BofA SECURITIES

Global Uranium

U.S. EUP inventories up on Russian ban. Analyzing Japanese reactor restarts.

Estimate Change

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Bullish U_3O_8: U.S. restocking + Japanese demand upside

We think that the latest data on U.S. utility uranium inventory and contracting indicate a potential U.S. restocking trend that would add support to our bullish view on uranium (U_3O_8) prices. We examine the bull and bear cases on Japanese demand and point to fairly material potential upside to demand from this historically important nuclear power nation. We reiterate our bullish (U_3O_8) price view, calling it to rise to an average of $135 per pound (/lb) in 2026E, given tight supply (concentrated outside western countries) and rising support for nuclear energy. We also reiterate our Buy rating and our C$82 ($60) per share price objective (PO) on Cameco (CCJ).

U.S. utilities restocked and this might be set to continue

While Chinese uranium consumption has risen rapidly to 17% of the 2024E global total and is set to grow much more, the U.S. is still the largest consumer at 27% of the global total. As such, we note the release of uranium inventory, contracting and purchasing data by the U.S. Energy Information Administration (EIA). The data shows U.S. utility uranium inventories rose 6% year-over-year (YoY) to 152 million pounds (Mlbs) at year-end 2023. The increase was largely driven by higher utility holdings which grew by 7.6Mlbs, or 7% year-on-year (YoY). We suspect utilities were motivated to build inventories by the threat of the proposed ban on the import of Russian uranium materials into the U.S. (that bill was passed into law earlier in 2024). Considering concerns around security of supply, this could be the start of a longer restocking cycle that would be bullish for U_3O_8 prices.

Significant upside from Japan restarts, and life extensions

Our base case Japanese demand estimates (11 additional reactors online by 2030E) imply that annual U_3O_8 demand will more than double to ~11.6Mlbs (from a current "run rate" of 5Mlbs) by 2030E, bringing cumulative 2024E-2030E U_3O_8 demand to ~71Mlbs. Our bull case scenario suggests even more upside, that annual U_3O_8 demand could increase to a run rate of ~19.8Mlbs by 2030E. Under this scenario, our forecast for a supply surplus of 3.4Mlbs in 2030E would shift to a supply deficit of 4.5Mlbs. The market deficit would then persist from that year onward. Meanwhile, markets in 2024E through 2029E would be much tighter than our current forecast.

Updating CCJ model for Q2'24 market-to-market

We mark-to-market our CCJ model for the Q2'24 spot average U_3O_8 price and CADUSD exchange rate. We reduce our 2024E EPS for CCJ to C$2.30 from C$2.41. Our Q2'24E EPS for CCJ is $0.65 vs. Bloomberg consensus at C$0.25 and Visible Alpha consensus at C$0.32. We think consensus is likely to move higher. After adjusting our model for lower non-cash items (mostly depreciation) and higher finance income, we increase our 2025E EPS for CCJ to C$3.44 from C$3.29 and our 2026E EPS to C$4.72 from C$4.45.

Contents

Reaffirming U_3O_8 price forecasts

Based on our view of increasingly tight uranium (U_3O_8) markets, we maintain our recently updated spot U_3O_8 price forecasts (link here: N.A. Metals & Mining: 8-Apr-24). Our 2024E, 2025E, 2026E, and long-term U_3O_8 price forecasts are $105 per pound (/lb), $120/lb, $135/lb, and $60/lb, respectively.

Exhibit 1: BofAe annual U_3O_8 price forecast changes
Our U_3O_8 price forecast remains bullish, with expectations of a peak in prices in 2026 and a $60/lb LT price (above spot).

	US$/lb	2017	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E(LT)
Current	U_3O_8	22.06	24.54	25.89	29.49	34.90	49.55	60.20	105.00	120.00	135.00	110.00	85.00	60.00
yoy change	%	-17%	11%	6%	14%	18%	42%	21%	74%	14%	13%	-19%	-23%	-29%

Source: UxC, LLC (www.uxc.com); BofA Global Research

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Please see our Primer for an overview of the Nuclear Fuel Cycle.

Uranium (U_3O_8) market prices

The spot price of uranium concentrate (U_3O_8) has been improving steadily since 2017 with particularly strong performance since the start of 2023. See Exhibits 2 and 3 below.

Exhibit 2: Daily price of uranium (U_3O_8) in US$/lb
U_3O_8 prices have steadily risen since 2017 and have moderated in the mid $80s over the past month, largely due to lack of news flow.

Source: UxC, LLC

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Exhibit 3: Monthly price of uranium (U_3O_8) in US$/lb
U_3O_8 prices are still well below the long-term peak reached in 2007.

Source: UxC, LLC

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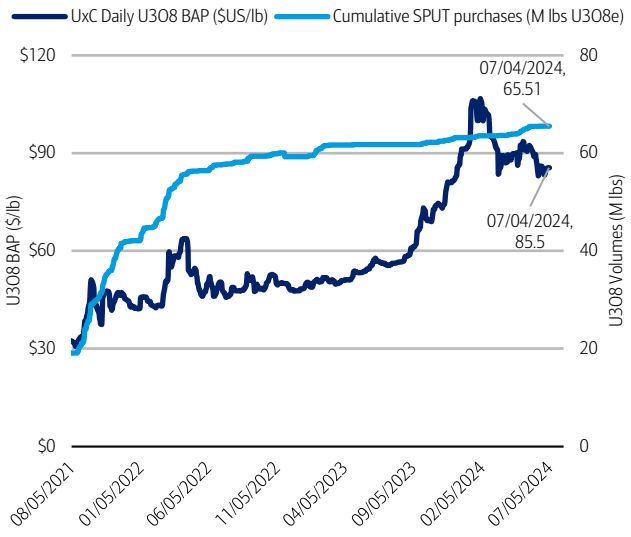
In our view, the rising U_3O_8 price has been driven by a range of factors, among which the key drivers are: (1) constrained supply that is the result of a seven year U_3O_8 bear market following from the 2011 Fukushima accident; (2) an increase in government regulatory and financial support of nuclear energy; (3) increased recognition by energy consuming entities and individuals that nuclear energy will be needed to decarbonize electrical energy generation; and (4) more recently, expectations that Artificial Intelligence (AI) will drive enormous growth in energy-intensive datacenters to which nuclear energy is ideally suited given its ability to supply huge quantities of carbon-free baseload power.

Another factor that has helped to pressure U_3O_8 prices higher has been the financial players like the Sprott Physical Uranium Trust (SPUT), SPUT is an investment trust that acquires U_3O_8 on the spot market and holds it indefinitely in order to offer investors a vehicle through which to gain exposure to the spot U_3O_8 price. We map the relationship between SPUT purchases and U_3O_8 spot prices in Exhibits 4 and 5 below.

Exhibit 4: UxC daily spot price vs. cumulative SPUT purchases of U_3O_8
When SPUT holdings rise rapidly the U_3O_8 spot price tend to rise.



Source: UxC, LLC; Sprott Physical Uranium Trust website

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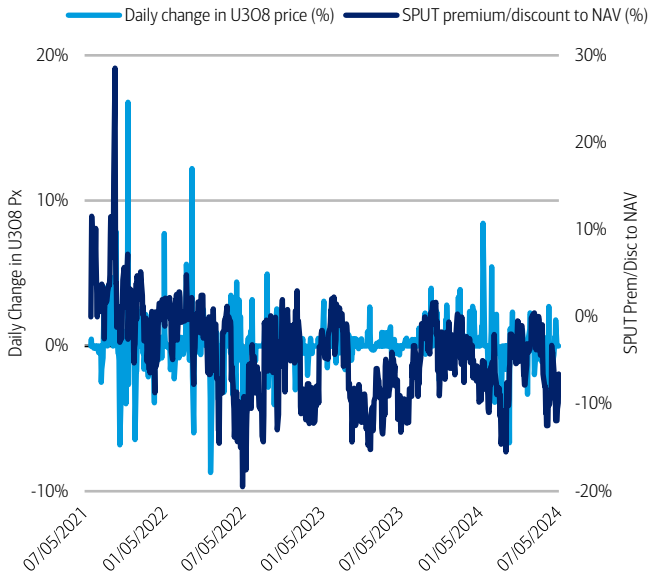
Exhibit 5: SPUT price premium to NAV vs. daily U_3O_8 price changes
When priced at a discount to NAV, SPUT U_3O_8 purchases slow.



Source: UxC, LLC; Sprott Physical Uranium Trust website

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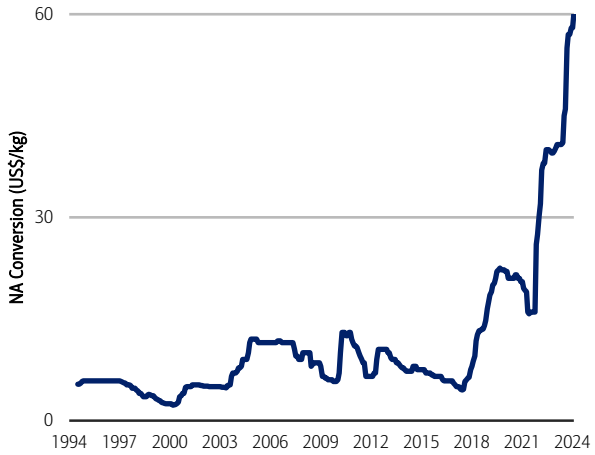
Conversion market prices

Conversion pricing in North America and the European Union is at all-time highs and could continue appreciating given reports of still tight supply (i.e., existing assets in France and the U.S. that are not yet able to operate at design capacity, and the recent U.S. ban on Russian uranium products). See Exhibits 6 and 7 for a pricing history.

While two conversion facilities are now ramping-up in the West (i.e., Converdyn in the U.S. and Philippe Coste in France) which could provide some relief over the longer term, until these facilities are fully ramped, continued tightness seems likely. This implies that there may be increasing pent-up demand for U_3O_8, the feedstock of conversion.

Exhibit 6: North American (NA) conversion pricing (US$ / KgU)
Conversion pricing is at all-time highs.



Source: UxC, LLC

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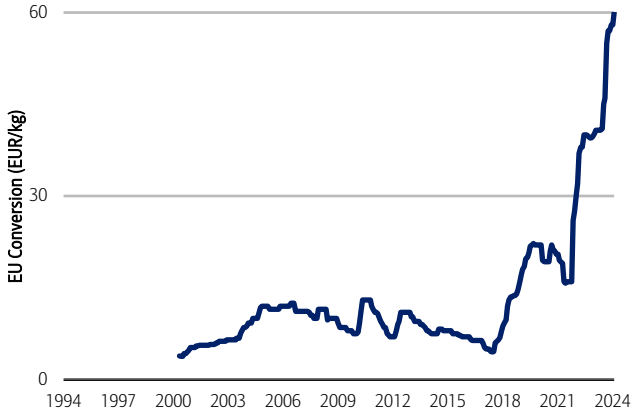
Exhibit 7: European Union (EU) conversion pricing (EUR / KgU)
Conversion pricing is at all-time highs.



