

Momentum Building with Eight Straight Up-Ticks for Spot Price

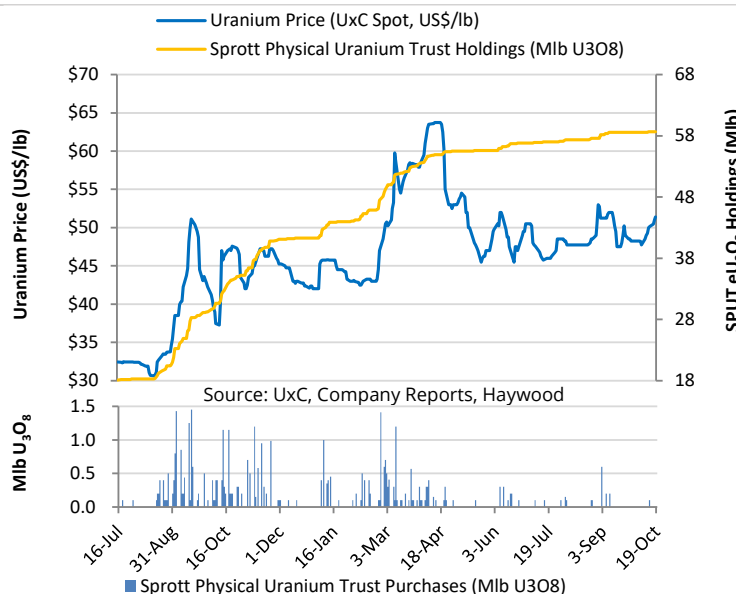
NOTES FROM DOE INDUSTRY DAY ON HALEU ACQUISITION PROGRAM

Uranium Price Update & Sector Commentary: Close of October 19th, 2022

By mid-week the uranium spot price has strung together eight consecutive positive sessions, gaining just under 8% as broader market volatility has remained elevated, with the VIX sitting at just over 31, well above average. It's also worth noting that the positive uranium price moves were largely managed without much help from the Sprott Physical Uranium Trust, which only bought 100 klb on one day during the mini rally. In production news, BHP reported Olympic Dam uranium production of 817 t (~1.8Mlb U₃O₈) for FQ1/23 (Sept. 2022), up 54% YoY vs the Sept. 2021 quarter, but up just 5% vs the June 2022 quarter. Late last week we sat in on the U.S. DoE's Industry Day covering the High Assay Low Enriched Uranium (HALEU) Acquisition Project (HAP). Both the 'Energy Act' of 2020 and the Inflation Reduction Act of 2022 have provisions for substantial funding to advance the stated objective of establishing "a diverse, domestic, market-based HALEU supply chain supporting energy security, nuclear technology innovation and achievement of climate goals." The HAP program has been established to "serve as a catalyst to establish HALEU enrichment capability in the United States". The program will accomplish this by making a guaranteed market for the purchase of HALEU, representing sufficient demand to encourage private sector investment in new capabilities. All HALEU the DOE would acquire must be enriched using either new or expanded enrichment capacity located in the USA. The DOE plans to purchase 25 mt of HALEU (19.75% U²³⁵) annually over a period of 10 years. Our calcs suggest this requires ~3.1 Mlb U₃O₈ annually (conv. factor of 2.613/enrichment tails assay of 0.3% U²³⁵).

Uranium Equities - News

- ◆ **Baselode Energy Corp. (FIND-V, Not Rated):** Announced geochemical assay results from its Hook Project – [link to Oct. 19th PR](#)
- ◆ **GTI Resources Ltd (GTR-AU, Not Rated):** Completed the first 40 holes of its 70-hole drill program – [link to Oct. 19th PR](#)
- ◆ **Denison Mines Corp. (DML-T, Rating: BUY, Target: \$2.90):** Announced milestone recovery of uranium bearing solution via ISR at the Phoenix deposit – [link to Oct. 17th PR - Haywood Note](#)



