

# BERNSTEIN

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## Bernstein University US 2025

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Americas Energy & Transition

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**See Disclosure Appendix of this report for important Disclosures and Analyst Certifications**

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# About...

## Bob Brackett, Ph.D. (Senior Analyst)



Bob Brackett is the Senior Research Analyst covering **Global Metals & Mining** and **Americas Energy & Transition Team**. He has been ranked All-American by Institutional Investor more than a dozen times in the last decade (with 6 of those rankings being #1). Previously, Bob was Director of Corporate Strategy and then Director of E&P Planning for Hess Corporation. Before Hess, Bob was an Engagement Manager with McKinsey & Company's Petroleum Practice, serving the majority of the world's largest oil companies across five continents and 30 countries throughout the petroleum value chain. Bob began his career with ExxonMobil, spending eight years in positions in Exploration, Business Development, Development and Research. As a NASA Space Grant Fellow, Bob received his PhD in Earth & Planetary Sciences from Washington University – St. Louis. He received his MBA from Rice University in Houston. He also holds a BS in Geophysics and a BA in Astronomy from the University of Texas.

# Metals & Mining

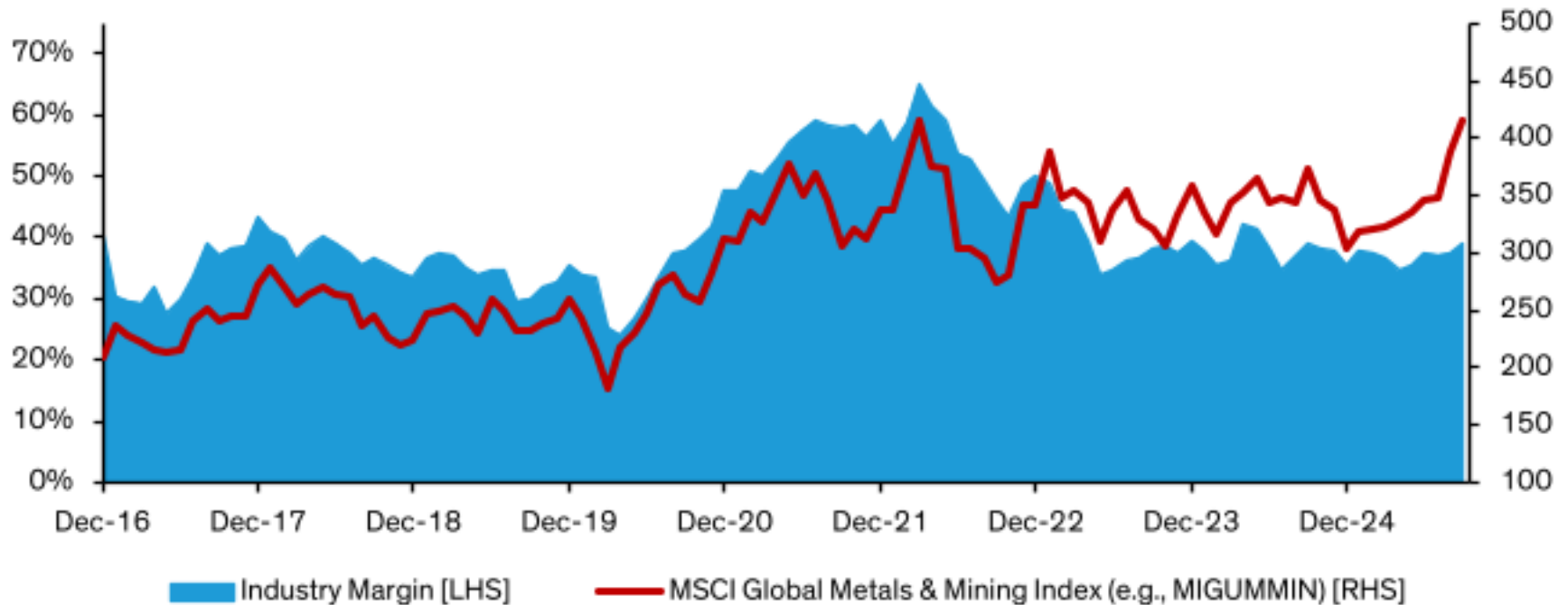
# Industry EBITDA Margin (incl. coal)

Mining Industry Average EBITDA Margin

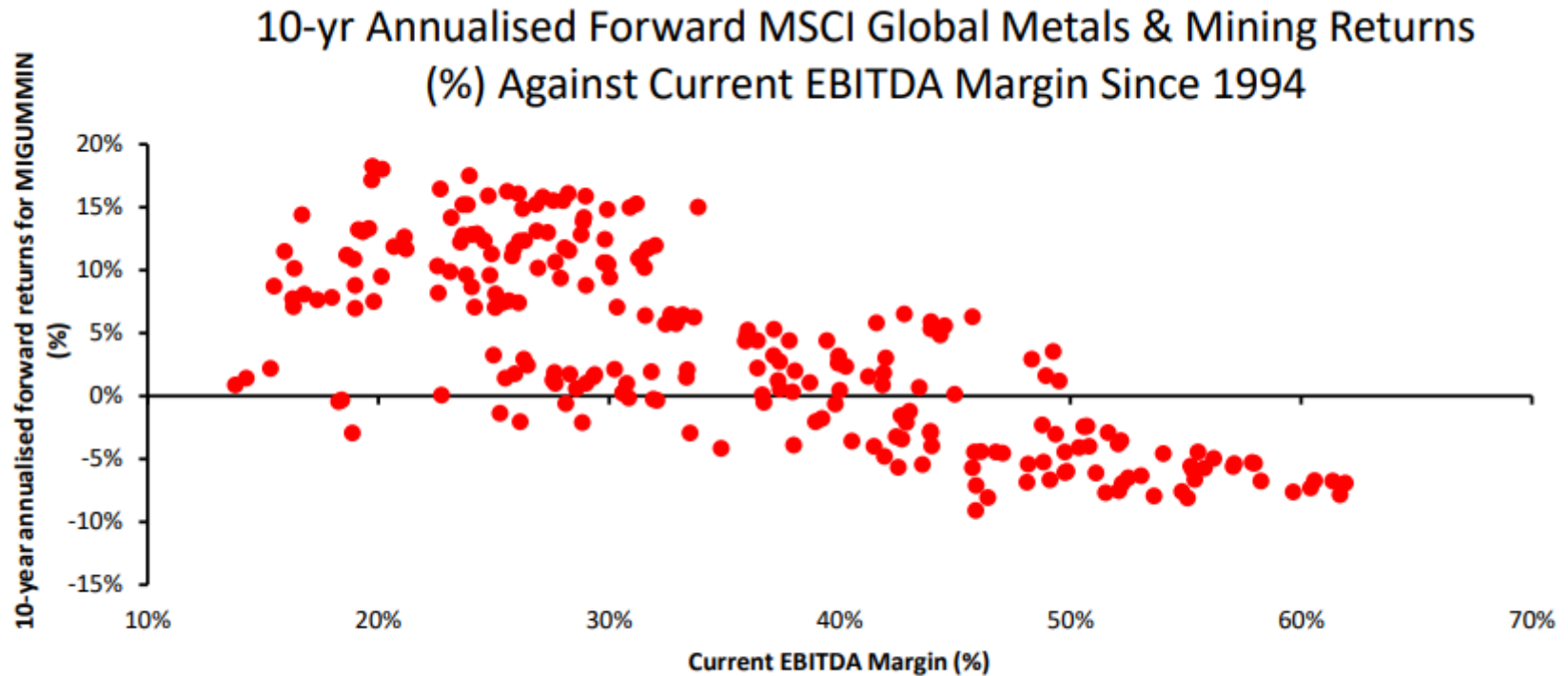


# Sector performance correlates with industry EBITDA margin

Sector Performance Correlates with Industry EBITDA Margin

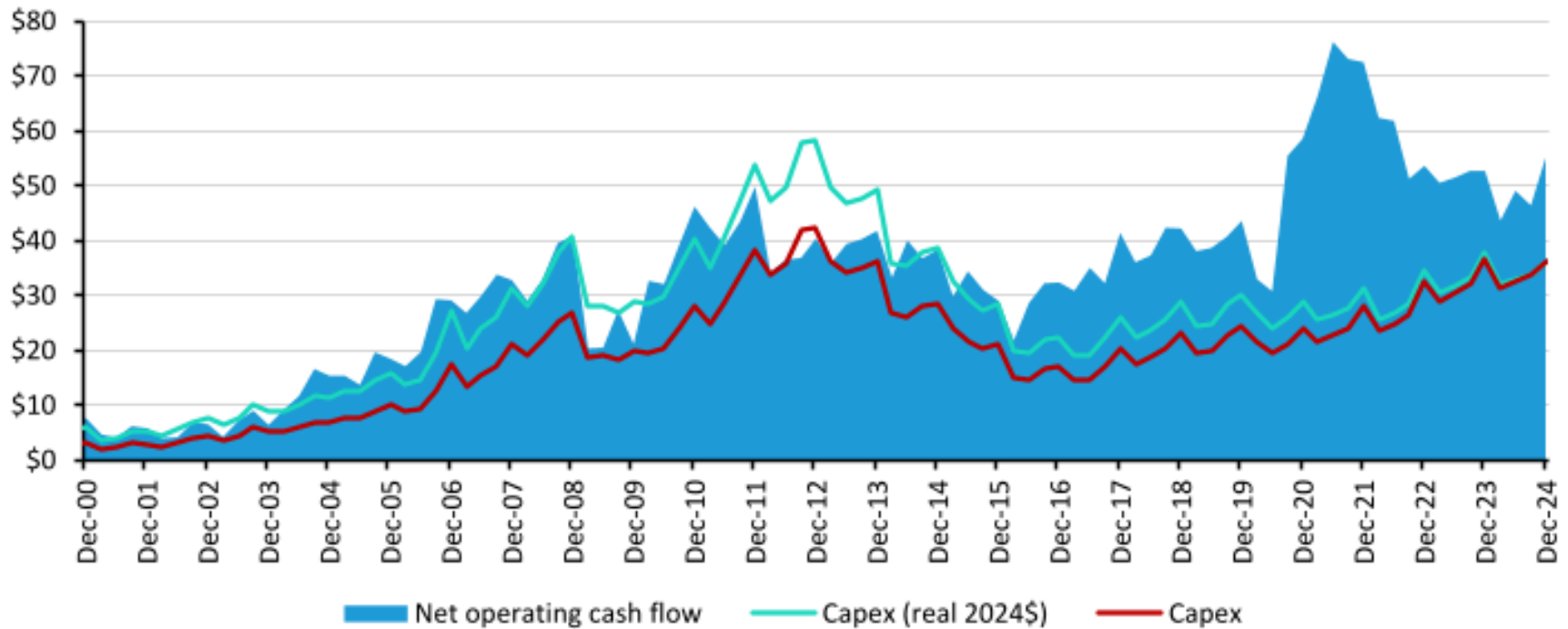


## But in the long term, margins tell you when to enter the sector



## Sector has been very disciplined

Cash Flow vs Capex (\$bln)



# Commodity Price Forecast Summary

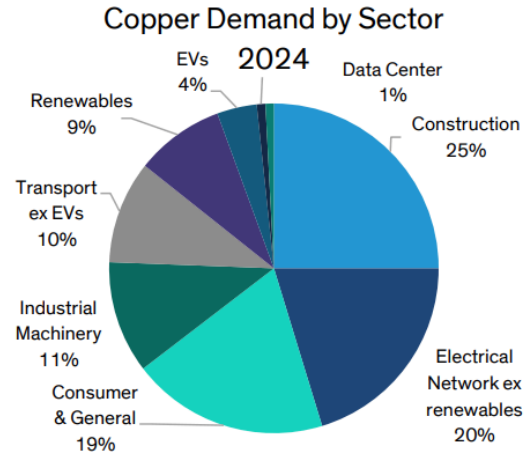
	2025 E																	
	Silver	Platinum	Palladium	Rhodium	Molybdenum	Cobalt	Gold	Iron Ore	Zinc	Aluminum	Copper	Lead	Met Coal	Brent Oil	Thermal Coal	Nickel	Uranium Oxide	
Units	\$ / t oz	\$ / t oz	\$ / t oz	\$ / t oz	\$ / lb	\$ / lb	\$ / t oz	\$ / t	\$ / t	\$ / t	\$ / t	\$ / t	\$ / t	\$ / bbl	\$ / t	\$ / t	\$ / lb	
Low	\$ 30	\$ 950	\$ 900	\$ 4,677	\$ 14	\$ 12	\$ 2,750	\$ 85	\$ 1,873	\$ 2,408	\$ 9,367	\$ 1,653	\$ 180	\$ 56	\$ 95	\$ 14,326	\$ 73	
Mid	\$ 35	\$ 1,180	\$ 1,071	\$ 5,594	\$ 19	\$ 15	\$ 3,234	\$ 94	\$ 2,746	\$ 2,584	\$ 9,847	\$ 2,031	\$ 200	\$ 67	\$ 113	\$ 17,063	\$ 88	
High	\$ 42	\$ 1,500	\$ 1,250	\$ 7,500	\$ 22	\$ 18	\$ 3,931	\$ 105	\$ 2,975	\$ 2,755	\$ 11,020	\$ 2,207	\$ 250	\$ 76	\$ 128	\$ 22,040	\$ 128	
Spot	\$ 50	\$ 1,597	\$ 1,405	\$ 7,250	\$ 25	\$ 19	\$ 4,018	\$ 106	\$ 3,102	\$ 2,760	\$ 10,487	\$ 1,982	\$ 192	\$ 64	\$ 105	\$ 15,086	\$ 64	
Bernstein	\$ 39	\$ 1,271	\$ 1,144	\$ 6,101	\$ 22	\$ 14	\$ 3,402	\$ 96	\$ 2,801	\$ 2,586	\$ 9,670	\$ 1,971	\$ 186	\$ 68	\$ 105	\$ 15,441	\$ 72	

Normalized to Consensus = 100

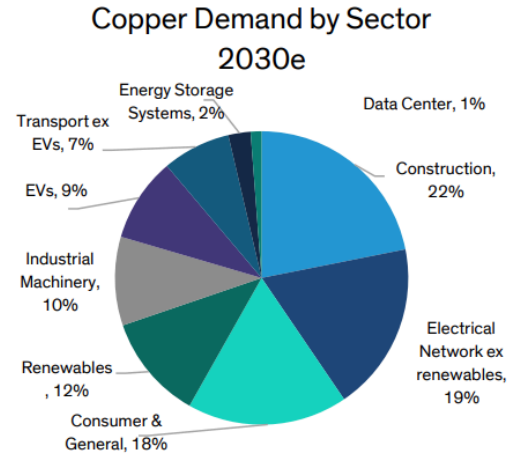
	Silver	Platinum	Palladium	Rhodium	Molybdenum	Cobalt	Gold	Iron Ore	Zinc	Aluminum	Copper	Lead	Met Coal	Brent Oil	Thermal Coal	Nickel	Uranium Oxide
Low	86	81	84	84	73	82	85	90	68	93	95	81	90	84	84	84	83
Mid	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
High	121	127	117	134	114	122	122	112	108	107	112	109	125	113	113	129	145
Spot	144	135	131	130	129	124	124	113	113	107	107	98	96	95	93	88	73
Bernstein	111	108	107	109	114	94	105	102	102	100	98	97	93	101	93	90	82
(Downside)/Upside to spot implied by midpoint of consensus	-31%	-26%	-24%	-23%	-22%	-20%	-19%	-12%	-11%	-6%	-6%	2%	4%	5%	7%	13%	38%
(Downside)/Upside to BRe implied by spot	-23%	-20%	-19%	-16%	-11%	-25%	-15%	-10%	-10%	-6%	-8%	-1%	-3%	7%	0%	2%	13%



# Copper – today’s best insulated metal and will charge into the green future

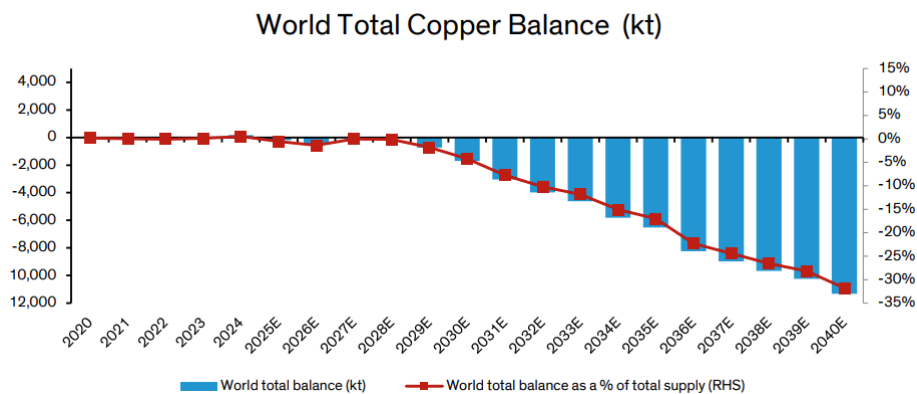
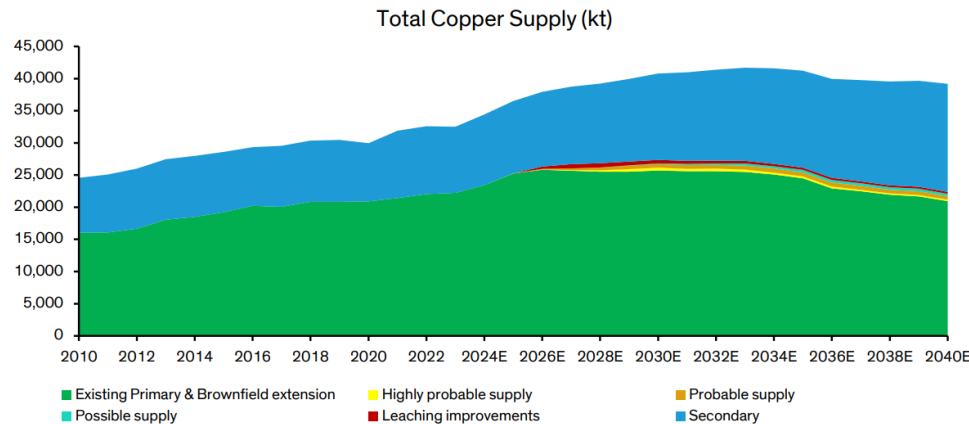