Source: UxC, LLC

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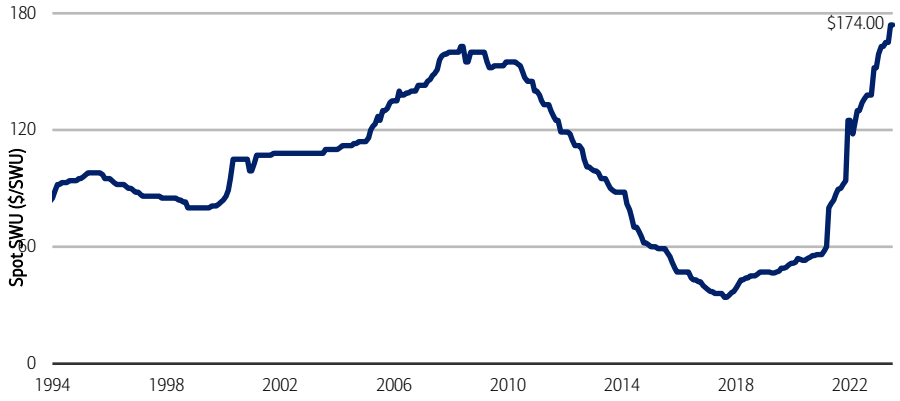
Enrichment market prices

Global enrichment markets are tightening rapidly, which should lead to increasing demand for U_3O_8 through a rising rate of overfeeding. We think it is feasible that the U_3O_8 price reaches a new all-time high.

Exhibit 8: Enrichment prices as measure in USD per separative work unit (SWU)
SWU pricing has strengthened substantially since Russia's invasion of Ukraine, to an all-time high.



Source: UxC, LLC

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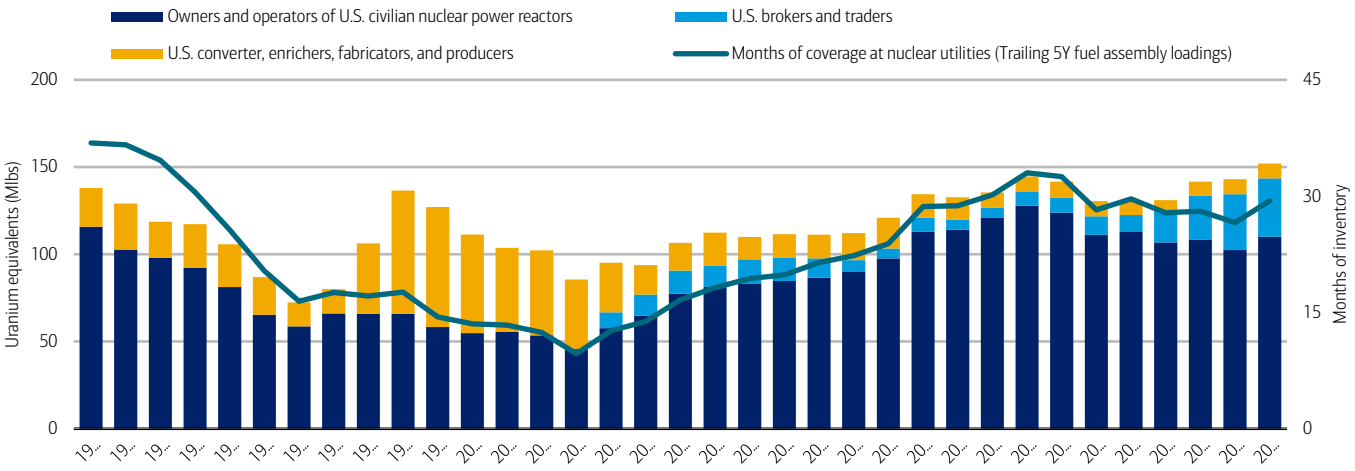
U.S. inventories higher, driven by utilities

Data from the U.S. Energy Information Administration (EIA) indicates that commercial inventories of uranium in the U.S. rose 6% year-over-year (YoY) to 152Mlbs at year-end 2023 (from 143Mlbs at year-end 2022). The increase was predominantly driven by higher holdings by utilities which grew by 7.6Mlbs, or 7% YoY. We suspect that utilities, were motivated to build inventories by the threat of the proposed ban on the import of Russian uranium materials in the U.S. (that bill was passed into law earlier in 2024). Months of uranium requirements covered by those inventories grew by 11% to 29, putting the level just above the 24-year mark considered to be work-in-process. Depending on how liberally waivers are granted to allow for the temporary import of uranium products into the U.S. from Russia (allowed until 2028 at the latest), inventories could continue to build in the coming years, or they could be drawn down quite rapidly.

Exhibit 9: Commercial inventories of uranium in the United States by type of owner (in millions of pounds of uranium equivalents)
Commercial inventories continued trending higher in F23, with U.S. nuclear utilities upping their inventories 7% YoY.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report

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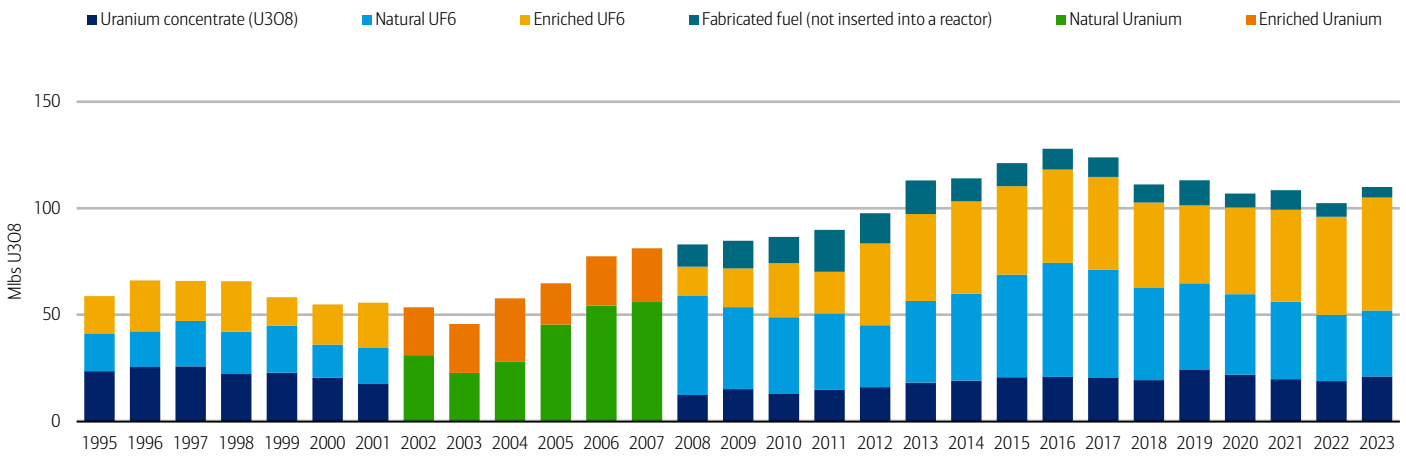
As of year-end 2023, 48% of the uranium inventories held by U.S. civilian nuclear reactors were enriched, the highest level in our dataset that goes back to 1995, and well above the 2008 low of 17%. This makes sense in light of the ban on imports of Russian uranium products to the U.S., the fact that the vast majority, if not all Russian uranium imports to the U.S. are enriched, and what we see as a push by U.S. utilities to build stockpiles in anticipation of that ban, as well as that most of what the U.S. historically imported from Russia was enriched uranium product (EUP) in the form of UF_6.

Exhibit 10: Uranium inventory held by U.S. civilian nuclear power reactors (In thousands of U_3O_8 equivalent)
Natural UF6 inventory trended flat YoY while enriched uranium has increased 15% YoY.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report

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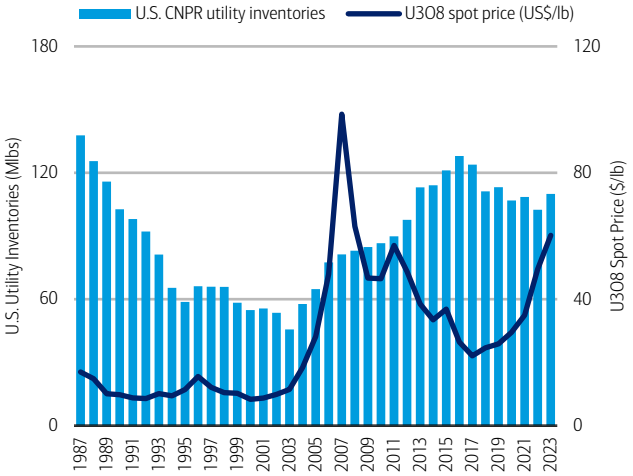
Natural uranium concentrate (U_3O_8) inventory was 19% of the total at year-end 2023, just above the low of 15% in 2010 and well off the 1995 peak at 40%. Natural uranium in the form of UF_6 was 28% of total inventories held by U.S. civilian nuclear reactors, just off the 1996 low at 25% and well-off the all-time high of 56% in 2008. See Exhibit 10 above. We think the low levels of natural uranium in the form of both U_3O_8 or UF_6 partly reflects the extensive tightness in those markets, and also partly reflects the more downstream (and thus more critical) position of EUP in the nuclear fuel supply chain, closer to the final fabricated fuel product. This might suggest that a pick-up in the stockpiling of natural uranium (U_3O_8 and/or UF_6) could emerge going forward as U.S. utilities turn their attention further upstream.

U.S. restocking would be bullish for uranium prices

In 1995 and 2003, after multiple years of softening global uranium prices, a shift from uranium destocking to restocking in the U.S. served as a catalyst for meaningful multi-year appreciation in the uranium price in subsequent years. Uranium price rebounds in 2011 and 2014 were ultimately short-lived in the face of continually rising U.S. inventories spurred by the shutdown of the entire Japanese nuclear fleet post Fukushima and the start of "economic" closures of nuclear plants in the U.S. Interestingly, since bottoming in 2017, uranium prices have experienced a multi-year appreciation despite U.S. inventories being in a period of destocking. With the U.S. now potentially entering a period of restocking (assuming it persists beyond 2023 as we think it might), at the same time as demand for uranium products is strong globally, this could be a significant source of additional upward pressure on the price of uranium products.

Exhibit 11: U.S. commercial inventories vs. U_3O_8 spot price
U.S. nuclear utility destocking of uranium appears to have bottomed.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report, UxC LLC.
Note: CNPR = Civilian Nuclear Power Reactors

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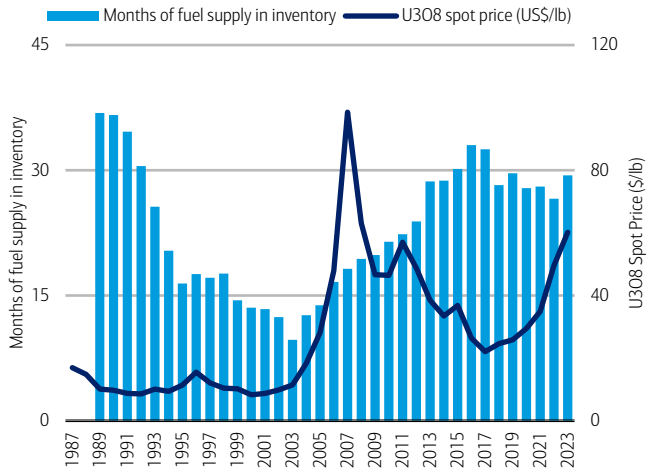
Exhibit 12: U.S. months of supply in inventory vs. U_3O_8 spot price
Months of uranium inventory on hand also seems to be bottoming.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report, UxC LLC.
Note: CNPR = Civilian Nuclear Power Reactors.