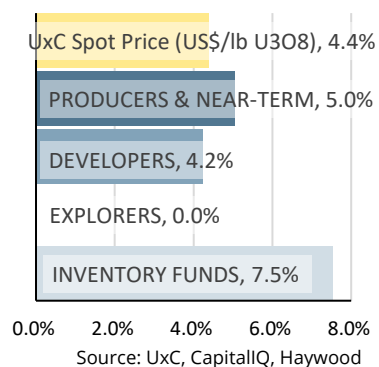
Uranium required and cost to make 1kg of EUP (4.5% U²³⁵): Mine/plant output of 26.7 lb U₃O₈ (\$1,372 cost) -> Conversion to UF₆ (\$388 cost) -> delivers 10.22 kgU as UF₆ (\$1,761 cumulative cost) -> enrichment: 6.23 SWU (\$573 cost) -> delivers 1kg EUP (\$2,334 cumulative cost). (US\$, spot U₃O₈, tails assay of 0.30% U²³⁵)

- ◆ **Uranium Energy Corp (UEC-US, BUY Rating, \$6.60 Target):** Closed previously announced acquisition of Roughrider uranium project – [link to Oct. 17th PR](#)
- ◆ **92 Energy Limited (92E-AU, Not Rated):** Issued an update on its maiden drilling program at its Tower Property – [link to Oct. 17th PR](#)
- ◆ **Laramide Resources Ltd. (LAM-T, Not Rated):** Commenced 2nd phase of 2022 drilling program at its Westmoreland Project – [link to Oct. 18th PR](#)

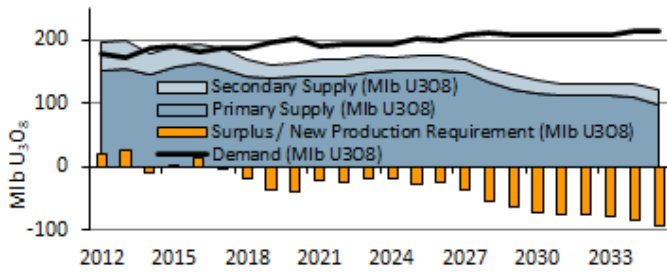
UxC U ₃ O ₈ Prices	(USD per pound)
SPOT (1-day Δ):	\$51.40 (+0.7%)
(1-week Δ):	(+4.4%)
(1-month Δ):	(+4.9%)
3-year (1-week Δ):	\$56.00 (unchanged)
5-year (1-week Δ):	\$59.50 (unchanged)
LT (@Sept. 26th, 1-mth Δ):	\$49.00 (-2.0%)

