

Uranium Themes Gain Momentum Early in 2023

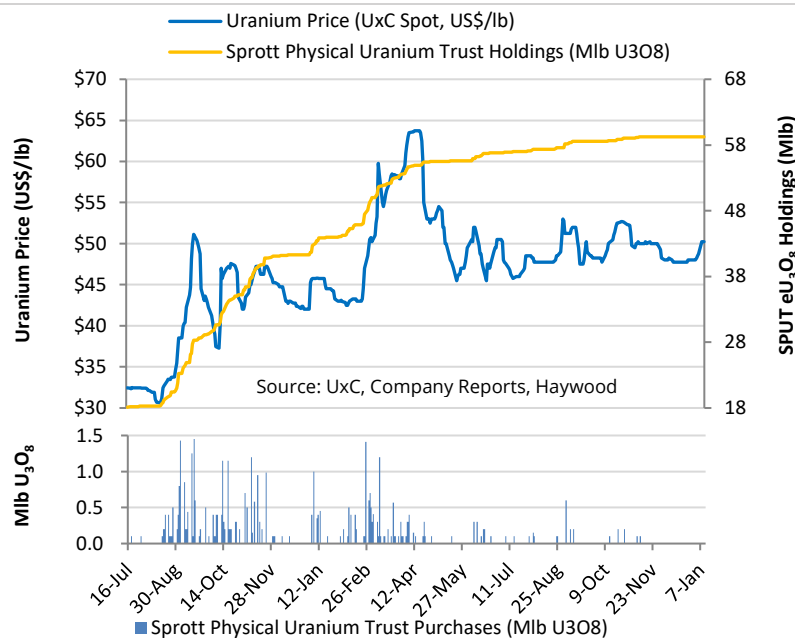
YTD 2023: URANIUM PRICE ↑4.7%, HAYWOOD URANIUM COMPS UNIVERSE ↑16.2%

Uranium Price Update & Sector Commentary: Close of January 11th, 2023

In December we highlighted the opportunity to pick up uranium stocks at a discount since nearly all issues made suitable 'tax-loss selling' candidates and were under pressure into year-end. The Haywood Uranium Comps universe (Fig. 5) was down an average of ~34% in 2022, after a strong performance in 2021. The uranium spot price finished the year well off its 2022 high of \$63.75/lb U₃O₈ set in April, but has shown some strength out of the gate in 2023, up 4.7% in the first 11 days without the help of physical trust buying. Uranium stocks are showing a willingness to respond both to uranium price, and to 'risk-on' market days, with our 63-company Comps Universe up >15% on average and only three names in the red YTD. The leverage is where you'd expect, with earlier development-stage names outperforming. Our 2023 spot and term uranium price forecasts on page 2 reflect full-year averages for each respective price and indicate that we expect further appreciation in uranium throughout the year, heading toward the low-\$60s for spot price by year-end. We continue to observe the strongest sector fundamentals we've witnessed since the pre-Fukushima era, with demand in excess of current production, 2023 could prove to be a year of rationalization of uranium price in the context of this bullish imbalance. Yesterday, we published the Haywood 2023 Top-Picks Report, which highlighted Denison Mines (DML-T, Rating: Buy, Target: \$2.90) and NexGen Energy (NXE-T, Rating: Buy, Target: \$7.50) as our top picks in the uranium space for 2023. Please see this [LINK](#) for more information.

Uranium Equities - News

- ◆ **Purepoint Uranium Group Inc. (PTU-V, Not Rated):** Commenced winter drill program at Hook Lake Joint Venture— [link to Jan 11th PR](#)
- ◆ **Kraken Energy Corp. (UUSA-CSE, Not Rated):** Staked past-producing Huber Hills Uranium Project in Nevada— [link to Jan 11th PR](#)
- ◆ **CanAlaska Uranium Ltd. (CVV-V, Not Rated):** Commenced West McArthur winter drill program— [link to Jan 10th PR](#)
- ◆ **Forum Energy Metals Corp. (FMC-V, Not Rated):** Resumed drilling at Wollaston Uranium Project— [link to Jan 10th PR](#)
- ◆ **Oberon Uranium Corp (OBRN-CSE, Not Rated):** Initiated first-phase exploration program on Element 92 Project— [link to Jan 9th PR](#)
- ◆ **Stallion Gold Corp. (STUD-V, Not Rated):** Signed Definitive Agreement to acquire 6 mineral claims in Athabasca Basin— [link to Jan 6th PR](#)

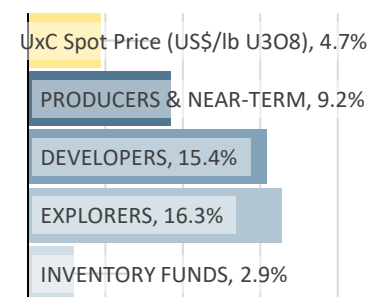


Uranium required and cost to make 1kg of EUP (4.5% U²³⁵): Mine/plant output of 26.7 lb U₃O₈ (\$1,342 cost) -> Conversion to UF₆ (\$409 cost) -> delivers 10.22 kgU as UF₆ (\$1,750 cumulative cost) -> enrichment: 6.23 SWU (\$779 cost) -> delivers 1kg EUP (\$2,529 cumulative cost). (US\$, spot U₃O₈, tails assay of 0.30% U²³⁵)

UxC U ₃ O ₈ Prices	(USD per pound)
SPOT (1-day Δ):	\$50.25 (unchanged)
(1-week Δ):	(+4.1%)
(1-month Δ):	(+5.2%)
3-year (1-week Δ):	\$56.50 (unch.)
5-year (1-week Δ):	\$60.00 (unch.)
LT (@Dec. 26th, 1-mth Δ):	\$51.00 (unch.)

* UxC Spot Price published daily, 3y, 5y pricing published weekly on Monday. UxC Long-Term price published last Monday of month.

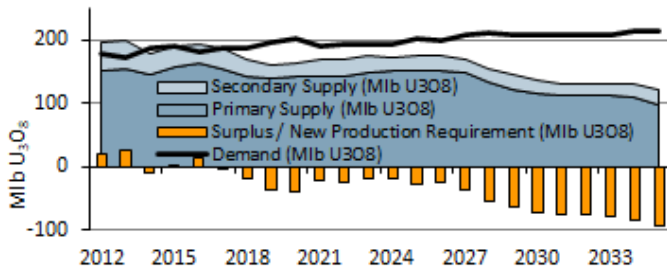
Performance - Dec. 31, 2022 to Jan. 11, 2023



Source: UxC, CapitalIQ, Haywood



Uranium Sector – Haywood Supply / Demand Model & Uranium Price History & Forecast (annual average)