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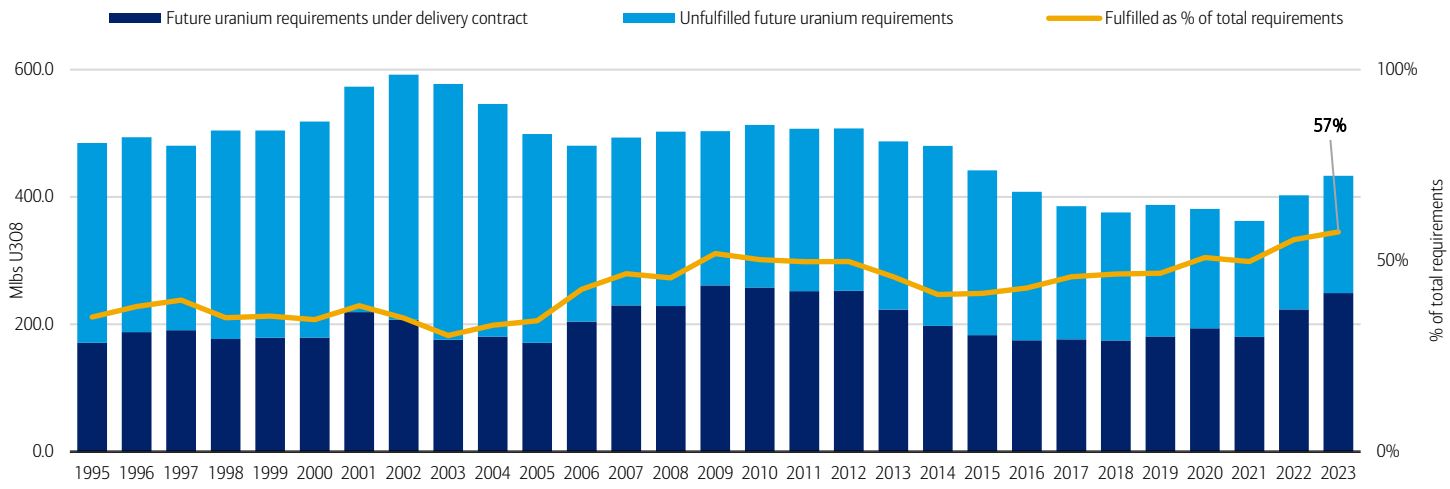
U.S. utilities coverage rising

According to 2023 U.S. EIA data, U.S. utilities anticipated that they would require 433Mlbs of uranium equivalents over the next 10Y ('24-'33). Of these total requirements, 249Mlbs (57.5%), had been locked-in through contracted deliveries, leaving 184Mlbs, (42.5%) of total anticipated requirements, unfulfilled. See Exhibit 13. This is this the highest level of fulfilled and lowest level of unfulfilled requirements ever, indicating that U.S. utilities might be increasingly concerned about security of supply, a mindset that is normally highly constructive of uranium prices.

Exhibit 13: U.S. utilities anticipated uranium requirements for the subsequent 10-year period – fulfilled by contracting
US utilities U_3O_8 coverage has reached an all-time high at ~57% of forward 10-year requirements.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report

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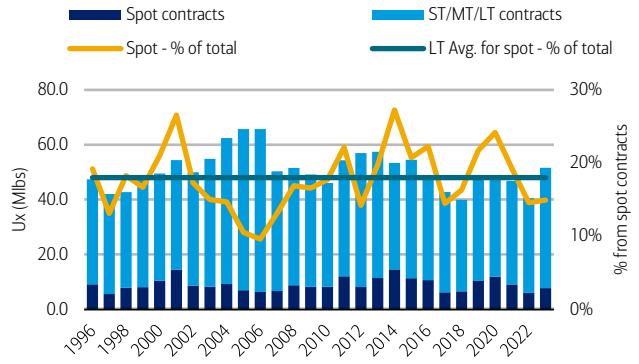
U.S. utility purchases up 27% YoY

According to U.S. EIA data, U.S. utilities purchased 51.6Mlbs of uranium equivalents, up 27.4% from 40.5Mlbs in 2022. Of this total, uranium purchased for spot delivery (a single delivery within one year of contract execution) accounted for 7.7Mlbs, or 15%, reasonably below the LT average of 18% and well below the 24% peak in 2020. See Exhibits 14 and 15 below. Historically, lower levels of spot purchases are associated with strong spot prices. Years 2019 and 2020 were exceptions, in our view, likely owing to the outsized influence of producer buying on pushing spot prices higher.

Exhibit 14: Uranium purchased by U.S. civilian nuclear reactors
Spot purchases as a % of total fell below the LT average in F23.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report

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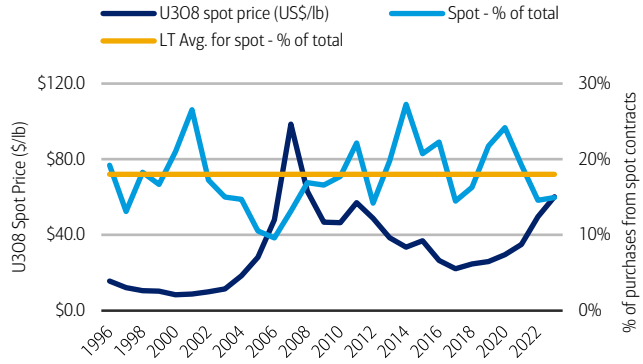
Exhibit 15: Spot purchasing activity in U.S. vs. global uranium price
A lower proportion of spot purchases coincide with higher prices.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report, UxC, LLC

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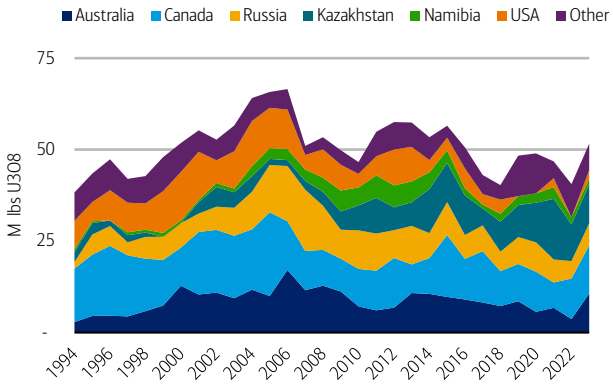
Non-western uranium sources declining

Kazakhstan's (20.6%) and Russia's (11.7%) combined share of U.S. uranium purchases fell to 32% (vs. 37% in 2022) from an all-time high of 49% in 2021. Australia and Canada have so far been the biggest beneficiaries: U.S. purchases from Australia tripled YoY to 10.6Mlbs in 2023 (from 3.6Mlbs in 2022) and purchases from Canada increases 18.6% YoY to 13.1Mlbs. We expect this trend to continue given the U.S. ban on Russian uranium products and generally heightened geopolitical risks.

Exhibit 16: Uranium purchased by U.S. CNPR by origin country
Uranium purchases from Australia in 2023 nearly tripled YoY.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report. Note: CNPR = Civilian Nuclear Power Reactors

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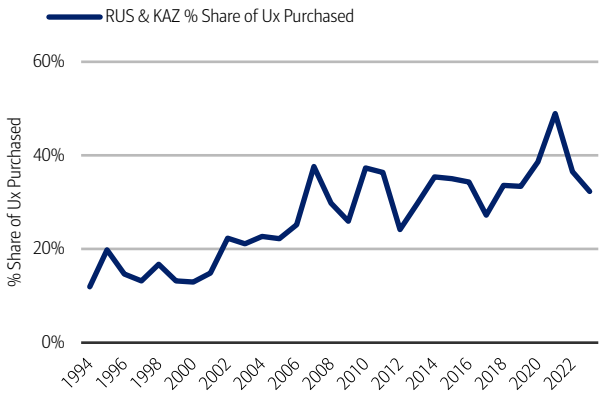
Exhibit 17: Russian & Kazakhstan's share of U.S. uranium purchased
Russia + Kazakhstan's share fell to 32% in F23.



Source: U.S. Energy Information Administration, Uranium Marketing Annual Report. Note: CNPR = Civilian Nuclear Power Reactors

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Japanese restarts and extensions in focus

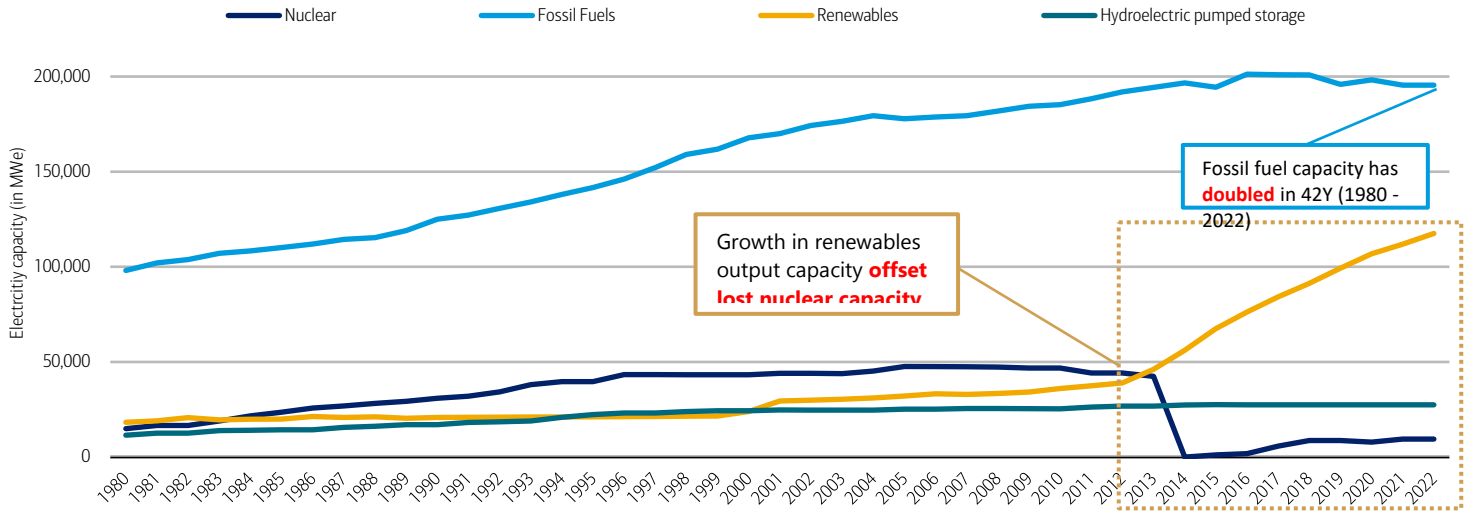
Japan is a "show me story" but could drive material upside to uranium demand

Despite the Japanese government's pursuit of a nuclear revival, the reactor restart process has been challenging. Two key issues facing nuclear restarts in Japan (and newbuilds, for that matter) are (1) restart deadlines being postponed due to new and very rigorous safety standards not being met; and (2) local community opposition in certain regions that manifest in slow and/or outstanding local regulatory approvals.

Brief history on Japanese nuclear policy

After the 2011 Fukushima nuclear accident, Japan enacted a nuclear phaseout plan and suspended operations at all 54 of its nuclear reactors that were in operation at the time (more than 20 have since been permanently closed). The country substituted lost nuclear power with imported natural gas, heavy fuel oil, crude oil, and coal. Renewables have not been sufficient to offset the loss of carbon free nuclear power. More recently, this net increase is carbon-emmtting sources of power is serving as one motivation for Japan to restart it's operable but non-operating fleet of nuclear power plants. Exhibit 18 below shows how Japan's mix of fuel sources for electricity generation have evolved.

Exhibit 18: Japan electricity capacity by fuel source over time
We view nuclear as Japan's only path toward its net-zero carbon by 2050 goal.