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

Performance - Oct. 12, 2022 to Oct. 19, 2022



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



Source: UxC, WNA, IAEA, IEA, Haywood

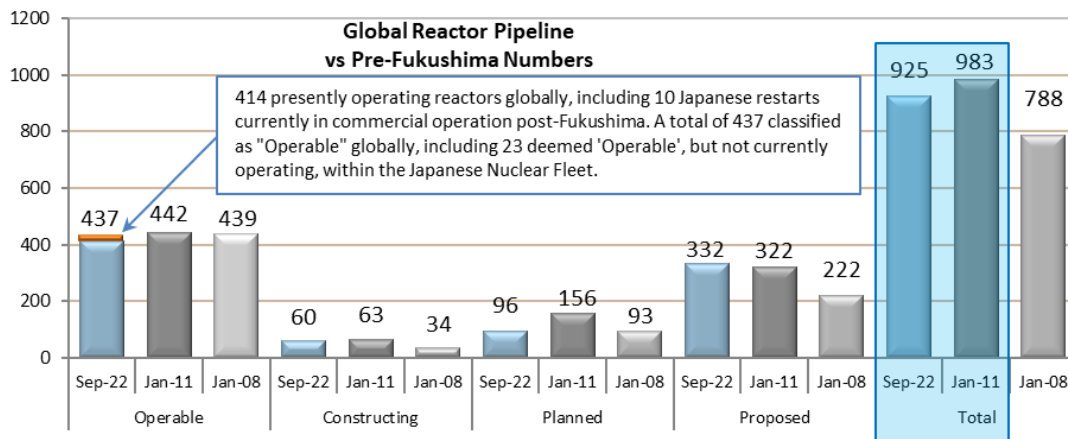
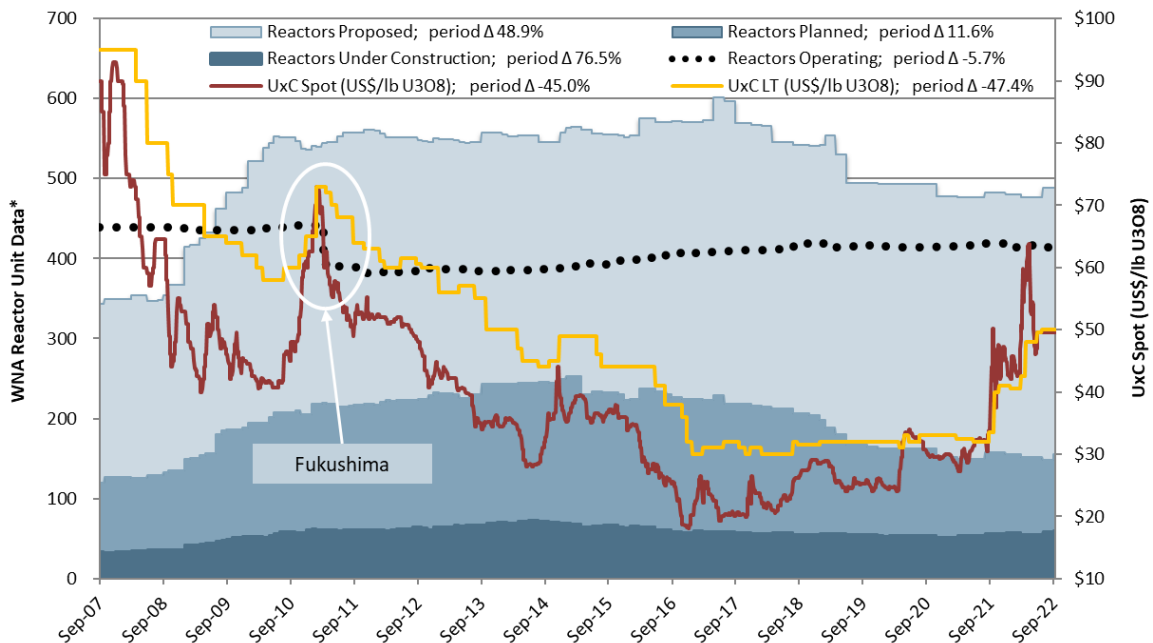
Commodity Price History	2015	2016	2017	2018	2019	2020	2021
Spot price (US\$/lb U ₃ O ₈)	\$37	\$26	\$22	\$25	\$26	\$29	\$40
Long Term price (US\$/lb U ₃ O ₈)	\$47	\$40	\$31	\$31	\$32	\$32	\$35

Commodity Price Forecast	2022	2023	2024	2025	2026	2027	2027
Spot price (US\$/lb U ₃ O ₈)	\$47	\$55	\$64	\$65	\$65	\$65	\$65
Long Term price (US\$/lb U ₃ O ₈)	\$55	\$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 (September 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:** H2/2022 results of field programs, including updates on FEED work and results of field and exploration activities.
- ◆ **Cash of \$164 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 freeze-wall trade-off study.** Late 2020, Denison 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 Preliminary Feasibility Study (PFS). The proposed freeze wall approach is **simpler and offers more control in each mining cell/phase and improves the risk profile on the mine plan.**
- ◆ **New approach should mean lower CAPEX hurdle.** Mining of Phoenix via ISR was already a very attractive economic proposition, with initial CAPEX in the PFS at <\$325M and OPEX of US\$3.33/lb U₃O₈. The trade-off study is preliminary but **lower initial CAPEX is supportable as the phased freeze wall approach is simpler and less costly to initial production.**
- ◆ **Catalysts:** H1/2022 - **Further technical work** to de-risk the ISR mining approach to Phoenix at Wheeler River in support of a future full Feasibility Study (estimated late 2022 delivery) for Wheeler River integrating the extensive technical advancements made since the 2018 PFS. **2022 - Exploration results** - seeking satellite deposits at Wheeler River; and Studies for other potentially ISR amenable projects similar to THT/Waterbury.
- ◆ **Cash of ~\$56 million, plus 2.5 Mlb U₃O₈ as long-term investment.**