Source: UxC, WNA, IAEA, IEA, Haywood

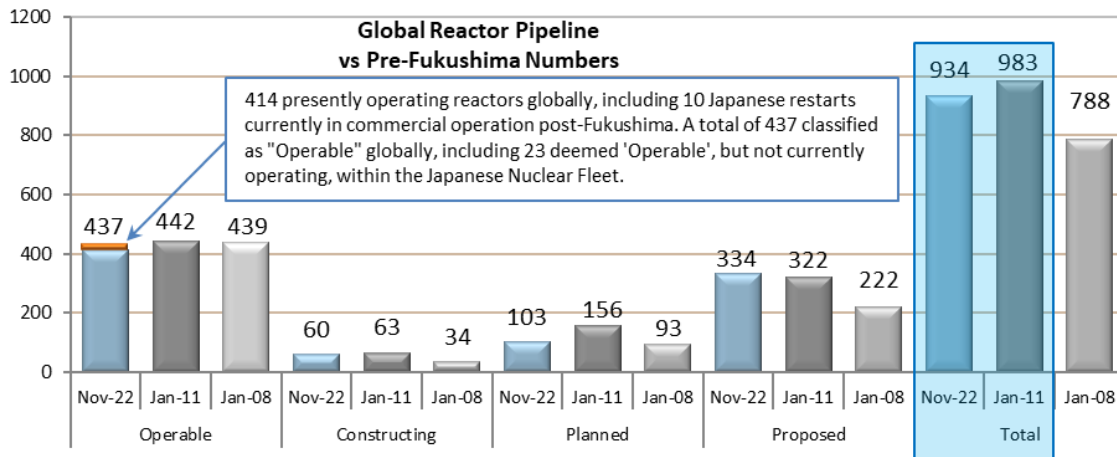
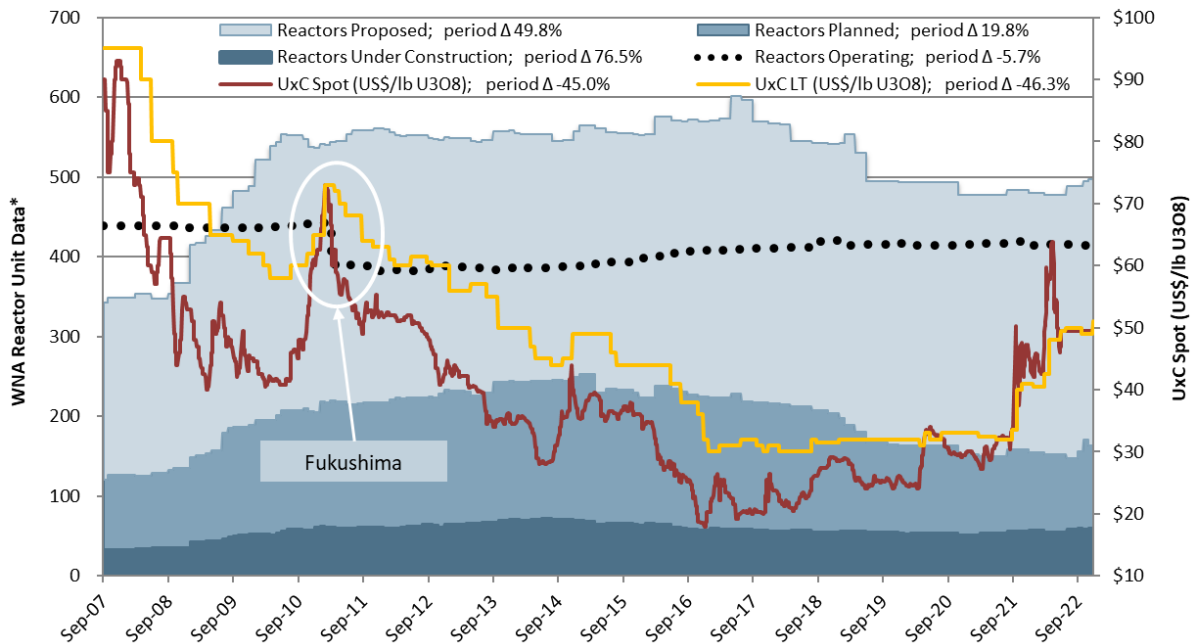
Commodity Price History	2015	2016	2017	2018	2019	2020	2021
Spot price (US\$/lb U ₃ O ₈)	\$37	\$26	\$22	\$25	\$26	\$29	\$40
Long Term price (US\$/lb U ₃ O ₈)	\$47	\$40	\$31	\$31	\$32	\$32	\$35

Commodity Price Forecast	2022	2023	2024	2025	2026	2027	2027
Spot price (US\$/lb U ₃ O ₈)	\$50	\$55	\$64	\$65	\$65	\$65	\$65
Long Term price (US\$/lb U ₃ O ₈)	\$48	\$63	\$70	\$65	\$65	\$65	\$65

Source: UxC history, Haywood Forecast

Global Civil Nuclear Reactor Pipeline Evolution

Figure 1. Upper: Global Nuclear Reactor Pipeline vs Uranium Price; Lower: Global Nuclear Reactor Pipeline – Current vs Pre-Fukushima



Source: WNA (November 2022 data), UxC, Haywood Securities



Uranium Sector Top Picks & Covered Names

NexGen (NXE-T, Rating: BUY, Target: \$7.50)

Our Take: NXE remains a top pick in the uranium space due to the disruptive potential of the Arrow deposit, with its massive scale and strong economics. [Link to Most Recent Report](#)

- ◆ **Top Asset:** We view the Arrow deposit as ‘the best undeveloped uranium asset globally and highly strategic’. The February 2021 Feasibility Study outlined a >21 Mlb U₃O₈ per year, 10-year mine operation with an after-tax NPV_{8%} of \$3.47B at US\$50/lb uranium.
- ◆ **Take-Out Candidate:** We believe that it is critical for major producers to control this deposit because of its disruptive potential and that this is the strategic key to preserving the value of existing deposits and maintaining the ability to affect price with output decisions.
- ◆ **Ultra Low-Cost:** The Feb. 2021 Arrow Feasibility Study suggests cash operating costs of US\$5.69/lb implying an industry leading margin for a tier 1 scale operation.
- ◆ **Catalysts: H1/2023:** Updates on the review process for the Environmental Impact Statement and Licensing application. **2023:** results of field programs, including updates on FEED work and results of field and exploration activities.
- ◆ **Cash of \$137 million**

Denison Mines (DML-T, Rating: BUY, Target: \$2.90)

Our Take: The core strength of Denison remains its ability to leverage its technical team and knowledge gained in studying ISR and its applicability to unconformity-hosted uranium deposits in the Basin. Denison’s unique (to the Athabasca) plan to in-situ leach the Phoenix deposit is perceived as technically challenging, but with a very high potential reward, with a PFS-supported cost profile among the lowest in the world, due to the extremely high grades at Phoenix. [Link to Most Recent Report](#)

- ◆ **De-risking Phoenix with PFS, freeze-wall trade-off study and FFT.** Denison already demonstrated the ultra-low-cost potential of ISR application to Phoenix in its 2018 Preliminary Feasibility Study (PFS), with initial CAPEX in the PFS at <\$325M and OPEX of US\$3.33/lb U₃O₈. In late 2020, Denison then announced the results of a trade-off study examining the use of ‘freeze walls’ and sequential ISR mining phases to replace the ‘freeze dome’ outlined for the Phoenix deposit in the Wheeler River project PFS. The trade-off study is preliminary but **lower initial CAPEX is supportable as the phased freeze wall approach is much simpler and less costly to initial production due to the smaller footprint and cheaper installation techniques.** The proposed freeze wall approach also offers more control in each mining cell/phase and improves the risk profile on the mine plan. Over the past year, DML has made even further progress on de-risking Phoenix through its Feasibility Field Test (FFT), where technical work to date has further supported our thesis that DML will be successful in mining Phoenix by the ISR technique resulting in an extremely low production cost profile and is therefore a ‘must own’ for uranium sector investors.
- ◆ **Catalysts: H1/2023 - Further technical work** to de-risk the ISR mining approach to Phoenix at Wheeler River - including advancement of the FS / EA process and results of the "recovered solution management" phase of the Feasibility Field Test. **2023 - Full Feasibility Study** for Wheeler River integrating the extensive technical advancements made since the 2018 PFS. **2023 - Exploration results** - seeking satellite deposits at Wheeler River; and, Studies for other potentially ISR amenable projects similar to THT/Waterbury.
- ◆ **Cash of ~\$55 million, plus 2.5 Mlb U₃O₈ as long-term investment.**

