

Federal Reserve Bank of Dallas/Kansas City Conference

Outlook for Global Oil Markets: Short-Term Volatility, Long-Term Tension

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CONTACT DETAILS

Abhi Rajendran

Head of Oil/Downstream/NAM Energy Research
+1 646 616 0838 | arajendran@energyintel.com

Key Takeaways

Main points for oil market outlook

Near-Term Volatility and Uncertainty

Limited Progress on Alleviating Capacity/Capex Crunch

Years of Just-in-Time Supply Ahead, Higher Prices

Long-Term (Transition) Bumpy, Capacity Constrains Demand

Key Oil Market Dynamics

Many moving parts and mixed messages, tug of war between supply and demand/macro

Macro Concerns

- US slowed economy, consumer (70% of GDP) under pressure/paring back
- Europe recession unfolding, with more pain ahead (some permanent)
- Periphery economies struggling with inflation, rates, currency, shortages
- China remains very uncertain, zero-Covid-19 ... for now

Russia/Ukraine Conflict

- Supply questions persist (see below)
- At the center of battle between supply issues and demand/macro fallout

Demand Picture

- Consumption over the last few months has slightly underperformed, even leaving aside China Covid-19 issues
- Key economies like the US and India remain solid consumers for now
- Seasonality ahead, but boost possible with high gas/coal prices, diesel cracks
- **Demand growth expectations for 2023 falling, but demand still grows**

Supply Picture

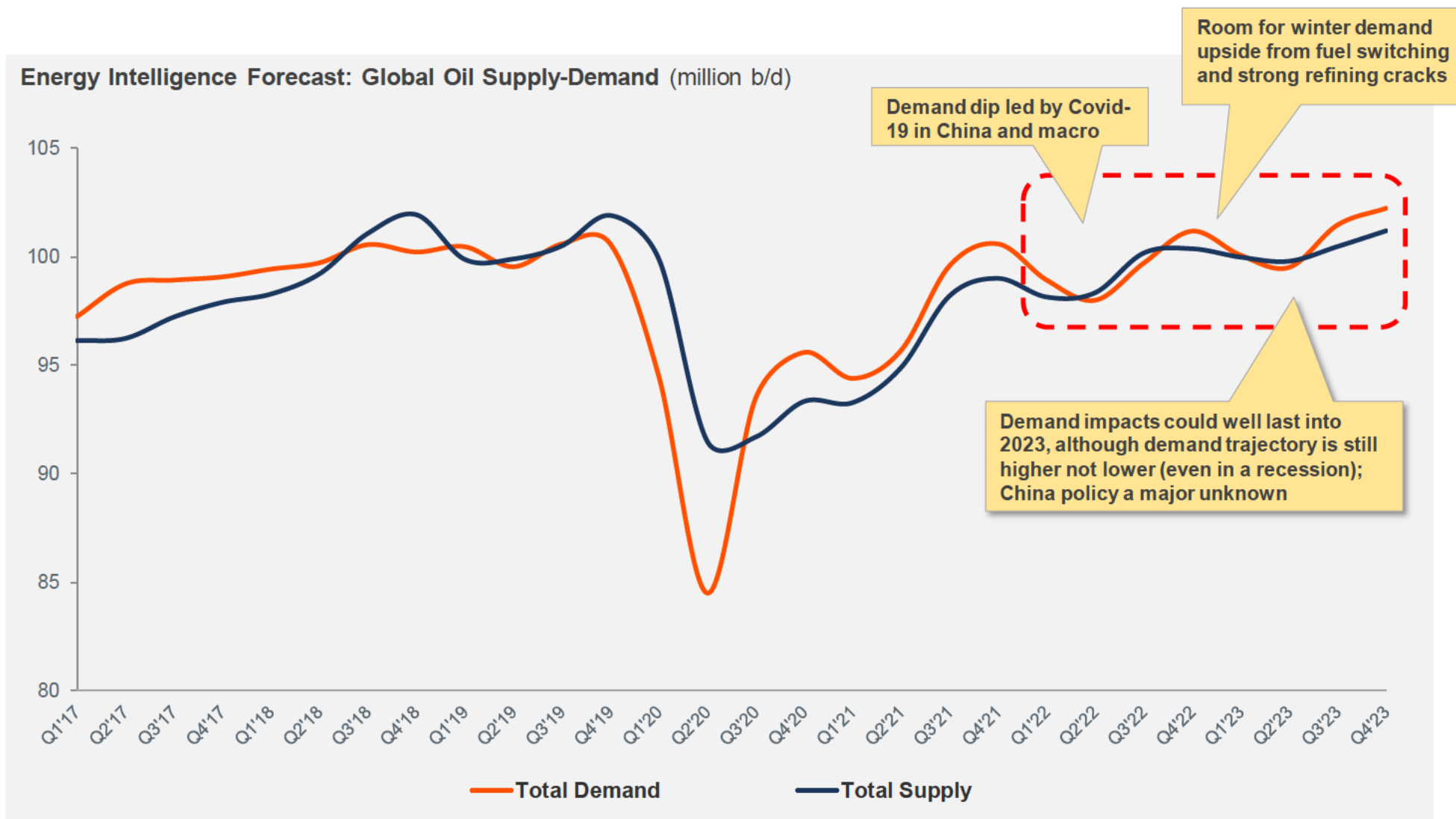
- Very limited spare capacity worldwide, including Opec-plus
- Recent market helped by massive SPR releases, less of a tool in 2023
- Questions on EU oil embargo and G7 price cap could well underwhelm
- **Opec-plus next meeting will be key, and Russia actions into 2023**