Source: WoodMac, Bernstein analysis



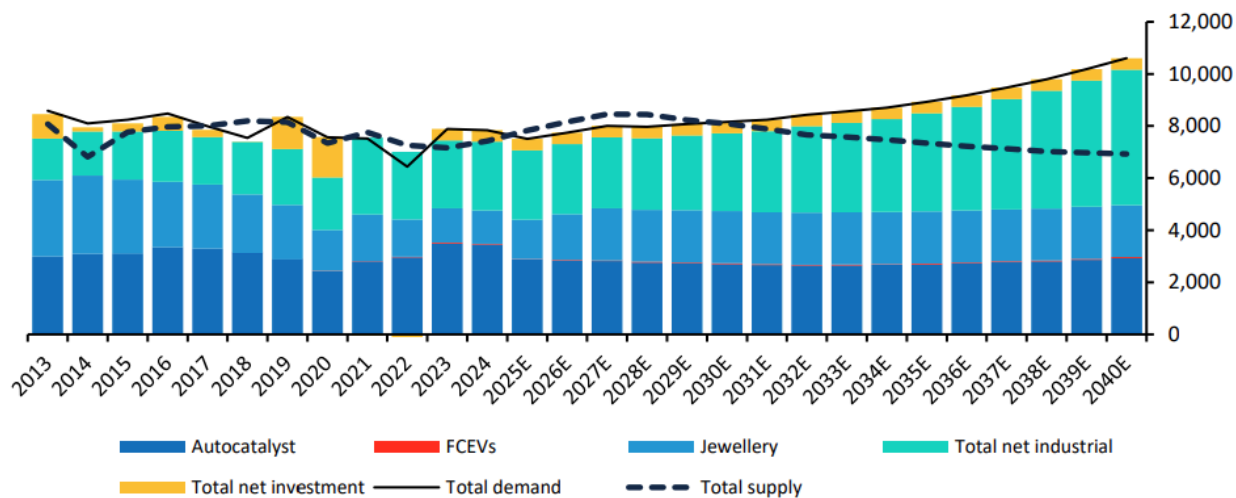
Source: WoodMac, Bernstein analysis and estimates

**Demand to grow at 3.4% CAGR and supply can't keep up – we are not going to have enough copper**

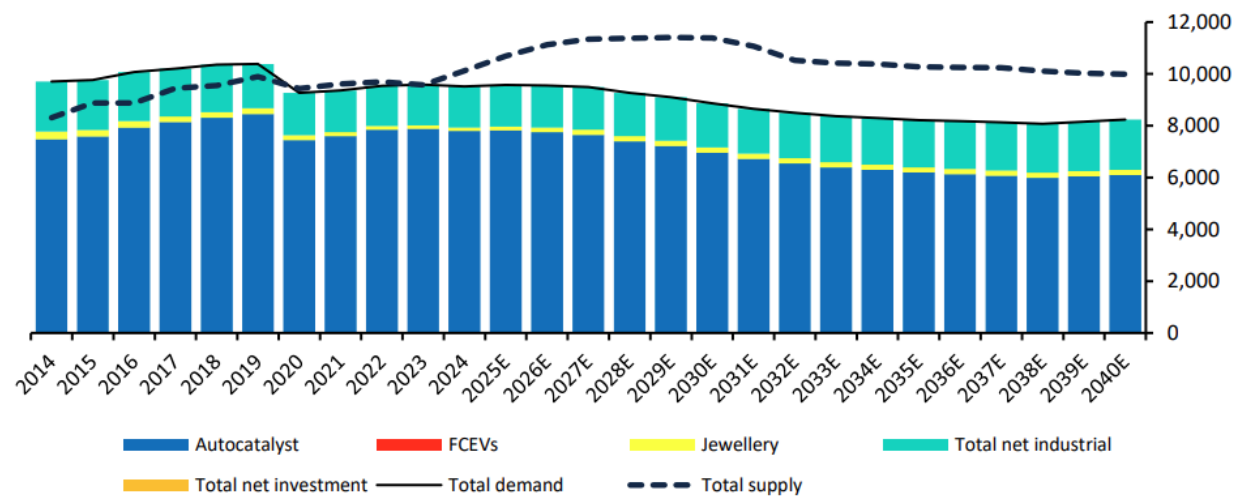


# PGMs

## Platinum Demand by Type (k oz)



## Palladium Demand by Type (k oz)



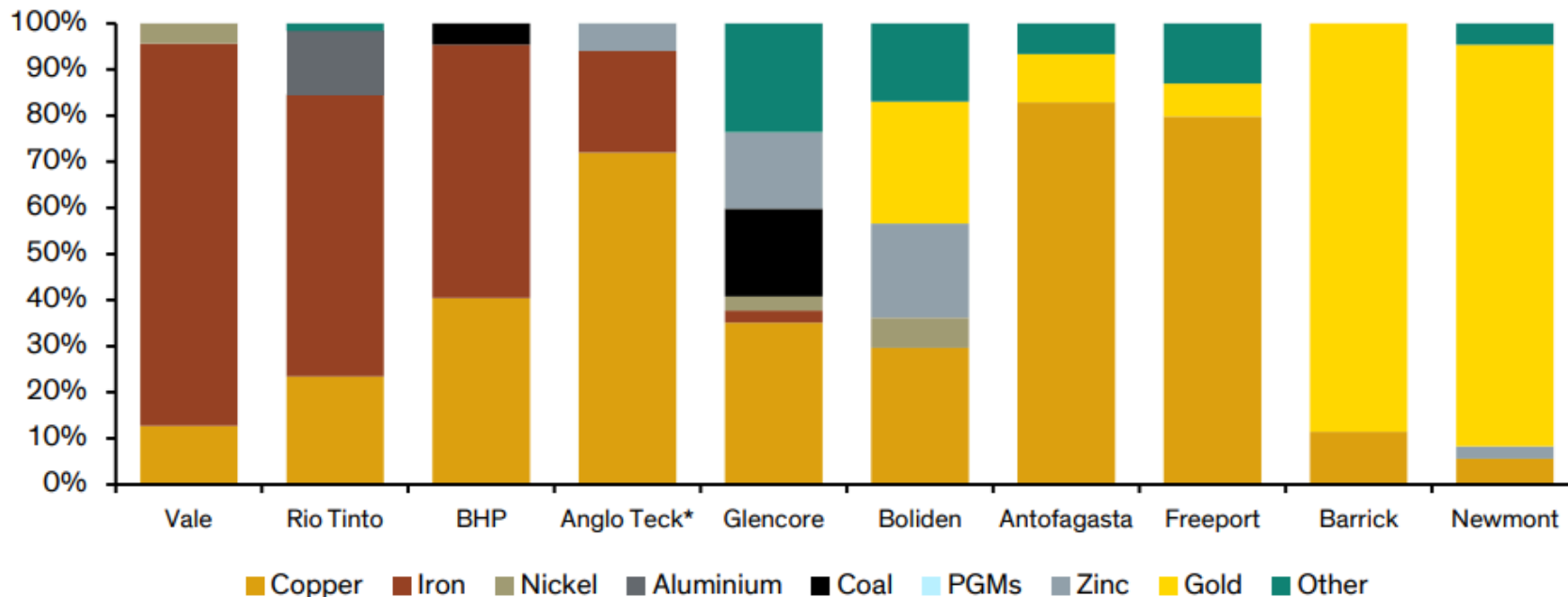
# Coverage Summary

## Bernstein Price Deck

Stock Name	Stock Ticker	Bernstein Rating	Price as of 09-10-2025		Bernstein Target Price	Upside	EV/EBITDA (2024)	EV/EBITDA (2025)	PE (2024)	PE (2025)	P/NPV
Anglo American PLC	AAL	Market-Perform	29.6	GBP	19.5	-34%	6.3x	8.0x	18.2x	37.8x	1.3x
Antofagasta PLC	ANTO	Market-Perform	27.7	GBP	19.5	-30%	7.2x	6.7x	42.2x	34.8x	2.7x
Barrick Gold Corp	ABX	Outperform	46.3	CAD	55.0	19%	5.2x	7.2x	12.2x	18.6x	0.6x
BHP Group Ltd	BHP	Market-Perform	21.1	GBP	18.5	-12%	5.4x	6.0x	10.6x	13.8x	1.7x
Boliden AB	BOL	Market-Perform	411.1	SEK	313	-24%	4.6x	8.0x	8.5x	17.4x	0.9x
Freeport-McMoRan Inc	FCX	Outperform	43.3	USD	48.5	12%	7.5x	8.1x	29.1x	35.8x	n/a
Glencore PLC	GLEN	Outperform	3.57	GBP	3.55	-1%	7.7x	6.9x	14.7x	10.7x	0.4x
Newmont Corp	NEM	Market-Perform	85.2	USD	81.0	-5%	5.5x	6.8x	12.7x	11.5x	n/a
Rio Tinto Ltd	RIO	Outperform	50.5	GBP	48.0	-5%	4.5x	4.4x	10.2x	9.1x	1.2x
Vale SA	VALE	Market-Perform	11.0	USD	11.5	4%	3.3x	3.9x	6.2x	7.4x	0.4x
Stock Name	Stock Ticker	FCF Yield (2024)	FCF Yield (2025)	FCF Yield (2026)	ROIC (2024)	ROIC (2025)	ROIC (2026)	Dividend Yield (2024)	Dividend Yield (2025)	Net Debt to EBITDA 2024	Net Debt to EBITDA 2025
Anglo American PLC	AAL	6.9%	-13.1%	-8.2%	6.4%	4.9%	6.3%	2.2%	1.1%	1.2x	1.3x
Antofagasta PLC	ANTO	-0.8%	-5.0%	2.0%	8%	13%	13%	0.9%	1.4%	0.3x	0.4x
Barrick Gold Corp	ABX	3.6%	0.3%	-0.3%	9%	13%	19%	2.6%	1.6%	0.1x	0.0x
BHP Group Ltd	BHP	6.9%	5.0%	1.1%	16%	17%	15%	5.1%	4.0%	0.1x	0.2x
Boliden AB	BOL	3.1%	-15.7%	3.8%	15%	7%	8%	0.0%	1.9%	0.5x	1.2x
Freeport-McMoRan Inc	FCX	4.3%	1.1%	-0.4%	11%	10%	8%	1.6%	1.6%	0.4x	0.7x
Glencore PLC	GLEN	8.1%	1.4%	13.0%	13%	12%	14%	2.3%	2.8%	0.8x	0.6x
Newmont Corp	NEM	6.9%	7.0%	8.9%	10%	20%	22%	2.7%	1.5%	0.6x	0.0x
Rio Tinto Ltd	RIO	5.8%	4.7%	8.5%	18%	13%	14%	6.4%	6.0%	0.1x	0.3x
Vale SA	VALE	8.9%	2.8%	5.6%	22%	12%	11%	9.5%	7.4%	0.7x	1.0x

# Coverage Summary

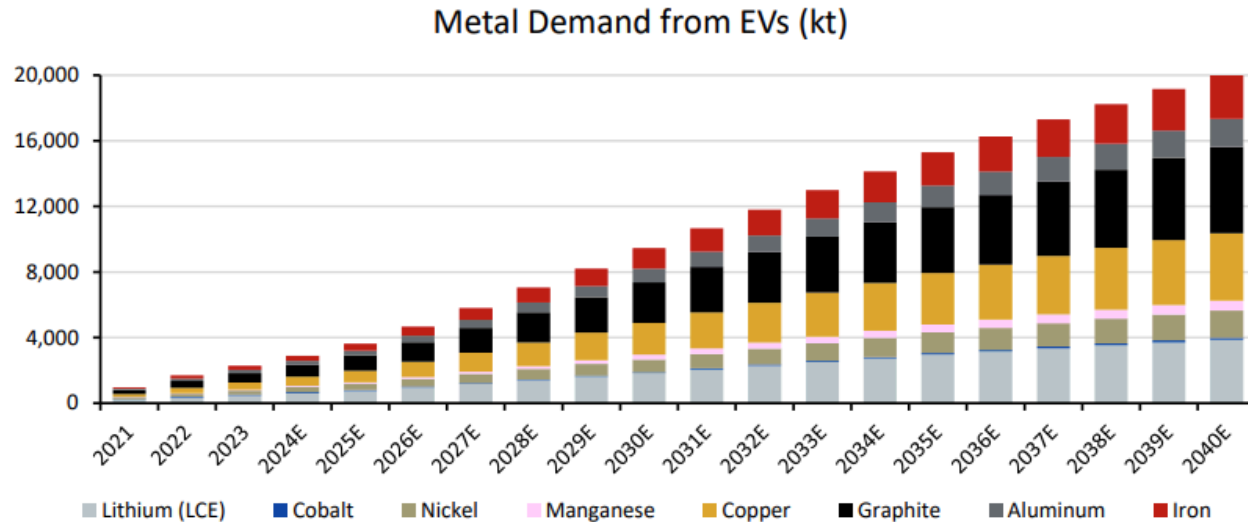
Coverage Exposure by Commodity (2026e Attr. EBITDA)



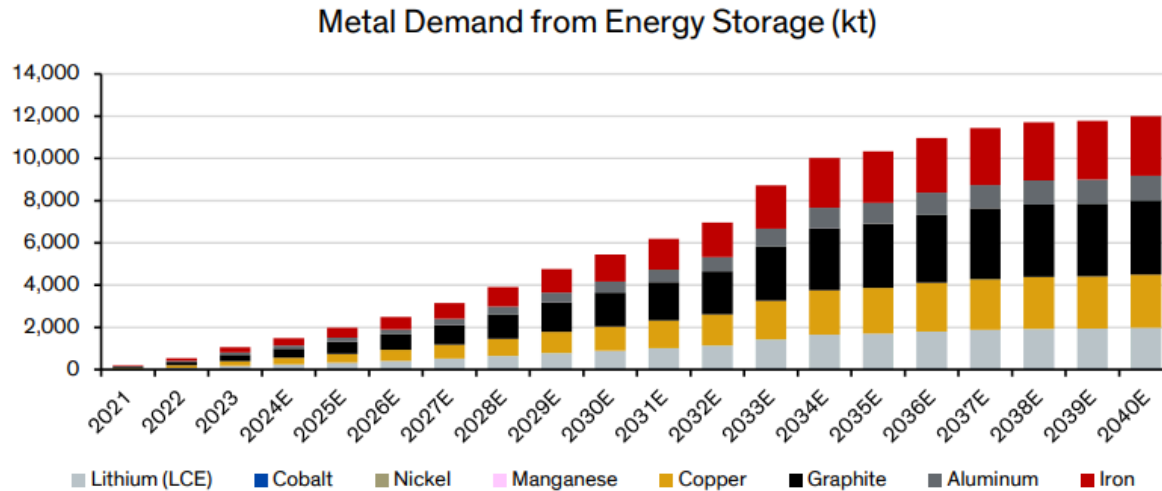
We use revenue (instead of EBITDA) for FCX, NEM and BOL