Other Covered Names

- ◆ **Energy Fuels Inc. (EFR-T, UUUU-US) – Rating: Restricted** ([last report](#))
- ◆ **IsoEnergy. (ISO-V) – Rating: Buy; Target: \$7.00 Target** ([last report](#))
- ◆ **Uranium Energy Corp. (UEC-US) – Rating: Buy; Target: US\$6.60 Target** ([last report](#))

Coverage Universe

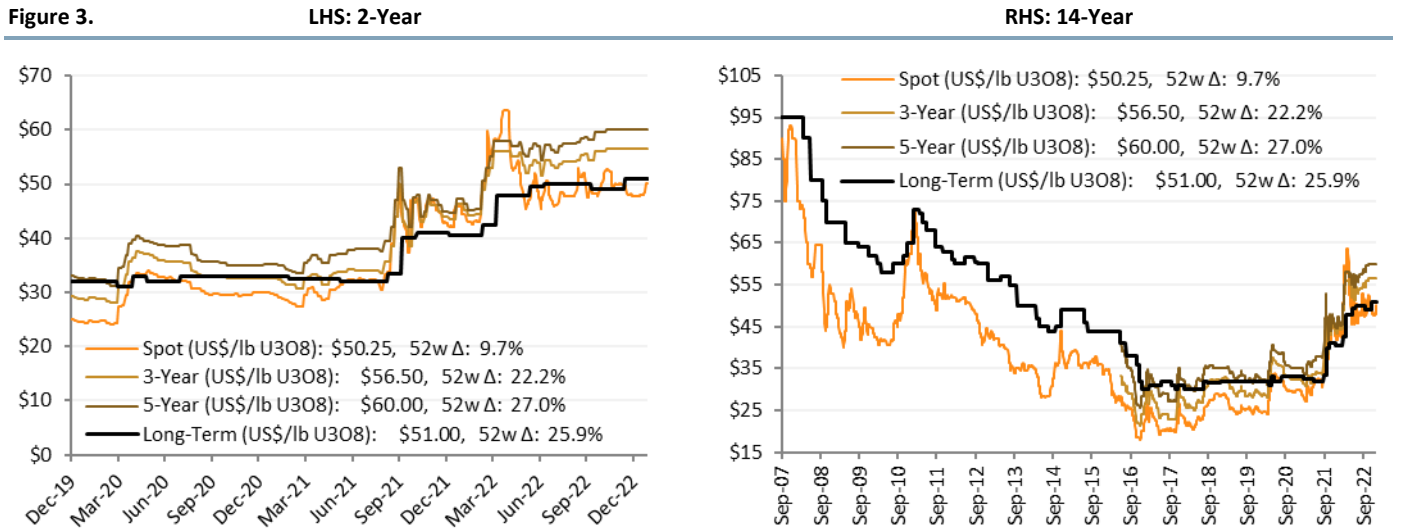
Figure 2. Uranium Sector Haywood Coverage

Company	Ticker	Analyst	Last Price (C\$)	Shares O/S (M)	MC (C\$M)	EV (C\$M)	Target (C\$)	Return (%)	Rating	NAVPS (US\$)	CFPS (US\$)	
											2022E	2023E
Denison Mines	DML-T	CH	\$1.80	823	\$1,481	\$1,416	\$2.90	61%	BUY	C\$2.86	(\$0.01)	(\$0.01)
Energy Fuels	UUUU-US	CH	US\$6.82	158	US\$1,075	US\$1,323			Restricted			
IsoEnergy Ltd.	ISO-V	CH	\$3.03	109	\$331	\$350	\$7.00	131%	BUY	C\$7.02	(\$0.07)	(\$0.07)
NexGen Energy	NXE-T	CH	\$6.24	483	\$3,011	\$2,969	\$7.50	20%	BUY	C\$7.50	(\$0.02)	(\$0.01)
Uranium Energy	UEC-US	CH	US\$3.94	370	US\$1,457	US\$1,437	US\$6.60	68%	BUY	\$6.55	(\$0.08)	(\$0.06)

Source: Haywood Securities

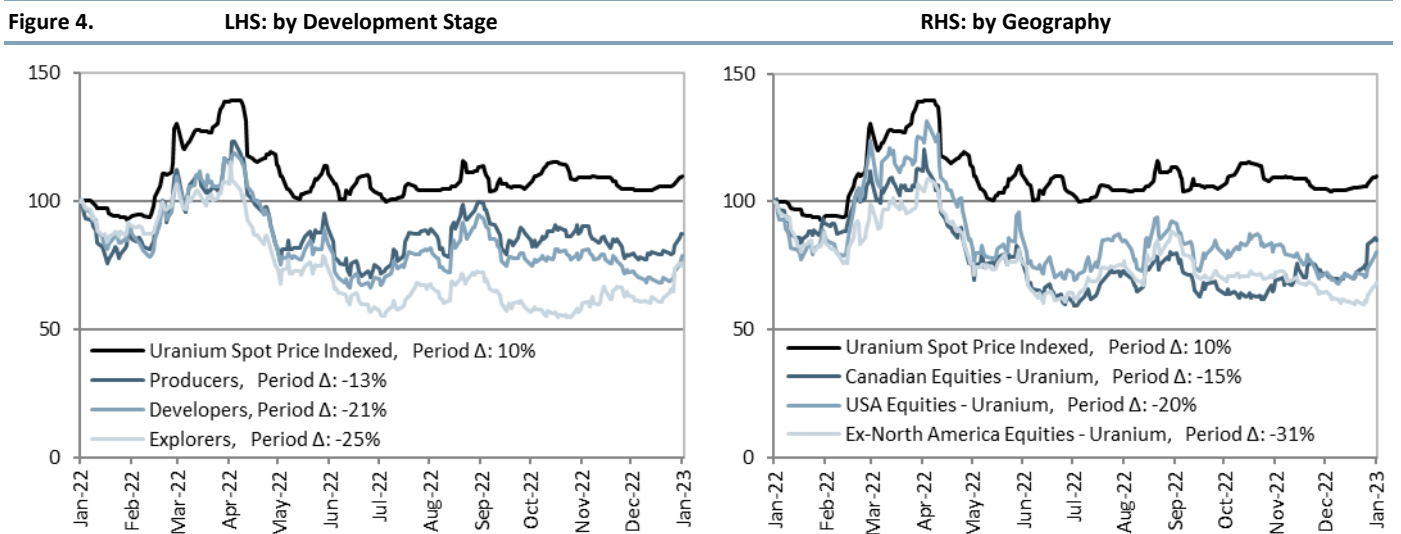


Uranium Price Charts



Source: UxC, Haywood Securities

Uranium Equity Relative Performance Charts (1-year, indexed to 100)