Energy Policymaking

- **Confusing messaging on energy transition with near-term shortages**
- **Inability to effectively increase much-needed supply**

Demand: Room for Q4 Demand Upside, 2023 Still Uncertain

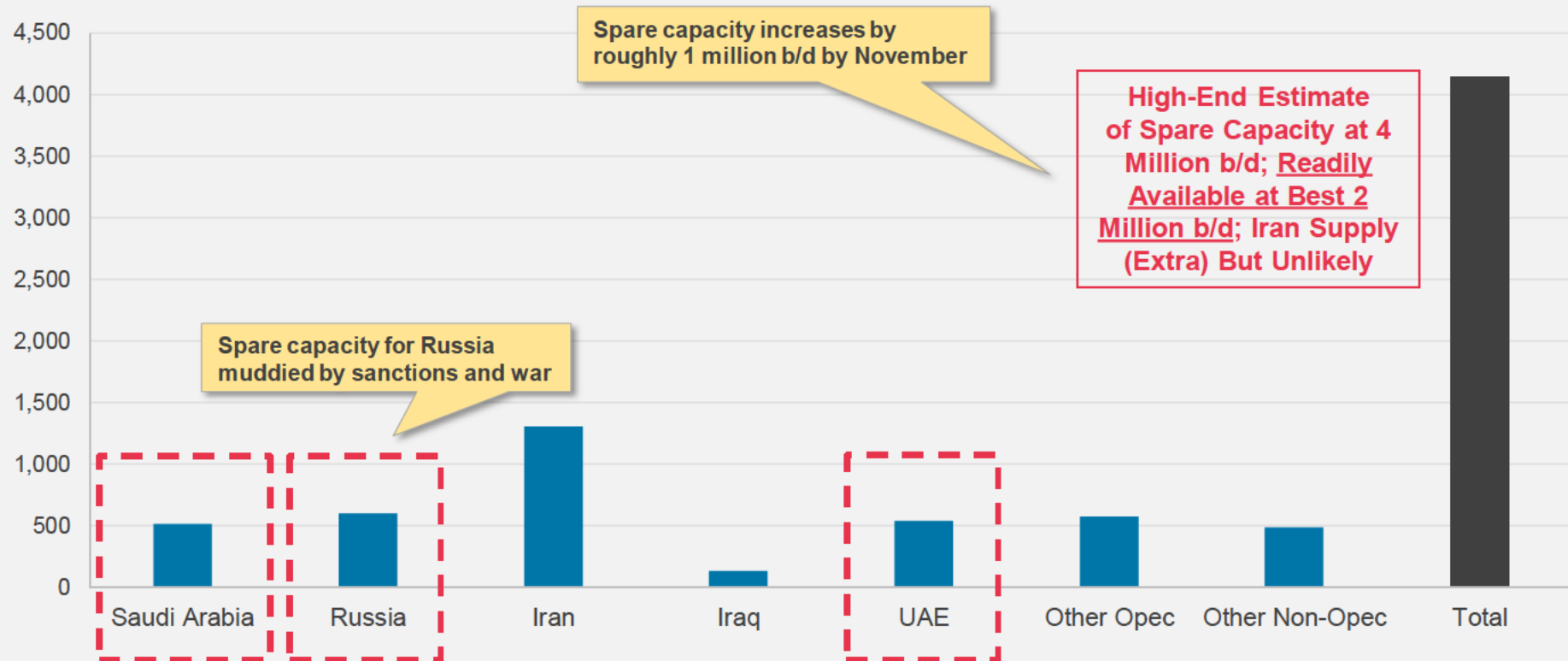
Economic softness easily stretches into next year, but demand can still recover



Opec-Plus Spare Capacity: Small ex-Iran, But Growing With Supply Cuts

Spare capacity will be put to the test again in the near term, with \$100+ likely even in recession

Energy Intelligence Estimate of Opec-Plus Spare Capacity (as of October 2022, '000 b/d)



Opec-Plus: External Break-Even Oil Prices on Average \$80+/bbl

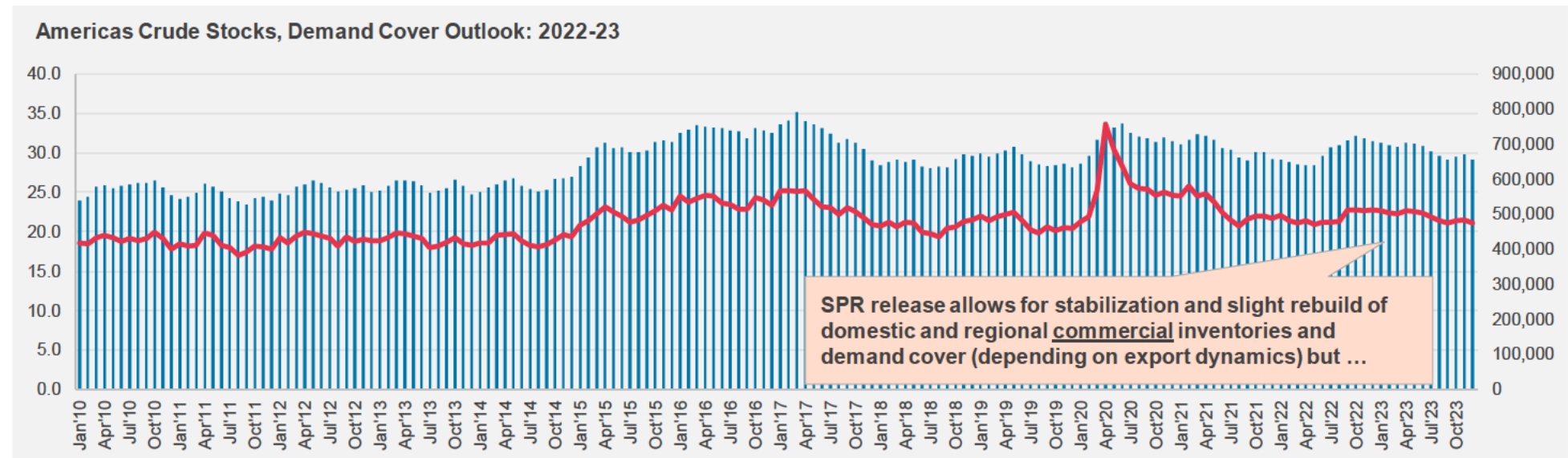
Defense of recent price slide is not surprising