Source: U.S. Energy Information Administration, BofA Global Research

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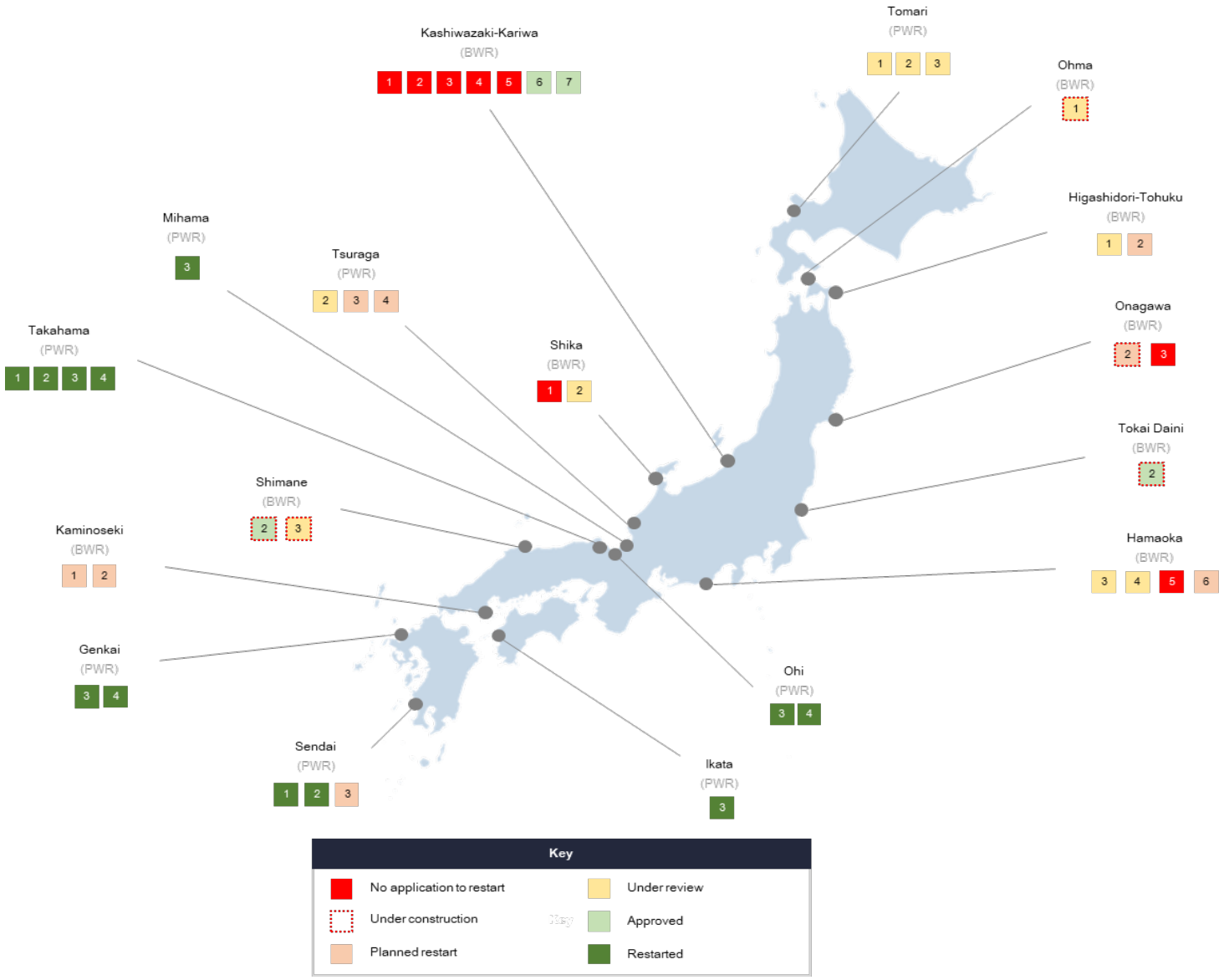
Global fuel shortages and rising energy costs are other motivating factors that have prompted Japan to revisit its use of nuclear energy. To put the costs in context, Japan's Ministry of Economy, Trade, and Industry (METI) indicated that electricity costs would require a greater than 15% increase to support energy demands while the nuclear plants remained shut.

Japan's nuclear restart strategy has focused on restarting pressurized water reactors (PWRs) as opposed to boiling water reactors (BWRs), which were used at the Fukushima plant (largely due to public safety concerns). By 2015, Japan allowed two of its nuclear reactors to resume operations and since then, a further 10 have restarted, with another 12 currently at different stages in the restart approval process (eight units under review; and four approved but have yet to restart). There are an additional three reactors under construction. However, restart progress has been slow with only 12 of 33 total operable reactors back on the grid, as of today (See Exhibit 19).

Despite uncertainty around Japan's nuclear restart goals, our base case estimates indicate that annual U_3O_8 equivalent run rate consumption demand should nearly double from ~6Mlbs in 2023 to almost 12Mlbs in 2030E (See Global uranium (U_3O_8) demand

model exhibit at the end of this report). This magnitude of growth by the end of the decade would put Japan's total nuclear capacity at ~28 gigawatts (GW), making it one of the top six countries in terms of nuclear capacity.

Exhibit 19: Japan's nuclear reactor fleet, as of May 2024
Restart progress has been slow, with only 12 operable reactors back on the grid as of May 2024



Source: BofA Global Research, Institute of Energy Economics Japan, International Atomic Energy Agency, U.S. Energy Information Administration, World Nuclear Association, BofA Global Research

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Japanese nuclear restart progress in 2024

The year 2023 was a progressive year for Japanese nuclear restarts primarily due to (1) the passing of the GX Decarbonization Power Supply Bill, which designated nuclear power as a primary component of the country's baseload electricity; and (2) the restarts of Takahama Units 1 and 2.

In 2024, Japan's existing 12 PWRs have continued to operate with business as usual with only minor hiccups including various cases by intervenors aiming to have the reactors shut down. Each court decision was positive for the reactors, going against the intervenors.

Exhibit 20: Current status of Japanese nuclear plants and our assumptions around restart (N/A = no restart assumed)
Only ~36% (12/33) of JAPAN's operable reactors have restarted since Fukushima

	Owner	Plant Name	Reactor Type	Gross Output Capacity (MWe)	Age	On/Offline	Current Status	Restart
Operable Reactors (33)	JAPC	Tokai-2	BWR	1,100	45	Outage/Offline	Approved & under constr.	2025
		Tsuruga-2	PWR	1,160	37	Outage/Offline	Under review	2026
	Hokkaido EPC	Tomari-1	PWR	579	34	Outage/Offline	Under review	2026
		Tomari-2	PWR	579	33	Outage/Offline	Under review	2026
		Tomari-3	PWR	912	14	Outage/Offline	Under review	2027
	Tohoku EPC	Onagawa-2	BWR	825	28	Outage/Offline	Planned for restart	2024
		Onagawa-3	BWR	825	22	Outage/Offline	No application	N/A
		Higashidori-1 (Tohoku)	BWR	1,100	18	Outage/Offline	Under review	2027
	TEPCO	Kashiwazaki kariwa-1	BWR	1,100	38	Outage/Offline	No application	N/A
		Kashiwazaki kariwa-2	BWR	1,100	33	Outage/Offline	No application	N/A
		Kashiwazaki kariwa-3	BWR	1,100	30	Outage/Offline	No application	N/A
		Kashiwazaki kariwa-4	BWR	1,100	29	Outage/Offline	No application	N/A
		Kashiwazaki kariwa-5	BWR	1,100	34	Outage/Offline	No application	N/A
		Kashiwazaki kariwa-6	ABWR	1,356	27	Outage/Offline	Approved	2025
		Kashiwazaki kariwa-7	ABWR	1,356	26	Outage/Offline	Approved	2024
	Chubu EPC	Hamaoka-3	BWR	1,100	36	Outage/Offline	Under review	2028
		Hamaoka-4	BWR	1,137	30	Outage/Offline	Under review	2028
		Hamaoka-5	ABWR	1,380	19	Outage/Offline	No application	N/A
	Hokuriko EPC	Shika-1	BWR	540	30	Outage/Offline	No application	N/A
		Shika-2	ABWR	1,358	18	Outage/Offline	Under review	2028
	Kansai EPC	Mihama-3	PWR	826	47	In Operation	Restarted	2021
		Takahama-1	PWR	826	49	In Operation	Restarted	2023
		Takahama-2	PWR	826	48	In Operation	Restarted	2023
		Takahama-3	PWR	870	39	In Operation	Restarted	2016
		Takahama-4	PWR	870	38	In Operation	Restarted	2017
		Ohi-3	PWR	1,180	32	In Operation	Restarted	2018
		Ohi-4	PWR	1,180	31	In Operation	Restarted	2018
	Chugoku EPC	Shimane-2	BWR	820	35	Outage/Offline	Approved & under constr.	2024
	Shikoku EPC	Ikata-3	PWR	890	29	In Operation	Restarted	2016
	Kyushu EPC	Genkai-3	PWR	1,180	30	In Operation	Restarted	2018
		Genkai-4	PWR	1,180	26	In Operation	Restarted	2018
		Sendai-1	PWR	890	39	In Operation	Restarted	2015
		Sendai-2	PWR	890	38	In Operation	Restarted	2015
Construction (3)	J-Power	Ohma-1	ABWR	1,383	-	Outage/Offline	Under construction	2028
	Chugoku EPC	Shimane-3	ABWR	1373	-	Outage/Offline	Under construction	2030
	TEPCO	Higashidori-1 (TEPCO)	BWR	1,385		Outage/Offline	Under construction	N/A
Planning / Preparing for construction (7)	JAPC	Tsuruga-3	APWR	1,538	-	Outage/Offline	Planning / Preparing for construction	N/A
		Tsuruga-4	APWR	1,538	-	Outage/Offline	Planning / Preparing for construction	N/A
	Chubu EPC	Hamaoka-6	ABWR	1400	-	Outage/Offline	Planning / Preparing for construction	N/A
	Tohoku EPC	Higashidori-2	ABWR	1385	-	Outage/Offline	Planning / Preparing for construction	N/A
	Kyushu EPC	Sendai-3	APWR	1590	-	Outage/Offline	Planning / Preparing for construction	N/A
	Chugoku EPC	Kaminoseki-1	ABWR	1373	-	Outage/Offline	Planning / Preparing for construction	N/A
		Kaminoseki-2	ABWR	1373	-	Outage/Offline	Planning / Preparing for construction	N/A

Source: BofA Global Research, Japan Atomic Industrial Forum, World Nuclear Association, Bloomberg, Argus Media, The Japan News, BofA Global Research

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However, reactor restart timing has been a mixed bag, with some reactors making continued progress while others postponed initial plans due to delays in aligning the physical sites with updated post-Fukushima safety-related regulations (i.e., the anti-terror rules, among others). Reactor-specific progress is summarized above in Exhibit 20.

1. **Onagawa Unit 2**: Safety related work is to have concluded in June, setting the reactor up to resume operations in September 2024 (vs. initial plan for May 2024).

2. **Kashiwazaki Kariwa Unit 7**: Fuel loading was completed in April 2024, setting the plant up to potentially restart before the end of the year.

3. **Shimane Unit 2**: Chugoku EPC (operator) delayed the restart from August to December 2024 due to delays in implementing safety related measures.

Japanese U_3O_8 consumption by reactor

Exhibit 21: Japanese U_3O_8 consumption demand analysis by reactor

Annual run-rate consumption demand figures highlighted in green are included in our base-case run-rate from 2030E onward.