Source: UxC, S&P Capital IQ, Haywood Securities



Figure 5. Uranium Sector Comps with 1-Week Performance Data

Company (Ticker)	Share Price	Consensus Targets		Shares Outst. (millions)	Market Capitalization (millions)	In-Situ Comps - EV/lb U3O8			NAV Comps		Cash Flow Comps			Performance Dec. 31, 2022 to Jan. 11, 2023
		Consensus Target	Implied Return			Enterprise Value (USD) (millions)	Total Reserves & Resources (M lb)	USD EV/lb Resource	IBES		P/CFPS			
									NAV	Price / Nav	2022	2023	2024	
PRODUCERS & NEAR-TERM														
Haywood Covered Names bold														
Cameco Corporation (CCO-T)	\$34.07	\$44.00	29%	433	\$14,735	\$10,754	1078.4	\$9.97	\$28.61	1.19x	41.0x	17.1x	13.9x	11.0%
Kazatomprom (KAP-LSE)	\$30.50	\$37.59	23%	259	\$7,910	\$8,019	1269.8	\$6.32	\$38.63	0.79x	11.8x	8.6x	6.6x	8.4%
Uranium Energy (UEC-NYSEAM)	\$3.94	\$6.89	75%	370	\$1,457	\$1,437	364.6	\$3.94	\$6.20	0.64x		59.1x		1.5%
Paladin Energy (PDN-AU)	\$0.77	\$0.69	(10)%	2,980	\$2,280	\$1,411	381.7	\$3.70	\$1.06	0.72x		191.3x		9.3%
Energy Fuels (UUUU-US)	\$6.82	\$10.06	48%	158	\$1,075	\$984.8	117.3	\$8.40	\$9.37	0.73x		35.9x	170.5x	9.8%
Boss Energy (BOE-AU)	\$2.29	\$3.28	43%	353	\$807.4	\$458.6	71.4	\$6.42	\$3.22	0.71x		19.0x		7.5%
EnergyResources (ERA-AU)	\$0.22			3,691	\$793.6	\$457.3	302.3	\$1.51						(1.1)%
Ur-Energy Inc. (URE-T)	\$1.71	\$2.75	61%	223	\$381.5	\$255.9	41.4	\$6.19	\$3.15	0.54x		77.7x		8.9%
Lotus Resources (LOT-AU)	\$0.24	\$0.31	29%	1,327	\$318.5	\$216.0	44.2	\$4.89	\$0.32	0.75x				17.1%
Peninsula Energy (PEN-AU)	\$0.16	\$0.40	158%	1,257	\$194.8	\$121.5	53.7	\$2.26	\$0.43	0.36x	109.2x		34.8x	19.2%
Group Average - Producers								\$5.36		0.72x	54.0x	62.4x	53.7x	9.2%
DEVELOPERS														
NexGen Energy (NXE-T)	\$6.24	\$9.50	52%	483	\$3,011	\$2,210	337.8	\$6.54	\$8.61	0.72x				4.2%
Denison Mines (DML-T)	\$1.80	\$2.08	15%	823	\$1,481	\$1,054	207.5	\$5.08	\$2.46	0.73x				16.1%
American Lithium (LI-V)	\$4.11	\$9.00	119%	209	\$858.2	\$634.7	123.4	\$5.14	\$9.08	0.45x				46.0%
Global Atomic (GLO-T)	\$3.90	\$6.07	56%	180	\$703.7	\$511.4	160.4	\$3.19	\$5.59	0.70x				11.1%
Fission Uranium (FCU-T)	\$0.89	\$1.30	46%	704	\$626.2	\$442.0	130.3	\$3.39	\$1.46	0.61x				11.3%
Deep Yellow (DYL-AU)	\$0.76	\$1.05	38%	753	\$572.6	\$353.1	392.2	\$0.90						8.6%
enCore Energy (EU-V)	\$3.56	\$8.25	132%	109	\$387.8	\$272.2	129.6	\$2.10	\$8.26	0.43x				11.3%
IsoEnergy Ltd. (ISO-V)	\$3.03	\$6.47	114%	109	\$330.8	\$260.4	51.3	\$5.08	\$6.72	0.45x				4.1%
Bannerman Energy (BMN-AU)	\$2.01	\$2.96	47%	150	\$302.4	\$166.7	237.9	\$0.70						11.7%
GovEx Uranium (GXU-V)	\$0.25	\$0.67	169%	641	\$160.2	\$127.4	191.2	\$0.67	\$0.93	0.27x				38.9%
Laramide Resources (LAM-T)	\$0.50			215	\$107.3	\$78.3	122.7	\$0.64						6.4%
A-Cap Energy (ACB-AU)	\$0.09			1,232	\$108.5	\$65.6	190.6	\$0.34						25.7%
Forsys Metals (FSY-T)	\$0.51			195	\$99.5	\$61.3	127.0	\$0.48						3.0%
Berkeley Energia (BKY-AU)	\$0.31			446	\$136.0	\$38.9	89.4	\$0.44						8.9%
Toro Energy (TOE-AU)	\$0.01			4,359	\$47.9	\$33.0	90.9	\$0.36						22.2%
Anfield Energy (AEC-V)	\$0.08	\$0.25	213%	649	\$51.9	\$33.9	22.5	\$1.51	\$0.45	0.18x				33.3%
Western Uranium (WUC-L)	\$1.17			44	\$51.0	\$27.3	52.4	\$0.52						(0.8)%
EnergyMetals (EME-AU)	\$0.15			210	\$31.5	\$11.5	57.6	\$0.20						15.4%
Group Average - Developers								\$2.07		0.51x				15.4%
EXPLORERS														
Consolidated Uranium (CUR-V)	\$1.85	\$5.00	170%	79	\$146.2	\$93.1	89.6	\$1.04	\$4.92	0.38x				14.2%
Fission 3.0 (FUU-V)	\$0.39			321	\$123.6	\$83.7								22.2%
Alligator Energy (AGE-AU)	\$0.04			3,303	\$145.3	\$79.3								12.8%
DevEx Resources (DEV-AU)	\$0.32			366	\$115.3	\$77.0								12.5%
Elevate Uranium (EL8-AU)	\$0.45			275	\$122.6	\$74.8	137.5	\$0.54						20.3%
Mega Uranium (MGA-T)	\$0.24			359	\$86.2	\$51.2								20.0%
Skyharbour Resources (SYH-V)	\$0.39	\$0.98	150%	148	\$57.8	\$37.9	7.0	\$5.45						6.8%
Aurania Resources (ARU-V)	\$0.68			58	\$39.6	\$34.6								74.4%
ValOre Metals (VO-V)	\$0.30	\$1.05	250%	154	\$46.1	\$32.2	43.5	\$0.74						9.1%
Baseload Energy (FIND-V)	\$0.54			90	\$48.7	\$32.2								30.1%
Azimut Exploration (AZM-V)	\$0.72	\$2.65	268%	79	\$57.2	\$32.2								2.9%
CanAlaska Uranium (CWV-V)	\$0.43			123	\$52.7	\$28.4								11.7%
Appia Rare (APL)	\$0.32			131	\$41.1	\$24.8	55.8	\$0.44						6.8%
92 Energy (92E-AU)	\$0.47			93	\$43.6	\$22.1								9.3%
Globex Mining (GMX-T)	\$0.88			56	\$49.0	\$20.9								27.5%
Purepoint Uranium (PT U-V)	\$0.07			418	\$29.2	\$19.5								16.7%
Okapi Resources (OKR-AU)	\$0.19			147	\$27.3	\$17.5								23.3%
Blue Sky (BSK-V)	\$0.11	\$0.37	252%	218	\$22.9	\$16.3	22.7	\$0.72						16.7%
Forum Energy (FMC-V)	\$0.11			189	\$20.8	\$13.1	0.6	\$22.16						15.8%
Standard Uranium (STND-V)	\$0.09			182	\$15.5	\$9.6								41.7%
X-Terra Resources (XTT-V)	\$0.10			112	\$10.6	\$7.8								58.3%
GTI Energy (GTR-AU)	\$0.01			1,505	\$16.6	\$7.7								0.0%
ALX Resources (AL-V)	\$0.04			234	\$9.4	\$5.3								0.0%
Cauldron Energy (CXU-AU)	\$0.01			932	\$7.0	\$5.0	30.9	\$0.16						7.1%
Tarku Resources (TKU-V)	\$0.04			100	\$4.2	\$3.2								(16.0)%
International Prospect (IZZ-V)	\$0.06			51	\$2.8	\$2.0								22.2%
Northern Uranium (UNOH-V)	\$0.02			162	\$2.4	\$1.8								0.0%
Urvan Minerals (UVN-V)	\$0.42			6	\$2.3	\$1.5								9.1%
Azincourt Energy (AAZ-V)	\$0.06			227	\$13.6	\$2.3								9.1%
Arupa Minerals (AVU-V)	\$0.03			55	\$1.6	\$1.0								20.0%
Eros Resources (ERC-V)	\$0.07			98	\$6.4	(\$3.3)								18.2%
Radio Fuels (CAKE-L)	\$0.13			141	\$18.3	\$0.3								0.0%
Group Average - Explorers								\$3.91		0.38x				16.3%
INVENTORY FUNDS														
Sprott Physical (U.UN-T)	\$16.11	\$23.50	46%	238	\$2,859	\$2,978	59.3	\$50.25						1.8%
Yellow Cake (YCALN)	\$3.90	\$5.63	44%	183	\$714.1	\$850.2	19.8	\$42.87						4.1%
														2.9%
ROYALTY COMPANIES														
Uranium Royalty (URC-V)	\$3.40	\$5.95	75%	100	\$338.6	\$255.2			\$5.61	0.61x	37.8x	340.0x		6.3%