	2016	2017	2018	2019	2020	2021	2022f	2023f	2024f	2025f	2026f
Algeria	87.0	92.1	101.8	93.9	77.7	79.2	93.6	98.4	92.5	89.8	87.2
Angola	48.5	55.3	57.6	54.8	41.4	51.9	68.7	83.4	79.3	79.1	77.0
Congo Br.	103.8	61.2	71.4	64.3	43.4	51.7	79.9	81.1	76.6	79.7	76.6
Eq. Guinea	57.8	62.0	79.7	76.3	52.5	78.2	97.4	98.9	96.2	93.0	87.8
Gabon	67.7	76.0	77.8	67.2	56.9	91.7	82.0	95.9	88.2	90.4	84.9
Iran	30.7	41.1	46.3	56.6	44.8	58.4	74.5	71.9	69.0	74.0	73.6
Iraq	52.7	60.7	64.5	64.0	57.6	61.7	72.3	81.1	78.7	79.5	77.4
Kazakhstan	59.1	63.0	71.7	76.5	53.9	81.1	91.7	102.1	96.4	93.5	90.8
Kuwait	48.6	43.8	49.9	39.1	19.8	42.0	39.6	53.6	51.8	51.5	48.3
Libya	85.8	46.7	69.4	78.3	69.6	78.3	74.9	83.1	79.3	80.2	77.2
Nigeria	35.2	34.8	61.7	88.3	69.6	78.3	109.8	113.4	102.2	98.6	92.7
Oman	63.4	71.2	77.9	71.3	58.3	76.0	87.9	91.0	85.6	84.2	80.0
Russia	36.5	45.4	40.0	46.8	32.5	40.7	56.2	70.4	70.7	69.1	67.9
Saudi Arabia	51.0	50.7	48.5	52.6	49.5	53.9	45.3	64.0	62.9	64.9	65.4
UAE	31.0	27.2	30.3	33.7	32.7	22.7	23.9	40.2	43.5	46.5	45.0
Avg. Break-Even Price (US\$/bbl)	57.26	55.40	63.24	63.27	49.92	59.34	72.24	81.90	78.20	78.27	75.46
Brent Forecast (US\$/bbl)	43.36	54.23	71.30	64.71	43.24	71.60	101.00	103.00	93.00	88.00	83.00

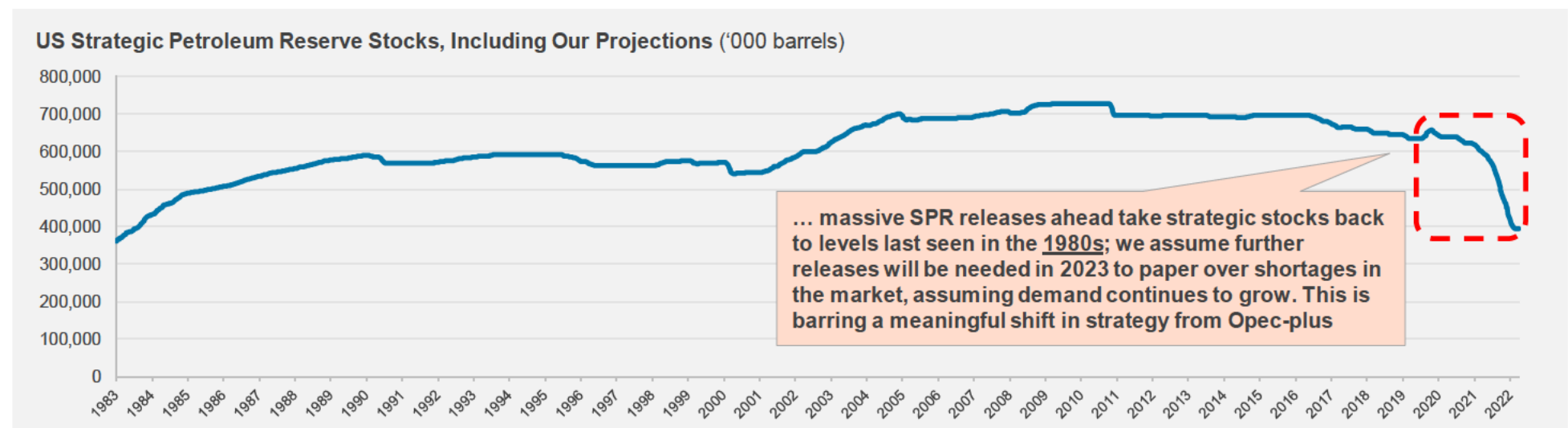
Discounts to be factored in for Russia looking ahead

