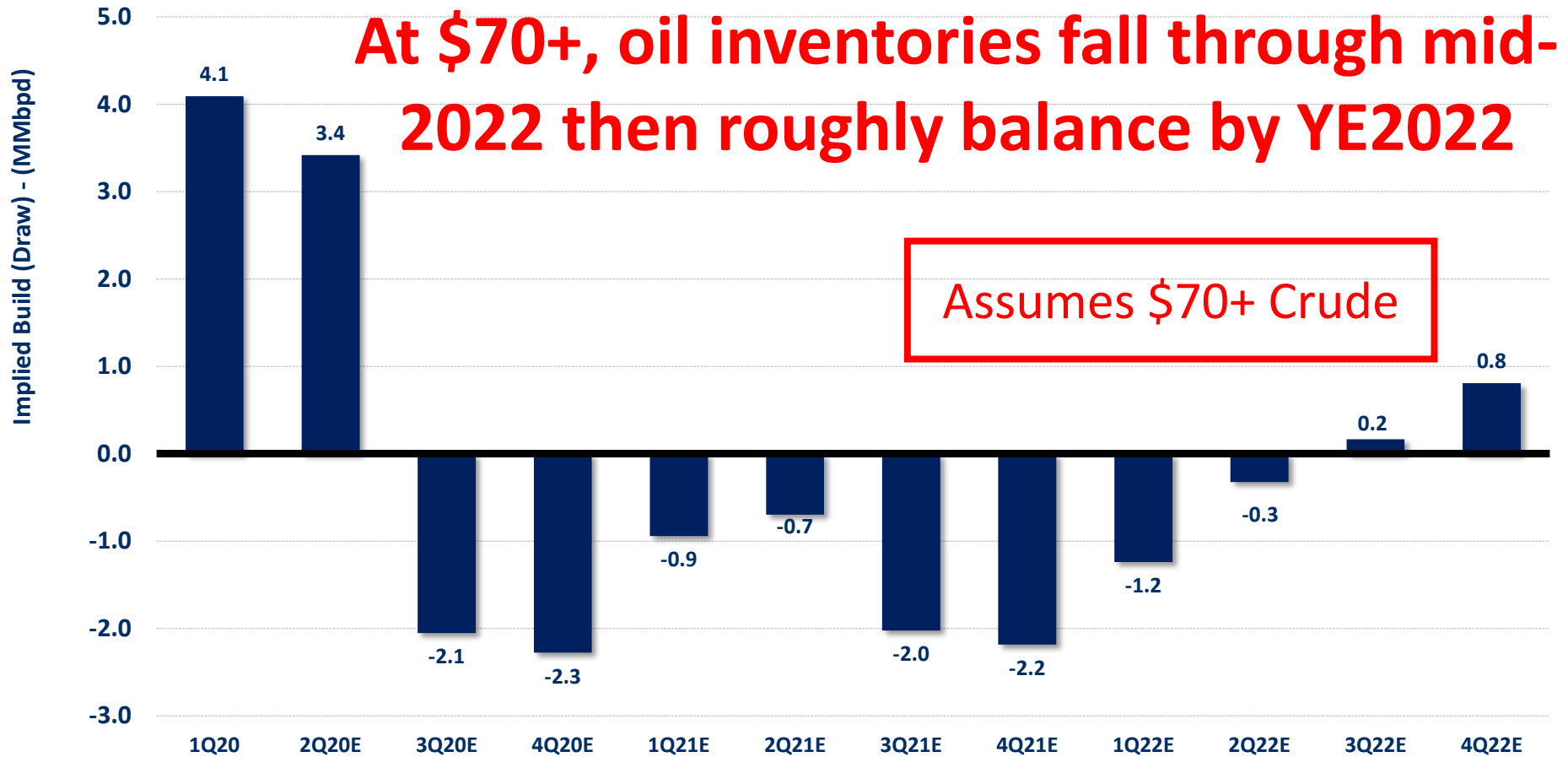
Other U.S. Supply Considerations

- **Labor availability**
- **Capital availability**
- **Less CAPX with return-over-growth focus**
- **Productivity growth with more wells: high-grading, land constraints, child wells?**
- **Will DUC surge = quicker supply growth?**
- **Recent US supply has been disappointing**

What Does \$70+ Oil Prices Mean For Global Oil Supply/Demand and Global Inventories?