Source: S&P Capital IQ, Bloomberg, Haywood Securities, Company Reports



Figure 6. Uranium Equities β to Uranium price, plus $\beta_{\text{equity/uranium}}/\sigma_{\text{equity}}$

Ticker	Company	β_{uranium} (Last 1-year, Weekly Simple Returns)	$\beta_{\text{uranium}}/\sigma_{\text{equity}}$	Absolute Return (%)	Rank Beta	Rank $\beta_{\text{uranium}}/\sigma_{\text{equity}}$	Rank Absolute Return
US:UEC	Uranium Energy Corp.	1.84	12.511	6%	1	10	8
ASX:EL8	Elevate Uranium Ltd	1.77	13.457	(13%)	2	3	17
TSXV:AEC	Anfield Energy Inc.	1.75	13.001	(27%)	3	6	29
TSX:FSY	Forsys Metals Corp.	1.65	12.122	(43%)	4	14	46
CNSX:WUC	Western Uranium & Vanadium	1.64	13.019	(39%)	5	5	41
ASX:BMN	Bannerman Energy Ltd	1.60	12.739	(35%)	6	8	39
TSXV:ISO	IsoEnergy Ltd.	1.59	12.395	(25%)	7	12	25
ASX:TOE	Toro Energy Limited	1.53	11.374	(58%)	8	20	56
ASX:DYL	Deep Yellow Limited	1.50	12.410	(18%)	9	11	20
ASX:92E	92 Energy Limited	1.47	11.654	(27%)	10	19	28
TSXV:FIND	Baselode Energy Corp.	1.45	12.009	(39%)	11	16	42
ASX:PEN	Peninsula Energy Limited	1.44	13.884	(33%)	12	2	36
ASX:GTR	GTI Energy Ltd	1.40	10.359	(58%)	13	30	56
TSX:EFR	Energy Fuels Inc.	1.40	11.866	(11%)	14	17	16
ASX:AGE	Alligator Energy Limited	1.37	10.417	(31%)	15	29	33
ASX:LOT	Lotus Resources Limited	1.37	12.657	(21%)	16	9	22
ASX:OKR	Okapi Resources Limited	1.35	11.033	(51%)	17	23	51
TSXV:GXU	GoviEx Uranium Inc.	1.35	10.586	(32%)	18	28	35
TSX:MGA	Mega Uranium Ltd.	1.33	10.977	(25%)	19	24	26
TSX:URE	Ur-Energy Inc.	1.33	12.285	(2%)	20	13	14
TSXV:URC	Uranium Royalty Corp.	1.29	11.320	(30%)	21	21	32
TSXV:EU	enCore Energy Corp.	1.29	12.075	(29%)	22	15	30
ASX:ACB	A-Cap Energy Limited	1.21	8.641	(47%)	23	37	49
TSX:GLO	Global Atomic Corporation	1.19	12.758	(1%)	24	7	13
TSX:FCU	Fission Uranium Corp.	1.18	10.878	(1%)	25	26	12
TSXV:SYH	Skyharbour Resources Ltd.	1.15	10.286	(38%)	26	32	40
TSX:DML	Denison Mines Corp.	1.14	11.241	(1%)	27	22	11
TSXV:PTU	Purepoint Uranium Group Inc.	1.04	9.661	(30%)	28	33	31
ASX:BOE	Boss Energy Limited	1.03	11.813	(5%)	29	18	15
TSX:NXE	NexGen Energy Ltd.	1.02	10.808	5%	30	27	9
TSXV:AAZ	Azincourt Energy Corp.	1.01	8.612	(68%)	31	38	61
TSXV:CVV	CanAlaska Uranium Ltd.	0.99	6.684	(16%)	32	46	18
TSXV:FMC	Forum Energy Metals Corp.	0.99	8.394	(53%)	33	39	52
TSXV:FUU	Fission 3.0 Corp.	0.98	3.581	51%	34	52	3
AIM:YCA	Yellow Cake plc	0.95	15.013	14%	35	1	6
TSX:CCO	Cameco Corporation	0.94	10.948	15%	36	25	4
TSXV:STND	Standard Uranium Ltd.	0.93	7.588	(63%)	37	41	59
TSXV:BSK	Blue Sky Uranium Corp.	0.93	9.175	(57%)	38	34	54
ASX:PDN	Paladin Energy Ltd	0.89	10.345	(16%)	39	31	19
TSXV:UNO.H	Northern Uranium Corp.	0.88	7.205	(63%)	40	44	58
TSX:U.U	Sprott Physical Uranium Trust Fi	0.80	13.236	8%	41	4	7
TSXV:CUR	Consolidated Uranium Inc.	0.79	8.668	(40%)	42	35	43
ASX:BKY	Berkeley Energia Limited	0.76	7.562	15%	43	42	5
CNSX:API	Appia Rare Earths & Uranium Cc	0.74	6.127	(45%)	44	48	47
TSXV:LI	American Lithium Corp.	0.69	5.430	1%	45	50	10
TSX:GMX	Globex Mining Enterprises Inc.	0.65	7.936	(25%)	46	40	27
TSXV:AL	ALX Resources Corp.	0.62	7.323	(50%)	47	43	50
TSXV:VO	ValOre Metals Corp.	0.59	6.706	(40%)	48	45	44
TSXV:XTT	X-Terra Resources Inc.	0.57	2.150	217%	49	57	1
ASX:EME	Energy Metals Limited	0.51	6.189	(42%)	50	47	45
KAS:KZAP	JSC National Atomic Company K	0.45	8.666	(22%)	51	36	23
TSXV:AVU	Avrupa Minerals Ltd.	0.45	2.743	(57%)	52	56	55
ASX:DEV	DevEx Resources Limited	0.43	3.617	(32%)	53	51	34
ASX:ERA	Energy Resources of Australia Li	0.35	6.017	(46%)	54	49	48
TSXV:IZZ	International Prospect Venture	0.34	2.897	(66%)	55	55	60
ASX:LAM	Laramide Resources Ltd.	0.31	3.486	(23%)	56	53	24
TSXV:ERC	Eros Resources Corp.	0.30	3.201	(35%)	57	54	38
TSXV:UVN	Uravan Minerals Inc.	0.17	0.761	62%	58	60	2
ASX:CXU	Cauldron Energy Limited	0.16	1.044	(73%)	59	58	62
TSXV:AZM	Azimut Exploration Inc.	0.05	0.801	(53%)	60	59	53
TSXV:ARU	Aurania Resources Ltd.	-0.16	-1.403	(34%)	61	62	37
TSXV:TKU	Tarku Resources Ltd.	-0.25	-0.967	(20%)	62	61	21