\*AngloTeck proforma EBITDA

# Electric revolution

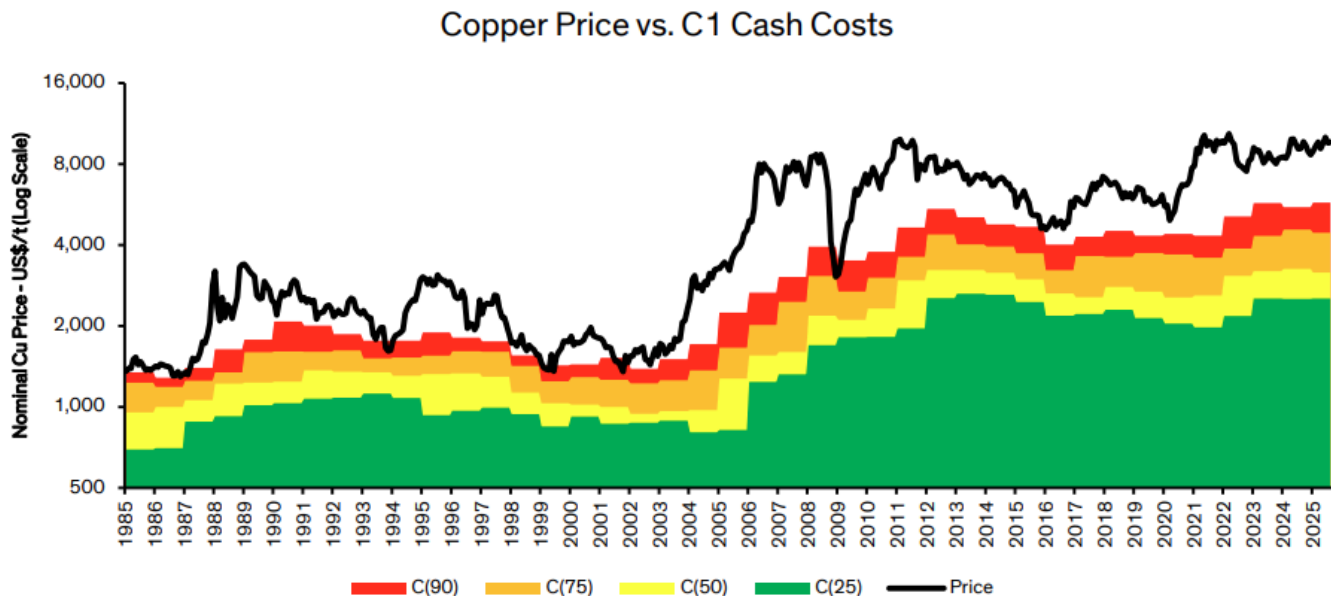


Source: SNE Research, IHS, company reports, Bernstein analysis and estimates



Source: Company reports, SNE Research, IHS, Bernstein analysis and estimates

# Metals in a recession



Source: Bloomberg, WoodMac, Bernstein analysis and estimates

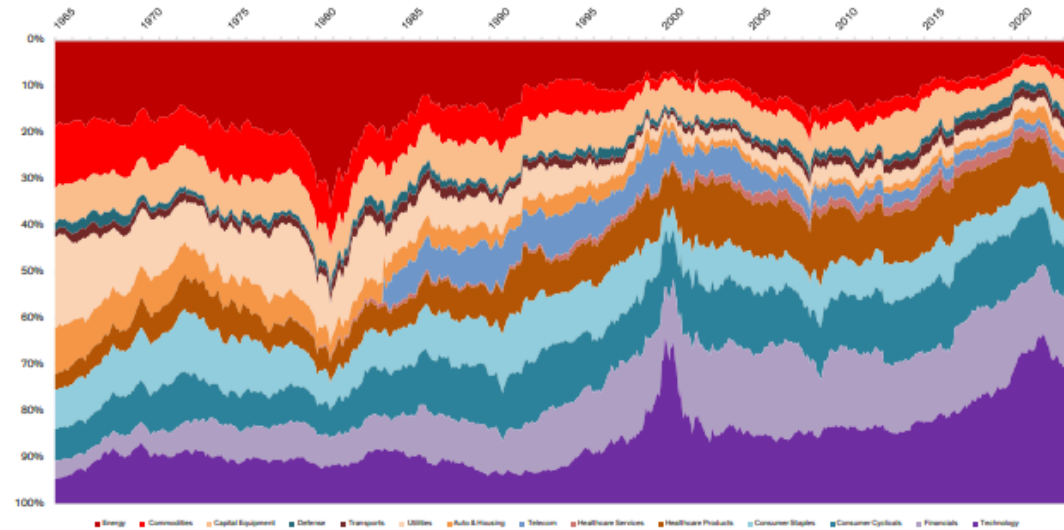
	Spot price (\$/t) 30/08/2024	90th percentile cash cost "floor" (\$/t)	Downside to "floor" (%)
Copper	9,118	5,469	40%
Nickel	16,539	19,057	-15%
Aluminium	2,424	2,085	14%
Zinc	2,847	2,018	29%
Iron Ore CIF China	101	76	25%
Thermal Coal	117	82	30%
Met Coal	197	163	17%

Source: AME, Bloomberg, WoodMac, Bernstein analysis

# Americas Oil

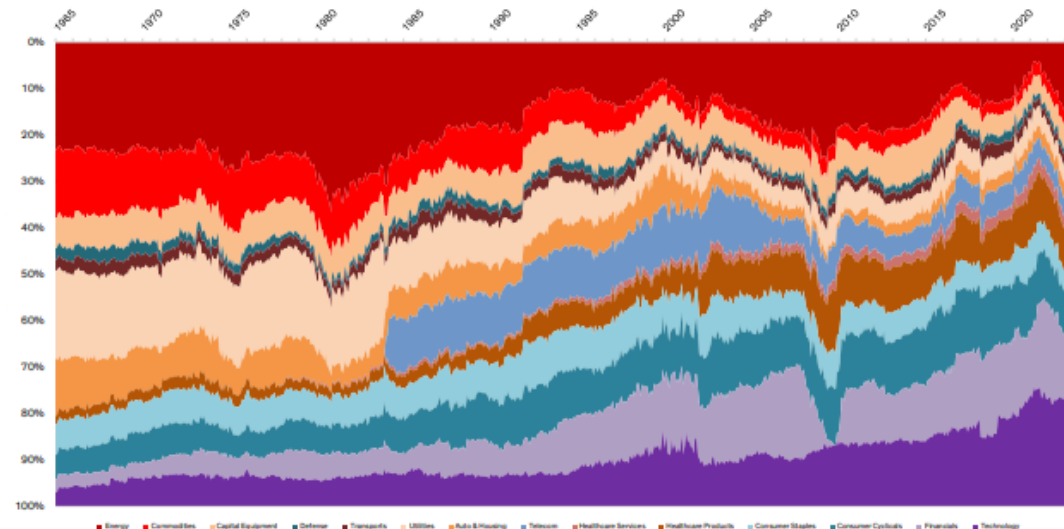
# Energy is going away? It's ~5% weight in the S&P 500...

EXHIBIT 2: Energy is ~5% of the S&P in terms of market cap...



Source: Bernstein Quant Team (Ann Larson); Bernstein analysis

EXHIBIT 3: ...but contributes 14% of all cash flow

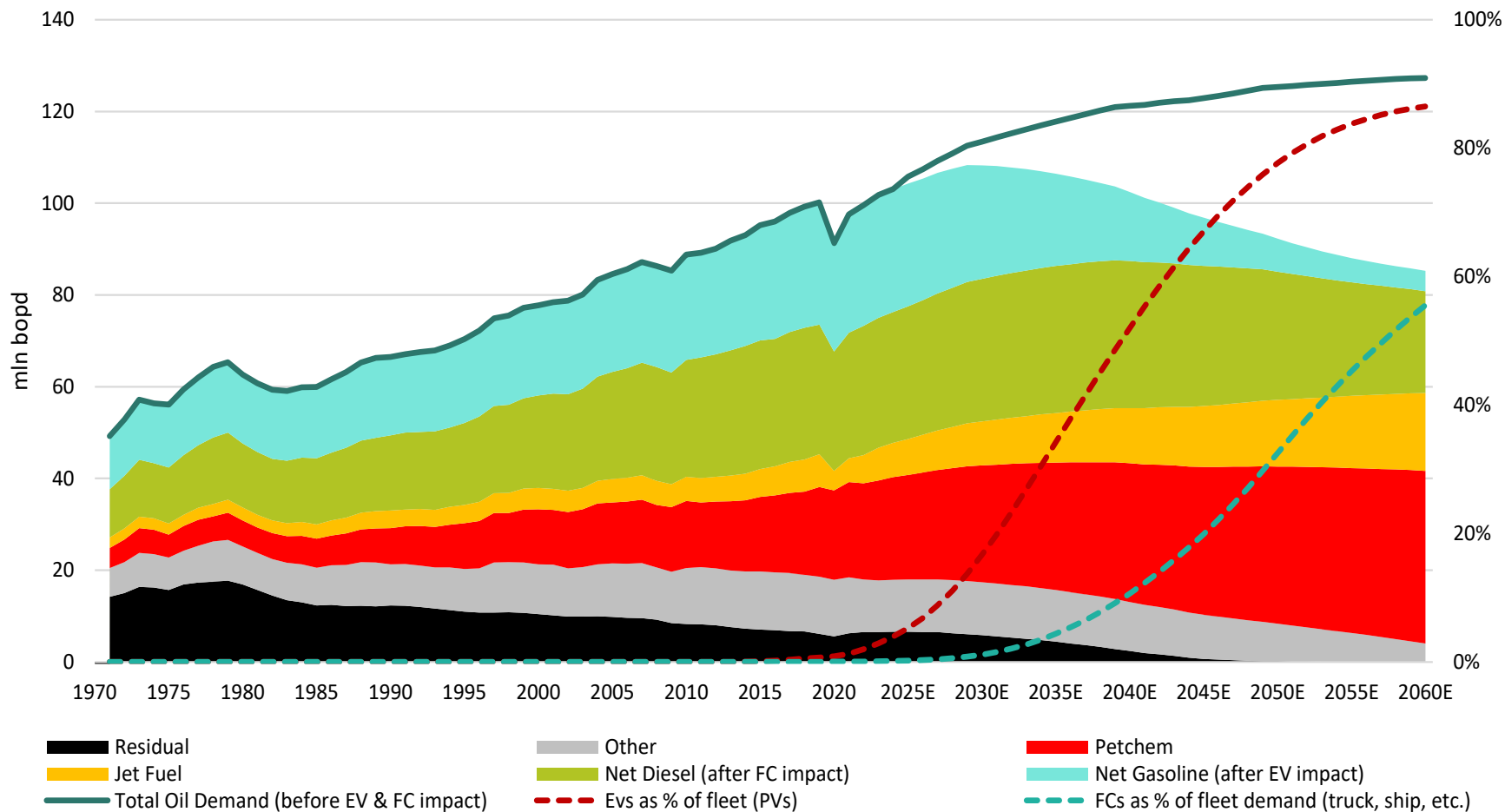


Source: Bernstein Quant Team (Ann Larson); Bernstein analysis



# A composite view – Electric Vehicles and Hydrogen displace demand slowly...

A "stake in the ground" for long-term oil demand

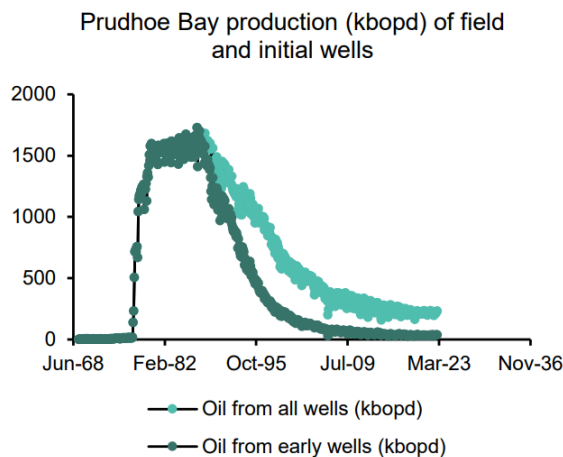


## Keys –

- 1) Electric Vehicles displace only Gasoline, and Fuel Cells only Diesel...
- 2) Joint Supply & Induced Demand matter...
- 3) Policy is one tool...but technological progress & major lifestyle changes take decades

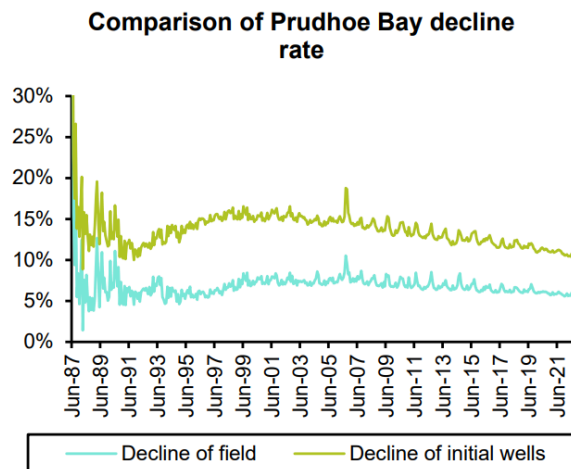
# Oil wells decline at 15% and require capital (and a return) to stay flat

EXHIBIT 3: **Decline rate depends on what you count...**



Source: Enverus; Bernstein analysis

EXHIBIT 4: **Wells decline 15%...fields decline 5-8%**



Source: Enverus; Bernstein analysis

**Fact** - oil supply & demand are currently 100 mln bopd.

**Fact** - the decline of the average oil field is 15% or 15 mln bopd (see end of note for subtlety).

**Consensus forecast** - oil demand should rise >1 mln bopd this year (the exact number isn't crucial here).

**Result** - oil capital spending this year must be sufficient to replace the 15 mln bopd and add an incremental 1 mln bopd.

**Result** - the oil industry this year will create a wedge of 16 mln bopd of new supply. (we think it costs ~\$30,000 of capex on average to add a bopd and the resulting number ties nicely to our more complicated estimate of 2023 global capex here...[Bernstein Energy: Global Capex Forecast 2023 — Capital discipline is diverting an extra \\$100B/year away from supply](#)).

**Next forecast** - oil demand will rise another 10 mln bopd over the next decade to peak at 110 mln bopd and plateau and then fall from there (see end of note for context - this is obviously a hotly debated/uncertain topic upon which the argument rests).

**Result** - oil capital spending in ten years must be sufficient to replace the 16 mln bopd of declining supply (15% of 110 mln bopd)

**Result** - the oil industry in ten years will create a wedge of 16 mln bopd of new supply, just like this year. The level of activity will be unchanged to first order.

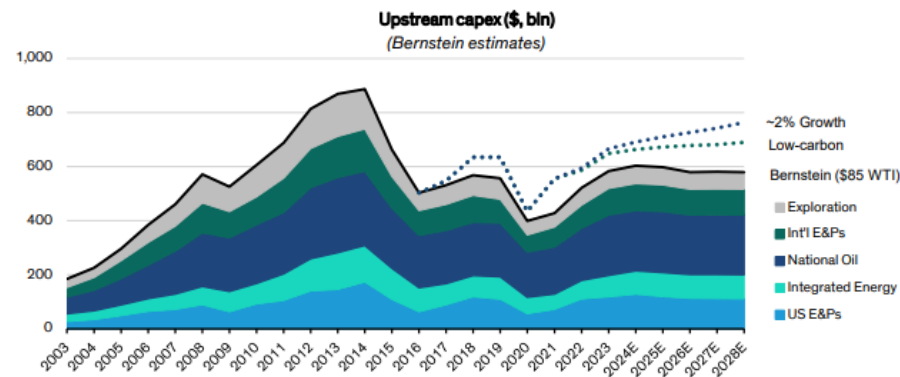
**Logical extension** - the oil industry can only create that wedge if the price of oil is sufficient to encourage them to do so. The price of oil therefore has to be at or above the marginal cost of oil.

**Assertion** - the marginal cost of oil will be higher ten years from now (certainly in nominal terms). But even in real terms, (a) over time, marginal cost rises as the best geology gets exploited, (b) marginal cost falls as technology gets developed (but upstream R&D isn't being funded the way it used to be, due to the maturity of the space), and (c) marginal cost requires a rate of return, and the riskier the investment, the higher the required rate of return/discount rate (and think how 'risky' sanctioning a long-cycle oil project will be perceived to be as oil demand plateaus and falls).

**Interesting corollary** - higher discount rates push me to projects which deliver barrels faster (i.e., have higher decline rates). So over time that 15% decline rate might slowly rise.

# Capex recovery is not where it needs to be, and activity is being hobbled by inflation

EXHIBIT 2: We forecast ~\$605B in upstream capital expenditures in 2024, including ~\$65B toward exploration



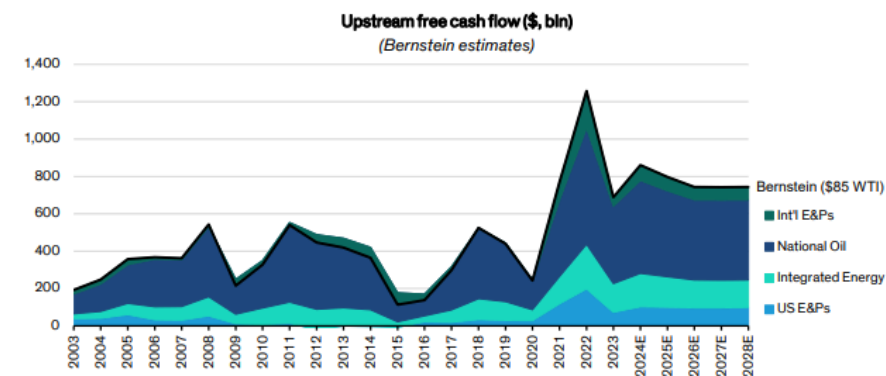
Source: Company reports, Rystad Energy, IEA, EIA, Bloomberg, Bernstein estimates and analysis

EXHIBIT 3: Even under a low-carbon/rapid transition scenario, the sector is investing ~\$50-75B/yr below the level required to meet demand long-term



Source: Company reports, Rystad Energy, IEA, EIA, Bloomberg, Bernstein analysis and estimates

EXHIBIT 5: Capital discipline and underinvestment remain structurally supportive to price and upstream free cash flow