2021 Draws Still Happen at \$70+!

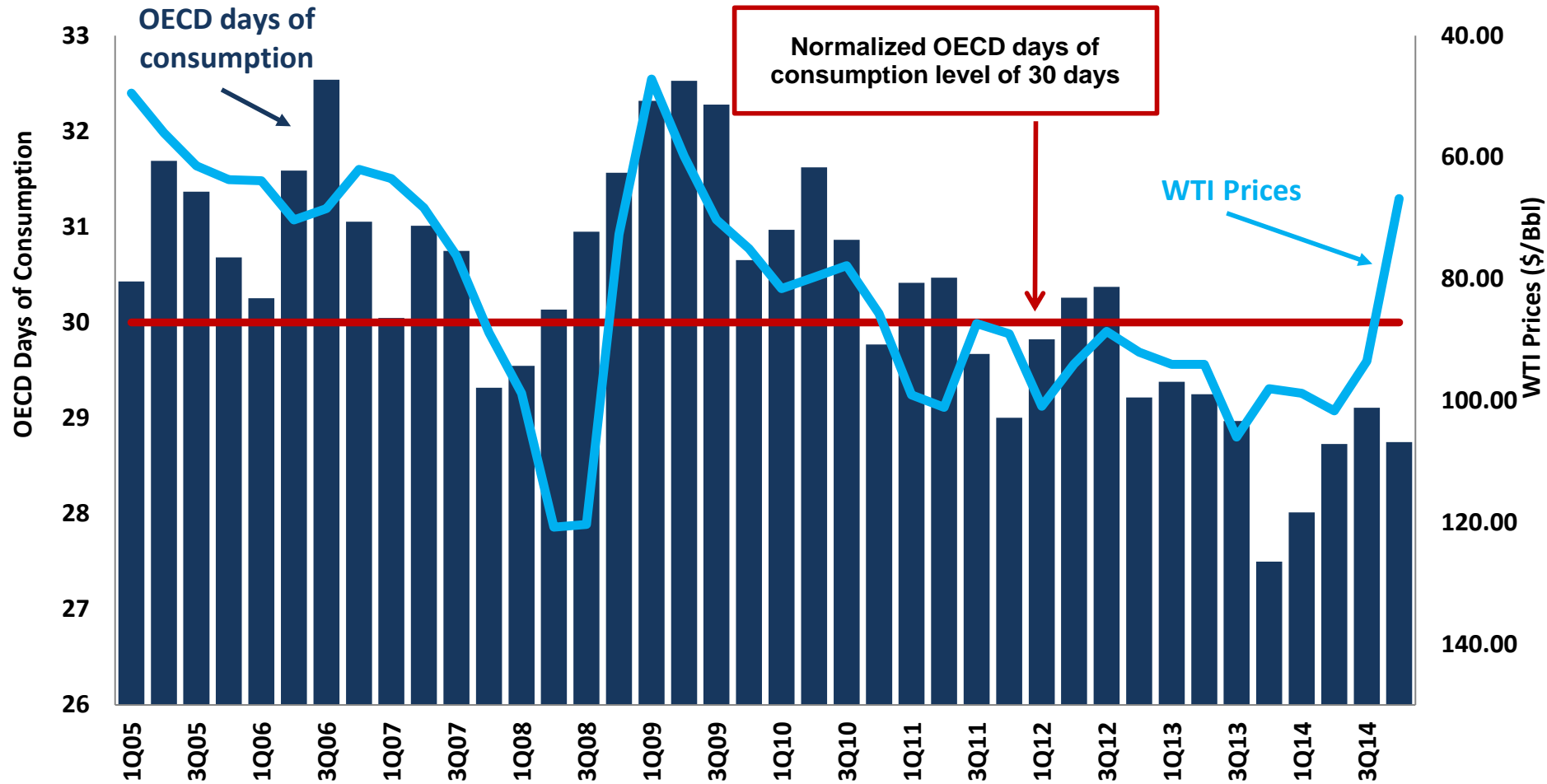
Est. Quarterly Global Petroleum Inventory Builds (Draws)



Source: IEA, Raymond James research

Oil Prices Follow Inventories 2005-14

OECD Days of Consumption vs. Oil Prices (Inverted)

