



Oil Industry at the Crossroads: Recovery or Permanent Decline

Presented by:

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39th JCCP International Symposium

January 28, 2021

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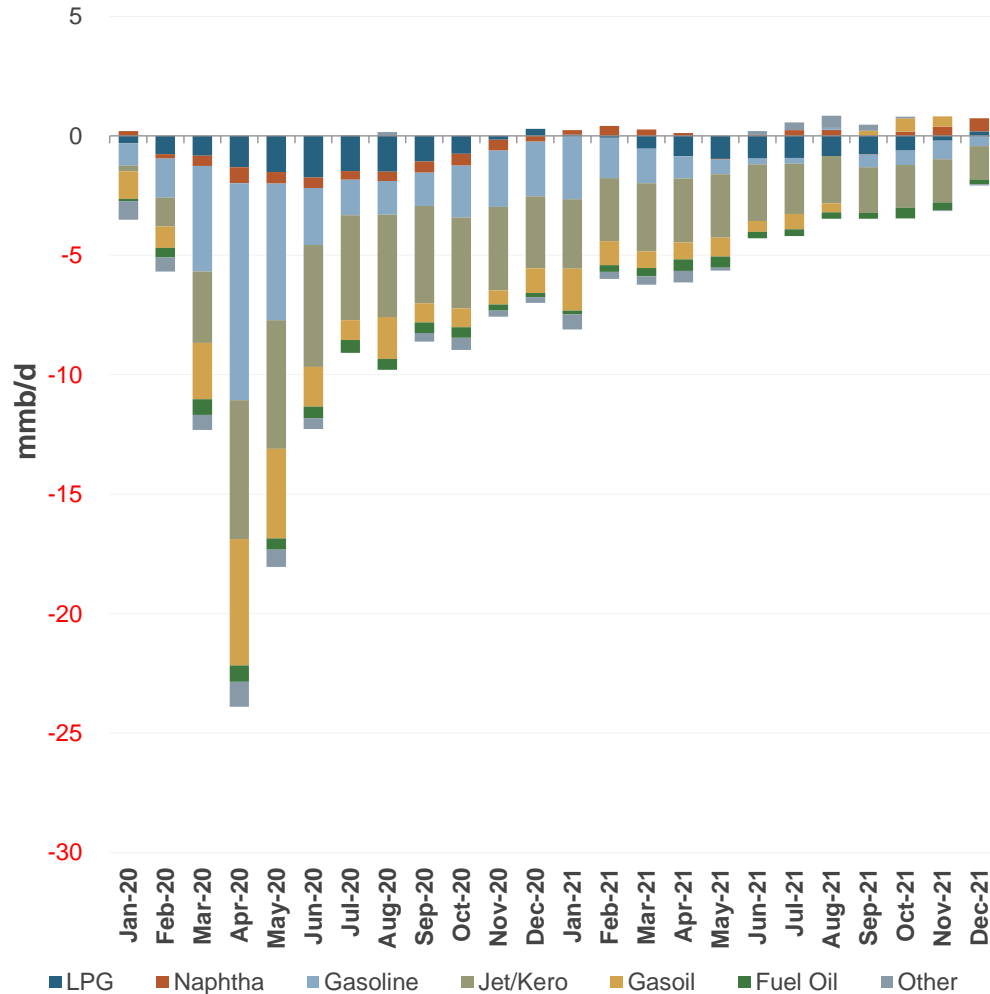
Crystal Ball: President-Elect Biden's Impact on the Oil Business

- **Short Term:** Zero impact
- **Long Term:** Significant negative impact pushing climate agenda/renewables
- **Medium Term:** Some critical impacts
 - Iran sanctions: At least 1 mmb/d by end 2021
 - Venezuela sanctions: No change
 - Fracking limitations: On Federal lands only
 - Relationship with Gulf allies: Cooler relationships in the region



Demand by Refined Product: Oil Demand Recovery Slows

World Oil Demand by Product (vs. Dec-19)