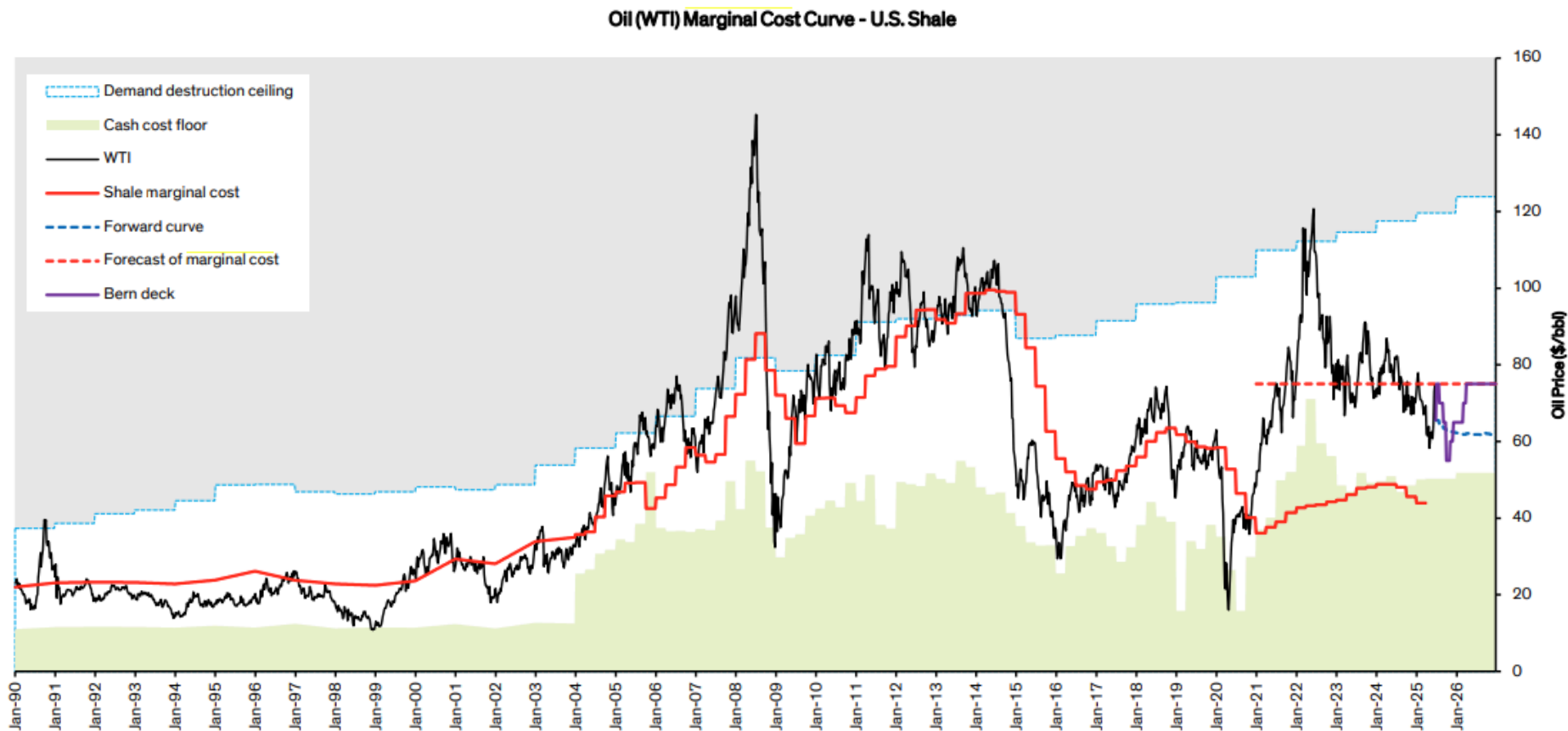
Source: Company reports, Rystad Energy, IEA, EIA, Bloomberg, Bernstein analysis and estimates

EXHIBIT 6: Global Capex Forecast

	\$, bln	2019	2020	2021	2022	2023	2024E	2025E
Development Capex		479	347	376	457	519	537	532
	% YoY	-3%	-28%	8%	22%	14%	3%	-1%
	% Offshore	29%	34%	31%	30%	31%	31%	32%
US E&Ps		109	55	72	110	118	128	119
	% YoY	-7%	-49%	30%	54%	7%	8%	-7%
Integrated Energy		84	61	57	69	80	86	89
	% YoY	6%	-27%	-6%	20%	16%	8%	3%
National Oil		199	168	174	194	224	224	226
	% YoY	1%	-16%	4%	11%	16%	0%	1%
	Reinvestment rate	37%	48%	29%	23%	33%	31%	33%
International E&Ps		88	63	74	85	98	99	98
	% YoY	-12%	-28%	17%	15%	15%	2%	-1%
Exploration Capex		77	52	52	64	65	67	66
	% YoY	5%	-33%	0%	24%	1%	3%	-1%
	% US onshore	24%	16%	21%	23%	19%	17%	16%
	% Offshore	39%	42%	42%	39%	42%	43%	44%

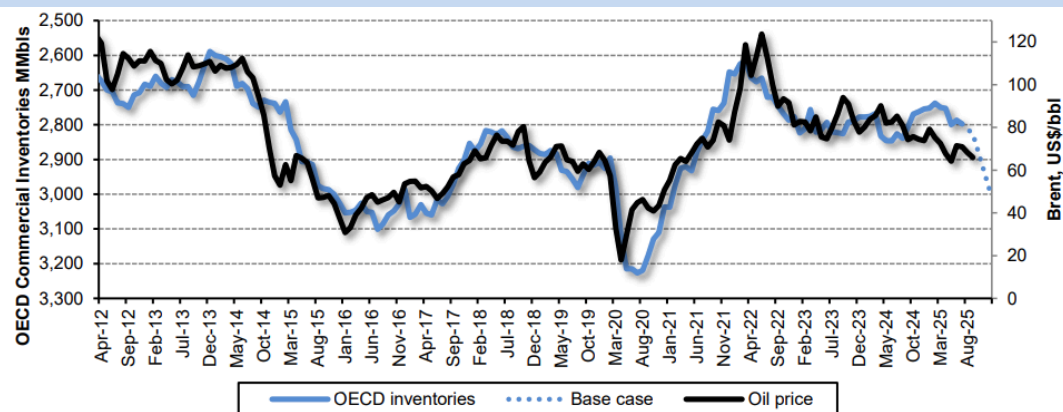
Source: Company reports, Rystad Energy, IEA, EIA, Bloomberg, Bernstein analysis and estimates

# Oil price strives towards long-run marginal cost governing by inventories



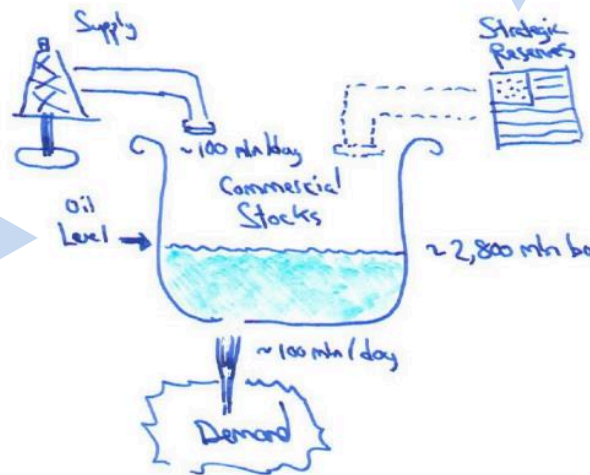
Source: Company reports, Bloomberg, EIA, IMF, Bernstein analysis and estimates

# The leaky bucket analogy



Source: Bloomberg, IEA, Bernstein estimates and analysis

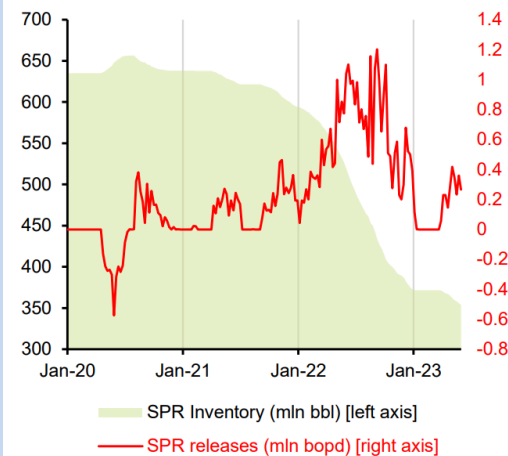
EXHIBIT 1: The oil market as a leaky bucket



Source: Bernstein analysis

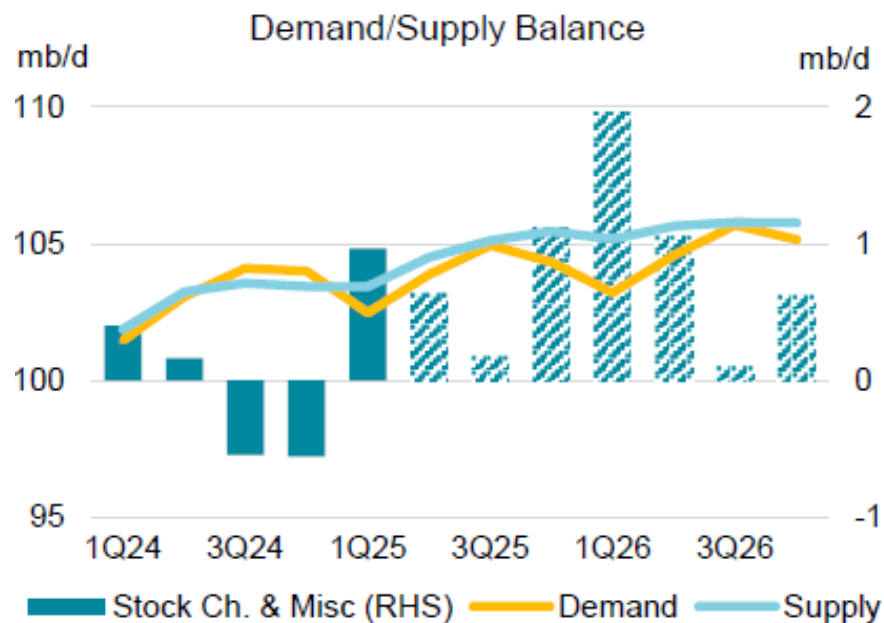
EXHIBIT 2: The SPR flow

## The SPR release...

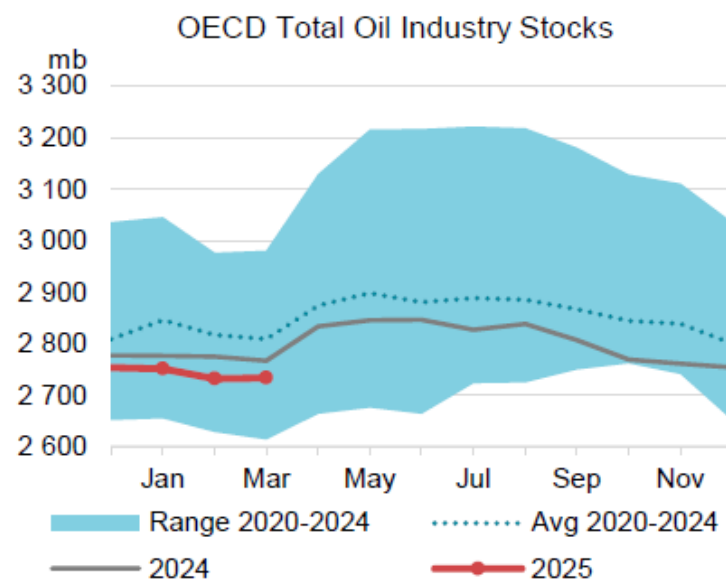
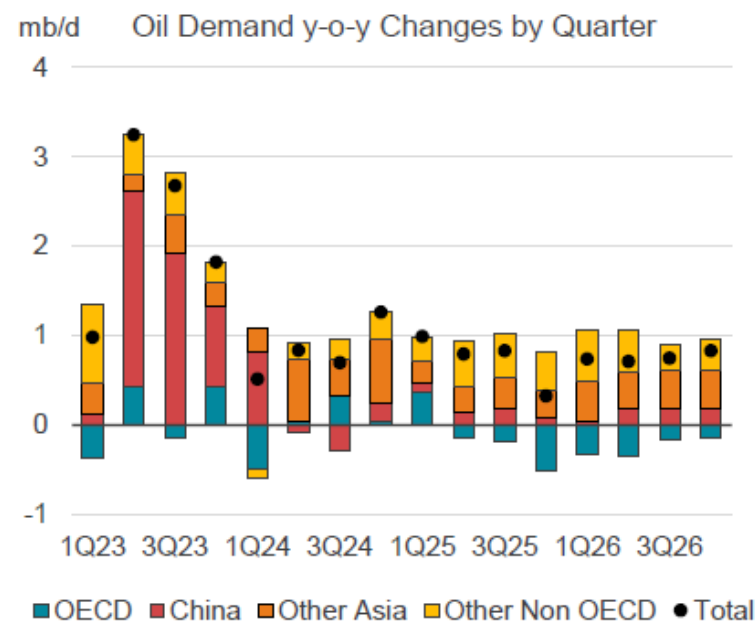


Source: EIA; Bernstein analysis

# Supply would gradually exceed demand into 2025



Note: Assumes OPEC+ curbs remain in place from June.