Source: UxC, CapitalIQ, Bloomberg, Haywood



Figure 7. Uranium Comps Performance

Index	Ticker	Short Interest / Days to Cover	1-Day Δ (%)	5-Day Δ (%)	10-Day Δ (%)	30-Day Δ (%)	90-Day Δ (%)	YTD Δ (%)	12-Mth Δ (%)	2-year Δ (%)
S&P/TSX COMPOSITE INDEX	.TTT-T		0.6%	1.1%	3.3%	0.0%	7.6%	3.3%	(5.9)%	11.7%
S&P/TSX VENTURE COMPOSITE	.JX-T		1.4%	3.5%	5.6%	5.0%	2.7%	5.6%	(33.9)%	(32.0)%
S&P/TSX 60 INDEX	T.XLX-T		0.6%	0.8%	3.1%	(0.6)%	7.1%	3.1%	(6.8)%	12.9%
PRODUCERS										
CAMECO CORPORATION	CCO-T	4.8% / 3.2	0.2%	3.7%	11.0%	12.6%	10.7%	11.0%	15.2%	88.0%
KAZATOMPROM S	KAP-LN		0.3%	5.7%	8.4%	6.6%	4.5%	8.4%	(14.3)%	57.2%
PALADIN ENERGY L	PDN-AU	5.8% / 9.5	2.0%	11.8%	8.6%	8.6%	(0.7)%	8.6%	(17.4)%	155.0%
URANIUM ENERGY CORP	UEC-US	12.7% / 5.8	(1.0)%	0.8%	1.5%	12.6%	2.3%	1.5%	5.9%	104.1%
ENERGY FUELS INC	UUUU-US	15.5% / 10.2	0.0%	6.6%	9.8%	11.1%	5.4%	9.8%	(16.3)%	72.2%
BOSS ENERGY	BOE-AU	3.8% / 10.3	1.8%	6.6%	6.1%	5.6%	(12.7)%	6.1%	(6.2)%	169.0%
ENERGY RESOURCES	ERA-AU	0.2% / 8.9	(1.4)%	2.4%	(1.4)%	(4.4)%	7.5%	(1.4)%	(46.3)%	(23.2)%
UR ENERGY INC	URE-T	3.6% / 6.7	(1.7)%	5.6%	8.9%	5.6%	4.3%	8.9%	(2.3)%	59.8%
LOTUS RESOURCES	LOT-AU	1.4% / 4.0	4.3%	20.0%	17.1%	20.0%	9.1%	17.1%	(21.3)%	60.0%
PENINSULA ENERGY	PEN-AU	0.5% / 0.9	0.0%	7.1%	15.4%	20.0%	(11.8)%	15.4%	(34.8)%	15.4%
DEVELOPERS										
NEXGEN ENERGY LTD	NXE-T	5.7% / 4.5	(1.0)%	5.2%	4.2%	9.9%	19.1%	4.2%	5.2%	72.9%
DENISON MINES CORPORATION	DML-T	6.3% / 5.7	(1.1)%	10.4%	16.1%	13.9%	11.8%	16.1%	(1.1)%	81.8%
GLOBAL ATOMIC CORPORATION	GLO-T	1.8% / 5.9	(2.5)%	4.8%	11.1%	8.9%	2.4%	11.1%	(1.3)%	150.0%
DEEP YELLOW	DYL-AU	4.1% / 9.0	3.4%	8.6%	8.6%	7.0%	(3.2)%	8.6%	(17.4)%	19.7%
FISSION URANIUM CORP	FCU-T	1.9% / 3.6	3.5%	0.0%	11.3%	2.3%	23.6%	11.3%	(1.1)%	107.0%
AMERICAN LITHIUM CORP	LI-V	1.0% / 2.0	4.6%	24.2%	45.7%	60.5%	116.3%	45.7%	1.5%	150.6%
ISOENERGY LTD	ISO-V	1.3% / 3.3	(1.0)%	4.1%	4.1%	2.0%	(19.2)%	4.1%	(24.8)%	21.7%
ENCORE ENERGY CORP	EU-V	1.3% / 5.2	0.6%	8.9%	11.3%	7.9%	0.6%	11.3%	(28.5)%	24.9%
BANNERMAN ENERGY	BMN-AU	1.5% / 5.5	1.0%	16.4%	8.3%	17.5%	1.0%	8.3%	(37.1)%	56.0%
GOVIEUX URANIUM INC	GXU-V	1.6% / 6.7	0.0%	6.4%	38.9%	25.0%	4.2%	38.9%	(32.4)%	(3.8)%
FORSYS METALS CORP	FSY-T	0.4% / 2.3	2.0%	5.2%	3.0%	5.2%	(22.7)%	3.0%	(42.7)%	85.5%
LARAMIDE RESOURCES LTD	LAM-T	1.7% / 6.9	2.0%	9.9%	6.4%	6.4%	(2.0)%	6.4%	(30.6)%	31.6%
A-CAP ENERGY	ACB-AU	0.1% / 0.8	7.4%	24.3%	24.3%	14.5%	27.9%	24.3%	(47.3)%	163.6%
BERKELEY ENERGIA	BKY-AU	0.0% / 1.2		(1.6)%		0.0%	24.5%		15.1%	(55.1)%
WESTERN URANIUM & VANADIUM CORP	WUC-L	0.1% / 0.4	0.0%	8.3%	(0.8)%	(6.4)%	(20.4)%	(0.8)%	(39.1)%	21.9%
TORO ENERGY	TOE-AU	0.0% / 0.0	20.0%	20.0%	33.3%	0.0%	33.3%	33.3%	(53.8)%	(36.8)%
ANFIELD ENERGY INC	AEC-V	0.0% / 0.2	6.7%	23.1%	33.3%	23.1%	14.3%	33.3%	(27.3)%	(36.0)%
ENERGY MET FPO	EME-AU		0.0%	15.4%	15.4%			15.4%	(42.3)%	(9.1)%
EXPLORERS										
ALLIGATOR ENERGY	AGE-AU	1.3% / 2.8	2.4%	13.2%	10.3%	7.5%	(20.4)%	10.3%	(32.8)%	258.3%
CONSOLIDATED URANIUM INC	CUR-V	1.0% / 3.0	0.0%	3.4%	14.2%	19.4%	(3.1)%	14.2%	(39.9)%	46.8%
ELEVATE URANIUM	EL8-AU	2.0% / 10.8	8.4%	21.6%	21.6%	21.6%	(10.0)%	21.6%	(11.8)%	210.3%
DEVEX RESOURCES	DEV-AU	0.1% / 1.5	1.6%	10.2%	16.1%	(3.0)%	4.8%	16.1%	(32.3)%	44.4%
MEGA URANIUM LTD	MGA-T	0.6% / 2.8	0.0%	4.3%	20.0%	14.3%	2.1%	20.0%	(25.0)%	37.1%
SKYHARBOUR RESOURCES LTD	SYH-V	0.3% / 1.3	0.0%	2.6%	6.8%	9.9%	(4.9)%	6.8%	(38.1)%	25.8%
BASELODE ENERGY CORP	FIND-V	1.4% / 2.4	(1.8)%	16.1%	30.1%	22.7%	(30.8)%	30.1%	(39.3)%	(41.3)%
VALORE METALS CORP	VO-V	0.1% / 0.6		(6.3)%	9.1%	9.1%	(23.1)%	9.1%	(40.0)%	(1.6)%
APIA RARE EARTHS & URANIUM CORP	API-L	0.0% / 0.0	(1.6)%	3.3%	6.8%	(12.5)%	(39.4)%	6.8%	(44.7)%	(16.0)%
AZIMUT EXPLORATION INC	AZM-V	0.0% / 0.1	0.0%	2.9%	2.9%		30.9%	2.9%	(53.2)%	(27.3)%
92 ENERGY	92E-AU	0.8% / 5.6	1.1%	8.0%	10.5%	15.9%	(2.1)%	10.5%	(26.4)%	
AURANIA RESOURCES LTD	ARU-V	0.1% / 0.4	(0.0)%	(12.8)%	74.4%	61.9%	36.0%	74.4%	(34.0)%	(80.3)%
CANALASKA URANIUM LTD	CVV-V	0.8% / 3.4	1.2%	1.2%	11.7%	7.5%	(2.3)%	11.7%	(15.7)%	(14.0)%
BLUE SKY URANIUM CORP	BSK-V	0.2% / 0.7	0.0%	5.0%	16.7%	0.0%	(27.6)%	16.7%	(57.1)%	(34.4)%
OKAPI RESOURCES	OKR-AU	0.0% / 0.0	5.9%	11.1%		9.1%	(23.4)%		(50.7)%	(18.2)%
PUREPOINT URANIUM GRP INC	PTU-V	0.1% / 0.3	7.7%	7.7%	16.7%	16.7%	7.7%	16.7%	(30.0)%	(22.2)%
GLOBEX MINING ENTERPRISES INC	GMX-T	0.1% / 0.5	7.3%	22.2%	27.5%	33.3%	17.3%	27.5%	(25.4)%	25.7%
GTI RES FPO	GTR-AU	0.0% / 0.0	9.1%	9.1%	9.1%		(20.0)%	9.1%	(53.8)%	(52.0)%
FORUM ENERGY METALS CORP	FMC-V	0.0% / 0.1	0.0%	0.0%	15.8%	0.0%	(4.3)%	15.8%	(53.2)%	(56.0)%
STANDARD URANIUM LTD	STND-V	0.7% / 2.1	(0.0)%	13.3%	41.7%	21.4%	(22.7)%	41.7%	(63.0)%	(58.5)%
FISSION 3.0 CORP	FUU-V	0.3% / 0.2	(3.8)%	(3.8)%	22.2%	45.3%	352.9%	22.2%	51.0%	234.8%
AZINCOURT ENERGY CORP	AAZ-V	0.2% / 0.4	9.1%	9.1%	9.1%	20.0%	20.0%	9.1%	(68.1)%	(52.0)%
ALX RESOURCES CORP	AL-V	0.1% / 0.4	0.0%	0.0%	0.0%	14.3%	(11.1)%	0.0%	(50.0)%	(52.9)%
CAULDRON ENERGY	CXU-AU	0.0% / 0.0	(0.0)%	(0.0)%	(0.0)%	(22.2)%	(36.4)%	(0.0)%	(74.1)%	(85.4)%
TARKU RESOURCES LTD	TKU-V	0.7% / 0.5	(7.7)%	(14.3)%	(14.3)%	71.4%	100.0%	(14.3)%	(20.0)%	
NORTHERN URANIUM CORP	UNO'H-V	0.0% / 0.1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	(62.5)%	(40.0)%
X-TERRA RESOURCES INC	XTT-V	0.0% / 0.0	(5.0)%	(5.0)%	58.3%	58.3%		58.3%		(20.8)%
AVRUPA MINERALS LTD	AVU-V	0.2% / 1.1		0.0%			50.0%			(78.6)%
INTERNATIONAL PROSPECT VENTURES LTD	IZZ-V	0.0% / 0.0		0.0%			37.5%			(50.0)%
URAVAN MINERALS INC	UVN-V	0.1% / 0.5	5.0%	18.3%	9.1%	10.5%		9.1%		(6.7)%
EROS RESOURCES CORP	ERC-V	0.0% / 0.9	8.3%			8.3%	8.3%		(35.0)%	(31.6)%
INVENTORY FUNDS										
SPROTT PHYSICAL URANIUM TRUST	U.UN-T	1.8% / 3.1	(0.6)%	(2.6)%	1.8%	10.0%	(6.1)%	1.8%	8.3%	
YELLOW CAKE PLC	YCA-LN	0.4% / 1.2	(0.2)%	0.2%	5.1%	8.4%	(5.8)%	5.1%	14.6%	58.1%
ROYALTY COMPANIES										
URANIUM ROYALTY CORP	URC-V	1.8% / 2.1	(1.7)%	2.4%	6.3%	5.3%	7.3%	6.3%	(30.0)%	142.9%