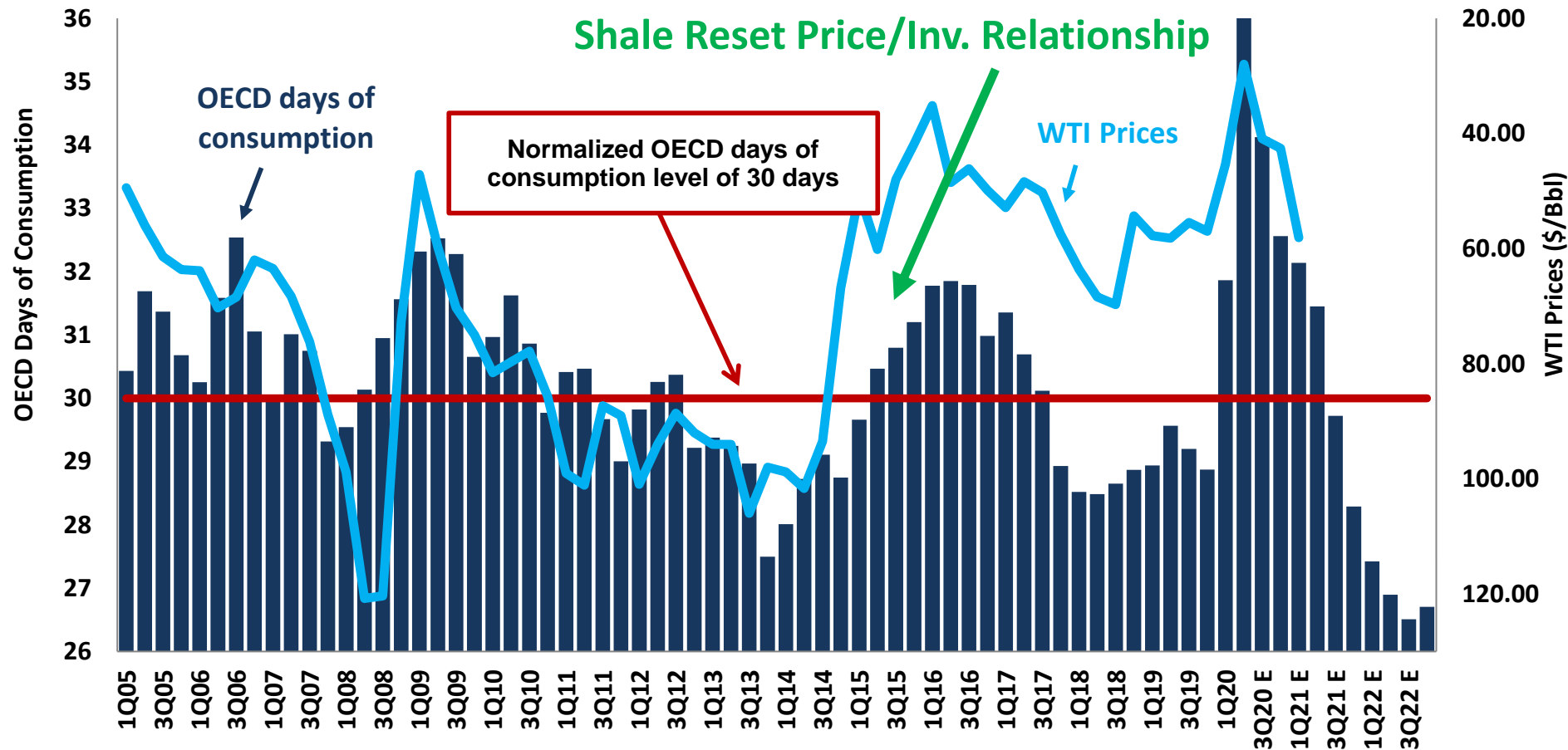


***Assumes \$70+/Bbl Oil**

Source: IEA, Raymond James research (Assumes 1/2 the expected global inventory build goes to OECD inventories)

Shale Drove A Reset in Relationship

OECD Days of Consumption vs. Oil Prices (Inverted)

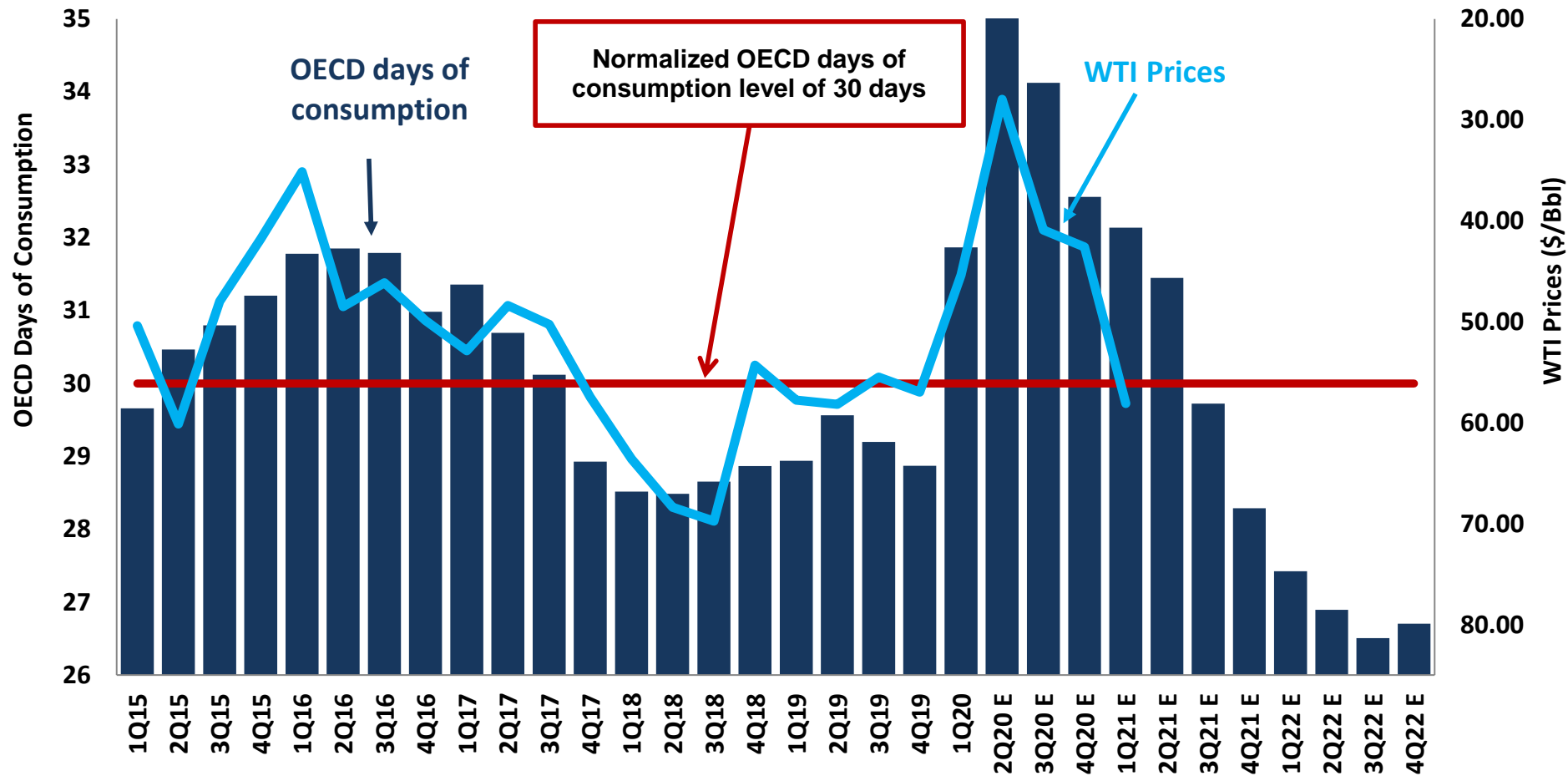


Source: IEA, Raymond James research (Assumes 1/2 the expected global inventory build goes to OECD inventories)