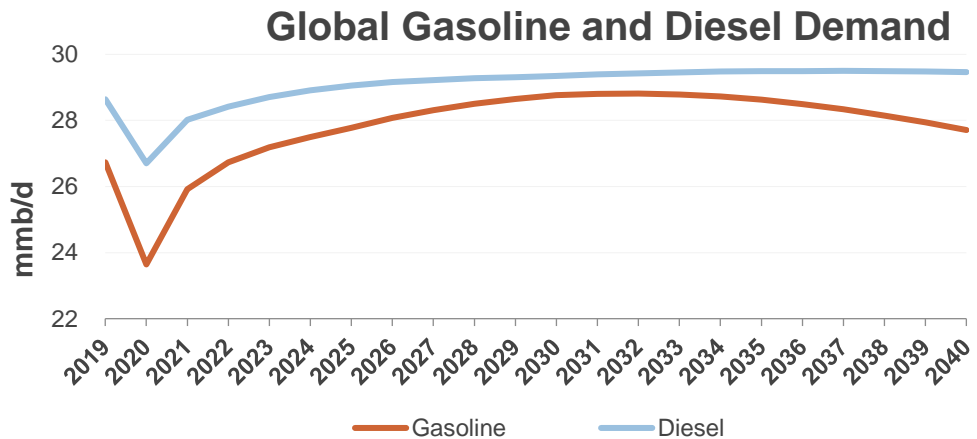
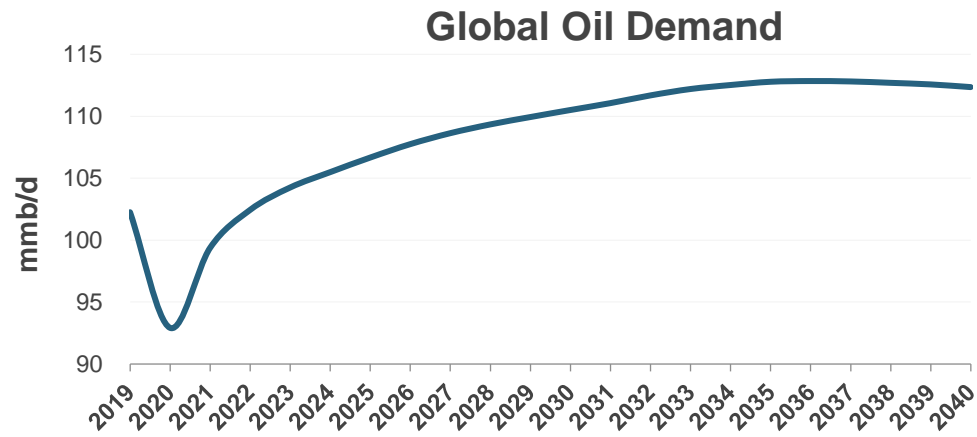
Annual Change in Oil Demand by Refined Product (kb/d y-o-y)

	2019	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021
LPG	126	-328	-192	-270	127	-166	451	597	497	-9	384
Naphtha	49	-269	121	-16	-209	-93	426	574	570	768	584
Gasoline	316	-1,879	-6,108	-2,157	-2,457	-3,150	396	5,138	1,193	1,673	2,100
Jet/Kero	177	-1,153	-4,835	-3,945	-3,143	-3,269	-1,324	2,866	2,259	1,775	1,394
Gasoil	274	-968	-3,082	-1,098	-1,327	-1,619	317	2,917	858	1,140	1,308
Fuel Oil	-253	-474	-365	-372	57	-288	124	139	213	-37	110
Other	144	-211	-479	-244	-321	-314	237	591	427	327	395
Total End Use Demand	832	-5,281	-14,941	-8,102	-7,273	-8,899	627	12,821	6,016	5,636	6,275

Annual Change in Oil Demand by Refined Product (%pa)

	2019	1Q20	2Q20	3Q20	4Q20	2020	1Q21	2Q21	3Q21	4Q21	2021
LPG	1.3%	-3.2%	-2.1%	-2.8%	1.2%	-1.7%	4.5%	6.5%	5.3%	-0.1%	4.0%
Naphtha	0.7%	-3.7%	1.8%	-0.2%	-3.0%	-1.3%	6.0%	8.6%	8.4%	11.3%	8.6%
Gasoline	1.2%	-7.2%	-22.7%	-7.9%	-9.2%	-11.8%	1.6%	24.6%	4.7%	6.9%	8.9%
Jet/Kero	2.3%	-14.3%	-62.0%	-48.8%	-38.8%	-40.8%	-19.1%	96.9%	54.6%	35.8%	29.4%
Gasoil	1.0%	-3.4%	-10.9%	-3.8%	-4.5%	-5.7%	1.2%	11.6%	3.1%	4.1%	4.9%
Fuel Oil	-3.5%	-6.6%	-5.3%	-5.4%	0.9%	-4.2%	1.9%	2.1%	3.2%	-0.6%	1.7%
Other	0.9%	-1.4%	-3.1%	-1.6%	-2.1%	-2.0%	1.6%	4.0%	2.8%	2.2%	2.6%
Total End Use Demand	0.8%	-5.2%	-14.8%	-7.9%	-7.0%	-8.7%	0.6%	14.9%	6.3%	5.9%	6.7%