Reactors	Status	Gross output capacity (MWe)	Capacity factor (1)	Estimated annual U3O8 run-rate consumption (lbs) (2)	Restart year
Operable: Restarted					
Mihama-3	Restarted	826	71.0%	322,673	2021
Takahama-1	Restarted	826	71.8%	326,331	2023
Takahama-2	Restarted	826	71.7%	325,745	2023
Takahama-3	Restarted	870	77.0%	368,232	2016
Takahama-4	Restarted	870	82.2%	393,200	2017
Ohi-3	Restarted	1,180	76.2%	494,839	2018
Ohi-4	Restarted	1,180	81.6%	529,752	2018
Ikata-3	Restarted	890	79.1%	387,195	2016
Genkai-3	Restarted	1,180	82.9%	538,331	2018
Genkai-4	Restarted	1,180	84.0%	545,067	2018
Sendai-1	Restarted	890	81.3%	398,016	2015
Sendai-2	Restarted	890	82.2%	402,423	2015
Total		**11,608**		**5,031,806**	
Operable: Planned for restart					
Onagawa-2	Planned for restart	825	74.8%	339,206	2024
Total		**825**		**339,206**	
Operable: Under review					
Tsuruga-2	Under review	1,160	76.0%	484,803	2026
Tomari-1	Under review	579	83.5%	266,003	2026
Tomari-2	Under review	579	82.8%	263,601	2026
Tomari-3	Under review	912	75.5%	378,708	2027
Higashidori-1 (Tohoku)	Under review	1,100	70.5%	426,784	2027
Hamaoka-3	Under review	1,100	78.3%	473,413	2028
Hamaoka-4	Under review	1,137	77.8%	486,522	2028
Shika-2	Under review	1,358	54.1%	404,372	2028
Total		**7,925**		**3,184,206**	
Operable: Approved					
Tokai-2	Approved & under constr.	1,100	71.2%	430,962	2025
Kashiwazaki kariwa-6	Approved	1,356	75.7%	564,384	2025
Kashiwazaki kariwa-7	Approved	1,356	74.2%	553,703	2024
Shimane-2	Approved & under constr.	820	77.1%	347,815	2024
Total		**4,632**		**1,896,864**	
Operable: No restart application					
Onagawa-3	No application	825	63.8%	289,674	N/A
Kashiwazaki kariwa-1	No application	1,100	73.2%	443,137	N/A
Kashiwazaki kariwa-2	No application	1,100	77.6%	469,409	N/A
Kashiwazaki kariwa-3	No application	1,100	78.6%	475,789	N/A
Kashiwazaki kariwa-4	No application	1,100	72.6%	439,100	N/A
Kashiwazaki kariwa-5	No application	1,100	73.4%	443,949	N/A
Hamaoka-5	No application	1,380	52.5%	398,096	N/A
Shika-1	No application	540	72.7%	216,002	N/A
Total		**8,245**		**3,175,156**	
Non-operable: Under construction					
Ohma-1	Under construction	1,383	78.8%	599,499	2028
Shimane-3	Under construction	1,373	78.8%	595,164	2030
Higashidori-1 (TEPCO)	Under construction	1,385	78.8%	600,366	N/A
Total		**4,141**		**1,795,030**	
Non-operable: Proposed					
Tsuruga-3	Planning / Preparing for construction	1,538	78.8%	666,688	N/A
Tsuruga-4	Planning / Preparing for construction	1,538	78.8%	666,688	N/A
Hamaoka-6	Planning / Preparing for construction	1400	78.8%	606,868	N/A
Higashidori-2	Planning / Preparing for construction	1385	78.8%	600,366	N/A
Sendai-3	Planning / Preparing for construction	1590	78.8%	689,229	N/A
Kaminoseki-1	Planning / Preparing for construction	1373	78.8%	595,164	N/A
Kaminoseki-2	Planning / Preparing for construction	1373	78.8%	595,164	N/A
Total		**10,197**		**4,420,169**	

Source: BofA Global Research International Atomic Energy Agency, Japan Atomic Industrial Forum, World Nuclear Association. (1) Calculated excluding Yrs where reactor was shut down/inoperable to provide most accurate capacity factor reading; (2) Assuming consumption of 550k lbs U_3O_8 / 1000 MWe; (3) Using weighted average capacity factor since reactors are still under construction and thus have no load factor data

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As shown in Exhibit 21, our estimates indicate that the current annual U_3O_8 consumption demand "run rate" at the 12 restarted reactors is just north of 5Mlbs (our 2024E forecast is higher as we factor in pre-buying for future restarts) and we expect this to more than double to ~11.6Mlbs by 2030E. This growth represents our base case for Japanese restarts and the completion of the construction of new reactors. It is based on an underlying set of assumptions with respect to which reactors are going to come online and when they will come online. We summarize our bull/bear/base case below.

Base case = 11.6Mlbs of annual U_3O_8 consumption

Our base case assumes Japan's approved, under review, and select under construction reactors come online by 2030E. We believe this is reasonable given (1) the government's regulatory and financial support for nuclear energy policies and (2) because the estimated nuclear capacity by FY30 under our base case is ~27.7GW, which is roughly in line with estimates from the U.S. Energy Information Administration which estimates that 24GW of nuclear capacity will be required for Japan to meet its policy targets of having nuclear account for 20-22% of total electricity generation by 2030). See Exhibit 22 for our base case estimates.

Exhibit 22: Base case restarts

We assume the following 15 reactors come online by 2030E, almost doubling annual run rate to 11.6Mlb run rate by 2030E (from 5Mlbs currently).

Reactor	Expected Restart Year	Incremental U3O8 Demand	Incremental nuclear capacity
Onagawa-2	2024	339,206	825
Kashiwazaki kariwa-7	2024	553,703	1,356
Shimane-2	2024	347,815	820
Tokai-2	2025	430,962	1,100
Kashiwazaki kariwa-6	2025	564,384	1,356
Tsuruga-2	2026	484,803	1,160
Tomari-1	2026	266,003	579
Tomari-2	2026	263,601	579
Tomari-3	2027	378,708	912
Higashidori-1 (Tohoku)	2027	426,784	1,100
Hamaoka-3	2028	473,413	1,100
Hamaoka-4	2028	486,522	1,137
Shika-2	2028	404,372	1,358
Ohma-1	2028	599,499	1,383
Shimane-3	2030	595,164	1,373
Incremental U_3O_8 Demand / Nuclear capacity		6,614,940	16,138
Current U_3O_8 run rate / Nuclear capacity		5,031,806	11,608
Estimated Run Rate / Nuclear capacity by 2030		11,646,746	27,746

Source: BofA Global Research

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Bull case scenario = 19.8Mlbs of annual U_3O_8 consumption

Our Japan bull case scenario assumes that an additional 16 reactors (eight operable, one under construction, and seven in the planning/pre-construction phase) come online by 2030E. Under this scenario annual run rate U_3O_8 demand quadruples to ~19.8Mlbs by 2030E (up from just over 6Mlbsin 2023).

Although we don't think a bull-case scenario is highly likely in Japan for 2030E given the current burdensome regulatory requirements around safety plus pockets of local opposition, we think our bull case illustrates the longer-term opportunity in Japan for nuclear – and by extension U_3O_8.

See Exhibit 23 below for our bull case scenario.

Exhibit 23: Bull case scenario analysis
We assume the following 31 reactors come online by 2030, nearly quadrupling annual run rate to ~19.8Mlbs by 2030E (from 5Mlbs currently).

Reactor	Expected Restart Year	Incremental U3O8 Demand	Incremental nuclear capacity
Onagawa-2	2024	339,206	825
Kashiwazaki kariwa-7	2024	553,703	1,356
Shimane-2	2024	347,815	820
Tokai-2	2025	430,962	1,100
Kashiwazaki kariwa-6	2025	564,384	1,356
Tsuruga-2	2026	484,803	1,160
Tomari-1	2026	266,003	579
Tomari-2	2026	263,601	579
Tomari-3	2027	378,708	912
Higashidori-1 (Tohoku)	2027	426,784	1,100
Hamaoka-3	2028	473,413	1,100
Hamaoka-4	2028	486,522	1,137
Shika-2	2028	404,372	1,358
Ohma-1	2028	599,499	1,383
Shimane-3	2030	595,164	1,373
Higashidori-1 (TEPCO)	N/A	600,366	1,385
Onagawa-3	N/A	289,674	825
Kashiwazaki kariwa-1	N/A	443,137	1,100
Kashiwazaki kariwa-2	N/A	469,409	1,100
Kashiwazaki kariwa-3	N/A	475,789	1,100
Kashiwazaki kariwa-4	N/A	439,100	1,100
Kashiwazaki kariwa-5	N/A	443,949	1,100
Hamaoka-5	N/A	398,096	1,380
Shika-1	N/A	216,002	540
Tsuruga-3	N/A	666,688	1,538
Tsuruga-4	N/A	666,688	1,538
Hamaoka-6	N/A	606,868	1,400
Higashidori-2	N/A	600,366	1,385
Sendai-3	N/A	689,229	1,590
Kaminoseki-1	N/A	595,164	1,373
Kaminoseki-2	N/A	595,164	1,373
Incremental U_3O_8 Demand / Nuclear capacity		14,810,631	35,965
Current U_3O_8 Run Rate / Nuclear capacity		5,031,806	11,608
Estimated Run Rate / Nuclear capacity by 2030		**19,842,437**	**47,573**

Source: BofA Global Research

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Bear case scenario = 7.3Mlbs of annual U_3O_8 consumption

Our bear case scenario assumes that 5 additional reactors come online by 2030E, increasing annual run rate U_3O_8 demand by 2Mlbs to 7.3Mlbs by 2030E (from ~6Mlbs in 2023). This scenario assumes that there will be (1) construction-related delays and (2) potential public opposition to nuclear energy, resulting in elongated nuclear restart plans beyond 2030E. We think the risk represented in this scenario is primarily driven by construction-related delays since (1) the majority of 2024 delays stemmed from construction/safety-related work and (2) a survey by Asahi Shimbun (a major news provider in Japan) in 2023 found that ~51% of respondents in Japan were in favor of nuclear plant restarts. See Exhibit 24 below for our bear case estimates.

Exhibit 24: Bear case scenario analysis
We assume the following 5 reactors come online by 2030, resulting in a 7.3Mlb annual run rate by 2030E (up from 5Mlbs currently).