***Assumes \$70/Bbl Oil Strip**

'22 Inv. Headed Well Below Normal

OECD Days of Consumption vs. Oil Prices (Inverted)



Source: IEA, Raymond James research (Assumes 1/2 the expected global inventory build goes to OECD inventories)

***Assumes \$70+/Bbl Oil**

Review: Key Assumptions

- **Over next 3 months: Vaccine is distributed and Covid is in rear view mirror**
- **2H2021 Oil demand rebounds sharply**
- **400K 2021 Non-OPEC, non-CIS growth, followed by ~1.6 MMbpd growth in 2022**
- **OPEC+ ramps to pre-covid supply levels in back half of 2021 – and all out by mid-2022**
- **Despite max supply, inv. well below normal**

What Will Biden Mean For Oil?

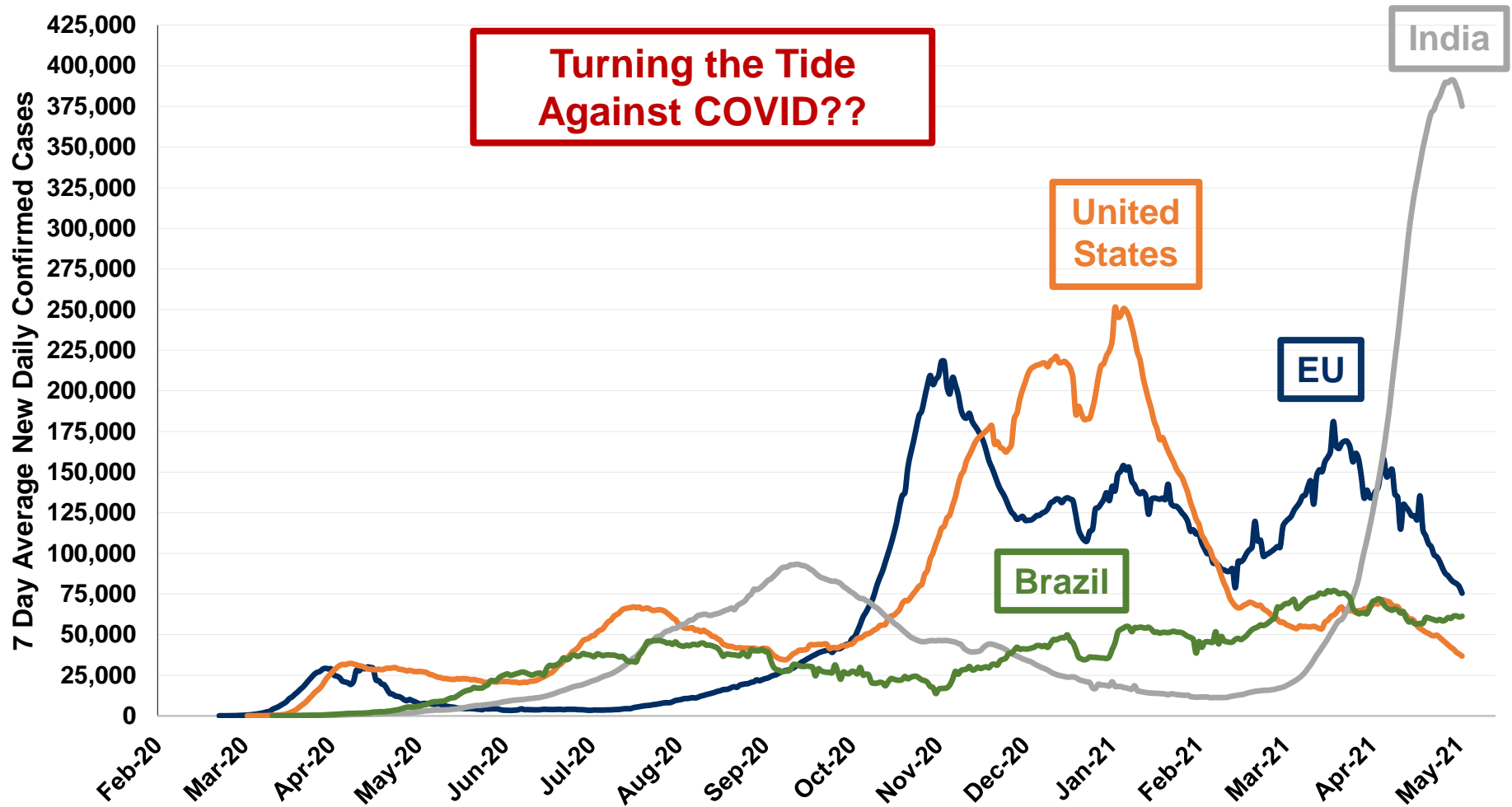
- **Bullish near/mid-term oil prices, bearish oil and gas industry**
- **Federal drilling restrictions = less US supply growth (bullish), climate initiatives could hurt long-term demand (bearish)**
- **Iran supply increase now in play (~1.5 MM)**
- **Look for more impediments: clean water act, flaring, methane control, NEPA reviews**
- **~~Split congress mutes negative impact~~**

What Could Go Wrong With Our Oil Model?