Oil's Future: Where Do We Go?

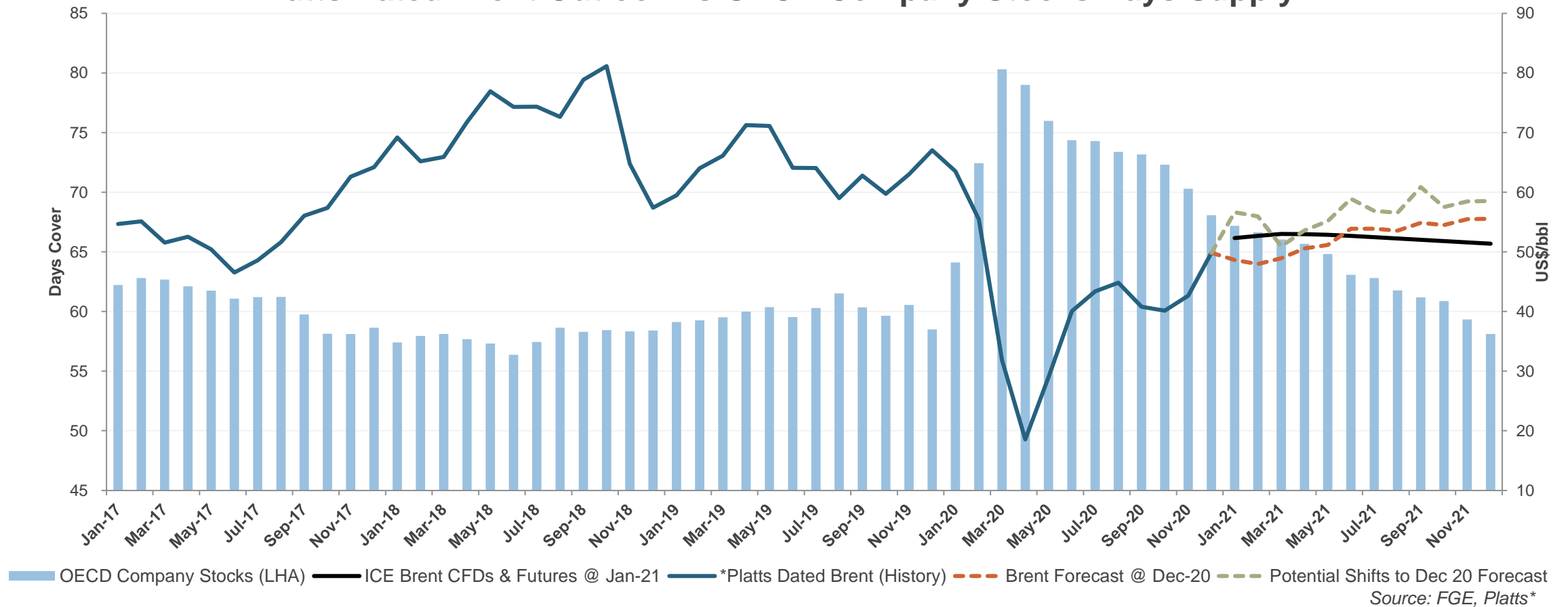


- Some say we have already reached the peak: **Nonsense!**
- Short term :
 - 2020 demand loss around 8.9 mmb/d
 - 2021 demand gain around 6.3 mmb/d
 - 2022 = 2019 demand
- Long term :
 - 2022 to 2030 = 8.0 mmb/d growth
 - 2030 to 2037 = 2.3 mmb/d growth } 10+ mmb/d growth
 - 2034 gasoline and diesel demand peaks
 - Total oil demand declines after 2037, but very slowly
 - In 2050, demand is still higher than 2019 levels

Oil is still a huge business! It takes a long time to get rid of it!!