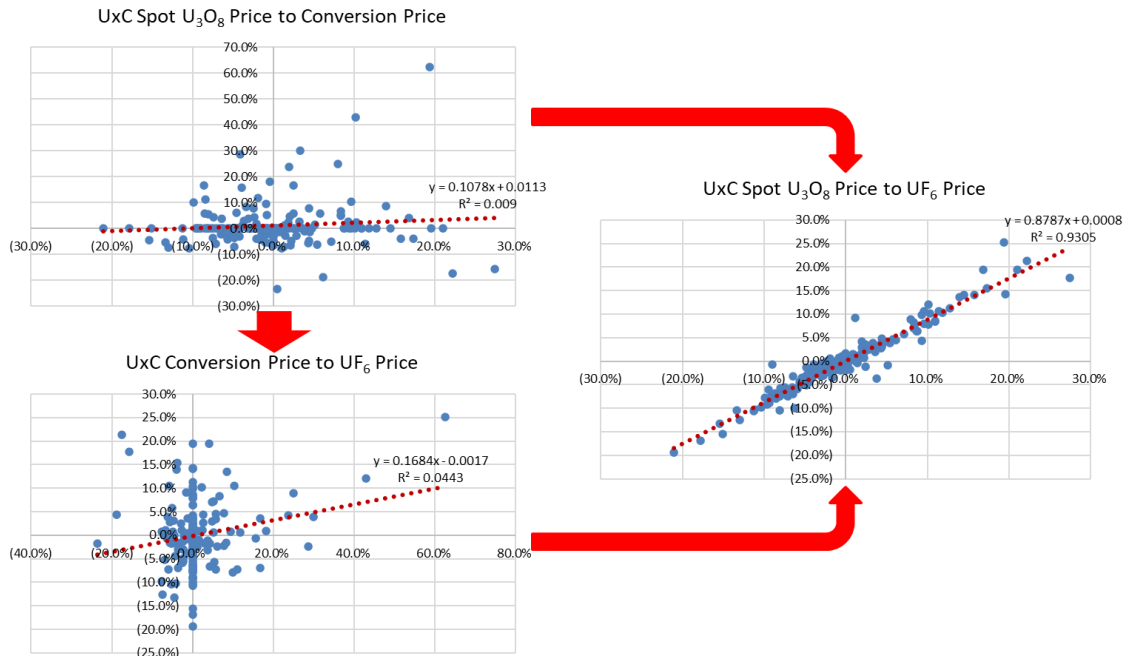
Source: UxC, CapitalIQ, Bloomberg, Haywood