Oil Price Move Timing Dictated By:

- Timing & duration of demand improvement
- How much & how soon can Iran recover?
- Has Russian capacity really shrunk?
- How fast will Non-US, non-CIS grow?
- How fast will US supply rebound?
- At what price will Saudi increase supply?
- Covid global vaccine timing & variants

Covid Vaccine Timing & Variants



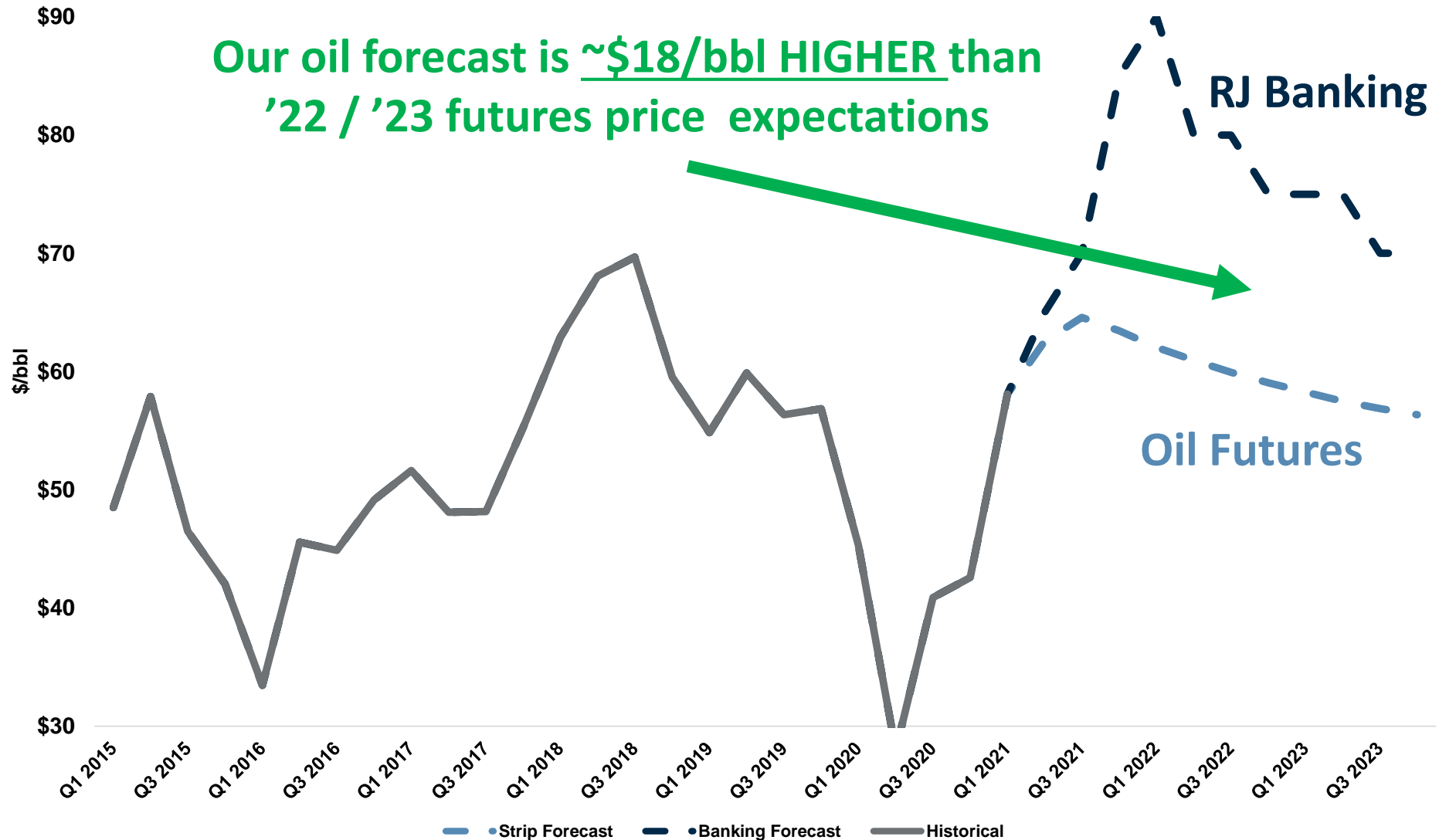
Source: Johns Hopkins, 91-DIVOC

Bottom Line.....