Reactor	Expected Restart Year	Incremental U3O8 Demand	Incremental nuclear capacity
Onagawa-2	2024	339,206	825
Tokai-2	2025	430,962	1,100
Kashiwazaki kariwa-6	2025	564,384	1,356
Kashiwazaki kariwa-7	2024	553,703	1,356
Shimane-2	2024	347,815	820
Incremental U_3O_8 Demand / Nuclear capacity		2,236,070	5,457
Current U_3O_8 run rate / Nuclear capacity		5,031,806	11,608
Estimated run rate / nuclear capacity by 2030		7,267,876	17,065

Source: BofA Global Research

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Where we are in the cycle: price & volume

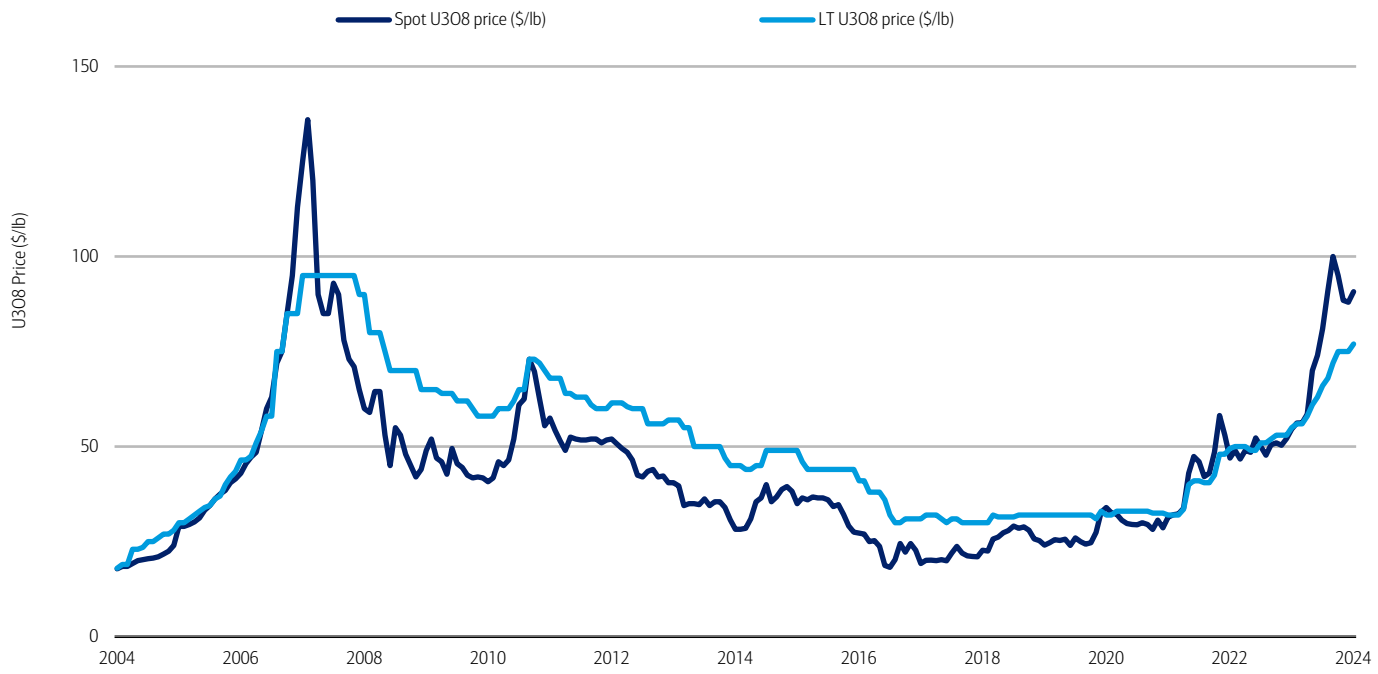
Below we summarize uranium market volume trends and how they relate to price.

Spot vs. Term Market

Uranium (yellow cake, conversion, and/or SWU) is bought and sold in one of two markets, either the term or the spot. While the spot market is defined by any activity that calls for delivery within the next 12 months, spot price indicators are largely driven by activity that calls for "prompt" delivery over the next three months. Meanwhile, the term market covers product that will be delivered 12 months out (or longer).

The below exhibit below maps the relationship between the spot and term prices for U_3O_8 (Yellowcake). Term prices generally tend to trade at a premium to spot. However, in late 2023, this trend flipped as spot began trading at a premium to term. This marked the start of another bullish period for uranium, similar to the period from 2004-07. While the 2004-07 period suggests that there may be a correction once supply and demand balance. Our view is that this will only occur when the uranium deficit levels out, no earlier than 2026, with risk to this being extended.

Exhibit 25: Monthly average spot and term prices of U_3O_8
Spot prices recently began trading at a premium to term prices, indicating the start of another bull-market for uranium.



Source: UxC, LLC

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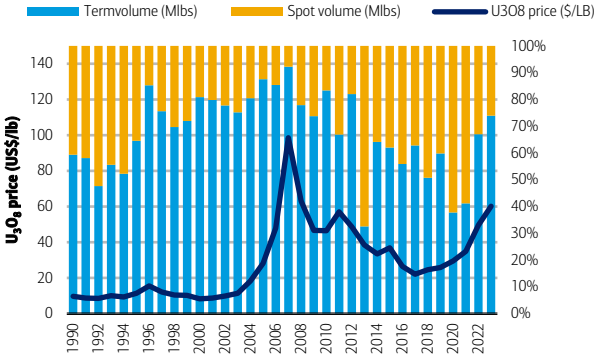
Spot and term market volumes

As you'd expect, trading volumes correlate positively with prices (i.e., when prices go up, volumes go up, and vice versa). This relationship is illustrated below: U_3O_8 prices tend to strengthen during periods where term contracting is a higher portion of total volumes.

Exhibit 26: Global U_3O_8 market volumes by % spot/term vs. price
U_3O_8 prices strengthen when term volumes are a higher portion of total volumes.



Source: UxC, LLC

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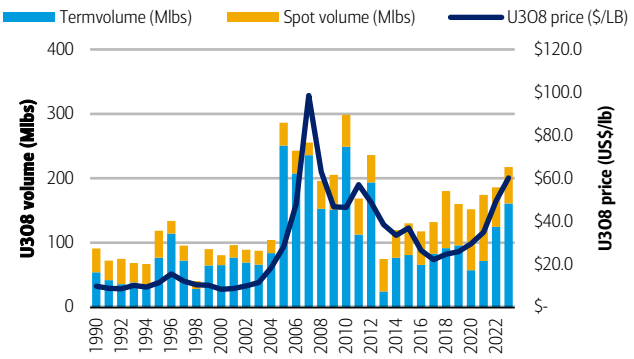
Exhibit 27: Global U_3O_8 market volumes by spot, term vs. price
U_3O_8 prices have risen 104% since 2020 while term and spot volumes have risen 180% and fallen 40%, respectively.



Source: UxC, LLC

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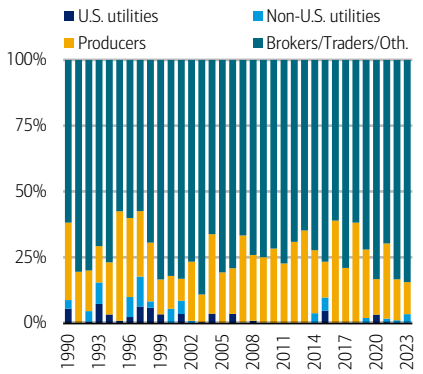
Historically, brokers, traders and other financial institutions have been the dominant group on the selling side of the spot market (see Exhibit 28). On the buying side, utilities were long the dominant group, but were dethroned in 2005 with the invention of the uranium carry trade, when brokers, traders, and other financial institutions used their balance sheets to help utilities offload inventory from their balance sheets. In 2005, brokers, traders, and other financial institutions accounted for 60% of annual spot purchase volumes (see Exhibit 29). In 2023, brokers, traders, and other financial institutions accounted for ~69% of annual spot purchase volumes.

In the term market, buyers are almost exclusively utilities while sellers are predominantly producers. Over the last three years, producers have consistently accounted for a larger share of annual term selling volumes, growing from 66% in 2021 to 88% in 2022 and 92% in 2023. Rising utility participation in the term market is a driver of higher U_3O_8 prices, as churn (when brokers, traders, and other financial institutions trade amongst themselves) is replaced by end-user consumptive demand.

Exhibit 28: U_3O_8 annual spot selling volumes by seller group
Brokers, traders, and others accounted for 84% of selling volumes in F23.



Source: UxC, LLC

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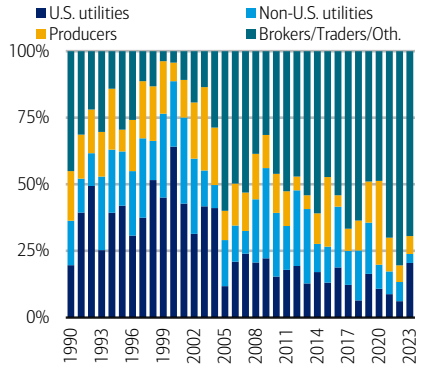
Exhibit 29: U_3O_8 annual spot purchase volumes by buyer group
U.S. utilities accounted for 20% of total spot purchase volumes, up 215% YoY.



Source: UxC, LLC

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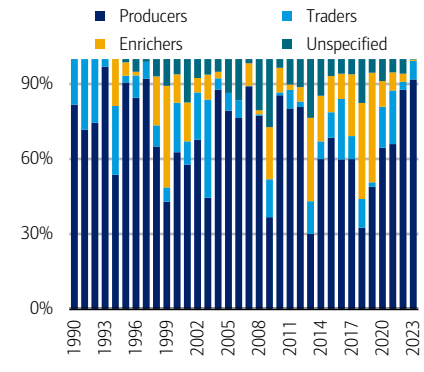
Exhibit 30: U_3O_8 annual term selling volumes by buyer group
Producers accounted for 92% of annual term selling volumes in F23.



Source: UxC, LLC

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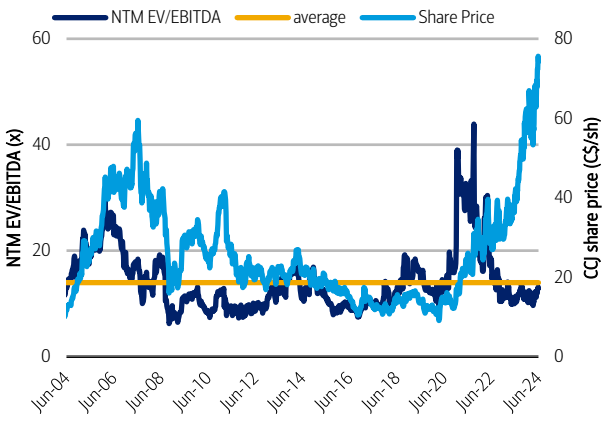
Cameco (CCJ) valuation considerations

We see short-term and long-term upside to CCJ's share price given its historical tendency to trade in sympathy with spot uranium prices, which we believe continue recover from the recent correction and will regain momentum as the ban on the import Russian uranium products to the U.S. is digested by U.S. nuclear fuel buyers. CCJ is the only large, liquid, US listed vehicle for exposure to uranium and is trading attractively on near-term metrics (principally EV/EBITDA).

On a P/NAV basis, CCJ is now trading at 1.29x, below the all-time peak at 1.35x but above the long-term average of 0.9x. On a rolling next twelve-month (NTM) EV/EBITDA basis, CCJ is now trading at 12.9x, significantly below the last cycle peak at 30x and moderately below the long-term average of 14x.

We note that on 2026E EBITDA, when both of CCJ's flagship assets, Cigar Lake and McArthur River are expected to be largely ramped up, CCJ is trading at just around 8.6x. This is well below CCJ's long-term average and in line with copper producers that usually trade at a sharp discount to CCJ. We reiterate our Buy rating.

Exhibit 31: CCJ historical next twelve-month (NTM) EV/EBITDA
Currently at 12.9x, CCJ trades at an 8% discount to its 14x historical average NTM EV/EBITDA.



Source: BofA Global research

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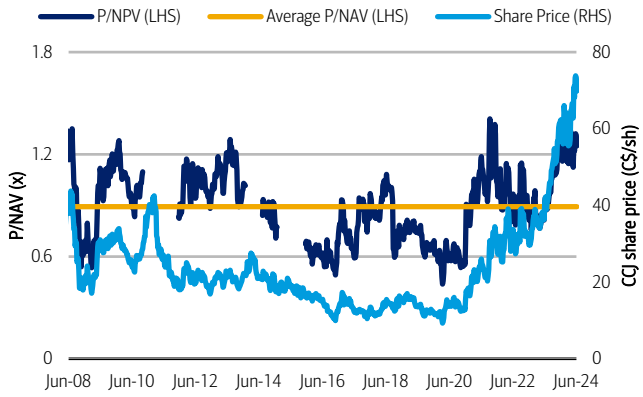
Exhibit 32: CCJ historical P/NAV
Currently at 1.29x, CCJ trades at a 40% premium to its historical average P/NAV.