SPR Releases: Expect More in 2023 — But It's the Last Year It's an Option

Even with a drawdown to 400 million barrels, more releases on deck over the near term



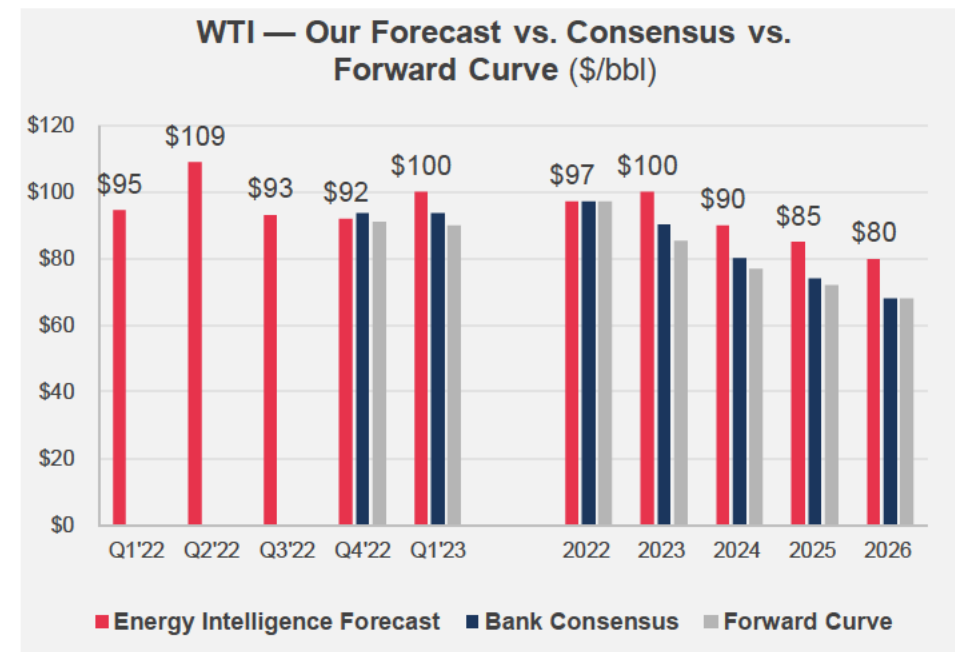
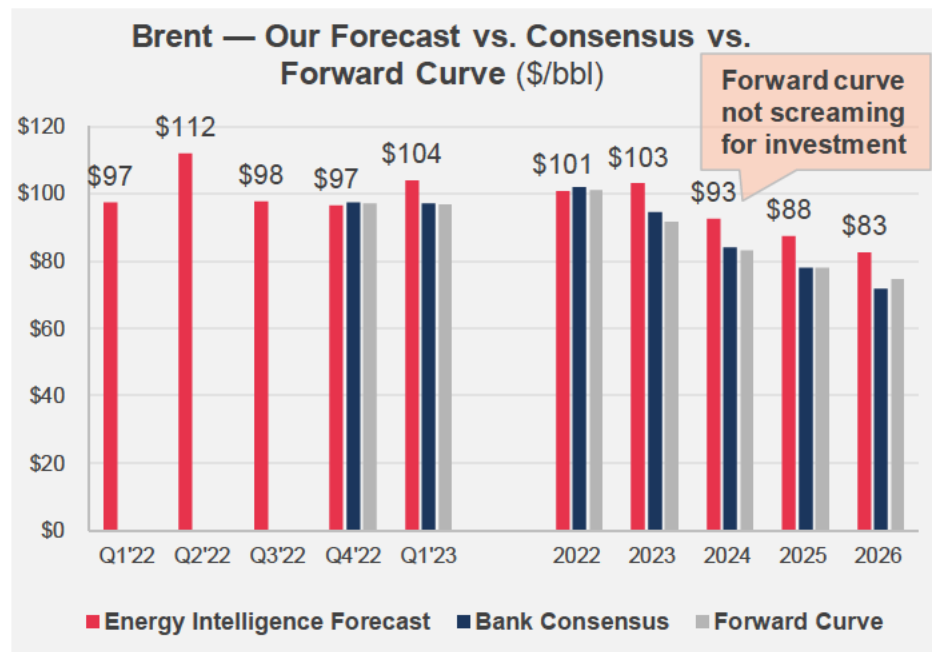
Americas inventory levels ('000 bbl) on right, crude oil demand cover on left (days)



Our Price Outlook: \$80-\$90+ is the New \$60, Balancing Russia and Recession

Likely higher than this range in the short term, even in a weak macro environment