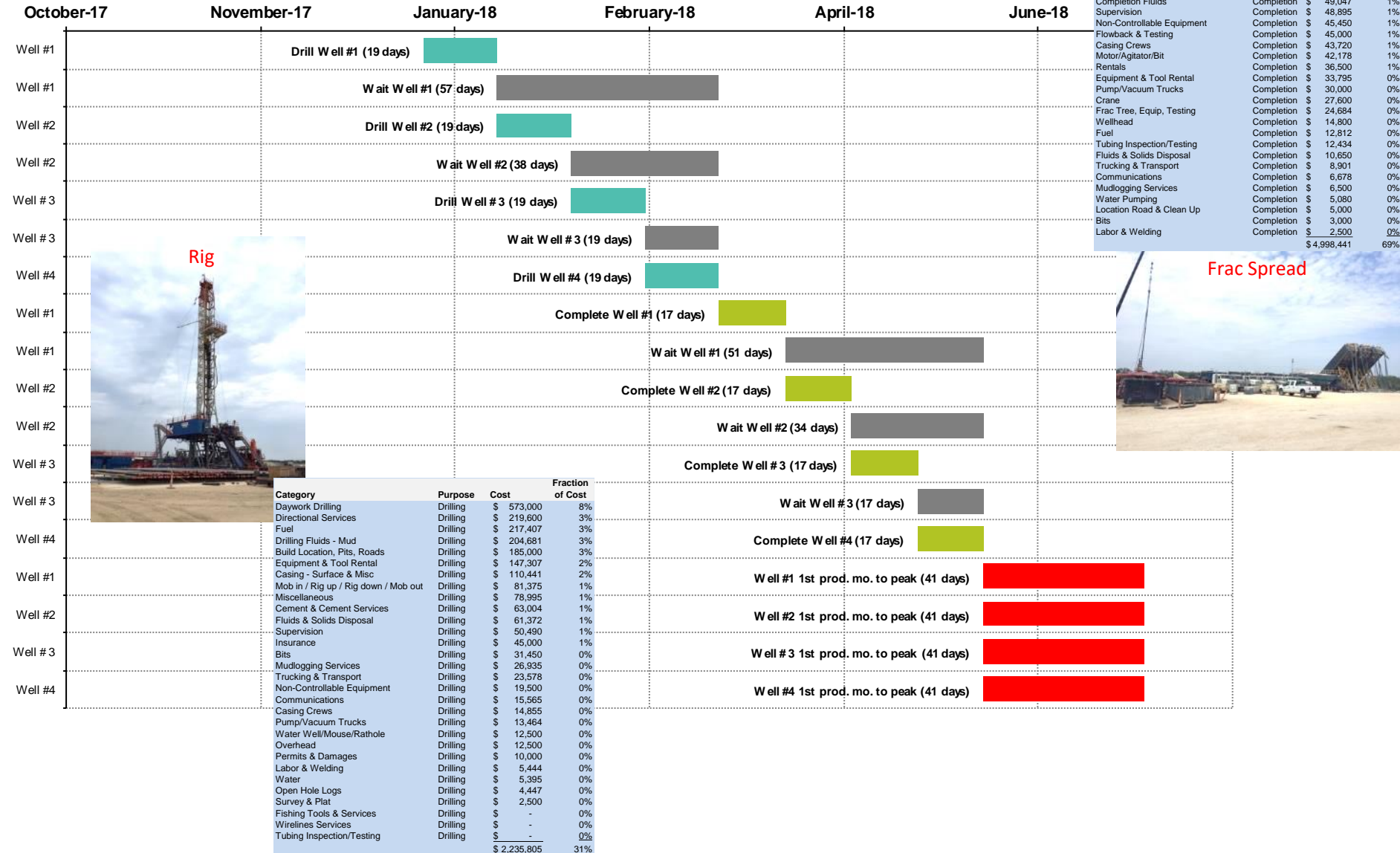


# **U.S. SUPPLY & SHALE OIL REVOLUTION**



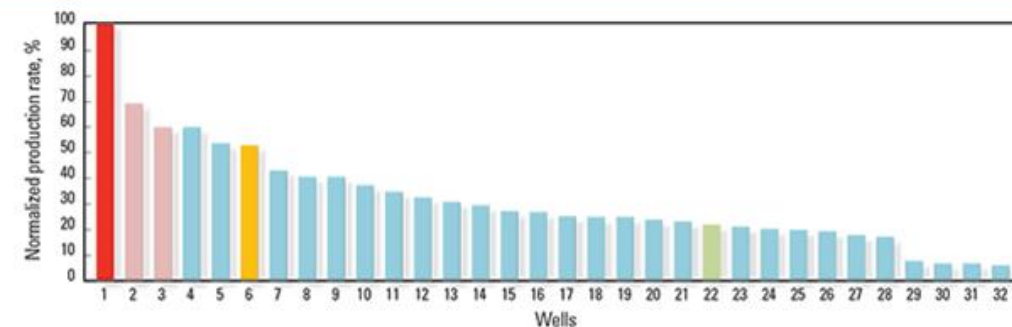
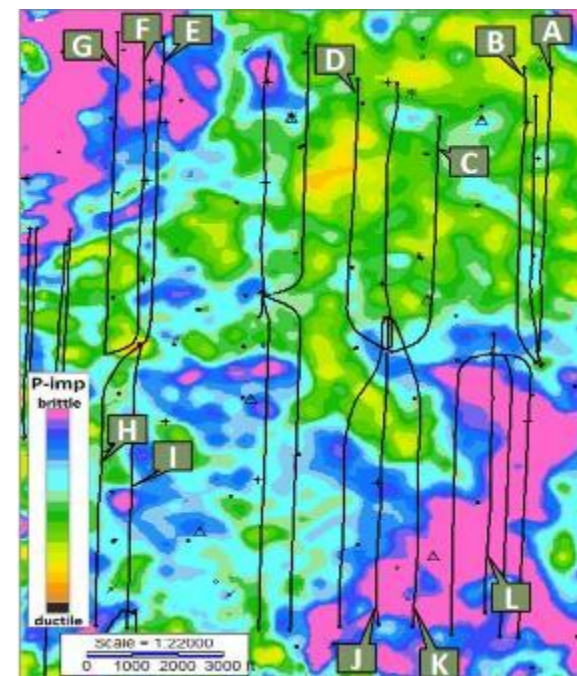
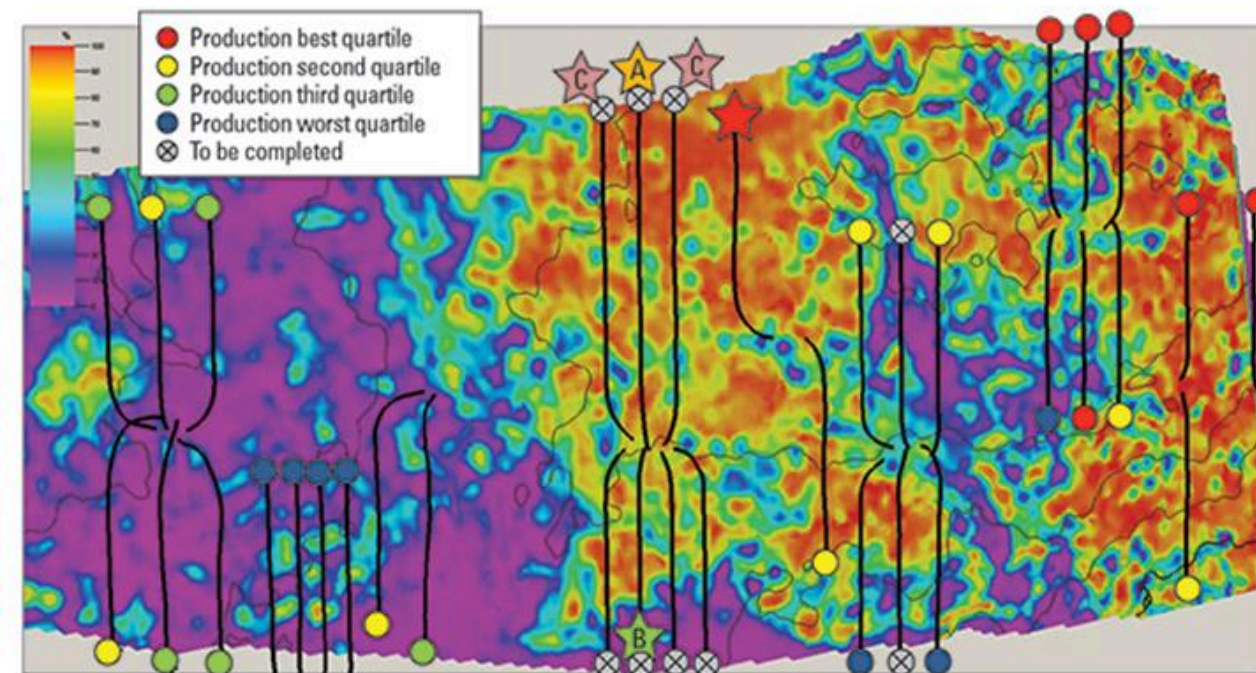
# The shale pad business model above ground

## Spud to Production Time on a Four-Well Pad





# The shale pad business model below ground



Normalized average production rates over first year of production for all wells in operator's acreage. The operator's top-performing well, indicated with a red bar, was the well predicted to be and ranked as the most-productive prospect. Wells A, B, and C correspond to the orange, green, and pink columns, respectively

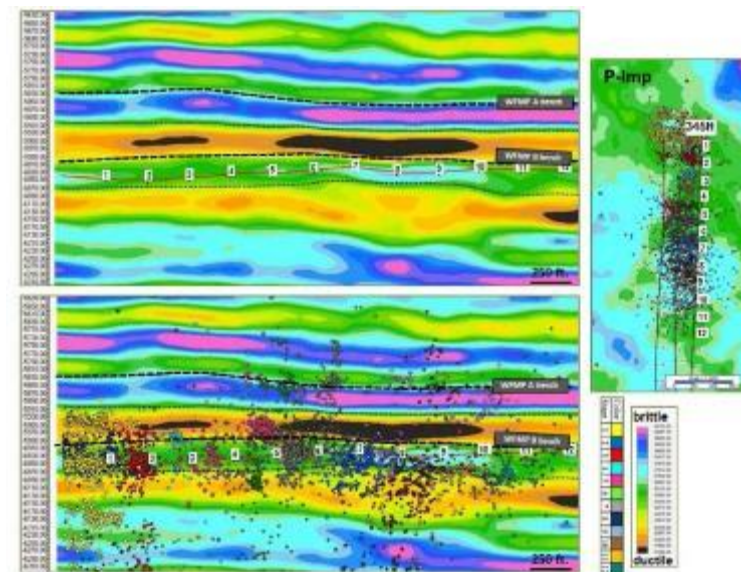
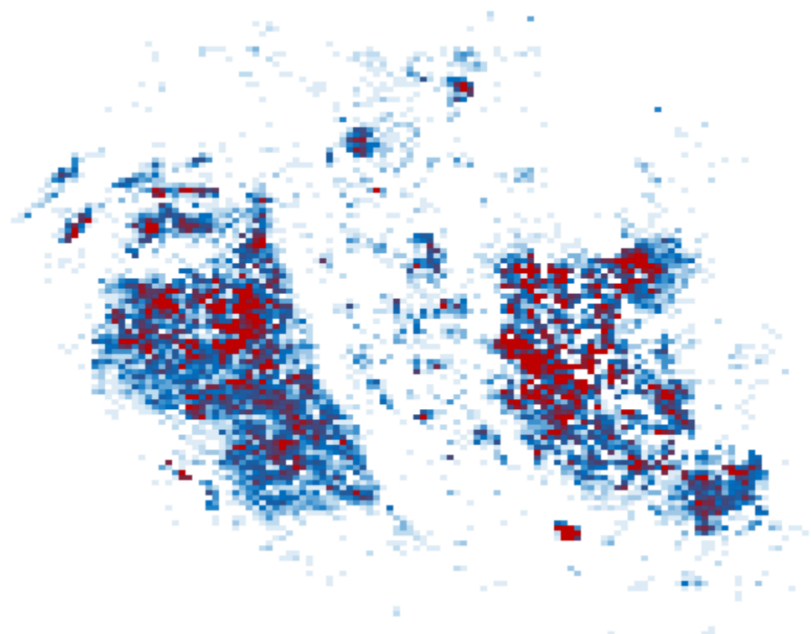
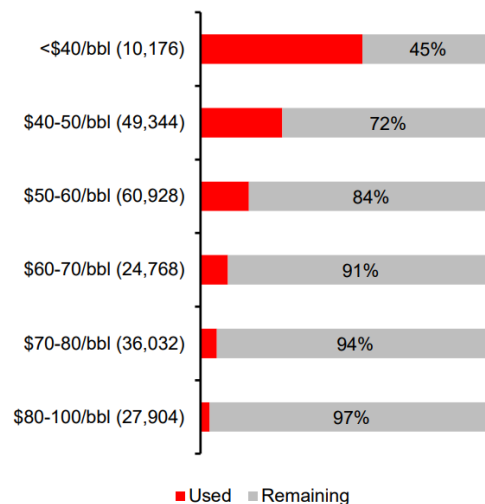


Figure 24—Well 345H microseismic data with seismic impedance cross sections

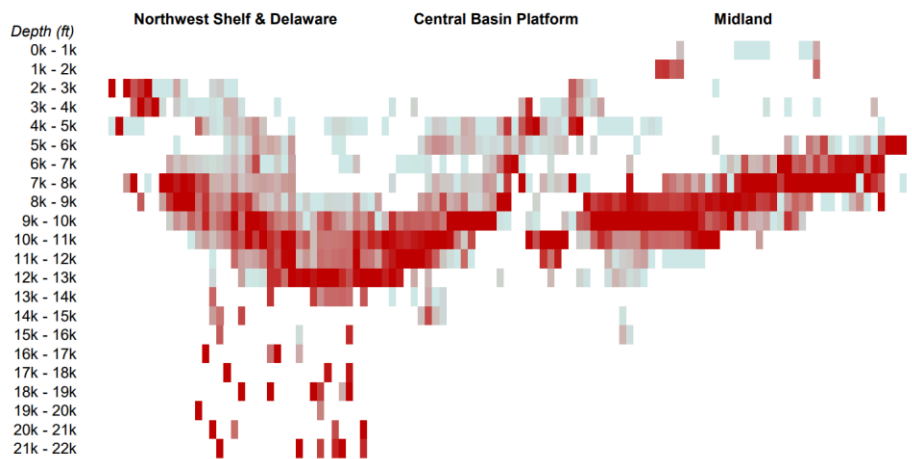
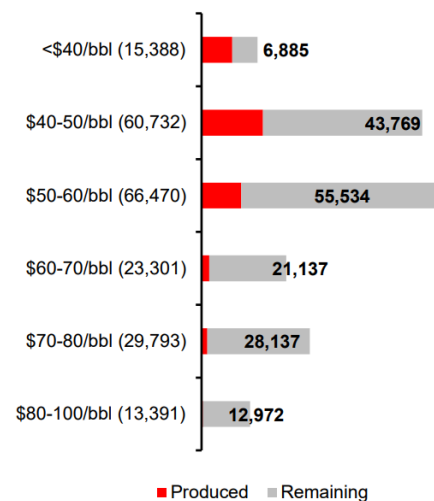
# ~20 years and ~90k high-quality (<\$60/bbl) drilling locations remain in the Permian basin, according to our 3-D measure of inventory



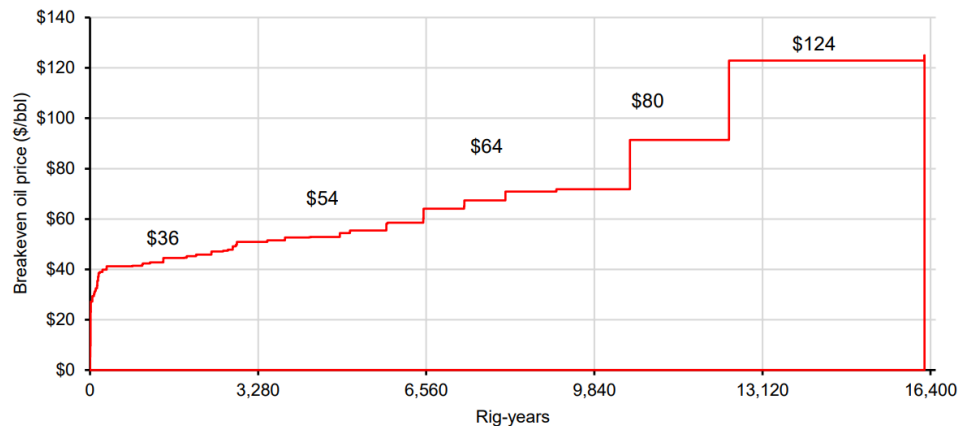
Drilling locations, Permian



Crude EUR (MMBbl), Permian

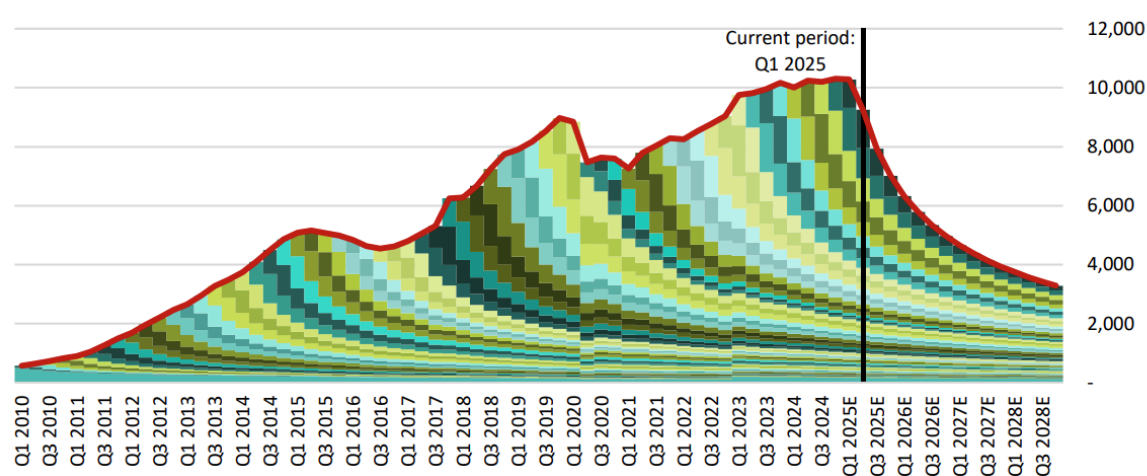


Permian breakeven cost curve for undrilled wells (by rig-years)

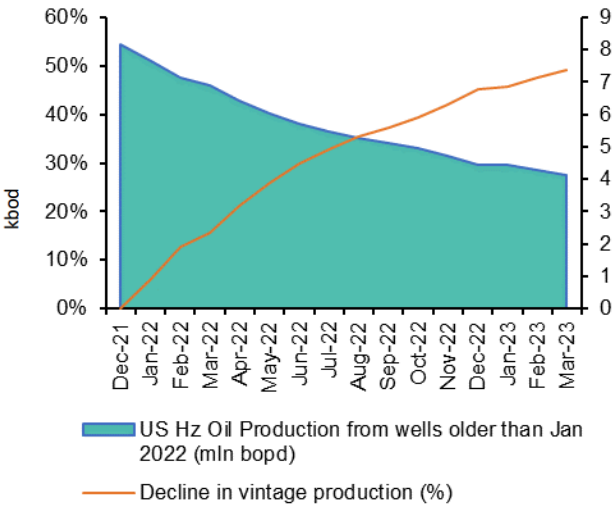


# The shale treadmill behaves itself now...

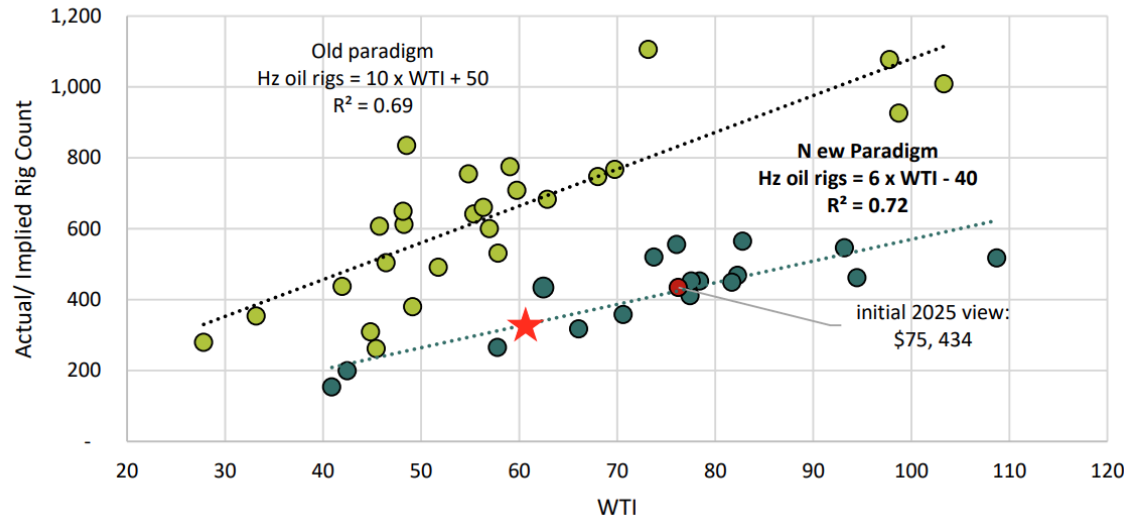
Shale production by quarterly wedge



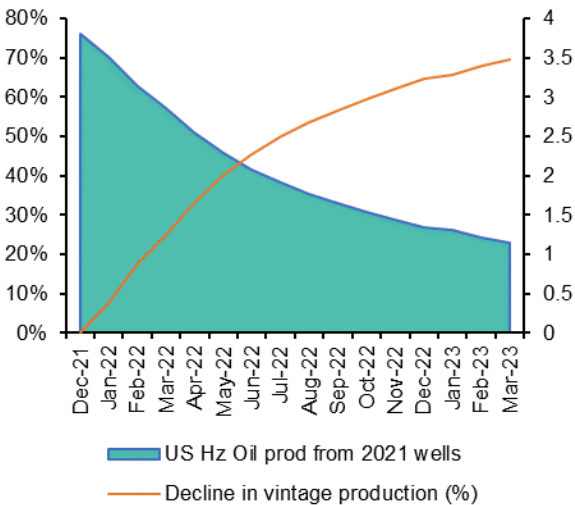
12-month decline of 45% on 8.2 mln bopd of legacy production pre-2022



Shale Hz Rig Count vs WTI (\$/bbl)