- **Current damage to oil industry will lead to substantially lower oil supply in 2021/22**
- **Inventories already nearing normal**
- **Demand poised to surge next 6-12 months**
- **OPEC+ must ramp to full capacity in 2022**
- **No margin for error on supply disruptions**
- **2022/23 prices have meaningful upside**

Our Estimates ~\$20 Higher Than Strip

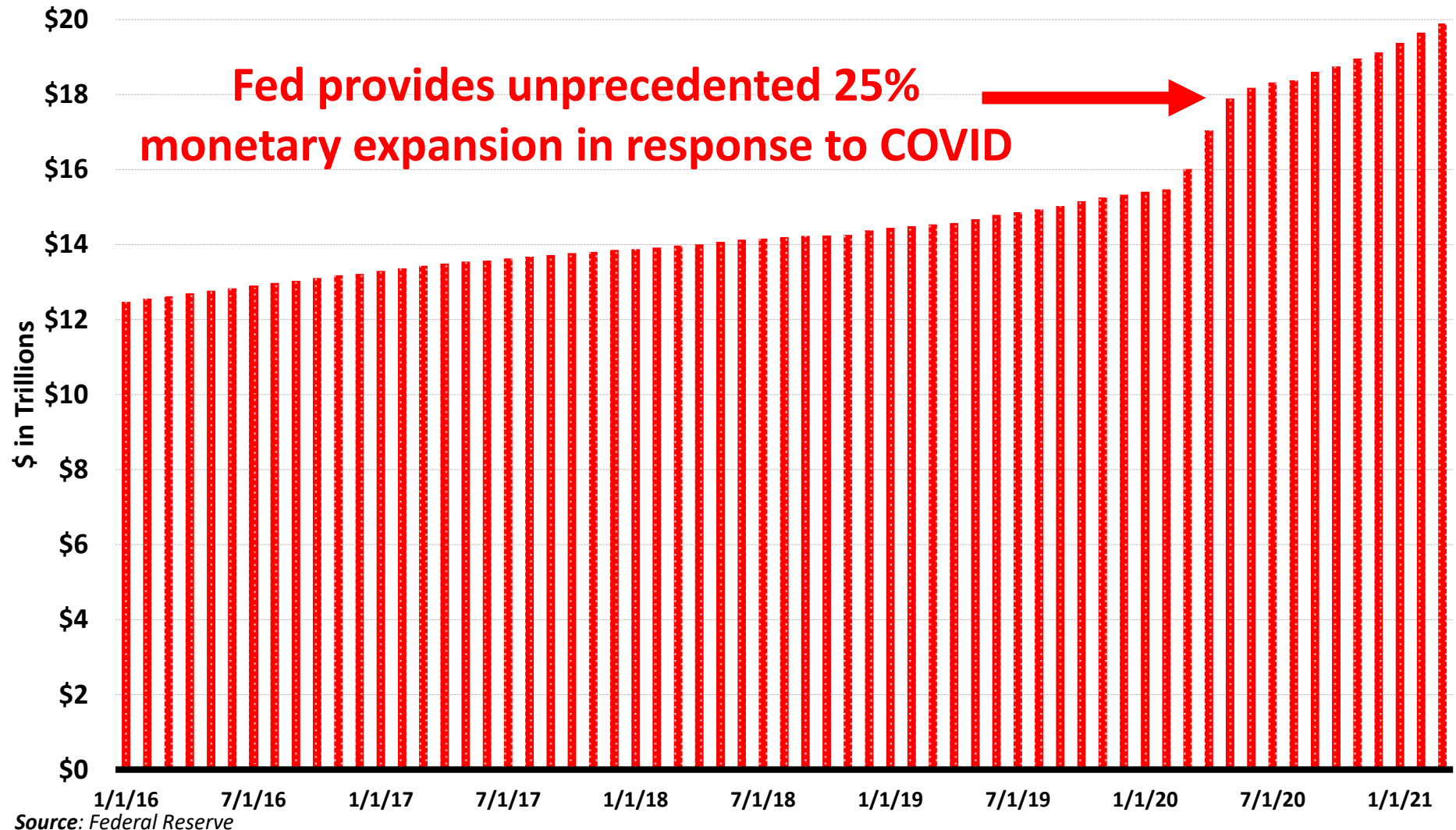
Our oil forecast is ~\$18/bbl HIGHER than '22 / '23 futures price expectations