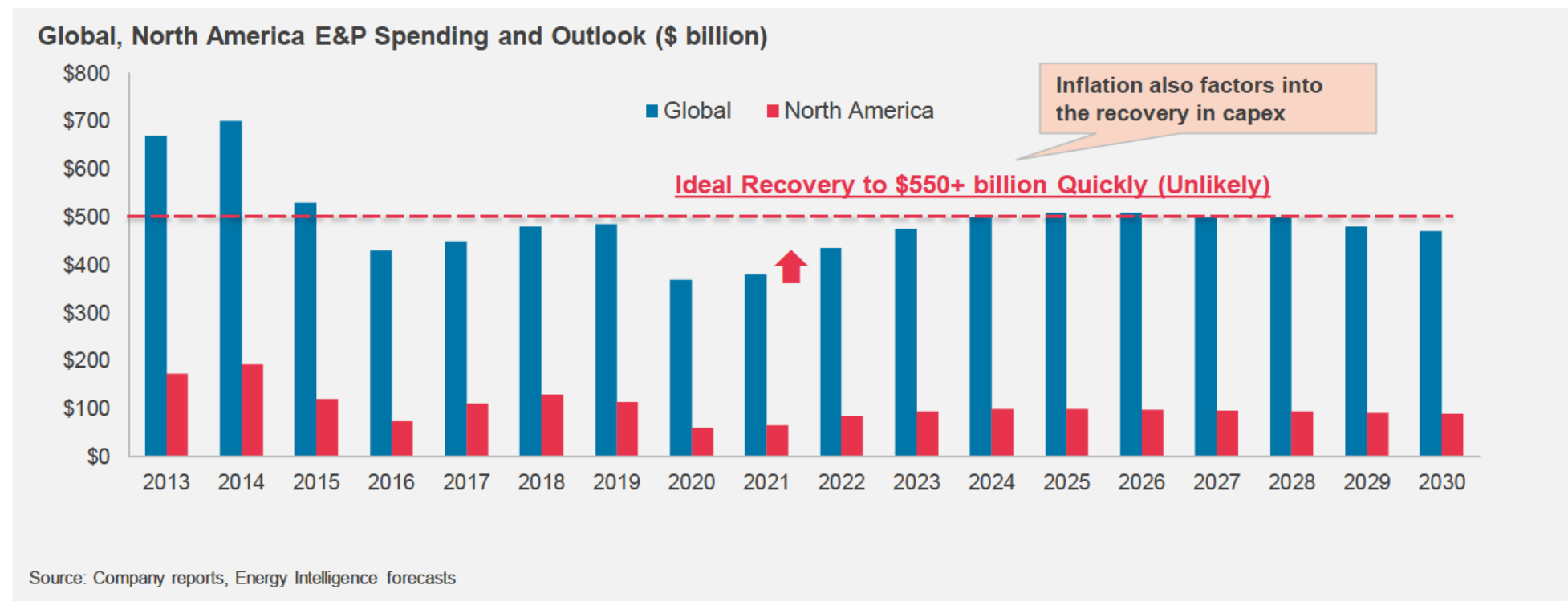
- Five key market themes shape our outlook:
 - Market Tightness Underpinned by Low OECD Inventories – Heavy SPR Releases End Soon, Then What?
 - Geopolitics of a Tight Oil Market in Strong Focus – ~Russian Oil Embargos and Disruptions Ongoing
 - Strong Refined Product Cracks Support Oil Buying – Shortages Emerging Again, Supportive of Oil Prices
 - Opec-Plus – Pulling Back on Supply (and Growing Capacity) But Several Questions Going Into 2023 Including More Infrequent Meetings Ahead, Iran Deal on Ice for Now
 - Oil Demand Will Continue to Grow Despite Long-Term Climate Focus, Up Even in Recessionary Backdrop



Investment in Crisis: Some Capex Greenshoots With Energy Security Focus

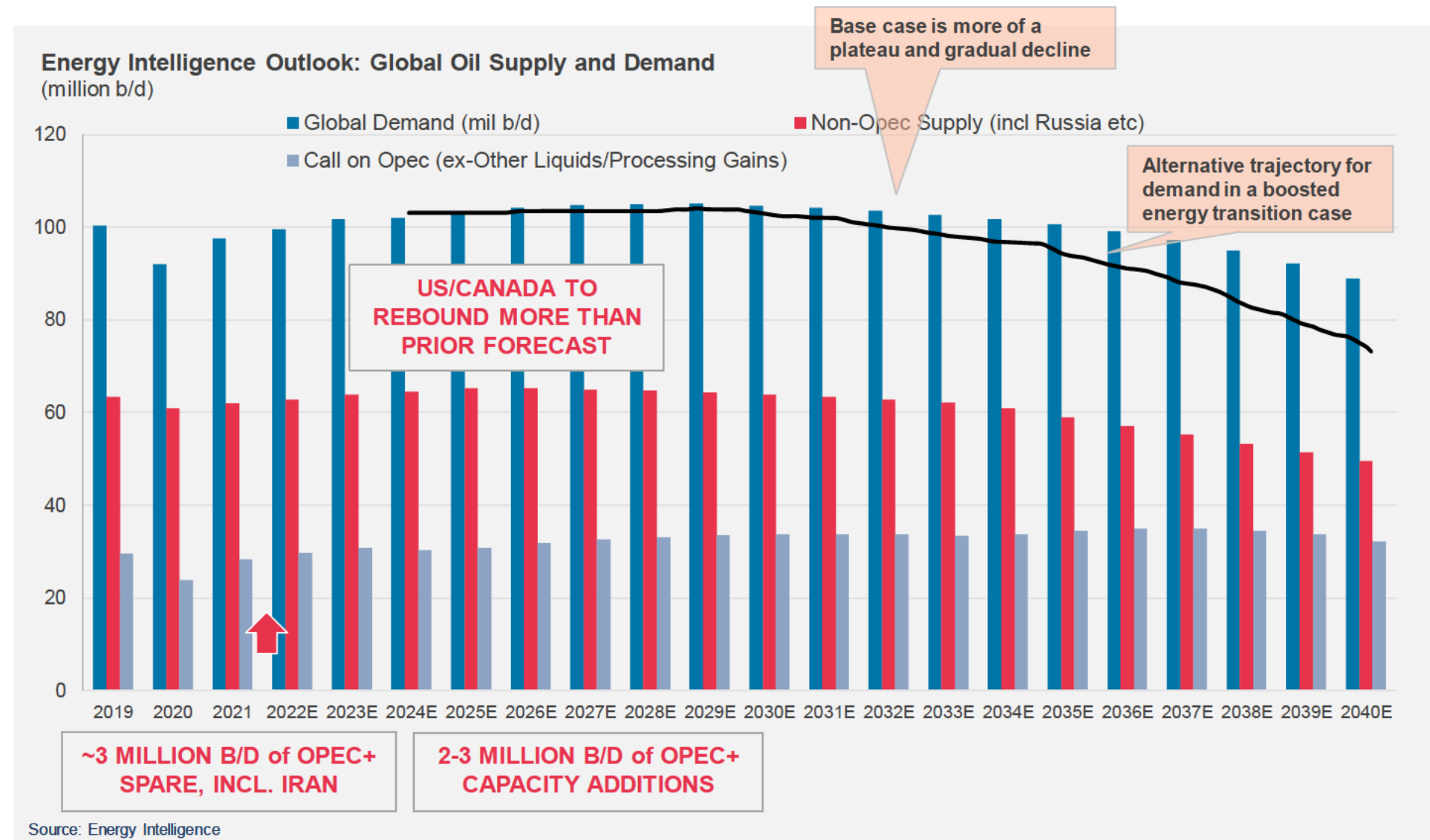
But the pipeline remains thin and supply growth reliant on a small group of producers