OECD Stock Cover: A Wild Ride

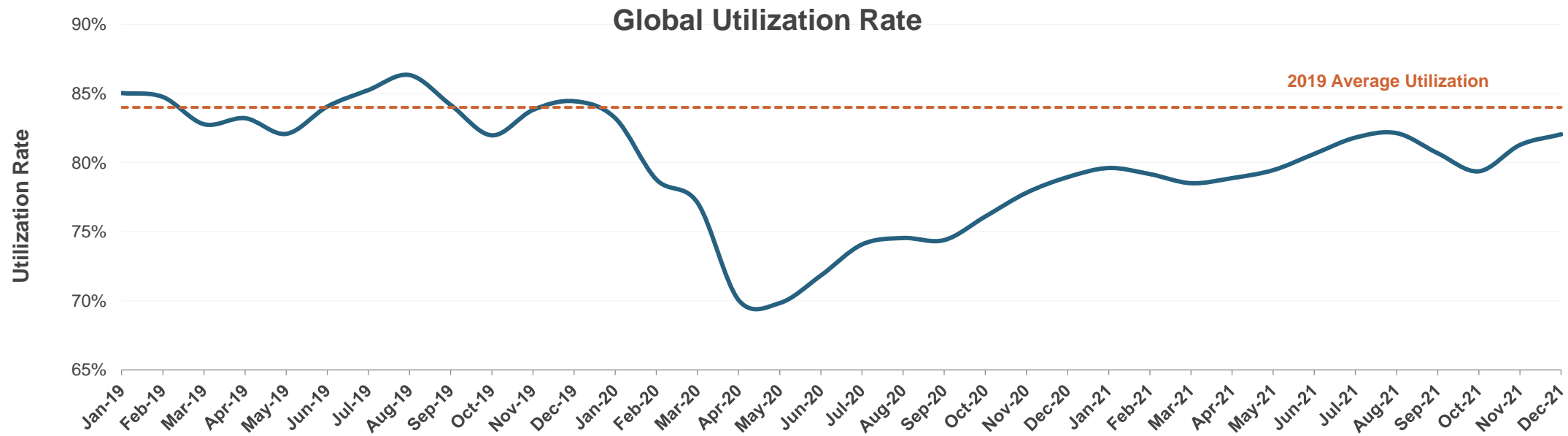
Platts Dated Brent Outlook vs OECD Company Stocks Days Supply