Source: BofA Global research

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Exhibit 33: Cameco key valuation metric sensitivity to changes in the U_3O_8 price
A $10 decrease in U_3O_8 prices from our base case results in a -8% move in CCJ's NAV/Sh and roughly a -4% move in valuation.

	Estimate sensitivity to U3O8 price changes							Percent upside/downside from base case						
	-$30	-$20	-$10	**Base case**	+$10	+$20	+$30	-$30	-$20	-$10	**Base case**	+$10	+$20	+$30
2024E U_3O_8 price (US$/lb)	$72.61	$82.61	$92.61	**$102.61**	$112.61	$122.61	$132.61	-29%	-19%	-10%	**0%**	10%	19%	29%
2025E U_3O_8 price (US$/lb)	$90.00	$100.00	$110.00	**$120.00**	$130.00	$140.00	$150.00	-25%	-17%	-8%	**0%**	8%	17%	25%
Long-term U_3O_8 price (US$/lb)	$30.00	$40.00	$50.00	**$60.00**	$70.00	$80.00	$90.00	-50%	-33%	-17%	**0%**	17%	33%	50%
2024E EBITDA (C$mn)	2,441	2,441	2,441	**2,441**	2,441	2,441	2,441	0%	0%	0%	**0%**	0%	0%	0%
2024E EV/EBITDA (x)	*12.3x*	*12.3x*	*12.3x*	***12.3x***	*12.3x*	*12.3x*	*12.3x*	0%	0%	0%	**0%**	0%	0%	0%
2025E EBITDA (C$mn)	2,679	2,796	2,865	**2,934**	2,979	3,024	3,069	-9%	-5%	-2%	**0%**	2%	3%	5%
2025E EV/EBITDA (x)	*11.2x*	*10.8x*	*10.5x*	***10.3x***	*10.1x*	*10.0x*	*9.8x*	10%	5%	2%	**0%**	-2%	-3%	-4%
2026E EBITDA (C$mn)	3,174	3,287	3,398	**3,509**	3,608	3,696	3,785	-10%	-6%	-3%	**0%**	3%	5%	8%
2026E EV/EBITDA (x)	*9.5x*	*9.2x*	*8.9x*	***8.6x***	*8.3x*	*8.1x*	*8.0x*	11%	7%	3%	**0%**	-3%	-5%	-7%
NAV (C$/sh)	42.20	46.99	51.70	**56.26**	60.74	65.21	69.66	-25%	-16%	-8%	**0%**	8%	16%	24%
P/NAV (x)	*1.57x*	*1.41x*	*1.28x*	***1.18x***	*1.09x*	*1.02x*	*0.95x*	33%	20%	9%	**0%**	-7%	-14%	-19%
Valuation (C$/sh)	73.00	76.00	79.00	**82.00**	84.00	86.00	88.00	-11.0%	-7.3%	-3.7%	**0.0%**	2.4%	4.9%	7.3%
Valuation (US$/sh)	54.00	56.00	58.50	**60.50**	62.00	63.50	65.00	-10.7%	-7.4%	-3.3%	**0.0%**	2.5%	5.0%	7.4%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Uranium global supply & demand

Exhibit 34: Global uranium (U_3O_8) demand model

The forecast 23% growth in power reactor consumption demand through to 2030E vs. 2023 is driven by China, as well as South Korea and Japan

URANIUM DEMAND	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E
Canada	4,218	3,927	5,188	5,188	5,188	4,411	4,022	4,022	4,022	4,022	4,824	5,299	5,473	7,108	5,296	5,127
% y/y	-7%	-7%	32%	0%	0%	-15%	-9%	0%	0%	0%	20%	10%	3%	30%	-25%	-3%
China	21,185	25,988	22,750	26,457	30,795	34,863	37,238	37,803	47,081	50,482	63,154	57,181	58,842	67,324	71,600	74,862
% y/y	5%	23%	-12%	16%	16%	13%	7%	2%	25%	7%	25%	-9%	3%	14%	6%	5%
France	15,574	22,849	23,119	24,371	23,465	23,465	23,465	23,465	23,465	17,420	25,915	25,131	19,966	23,086	26,495	26,200
% y/y	0%	47%	1%	5%	-4%	0%	0%	0%	0%	-26%	49%	-3%	-21%	16%	15%	-1%
Japan	3,134	3,342	6,891	6,373	8,000	7,992	8,272	12,931	11,292	11,068	11,647	11,647	11,647	11,647	11,647	11,647
% y/y	46%	7%	106%	-8%	26%	0%	4%	56%	-13%	-2%	5%	0%	0%	0%	0%	0%
Russia	5,718	8,432	12,902	13,019	13,787	12,745	13,548	12,739	13,010	9,506	12,538	14,622	10,164	11,639	11,699	8,429
% y/y	-33%	47%	53%	1%	6%	-8%	6%	-6%	2%	-27%	32%	17%	-30%	15%	1%	-28%
South Korea	11,690	12,315	11,928	12,358	12,863	12,371	12,196	12,196	12,196	13,554	14,667	16,582	13,507	15,017	15,859	14,601
% y/y	23%	5%	-3%	4%	4%	-4%	-1%	0%	0%	11%	8%	13%	-19%	11%	6%	-8%
United States	43,477	45,567	49,167	49,821	49,135	49,298	49,298	49,298	49,298	50,032	44,107	52,647	46,765	46,101	48,887	48,137
% y/y	-9%	5%	8%	1%	-1%	0%	0%	0%	0%	1%	-12%	19%	-11%	-1%	6%	-2%
Other	55,805	31,265	44,429	41,483	39,965	40,447	37,964	43,203	41,738	40,628	42,720	36,139	41,645	45,970	38,130	48,504
% y/y	-1%	-44%	42%	-7%	-4%	1%	-6%	14%	-3%	-3%	5%	-15%	15%	10%	-17%	27%
Power Requirements	**160,800**	**153,685**	**176,373**	**179,069**	**183,199**	**185,591**	**186,005**	**195,658**	**202,103**	**196,713**	**219,572**	**219,248**	**208,008**	**227,892**	**229,613**	**237,507**
% y/y	-2.3%	-4.4%	14.8%	1.5%	2.3%	1.3%	0.2%	5.2%	3.3%	-2.7%	11.6%	-0.1%	-5.1%	9.6%	0.8%	3.4%
Total inventory build	**20,100**	**66,171**	**20,500**	**15,000**	**10,000**	**10,000**	**10,000**	**10,000**	**10,000**	**10,000**	**10,000**	**10,000**	**9,000**	**10,000**	**9,000**	**9,000**
% y/y	8%	229%	-69%	-27%	-33%	0%	0%	0%	0%	0%	0%	0%	-10%	11%	-10%	0%
Total Underlying Demand	**180,900**	**219,856**	**196,873**	**194,069**	**193,199**	**195,591**	**196,005**	**205,658**	**212,103**	**206,713**	**229,572**	**229,248**	**217,008**	**237,892**	**238,613**	**246,507**

Source: BofA Global Research, UxC LLC

BofA GLOBAL RESEARCH

Exhibit 35: Global uranium (U3O8) demand model

Before inventory drawdowns, we forecast a deficit through 2028E

URANIUM SUPPLY	2020	2021	2022	2023	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E	2032E	2033E	2034E	2035E
Mine Supply																
Africa	22,009	21,311	20,219	21,284	24,000	25,400	25,440	29,100	32,800	34,780	35,820	37,950	33,640	32,550	29,940	29,320
% y/y	-2%	-3%	-5%	5%	13%	6%	0%	14%	13%	6%	3%	6%	-11%	-3%	-8%	-2%
Australia	16,025	9,721	12,163	13,221	14,700	15,225	15,900	15,825	15,300	14,700	9,700	9,700	9,550	9,250	9,250	8,900
% y/y	-6%	-39%	25%	9%	11%	4%	4%	0%	-3%	-4%	-34%	0%	-2%	-3%	0%	-4%
Canada	10,070	12,200	19,160	28,499	36,000	36,000	37,300	38,000	41,000	46,000	63,000	63,000	63,000	72,000	72,000	47,200
% y/y	-44%	21%	57%	49%	26%	0%	4%	2%	8%	12%	37%	0%	0%	14%	0%	-34%
Kazakhstan	50,641	56,729	55,193	54,879	56,728	60,336	63,642	73,430	76,290	75,250	74,912	74,299	70,793	70,793	67,543	57,611
% y/y	-15%	12%	-3%	-1%	3%	6%	5%	15%	4%	-1%	0%	-1%	-5%	0%	-5%	-15%
Russia	7,400	7,360	6,521	6,973	6,760	6,760	7,160	7,760	8,360	8,960	9,360	9,360	9,360	9,360	9,360	9,360
% y/y	-2%	-1%	-11%	7%	-3%	0%	6%	8%	8%	7%	4%	0%	0%	0%	0%	0%
Ukraine	1,182	752	125	884	750	750	1,000	1,500	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
% y/y	-43%	-36%	-83%	607%	-15%	0%	33%	50%	33%	0%	0%	0%	0%	0%	0%	0%
United States	213	0	194	26	1,400	3,485	4,240	4,600	4,350	4,000	4,000	3,900	3,060	2,010	1,250	800
% y/y	22%	-100%	nm	-87%	5285%	149%	22%	8%	-5%	-8%	0%	-3%	-22%	-34%	-38%	-36%
Uzbekistan	8,800	8,800	9,259	10,530	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400	10,400
% y/y	-3%	0%	5%	14%	-1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	5,837	6,330	6,323	7,270	7,457	8,172	9,055	9,501	10,080	10,870	10,870	10,870	10,870	10,870	10,870	10,870
% y/y	3%	8%	0%	15%	3%	10%	11%	5%	6%	8%	0%	0%	0%	0%	0%	0%
Total mine production	**122,177**	**123,203**	**129,157**	**143,566**	**158,195**	**166,529**	**174,137**	**190,116**	**200,580**	**206,960**	**220,062**	**221,479**	**212,673**	**219,233**	**212,613**	**176,461**
% y/y	-14%	1%	5%	11%	10%	5%	5%	9%	6%	3%	6%	1%	-4%	3%	-3%	-17%
Secondary Supply																
Russian Govt Stocks	4,000	4,000	4,000	4,000	4,000	4,000	3,000	3,000	2,500	2,500	2,000	2,000	1,500	1,500	1,200	1,200
Russia Reenrichment/underfeed	12,000	11,200	7,500	8,500	7,500	5,000	4,500	4,500	4,500	4,000	3,000	3,000	2,500	2,000	1,500	1,500
Western enricher Sales	8,150	8,860	7,340	4,540	1,725	0	0	0	0	0	0	0	0	0	0	0
Commercial inventory	29,500	36,300	40,000	36,000	13,211	11,214	5,006	-2,311	-3,240	-13,786	-3,419	-4,659	-9,515	1,764	12,404	55,895
US Gov't stocks (DOE,TVA)	3,042	828	888	1,895	1,798	2,014	2,511	3,413	959	928	1,887	1,659	4,200	7,659	6,700	6,700
MOX + Reprocessed	8,371	7,392	6,969	6,633	6,770	6,834	6,850	6,940	6,804	6,111	6,042	5,769	5,650	5,736	4,196	4,751
Total secondary supply	**65,063**	**68,580**	**66,697**	**61,568**	**35,004**	**29,062**	**21,867**	**15,542**	**11,523**	**-247**	**9,510**	**7,769**	**4,335**	**18,659**	**26,000**	**70,046**
Total Supply	**187,240**	**191,783**	**195,854**	**205,134**	**193,199**	**195,591**	**196,005**	**205,658**	**212,103**	**206,713**	**229,572**	**229,248**	**217,008**	**237,892**	**238,613**	**246,507**
% y/y	-7%	2%	2%	5%	-6%	1%	0%	5%	3%	-3%	11%	0%	-5%	10%	0%	3%
Surplus (Def.) bef. com. Inv.	**-23,160**	**-64,373**	**-41,019**	**-24,935**	**-13,211**	**-11,214**	**-5,006**	**2,311**	**3,240**	**13,786**	**3,419**	**4,659**	**9,515**	**-1,764**	**-12,404**	**-55,895**
surplus/(deficit) % bef. inv.	-13%	-29%	-21%	-13%	-7%	-6%	-3%	1%	2%	7%	1%	2%	4%	-1%	-5%	-23%
Surplus (Deficit) bef Com. Inv.	-3,060	1,798	-20,519	-9,935	-3,211	-1,214	4,994	12,311	13,240	23,786	13,419	14,659	18,515	8,236	-3,404	-46,895
surplus/(deficit) % of rctr req.	-2%	1%	-12%	-6%	-2%	-1%	3%	6%	7%	12%	6%	7%	9%	4%	-1%	-20%
Surplus (Deficit) after inv.	6,340	-28,073	-1,019	11,065	0	0	0	0	0	0	0	0	0	0	0	0