- **Global upstream spending in 2021 was up only modestly to ~\$380 billion, and 2022 should see a ~15% increase to \$440 billion (but that is still down ~10% vs. 2019).** We do see an ongoing solid recovery over the coming years, with a renewed focus on energy security and adequate supply plus inflation also factoring into the increase.
- **Capex recovers to \$500+ billion, but market remains tight after years of underinvestment (total \$500 billion of lost spend) and low inventories.** With oil/gas demand returning to pre-Covid-19 levels, the recent conflict and supply shake-up likely means years of price spikes and shortage.



Long-Term Oil Market: Rising Call on Opec-Plus, But Supply Limits Demand

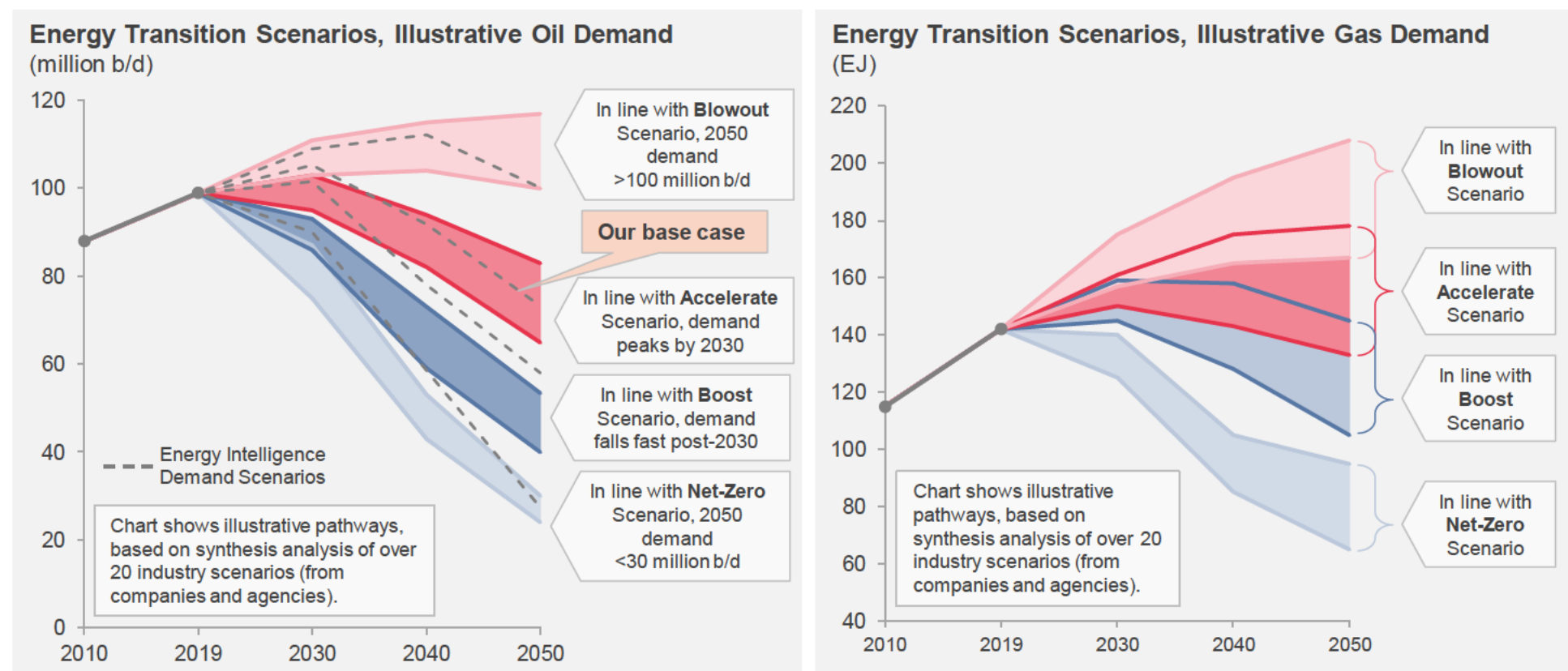
Underappreciated how much supply limitations and price volatility/spikes will grate on demand over time



Long-Term Demand Outlook Under Energy Transition Paths

Uncertainties and a rhetoric battle on the pathway for demand contribute to investment uncertainties