Uranium Fuel Cycle Price Relationships

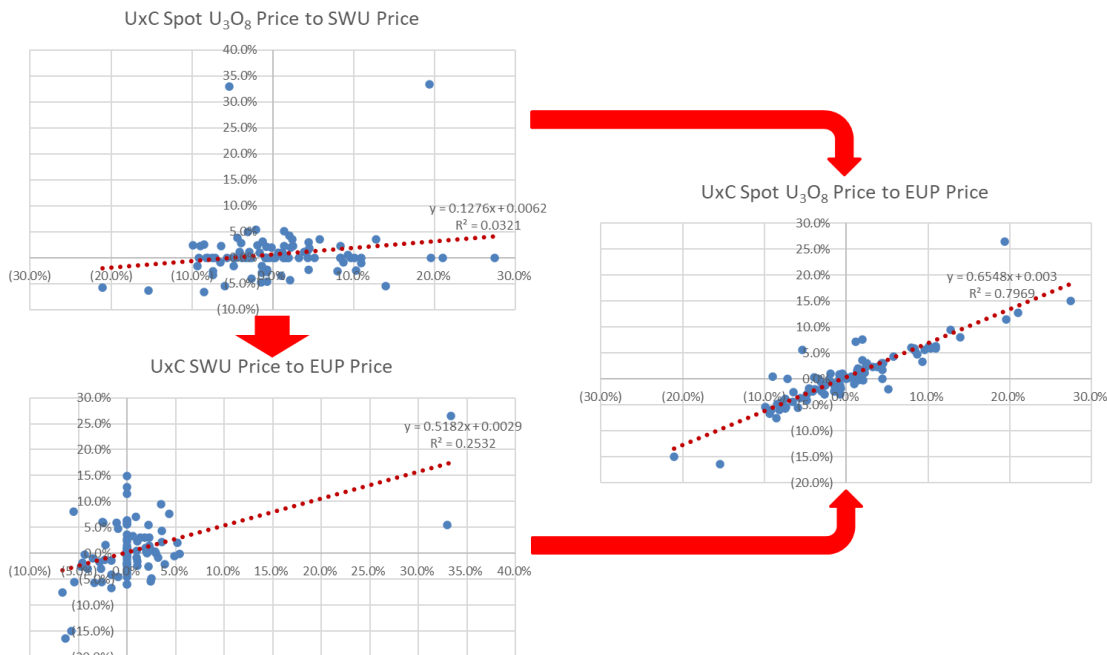
The charts below show that the price of uranium products (U_3O_8 , UF_6 and EUP) are tightly correlated (monthly %Δ) in the long term (RHS Figures 8 & 9). On the lower left chart of each Figure, we see that the cost of fuel services exhibits a much lower correlation with the monthly % change in uranium product (Conversion to UF_6 [$R^2=0.04$] or SWU to EUP [$R^2=0.33$]), owing to the fact that the uranium embedded in the product dominates value. Historically, conversion costs have made up an average of 10.5% of the cost of UF_6 (currently 23.4%), and SWU costs have made up an average of 26% of the price of EUP (currently 30.8%) (or, conversely, UF_6 historically makes up 74% of the cost of EUP).

Figure 8. U_3O_8 – Conversion – UF_6 Monthly Performance Correlations 2008 to December 31st, 2022 (at UxC spot prices)



Source: Haywood Securities Inc., UxC

Figure 9: U_3O_8 – SWU – EUP Monthly Performance Correlations – 2015 to December 31st, 2022 (at UxC spot prices)



Source: Haywood Securities Inc., UxC



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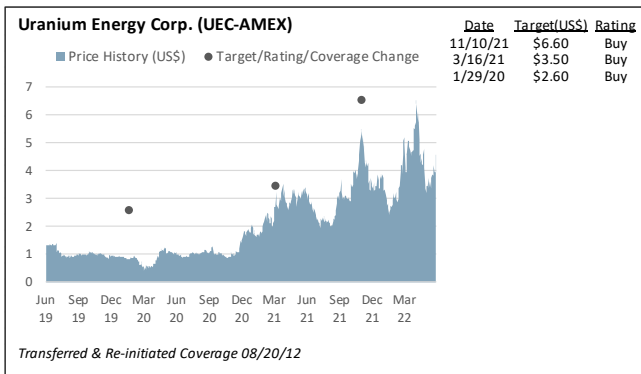
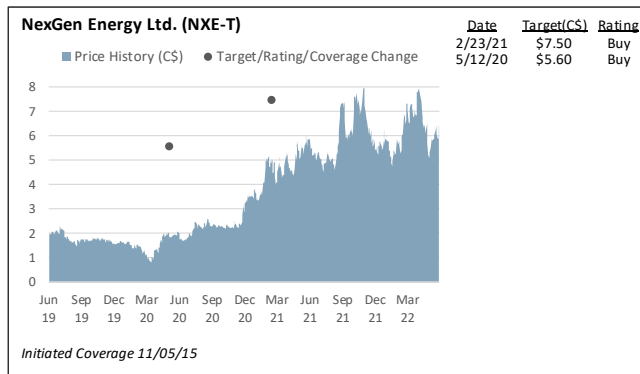
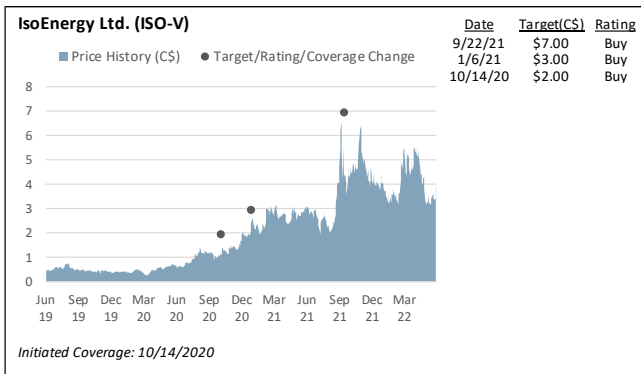
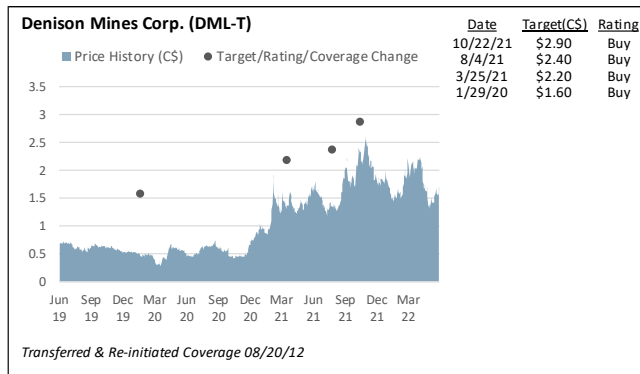
Ticker	Company	1	2	3	4	5	6	7	8	9
TSX:DML	Denison Mines Corp.			X			X			
TSX:EFR	Energy Fuels Inc.			X				X		
TSXV:ISO	IsoEnergy Ltd.			X	X					
TSX:NXE	NexGen Energy Ltd.			X						
US:UEC	Uranium Energy Corp.			X						
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	%	#	IB Clients (TTM)
Buy	78.4%	80	84.2%
Hold	8.8%	9	5.3%
Sell	0.0%	0	0.0%
Tender	1.0%	1	5.3%
UR (Buy)	0.0%	0	0.0%
UR (Hold)	0.0%	0	0.0%
UR (Sell)	0.0%	0	0.0%
Dropped (TTM)	11.8%	12	5.3%



Price Chart, Rating and Target Price History (as of January 12, 2023)



B: Buy; H: Hold; S: Sell; T: Tender; UR: Under Review
 Source: Capital IQ and Haywood Securities

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