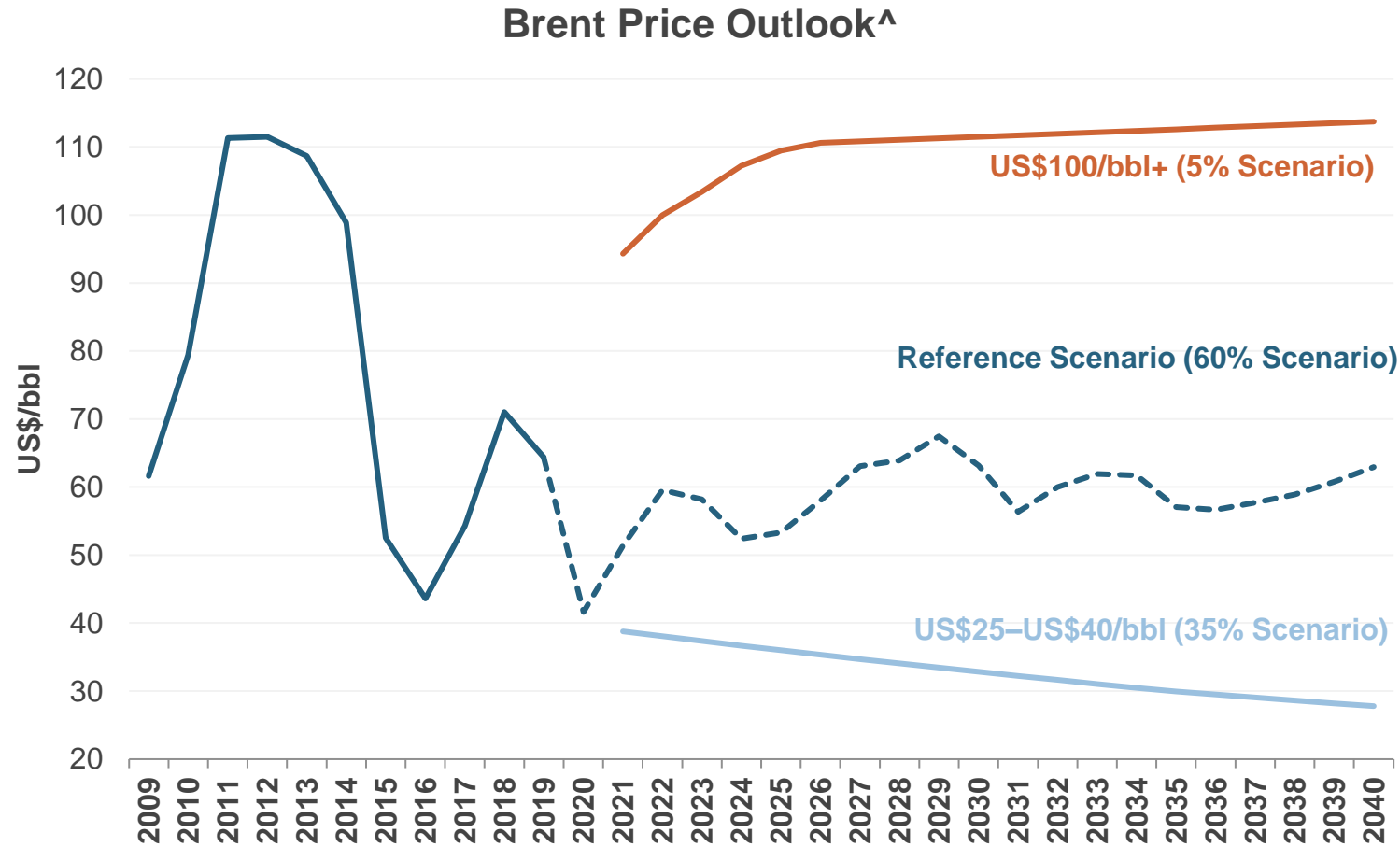
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Refining Business: First Pain Then Gain

- Unfortunately, there is no OPEC for refining! From now until mid-2022, there is no escape from pain.
- Already 2.2 mmb/d of permanent closures in 2020-23, and 1.5 mmb/d on watch list.
- During 2021-2023, new capacity comes online in the Mideast and China
- Beyond 2024, there is limited capacity. No mega grassroots after 2024.
- Oil demand growth of 10 mmb/d ahead of us.
- Good margins for the 2024-2032 period before the big slowdown.



Long-Run Equilibrium Seen at US\$55-US\$65/bbl (Real 2020\$), but With Low/High Price Paths in Play







[^]Historicals are nominal, forecasts are real (2020\$)

Source: FGE, Platts*

- Oil prices are volatile, but market forces act to push prices back to a US\$50-US\$70/bbl range over time.
 - Above US\$70/bbl we see too much investment—as most projects look profitable—plus demand slows.
 - Below US\$50/bbl investment slows and demand picks up.
- We are more worried about sustained price downside than upside. Demand growth continues through 2030, but it is slowing. There is huge potential supply if politics change, which could overwhelm demand.
- Upside is largely governed by the potential for war in the Middle East should the Iran situation escalate, and downside for US tight oil growth should politics shift against fracking.

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Oil and Gas Companies Lower Long-Term Oil Price Assumptions*

Companies	Old Oil Price Assumptions	New Oil Price Assumptions
 Shell	US\$70/bbl	US\$60/bbl
 BP	US\$70/bbl	US\$55/bbl
 ENI	US\$70/bbl	US\$60/bbl
 Repsol	US\$87/bbl	US\$60/bbl

*Note that this is a summary of long-term real oil price assumptions, typically from the mid-2020s to 2040.

Going Net Zero Carbon by 2050

- The new buzz word! Everyone has to announce it. If not, you are considered a bad boy!
- Questions?
 - Why not announce a graduated move to carbon neutral? Say: 20% by 2030, 30% by 2040, and 40% by 2050.
 - Why? Because most who announce targets today will be dead by 2050!
 - Intentions are good, but 2050 target next to impossible to achieve.

Reminder: Our civilization is based on oil and gas.



Thank You

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