- Our synthesis of external scenarios, plus in-house analysis, illustrates the oil/gas demand outlook.
- Oil demand trends differ sharply by scenario, ranging from continuing growth above 100 million b/d (in line with our Blowout scenario) to radical reductions to below 30 million b/d by 2050 (Net-Zero scenario).
- The most likely pathways lie between the Accelerate scenario (with demand above 100 million b/d until the mid-2030s) and the Boost scenario (a slightly faster transition, but skewed much later than the 2020s)

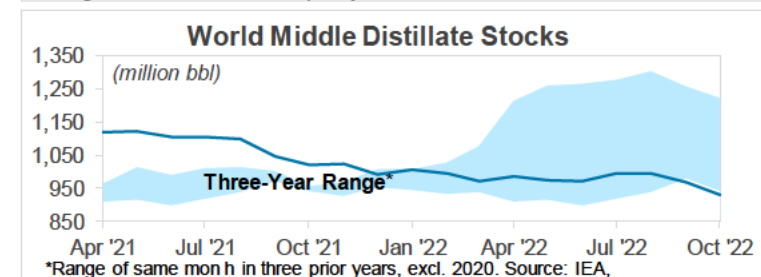
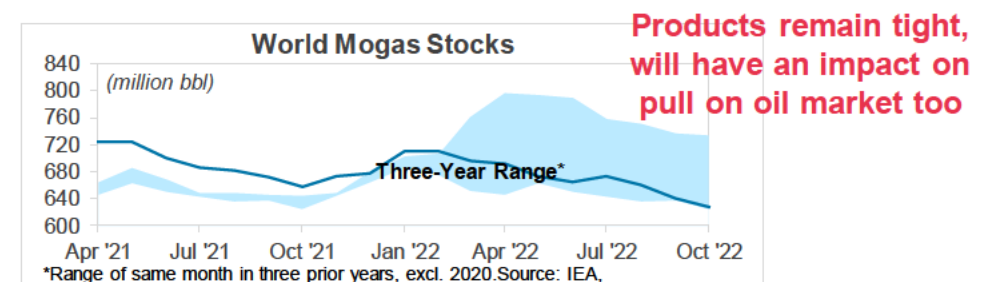
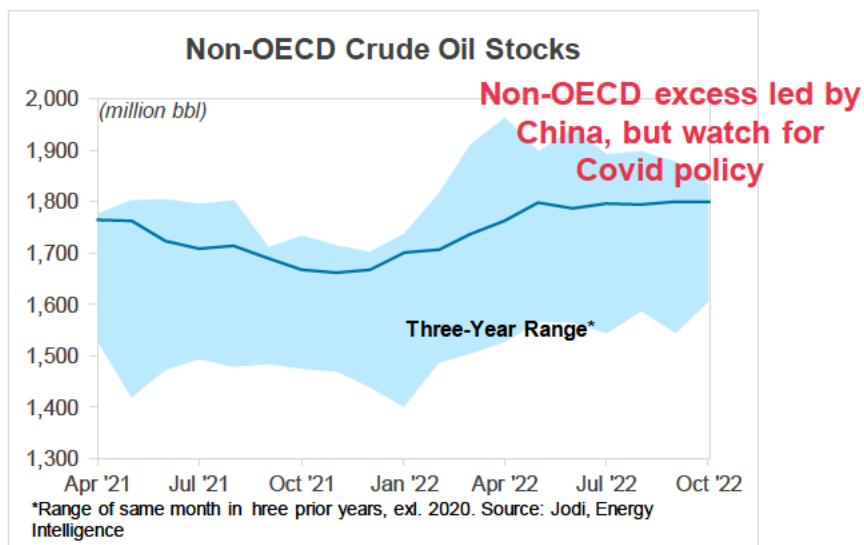
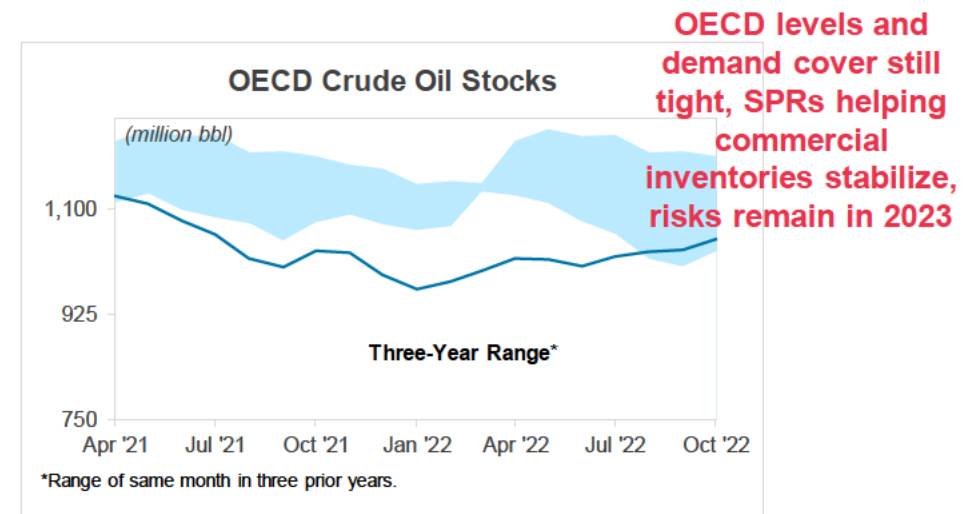
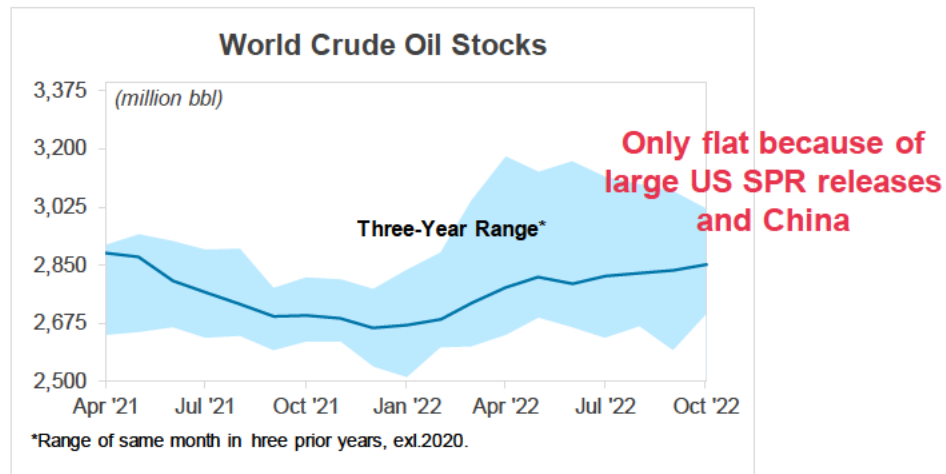