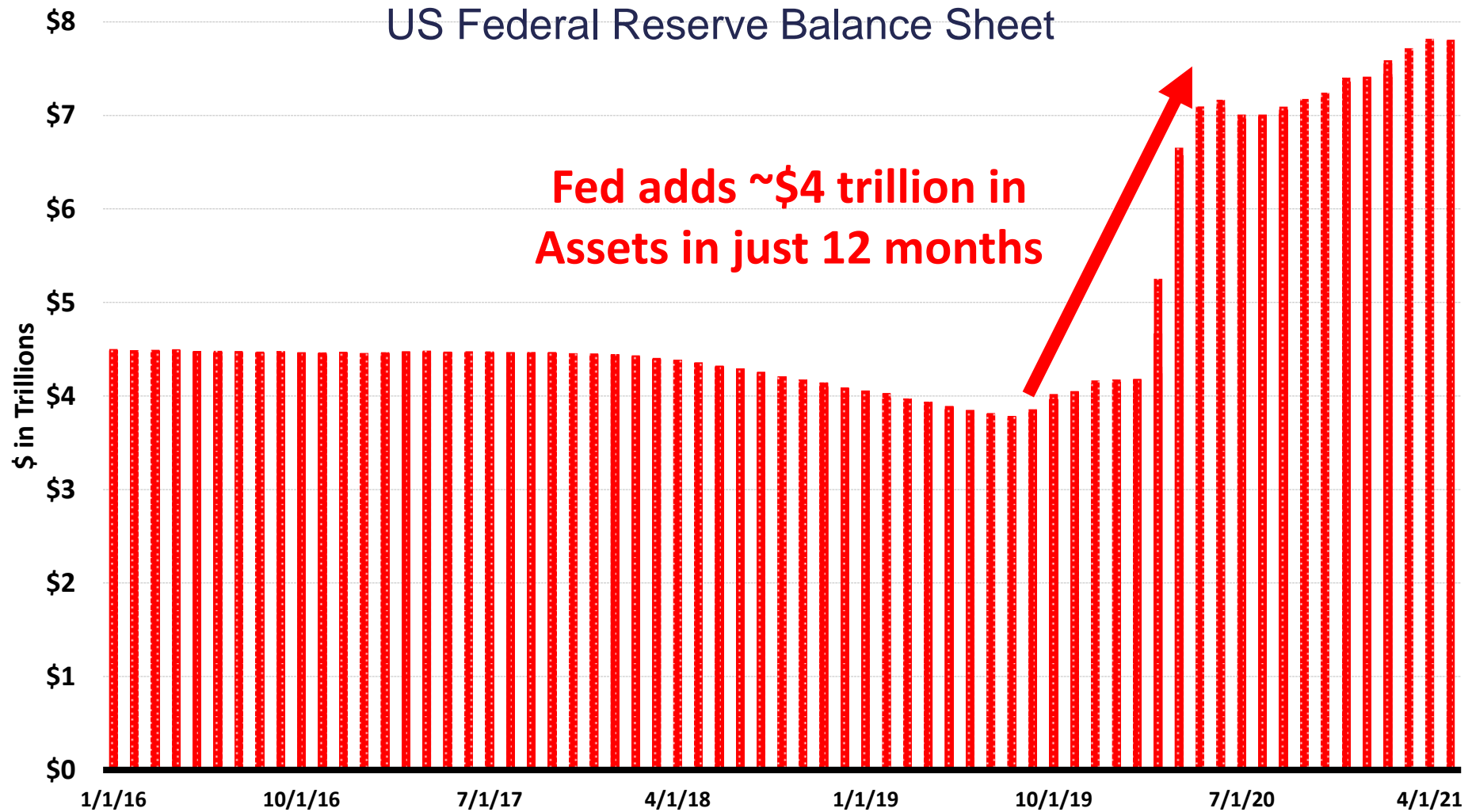
Other Macro Things To Consider

- **Unprecedented global debt creation & stimulus funded largely by government money printing**
- **Resulting inflation is increasingly concerning**
- **Is this the start of a new commodity super-cycle as investors look to hedge inflation?**
- **Fed must keep printing to keep interest in check**
- **Will rampant spending push US \$ even lower?**