Source: BofA Global Research, UxC LLC.

BofA GLOBAL RESEARCH

Price objective basis & risk

Cameco Corporation (YCCO; B-1-7; C$66.48 / CCJ; C-1-7; US$48.73)
Our US$60.50 (C$82.00) PO is based on 1.15x our NAV, and 13.5x 2024E & 13x 2025E EV/EBITDA (all three equally weighted). We use a CADUSD FX rate of 1.37. The 1.15x P/NAV is above the longer term avg around 0.9x but below peak of 1.35x. We think 1.15x is justified given Cameco's world-class tier one assets in favorable jurisdictions (Canada) and potential exploration upside partially offset by the fact that one of those tier-one assets has been voluntarily idled (but is in the process of restarting).

Downside risks:1) slower-than-expected global energy demand growth, 2) continued push-out of a Japanese nuclear fleet restart, 3) any worsening in sentiment toward nuclear or more favorable sentiment toward alternative power fuel sources, and 4) any production problems at Cameco's only operating mine, Cigar Lake. Upside risks: 1) additional potential mine disruptions that may further improve supply-demand dynamics, 2) better pace of reactor development in key future demand countries (China, Japan, and India), 3) more stringent carbon emissions restrictions in key countries, encouraging nuclear power as an environmentally friendly base line energy source, 4) a material rise in NatGas prices making nuclear power generation competitive in the US.

Analyst Certification

I, Lawson Winder, CFA, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

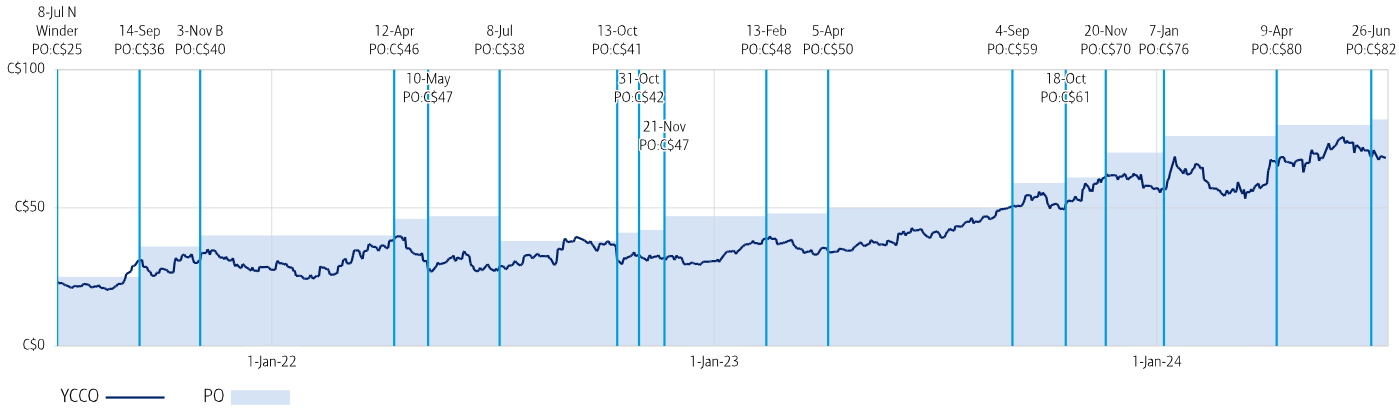
North America - Metals and Mining Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	Agnico Eagle Mines	AEM	AEM US	Lawson Winder, CFA
	Alamos Gold	YAGI	AGI CN	Harmen Puri
	Alamos Gold	AGI	AGI US	Harmen Puri
	B2Gold Corp	YBTO	BTO CN	Harmen Puri
	B2Gold Corp	BTG	BTG US	Harmen Puri
	Barrick Gold	GOLD	GOLD US	Lawson Winder, CFA
	Cameco Corporation	YCCO	CCO CN	Lawson Winder, CFA
	Cameco Corporation	CCJ	CCJ US	Lawson Winder, CFA
	CMC	CMC	CMC US	Sathish Kasinathan
	Endeavour Mining	YEDV	EDV CN	Harmen Puri
	Endeavour Mining	EDVMF	EDVMF US	Harmen Puri
	Endeavour Mining PLC	XEDVF	EDV LN	Harmen Puri
	Franco-Nevada	YFNV	FNV CN	Lawson Winder, CFA
	Franco-Nevada	FNV	FNV US	Lawson Winder, CFA
	Freeport-McMoRan	FCX	FCX US	Lawson Winder, CFA
	Hudbay Minerals	YHBM	HBM CN	Lawson Winder, CFA
	HudBay Minerals	HBM	HBM US	Lawson Winder, CFA
	IAMGOLD	YIMG	IMG CN	Lawson Winder, CFA
	IAMGOLD Corp.	IAG	IAG US	Lawson Winder, CFA
	Ivanhoe Mines	YIVN	IVN CN	Lawson Winder, CFA
	Ivanhoe MInes	IVPAF	IVPAF US	Lawson Winder, CFA
	Lundin Mining	XLPRF	LUMI SS	Lawson Winder, CFA
	Lundin Mining Corp	YLUN	LUN CN	Lawson Winder, CFA
	Lundin Mining Corp	LUNMF	LUNMF US	Lawson Winder, CFA
	MP Materials	MP	MP US	Lawson Winder, CFA
	Newmont Corporation	NEM	NEM US	Lawson Winder, CFA
	Newmont Corporation	XNCRF	NEM AU	Lawson Winder, CFA
	Nucor	NUE	NUE US	Lawson Winder, CFA
	Pan American Silver	PAAS	PAAS US	Lawson Winder, CFA
	Teck Resources	YTECK	TECK/B CN	Lawson Winder, CFA
	Teck Resources Ltd	TECK	TECK US	Lawson Winder, CFA
	Triple Flag Precious Metals Corp.	YTFPM	TFPM CN	Lawson Winder, CFA
	Triple Flag Precious Metals Corp.	TFPM	TFPM US	Lawson Winder, CFA
	Wheaton Precious Metals	WPM	WPM US	Lawson Winder, CFA
NEUTRAL				
	Alcoa Corporation	AA	AA US	Lawson Winder, CFA
	Cleveland-Cliffs	CLF	CLF US	Lawson Winder, CFA
	First Quantum	FQVLF	FQVLF US	Lawson Winder, CFA
	First Quantum Minerals	YFM	FM CN	Lawson Winder, CFA
	Reliance Inc.	RS	RS US	Lawson Winder, CFA
	Steel Dynamics	STLD	STLD US	Lawson Winder, CFA
UNDERPERFORM				
	Centerra Gold	YCG	CG CN	Lawson Winder, CFA
	Centerra Gold	CGAU	CGAU US	Lawson Winder, CFA
	Eldorado Gold	EGO	EGO US	Harmen Puri
	Eldorado Gold	YELD	ELD CN	Harmen Puri
	Kinross Gold	KGC	KGC US	Lawson Winder, CFA
	New Gold Inc.	YNGD	NGD CN	Harmen Puri
	New Gold Inc.	NGD	NGD US	Harmen Puri
	Nexa Resources	NEXA	NEXA US	Lawson Winder, CFA
	Royal Gold	RGLD	RGLD US	Lawson Winder, CFA
	SSR Mining Inc.	SSRM	SSRM US	Lawson Winder, CFA
	SSR Mining Inc.	YSSRM	SSRM CN	Lawson Winder, CFA

Disclosures

Important Disclosures

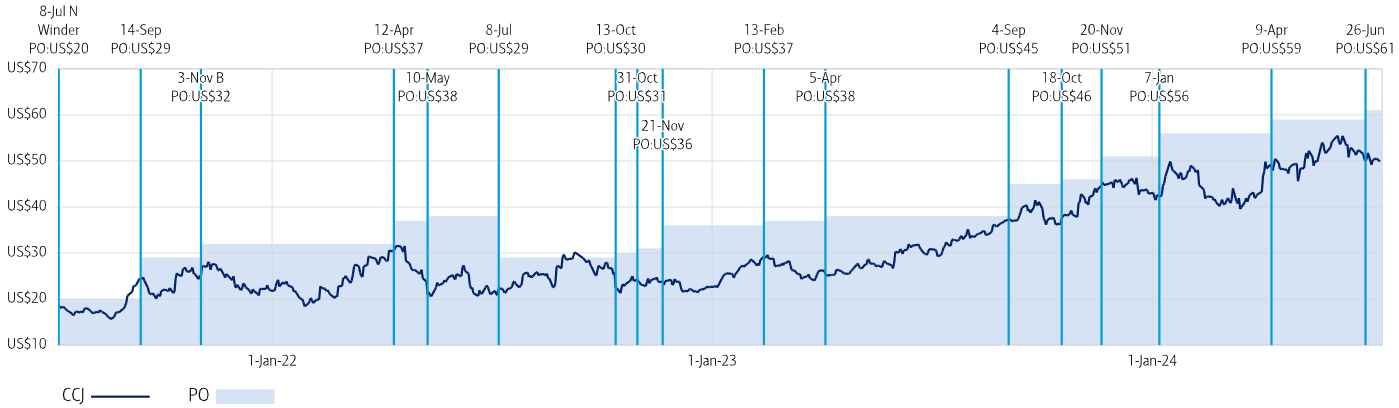
Cameco Corp (YCCO) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Cameco Corp. (CCJ) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

Equity Investment Rating Distribution: Non-Ferrous Metals/Mining & Minerals Group (as of 30 Jun 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	55	58.51%	Buy	26	47.27%
Hold	18	19.15%	Hold	10	55.56%
Sell	21	22.34%	Sell	10	47.62%

Equity Investment Rating Distribution: Global Group (as of 30 Jun 2024)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	1857	54.79%	Buy	1084	58.37%
Hold	758	22.37%	Hold	446	58.84%
Sell	774	22.84%	Sell	350	45.22%

[R1] Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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