Source: Energy Intelligence, Energy Transition Research. Scenarios from IEA, EIA, IPCC, WEC, BP, Exxon, Total, DNV, Equinor.

Appendix

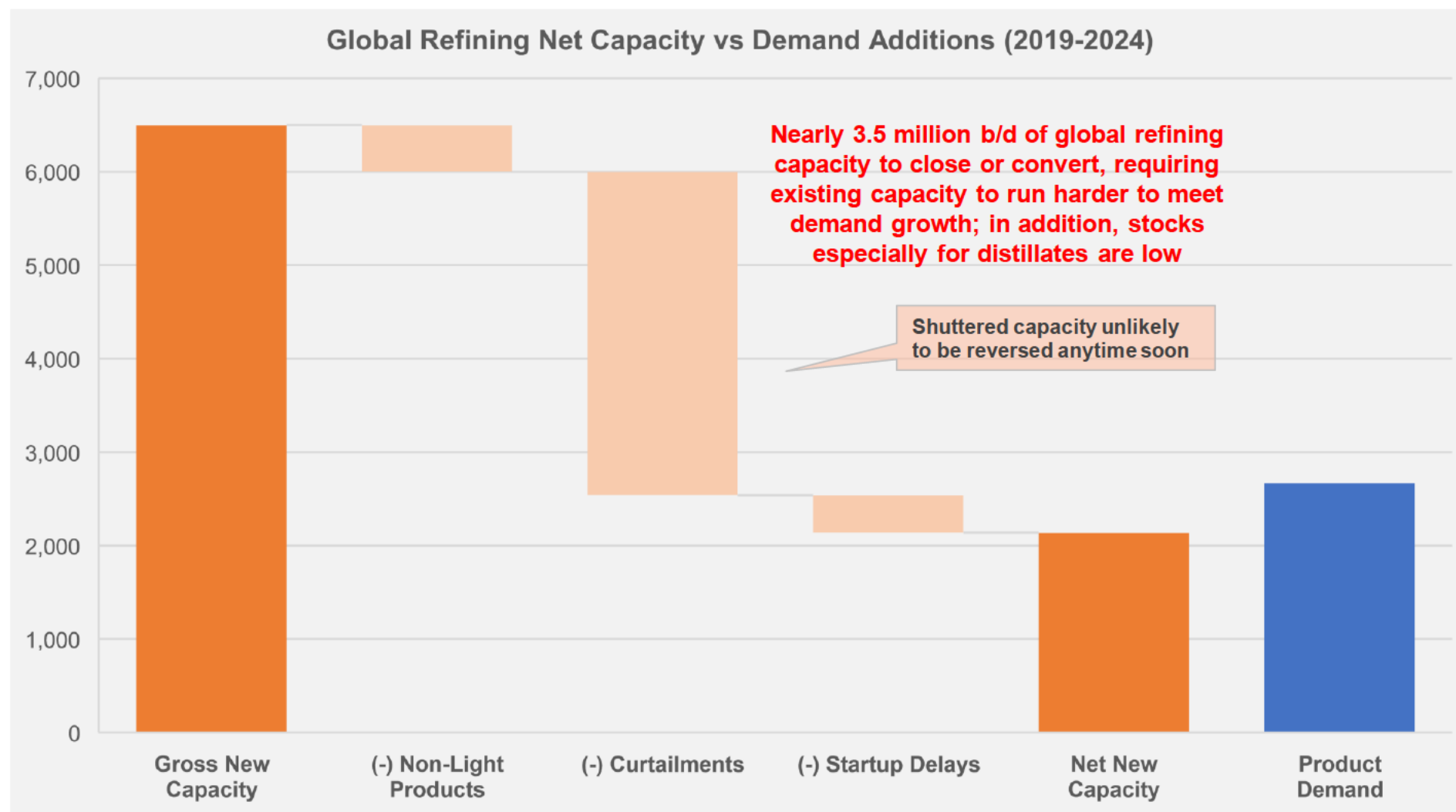
Inventories Remain in Murky Waters

Set up support for prices for years to come, non-OECD should remain higher than prior years



Over A Multiyear Period, Light Product Demand Exceeds Capacity

Curtailments/delays ensure tight refined product environment for years to come



Source: Oil & Gas Journal, BP, IEA, Energy Intelligence analysis