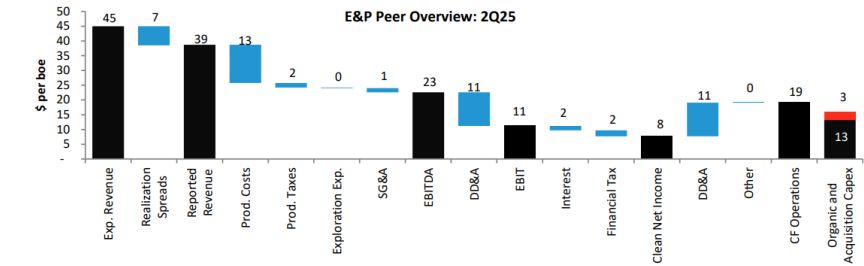
12-month decline of 65% on 3.8 mln bopd of production added in 2021





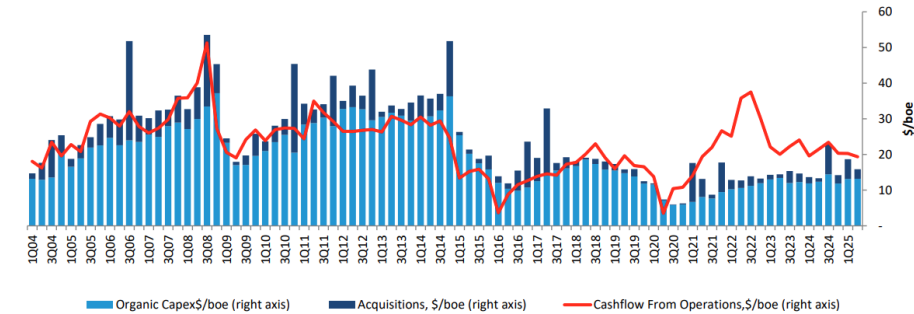
# E&Ps: State of the business, 2Q25

EXHIBIT 1: E&P Peer Overview: 2Q25



In Q2 2025, WTI crude oil price and HH natural gas price averaged \$65/bbl and \$3/mmbtu respectively. Acquisition capex is shown in red color in above chart  
Source: Company reports, Bernstein analysis

EXHIBIT 38: Cash flows from Operations and Capex... 'white space' ("FCF") weak versus the average of the last 5 years



The production volume is an absolute measure and differs from quarter to quarter based on number of companies included in the calculations  
Source: Company reports, Bernstein analysis, Bloomberg

EXHIBIT 48: EV to EBITDA ratio

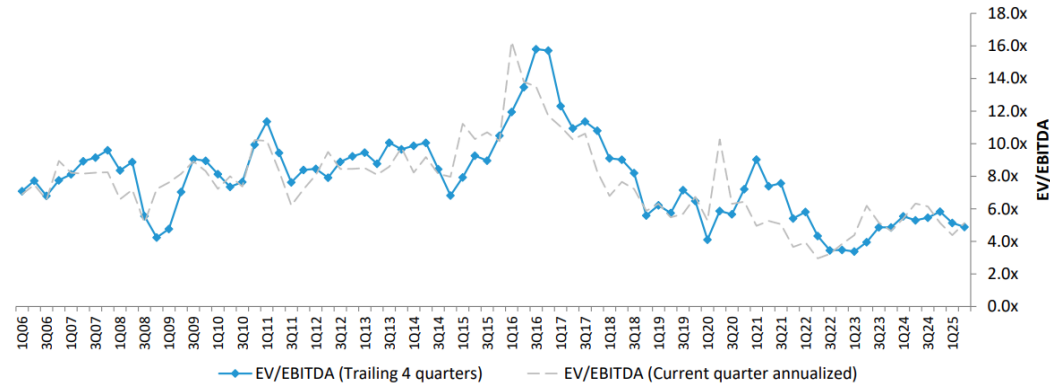
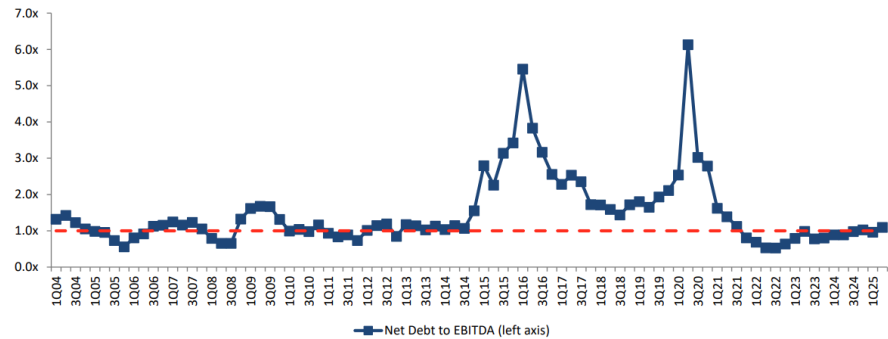
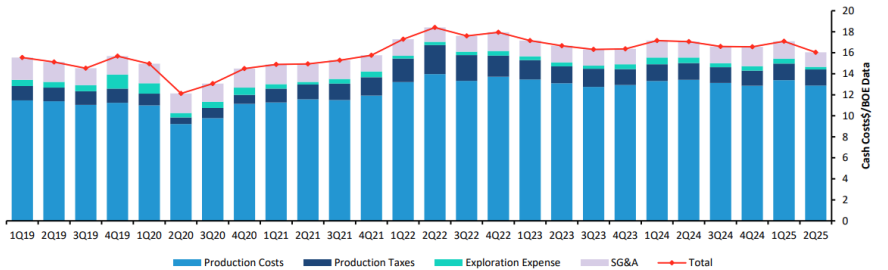


EXHIBIT 43: Net Debt to EBITDA levels - ~1.1x is below historical average of ~1.5x in our sample period



Source: Company reports, Bloomberg, Bernstein analysis

EXHIBIT 16: Overall cash costs declined YoY and QoQ in 2Q25; production costs declined 4% YoY (mainly driven by SG&A down ~9% and ~56% lower exploration expense).

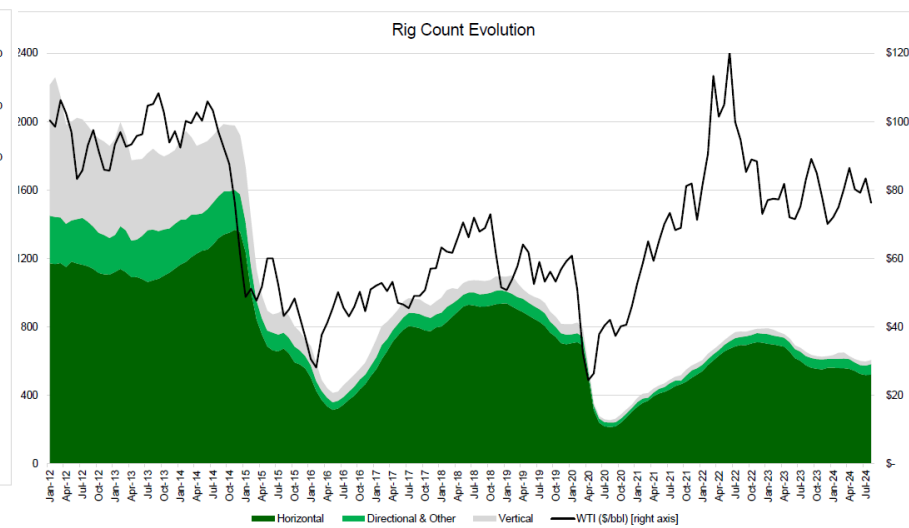
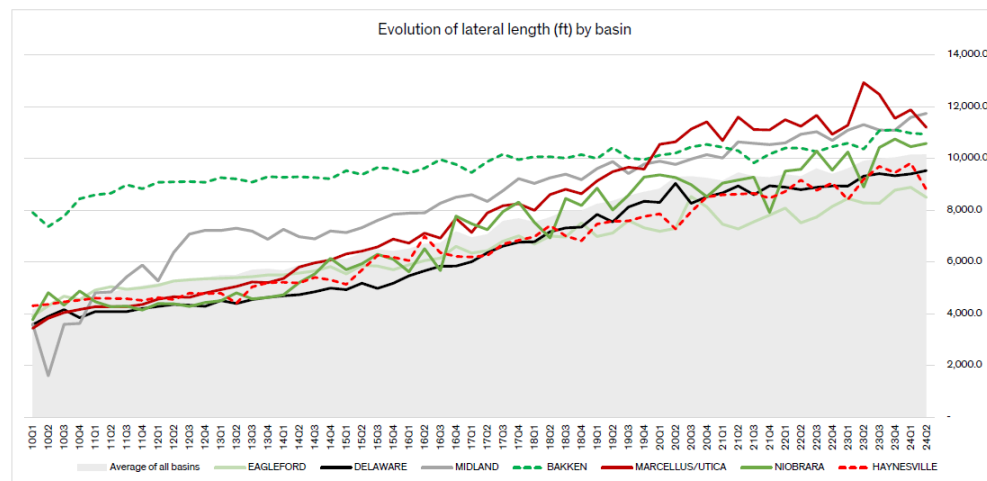


We adjust for large non-cash exploration expenses for certain operators  
Source: Company reports, Bernstein analysis, Bloomberg

# What drove productivity... pounding more sand is losing its effectiveness

Period	Combined Efficiency	Wells/Rig (annual)	Length/Well (ft.)	Rate/Length (bopd/10k')
2020	107,137,485	13.50	9,282	855.00
2024	148,782,062	17.00	10,153	862.00
CAGR	9%	5.9%	2.3%	0.2%

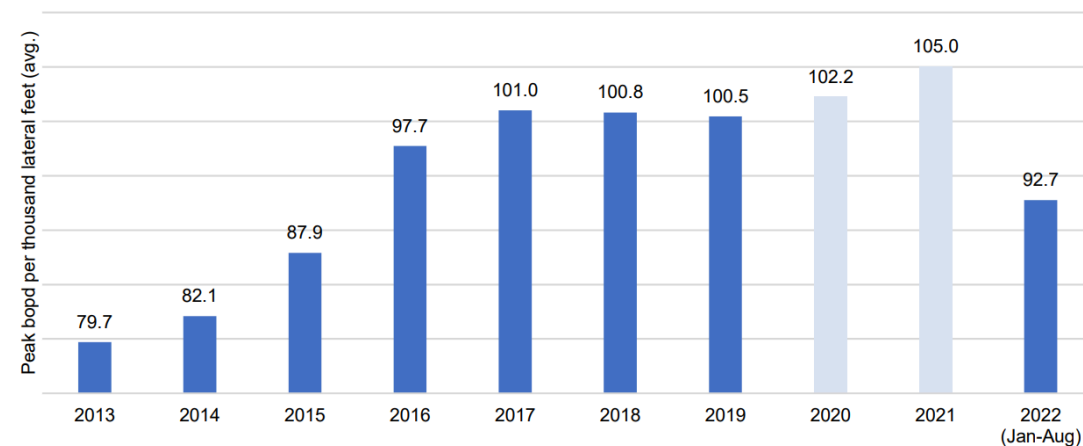
**Efficiency gains since 2020 but limits to underlying drivers are in view**  
**Driven by move to pad drilling... which has limited room to expand**  
**Growing slightly and converging towards median 2 mile laterals and a population of longer ones**  
**Rate per length has been flat since 2020**



# What drove productivity... pounding more sand is losing its effectiveness

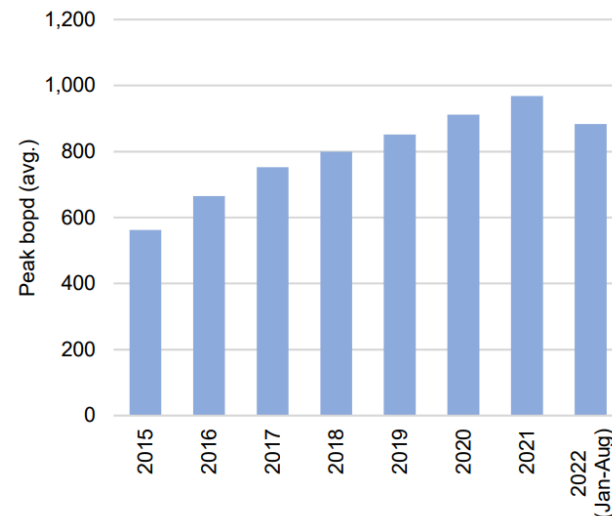
Peak month well-level productivity was below the 2017-2019 plateau last year

Shale oil well productivity (peak) per thousand lateral feet



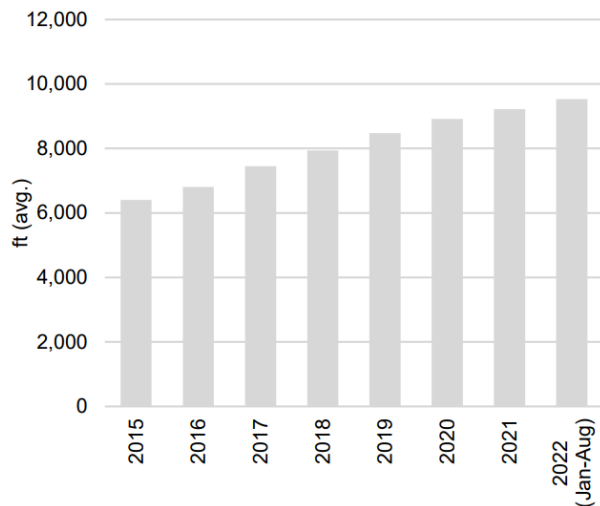
Productivity also fell on an absolute basis as DUC completions ramped...

Peak daily oil production rate



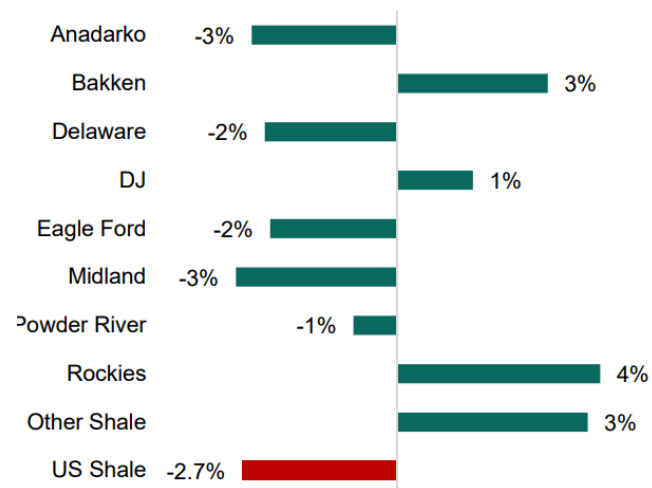
...despite increasing lateral lengths drilled

Lateral length



Productivity declines were uniform across Texas basins

1H22 oil productivity (peak) annual decline vs. 2017-19 average



# The bad and good news about shale inventory...

Company "Flat Co"

10-yr Production Growth: 0%

20-yr Production Growth: -2%

Activity Growth: 0%

	Year	Production (year 0 = 1)	Wells Drilled	Inventory at Year End	R/P (years)
Locations drilled to hold flat	0	1.00	300	5,700	19
300	1	1.00	300	5,400	18
	2	1.00	300	5,100	17
Base decline	3	1.00	300	4,800	16
30%	4	1.00	300	4,500	15
	5	1.00	300	4,200	14
Inventory	6	1.00	300	3,900	13
6,000	7	1.00	300	3,600	12
	8	1.00	300	3,300	11
Years of Inventory (at flat volume)	9	1.00	300	3,000	10
20	10	1.00	300	2,700	9
	11	1.00	300	2,400	8
	12	1.00	300	2,100	7
	13	1.00	300	1,800	6
	14	1.00	300	1,500	5
	15	1.00	300	1,200	4
	16	1.00	300	900	3
	17	1.00	300	600	2
	18	1.00	300	300	1
	19	1.00	300	0	0
	20	0.70	0	0	out

Company "TwentyCo"

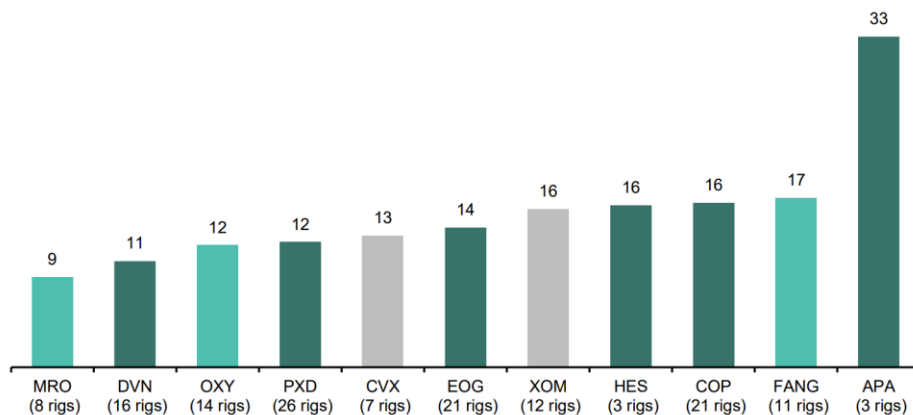
10-yr Production Growth: 20%

20-yr Production Growth: -5%

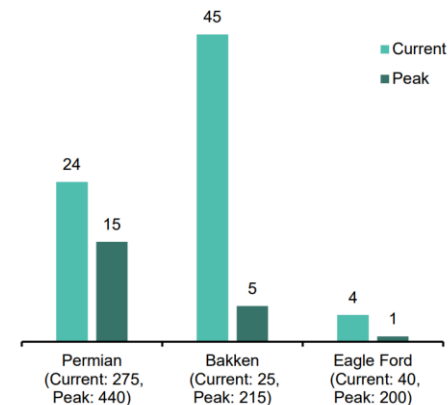
Activity Growth: 9%

	Year	Production (year 0 = 1)	Wells Drilled	Inventory at Year End	R/P (years)
Locations drilled to hold flat	0	1.00	300	5,700	19
300	1	1.03	328	5,372	16
	2	1.09	359	5,013	14
Base decline	3	1.19	392	4,621	12
30%	4	1.34	429	4,192	10
	5	1.57	469	3,723	8
Inventory	6	1.90	513	3,210	6
6,000	7	2.40	561	2,649	5
	8	3.15	613	2,036	3
Years of Inventory (at flat volume)	9	4.32	671	1,365	2
20	10	6.19	733	632	1
	11	8.25	632	0	0
	12	5.77	0	0	out
	13	4.04	0	0	out
	14	2.83	0	0	out
	15	1.98	0	0	out
	16	1.39	0	0	out
	17	0.97	0	0	out
	18	0.68	0	0	out
	19	0.48	0	0	out
	20	0.33	0	0	out