25% of All US \$ (M2) Created Last Year

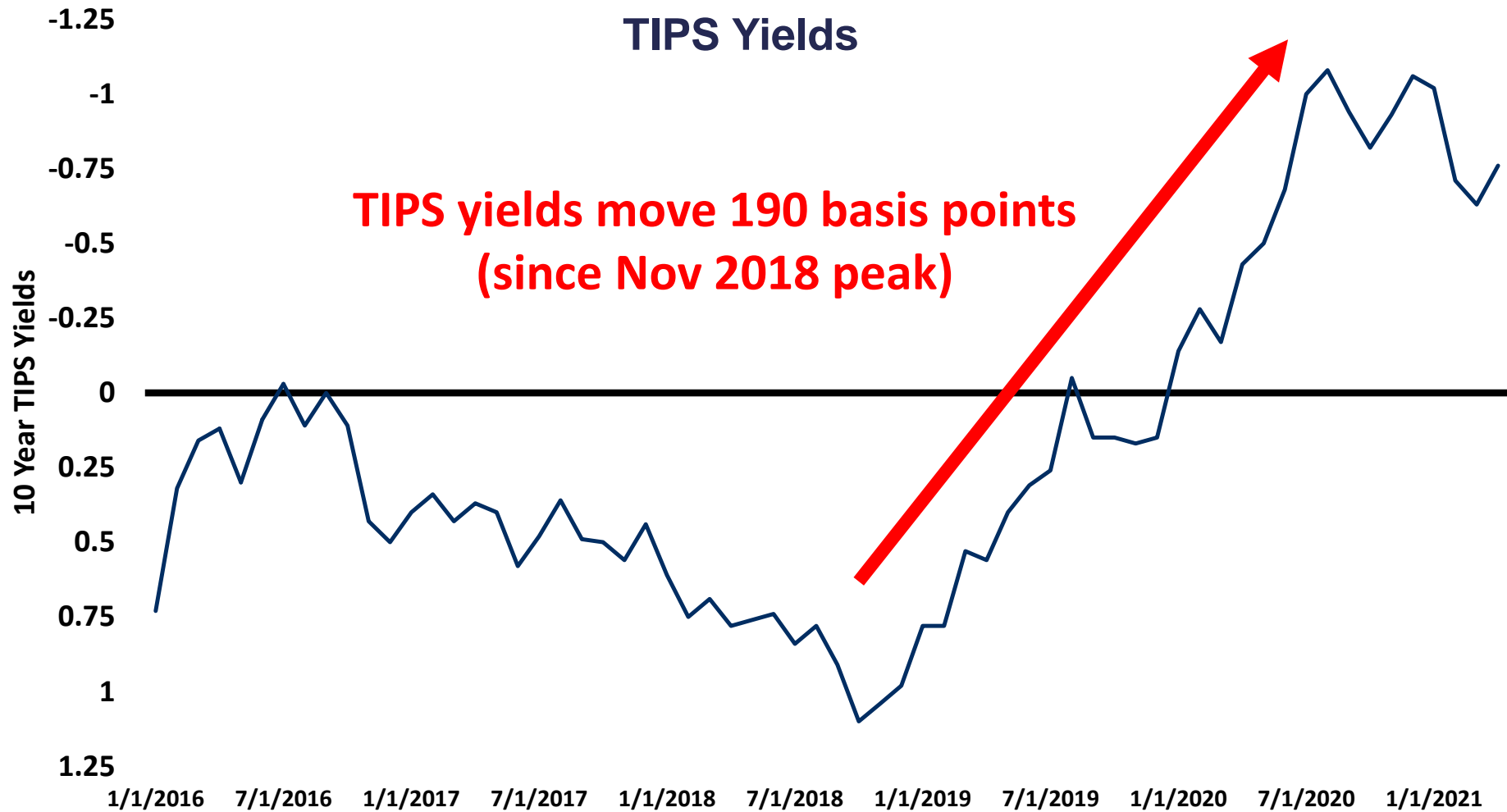


Fed Must Continue To Fund Stimulus



Source: Federal Reserve

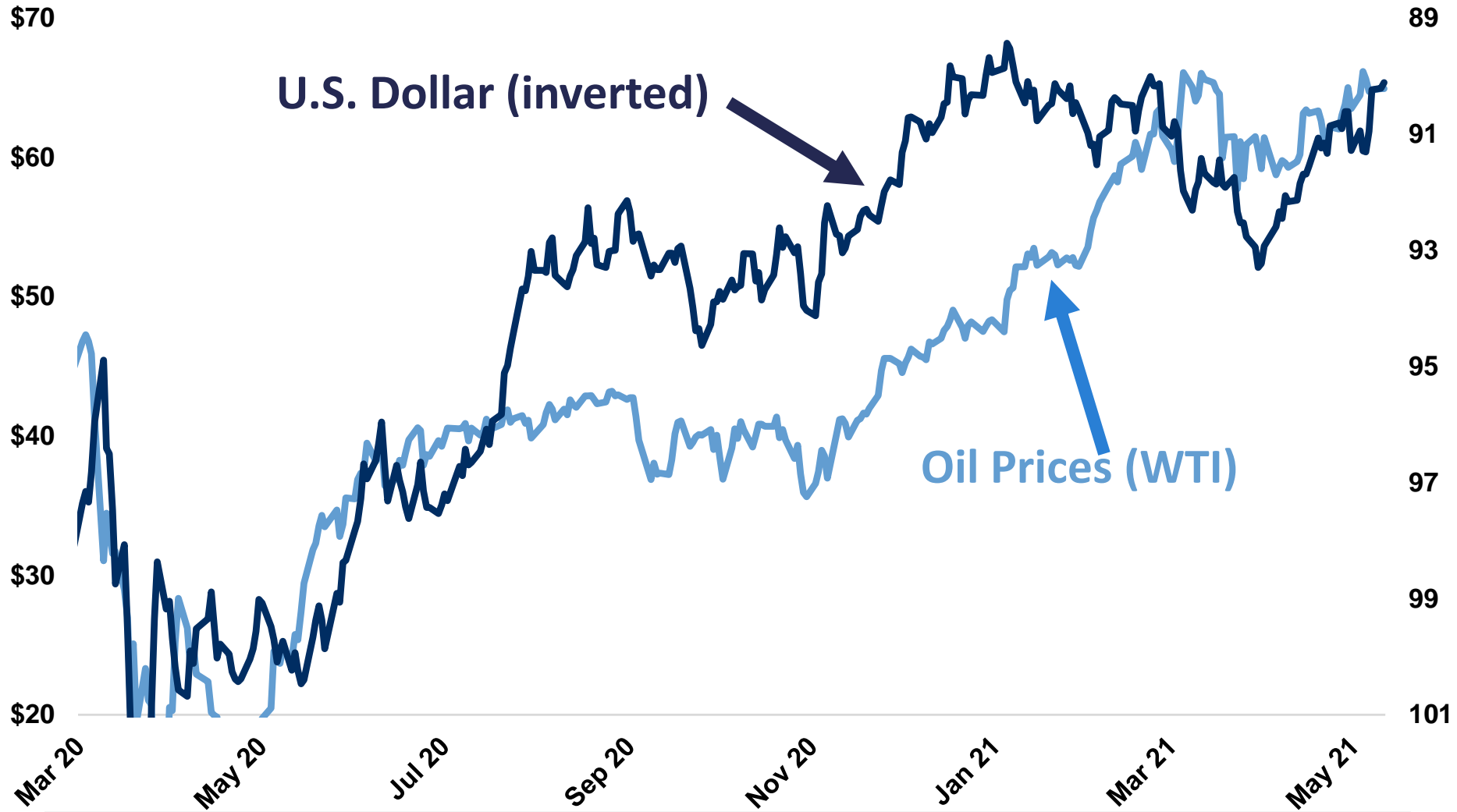
Thus, US Inflation Expectations Surging



Source: Factset

Oil Drifting Higher With Weaker US \$

WTI vs US\$ (inverted)



Conclusion: The combination of overwhelmingly negative sentiment, massive underperformance, and bullish oil fundamentals sets up oil prices and the industry for outstanding returns over the next few years