Years of shale inventory with breakeven oil price < \$50/bbl and no growth



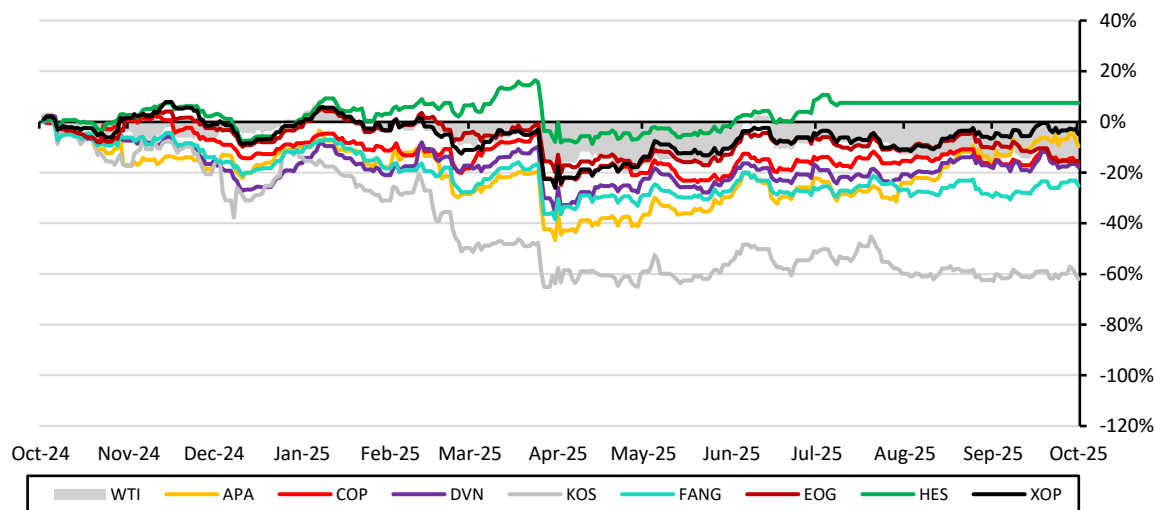
Years of < \$60 inventory by rig count



# Valuation Table

	Bernstein Rating	Price as of 10-13-2025	Bernstein Target Price	Upside	Market Cap (\$mln)	EV (\$mln)	EV to EBITDA (2025 consensus)	P to CF (2025 consensus)	Net Debt to 2025 EBITDA
APA	M	22	22	-1%	7,984	13,652	2.7x	2.0x	1.1x
COP	O	88	115	30%	110,107	128,296	5.1x	5.5x	0.8x
CVX	M	150	149	0%	306,137	332,379	8.1x	8.3x	0.6x
DVN	O	33	43	31%	20,775	28,311	3.8x	3.1x	1.1x
EOG	M	109	146	34%	59,328	59,068	4.9x	5.5x	-0.1x
EQT	O	53	72	35%	33,359	44,794	8.2x	6.7x	1.7x
EXE	O	103	150	46%	24,458	28,916	5.7x	5.3x	1.1x
FANG	O	141	192	36%	40,930	59,782	5.9x	4.5x	1.3x
KOS	M	1.6	2.0	25%	765	3,564	4.7x	2.0x	3.5x
LNG	O	229	261	14%	50,249	78,602	11.4x	10.6x	3.4x
XOM	O	112	129	16%	475,523	507,529	7.3x	8.6x	0.4x
VG	M	9	12	27%	23,017	55,118	8.6x	N/A	4.1x
CCJ	O	92	98	6%	40,185	56,593	30.3x	37.5x	0.4x

1 Year Relative Performance Oil E&P



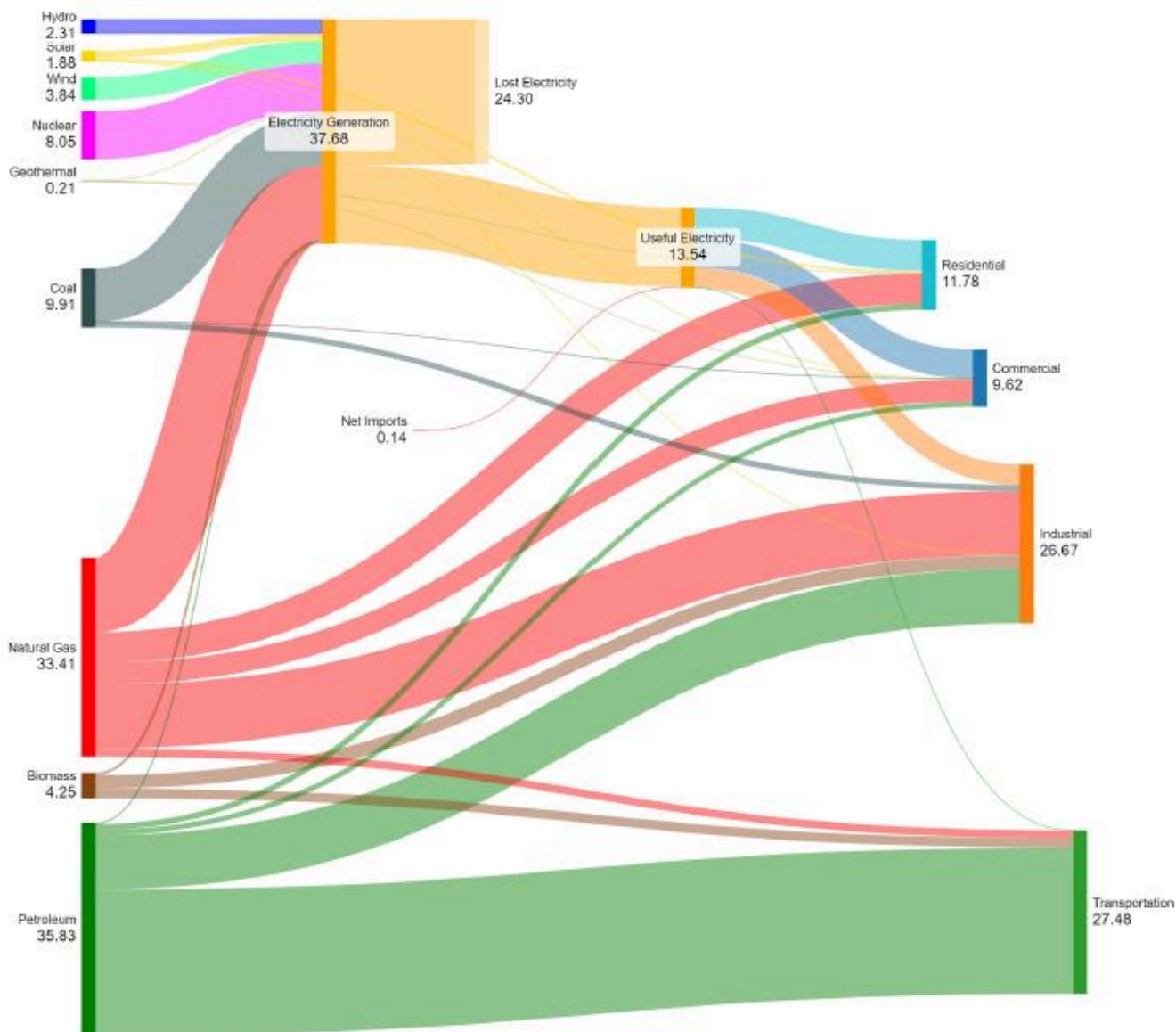


# **Americas Energy & Transition**

## **(Power & Nuclear)**

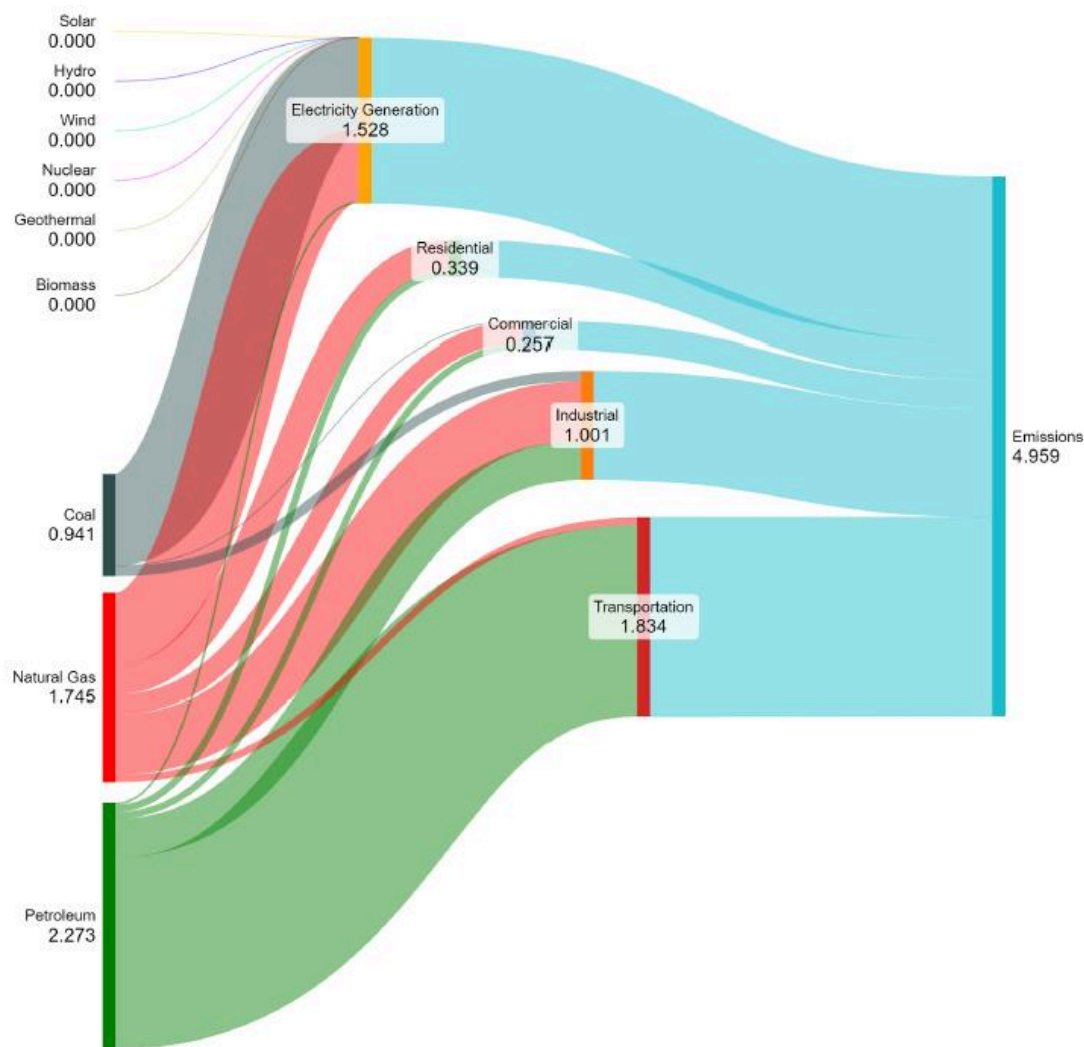
# What's Next? American Energy & Transition (AE & T)

EXHIBIT 7: A high-level view of the US energy system



# AE & T (cont.)

+ CO2 emissions associated with American's Energy Landscape (in GT / Gigatons)... where the emissions occur



- ~31% of the emission occurred from **electricity generation**
- Global CO2 emission from fossil fuels was 37.4 GT in 2023, so US accounts for ~13% of global fossil fuel emissions with ~4% of the global population

# US Gas Supercycle – Power demand

EXHIBIT 25: Power demand has been rising across all seasons

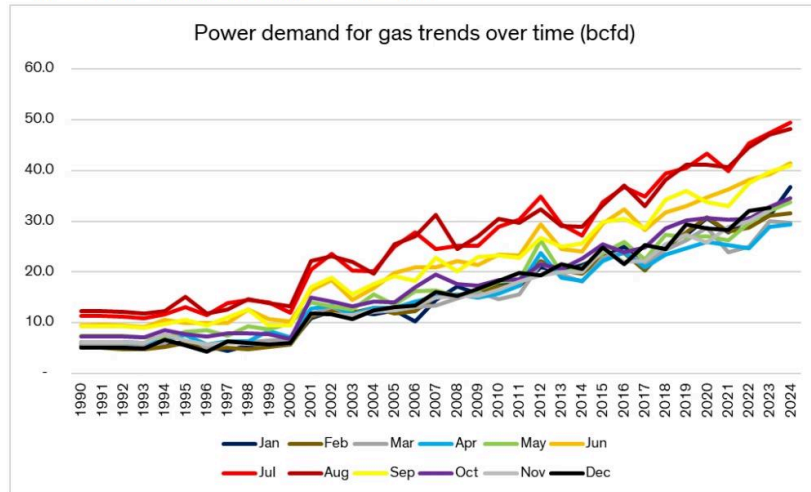


EXHIBIT 24: However, as a bull case, 10GW of retired coal generation capacity would create ~0.6bcfd of additional gas demand assuming a 70% transfer rate (with the remaining going to renewables) and provides potential upside vs. our current assumption of flat power demand

Est. gas demand from coal retirements, bcfd		
Retired coal capacity (GW)	10	
Assumed capacity factor		54%
"Lost" coal generation (GWh)	47,304	
Assumed transfer to gas		70%
"New" gas generation (GWh)	33,113	
Assumed gas heat rate (MMBtu/GWh)		7,000
"New" gas demand (Bcfd)	0.6	

Source: EIA, Bernstein analysis and estimates

EXHIBIT 29: The recently operational plants in EIA's monthly generation inventory have taken on average 3 years to construct

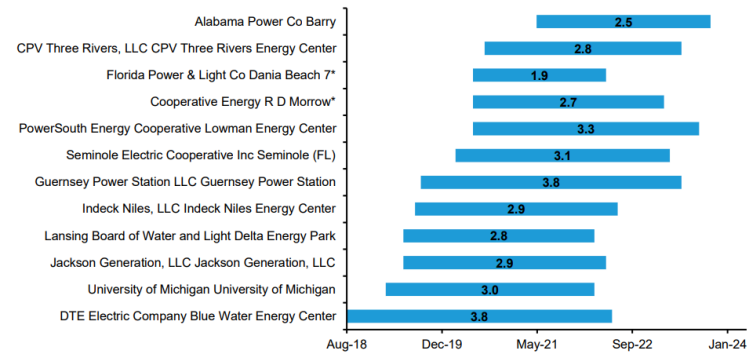
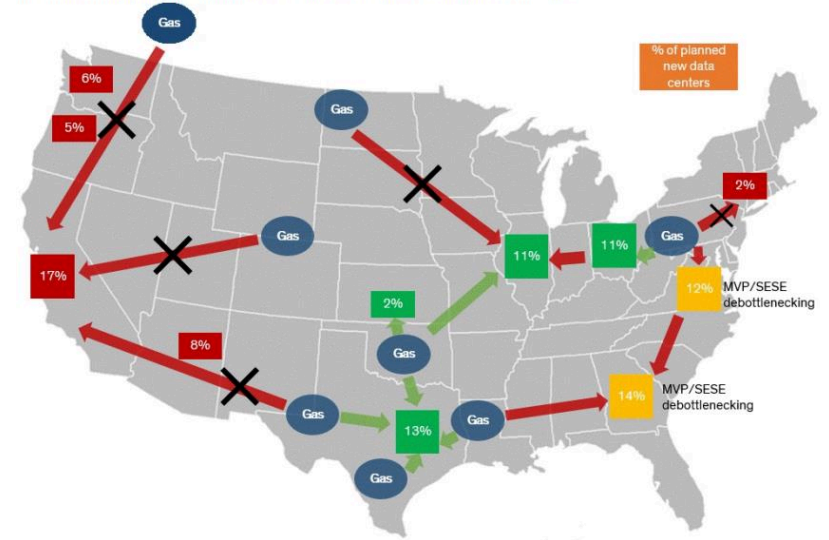
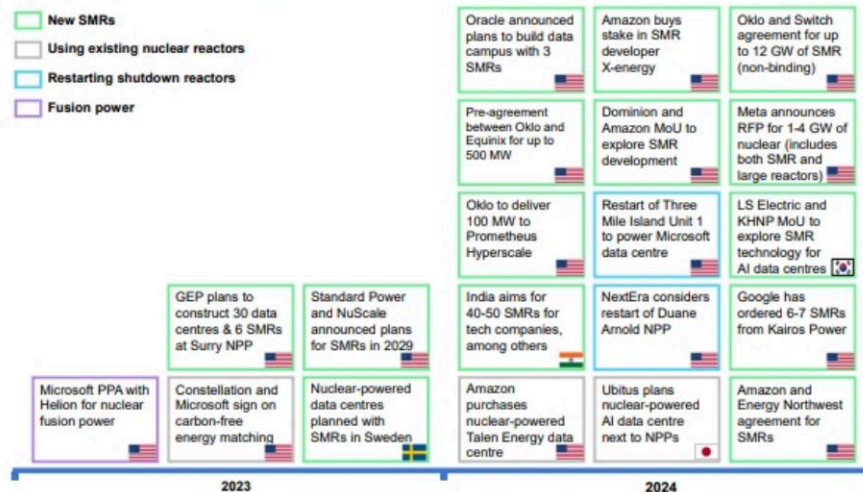


EXHIBIT 6: Most of new data center demand wouldn't have access to incremental gas supplies today, given that gas pipelines are already maxed out, and many won't be able to expand due to regulatory concerns.

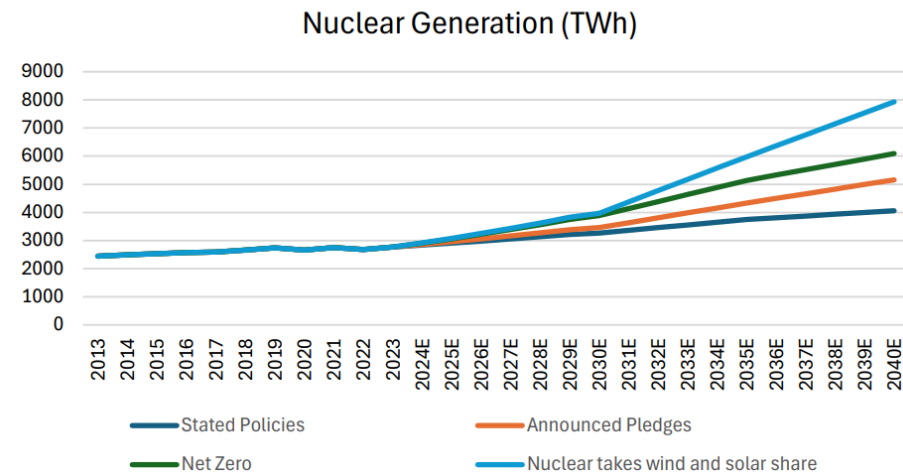


# Nuclear growth is driving by power demand

**Figure 1.10 Recent announcements and agreements related to the procurement of nuclear energy for data centres**

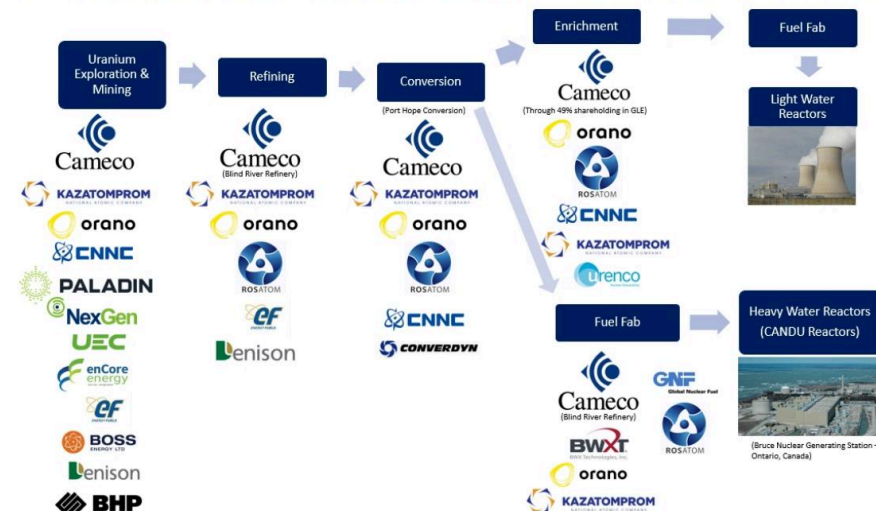


**EXHIBIT 5: Nuclear generation will grow significantly, from 3000TWh to 4000+ TWh**



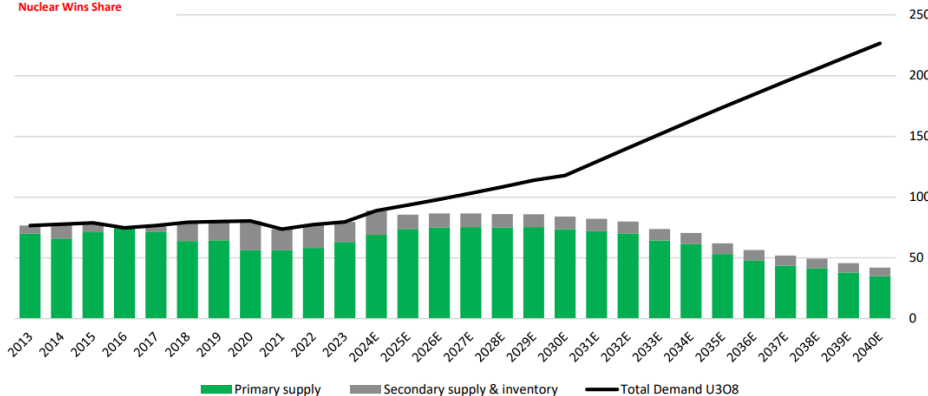
## Full fuel cycle: from uranium to nuclear fuel

**EXHIBIT 12: Cameco is the premiere public company with integrated operations across the entire nuclear fuel cycle.**

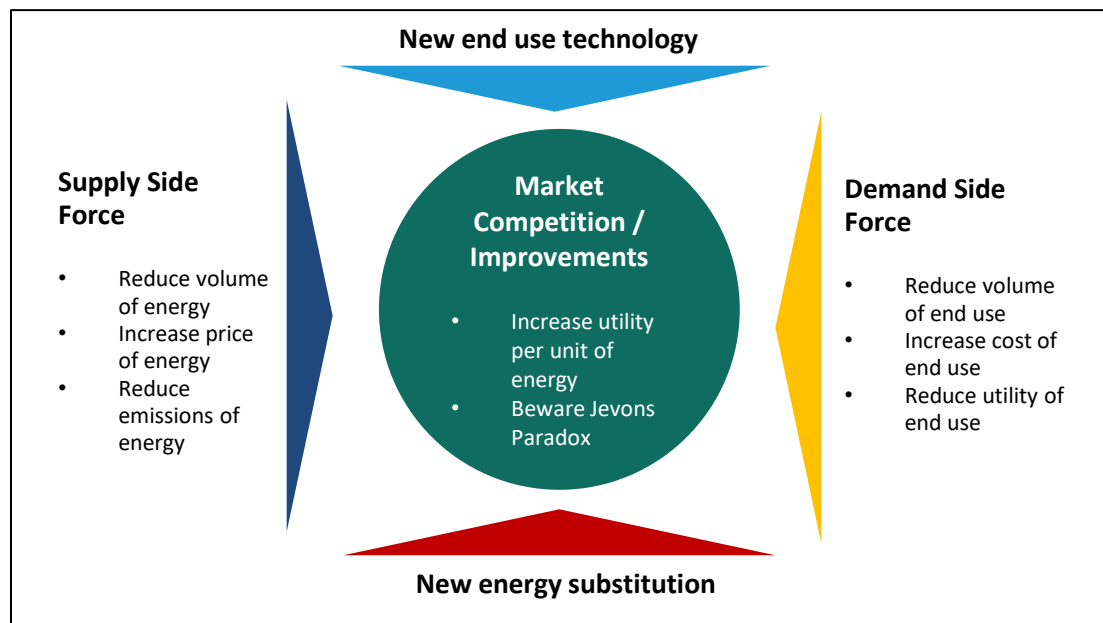


**Supply/Demand balances by scenario (kt U3O8)**

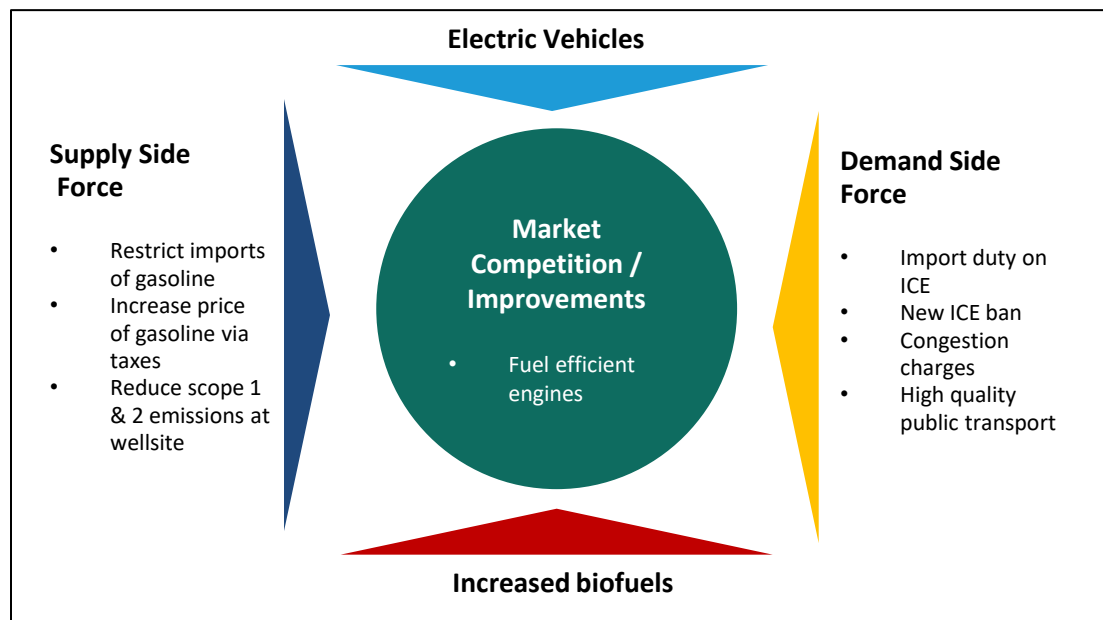
Nuclear Wins Share



## Framework



## Application





# Ticker Table – Global Metals & Mining

Ticker	Rating	Cur	3 Oct 2025		TTM Rel. Perf.	Cur	Adjusted EPS			Adjusted P/E (x)		
			Closing Price	Price Target			2024A	2025E	2026E	2024A	2025E	2026E
AAL.LN	M	GBp	2,813.00	1,950.00	0.3%	USD	1.60	0.78	1.87	23.7	48.8	20.3
ANTO.LN	M	GBp	2,715.00	1,950.00	21.6%	USD	0.63	0.97	1.09	58.2	37.9	33.4
B	O	USD	33.95	39.50	53.2%	USD	1.26	1.90	3.09	26.8	17.9	11.0
ABX.CN	O	CAD	47.37	55.00	58.3%	USD	1.26	1.90	3.09	26.8	17.9	11.0
BHP.AU	M	AUD	42.08	47.00	(20.5)%	USD	2.00	1.63	1.40	13.9	17.0	19.8
BHP	M	USD	55.47	49.50	(26.7)%	USD	2.00	1.63	1.40	27.7	34.0	39.5
BHP.LN	M	GBp	2,079.00	1,850.00	(28.7)%	USD	2.00	1.63	1.40	14.0	17.2	20.0
BOL.SS	M	SEK	396.90	313.00	(1.5)%	SEK	36.66	18.17	24.71	10.8	21.8	16.1
FCX	O	USD	39.67	48.50	(38.1)%	USD	1.31	1.08	0.55	30.3	36.9	72.6
GLEN.LN	O	GBp	347.70	355.00	(34.6)%	USD	0.30	0.27	0.41	15.6	17.6	11.6
NEM	M	USD	86.86	81.00	45.4%	USD	2.92	6.01	6.83	29.8	14.5	12.7
RIO.LN	O	GBp	4,931.00	4,800.00	(25.3)%	USD	6.69	6.20	6.17	9.9	10.7	10.8
RIO	O	USD	66.11	64.00	(23.1)%	USD	6.69	6.20	6.17	9.9	10.7	10.7
RIO.AU	O	AUD	125.06	107.00	(13.8)%	USD	6.69	6.20	6.17	12.3	13.3	13.4
VALE	M	USD	11.01	11.50	(21.9)%	USD	1.44	1.48	1.33	7.6	7.4	8.3
VALE3.BZ	M	BRL	58.59	60.00	(22.4)%	USD	1.44	1.48	1.33	7.6	7.4	8.2
EDM			1,535.44									
SPX			6,715.79									
ASIAx			1,612.91									
EM			1,509.32									

O - Outperform, M - Market-Perform, U - Underperform, NR - Not Rated, CS - Coverage Suspended

FCX, NEM estimate is Reported EPS; FCX, NEM valuation is Reported P/E (x); BHP.AU, BHP, BHP.LN base year is 2025;

Source: Bloomberg, Bernstein estimates and analysis.

# Ticker Table – Americas Energy & Transition

Ticker	Rating	Cur	10 Oct 2025	Price Target	TTM	Cur	Adjusted EPS			Adjusted P/E (x)		
			Closing Price		Rel. Perf.		2024A	2025E	2026E	2024A	2025E	2026E
APA	M	USD	21.94	22.00	(32.3)%	USD	4.50	4.08	6.06	4.9	5.4	3.6
CCO.CT	O	CAD	121.35	102.00	58.4%	CAD	0.40	1.71	2.53	34.5	30.3	27.9
CCJ	O	USD	86.65	98.00	55.4%	CAD	0.40	1.98	2.92	34.6	27.5	24.9
LNG	O	USD	227.37	261.00	5.8%	USD	14.19	14.73	17.63	16.0	15.4	12.9
CQP	M	USD	51.54	53.00	(10.6)%	USD	4.26	4.19	4.33	12.1	12.3	11.9
CVX	M	USD	148.90	149.00	(15.0)%	USD	9.67	8.56	11.90	15.4	17.4	12.5
COP	O	USD	87.64	115.00	(34.0)%	USD	8.60	6.91	10.13	10.2	12.7	8.6
DVN	O	USD	32.50	43.00	(37.7)%	USD	4.53	3.85	4.86	7.2	8.4	6.7
FANG	O	USD	139.82	192.00	(41.6)%	USD	16.40	14.35	18.50	8.5	9.7	7.6
EOG	M	USD	108.07	146.00	(31.8)%	USD	10.67	10.48	14.11	10.1	10.3	7.7
EQT	O	USD	53.12	72.00	28.6%	USD	0.45	7.26	8.29	12.5	5.5	5.0
EXE	O	USD	101.76	150.00	3.1%	USD	(4.55)	11.78	19.41	12.6	4.5	3.3
XOM	O	USD	110.73	129.00	(23.8)%	USD	7.84	7.49	10.93	14.1	14.8	10.1
KOS	M	USD	1.57	2.00	(78.0)%	USD	0.42	0.13	0.50	3.7	12.5	3.2
KOS.LN	M	GBp	123.50	147.00	(81.0)%	GBP	0.31	0.09	0.37	4.0	13.3	3.4
VG	M	USD	9.45	12.00	NA	USD	0.57	0.57	0.57	26.2	8.9	10.3



**BERNSTEIN**

SOCIETE GENERALE GROUP

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References to "Bernstein" or the "Firm" in these disclosures relate to the following entities: Bernstein Institutional Services LLC (April 1, 2024 onwards), Sanford C. Bernstein & Co., LLC (pre April 1, 2024), Bernstein Autonomous LLP, BSG France S.A. (April 1, 2024 onwards), Sanford C. Bernstein (Hong Kong) Limited 盛博香港有限公司, Sanford C. Bernstein (Canada) Limited, Sanford C. Bernstein (India) Private Limited (SEBI registration no. INH000006378), Sanford C. Bernstein (Singapore) Private Limited and Sanford C. Bernstein Japan KK (サンフォード・C・バーンスタイン株式会社).

On April 1, 2024, Société Générale (SG) and AllianceBernstein, L.P. (AB) completed a transaction that created a new joint venture in which their respective cash equities and research businesses operate in a new business combination. Although their respective ownership percentages in the joint venture differ between North America and the rest of the world, the creation, production and publication of research is handled collaboratively on a global basis across the two research brands, "Bernstein" and "Autonomous". Unless specifically noted otherwise, for purposes of these disclosures, references to Bernstein's "affiliates" relate to both SG and AB and their respective affiliates.

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The Bernstein brand rates stocks based on forecasts of relative performance for the next 12 months versus the S&P 500 for stocks listed on the U.S. and Canadian exchanges, versus the Bloomberg Europe Developed Markets Large and Mid Cap Price Return Index (EDM) for stocks listed on the European exchanges and emerging markets exchanges outside of the Asia Pacific region, versus the Bloomberg Japan Large and Mid Cap Price Return Index USD (JP) for stocks listed on the Japanese exchanges, and versus the Bloomberg Asia ex-Japan Large and Mid Cap Price Return Index (ASIA) for stocks listed on the Asian (ex-Japan) exchanges -unless otherwise specified.

The Bernstein brand has three categories of ratings:

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- Market-Perform: Stock will perform in line with the market index to within +/- 15 pp

- Underperform: Stock will trail the performance of the market index by more than 15 pp

Coverage Suspended: Coverage of a company under the Bernstein research brand has been suspended. Ratings and price targets are suspended temporarily, are no longer current, and should therefore not be relied upon.

Not Rated: A rating assigned when the stock cannot be accurately valued, or the performance of the company accurately predicted, at the present time. The covering analyst may continue to publish research reports on the company to update investors on events and developments.

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Bernstein brand stock ratings are based on a 12-month time horizon.

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Not Rated: A rating assigned when the stock cannot be accurately valued, or the performance of the company accurately predicted, at the present time. The covering analyst may continue to publish research reports on the company to update investors on events and developments.

Those denoted as 'Feature' (e.g., Feature Outperform FOP, Feature Under Outperform FUP) are our core ideas.

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