Other Covered Names

- ◆ **Energy Fuels Inc. (EFR-T, UUUU-US) – Rating: Buy; Target: US\$6.75 Target ([last report](#))**
- ◆ **IsoEnergy. (ISO-V) – Rating: Buy; Target: \$7.00 ([last report](#))**
- ◆ **Uranium Energy Corp. (UEC-US) – Rating: Buy; Target: US\$6.60 Target ([last report](#))**

Coverage Universe

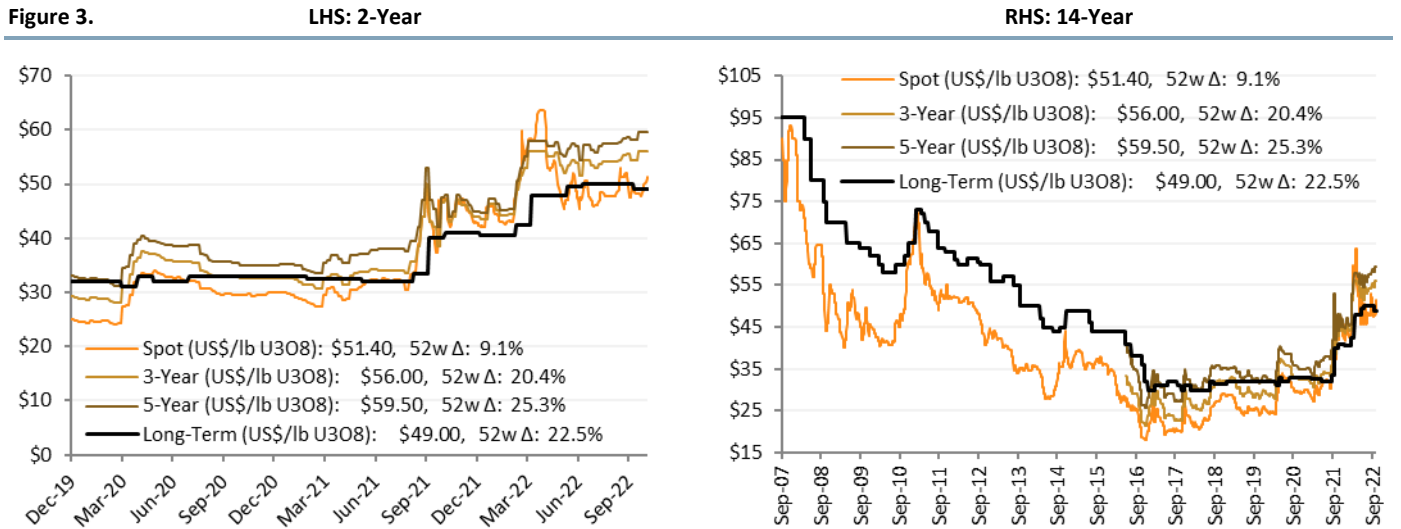
Figure 2. Uranium Sector Haywood Coverage

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	CFPS (US\$) 2023E
Denison Mines	DML-T	CH	\$1.63	818	\$1,333	\$1,267	\$2.90	78%	BUY	C\$2.85	(\$0.01)	(\$0.01)
Energy Fuels	UUUU-US	CH	US\$6.61	158	US\$1,042	US\$1,310	US\$6.75	2%	BUY	\$6.73	(\$0.02)	\$0.20
IsoEnergy Ltd.	ISO-V	CH	\$3.37	107	\$360	\$369	\$7.00	108%	BUY	C\$7.02	(\$0.07)	(\$0.07)
NexGen Energy	NXE-T	CH	\$5.30	480	\$2,543	\$2,469	\$7.50	42%	BUY	C\$7.50	(\$0.03)	(\$0.03)
Uranium Energy	UEC-US	CH	US\$4.02	364	US\$1,463	US\$1,432	US\$6.60	64%	BUY	\$6.55	(\$0.08)	(\$0.08)

Source: Haywood Securities

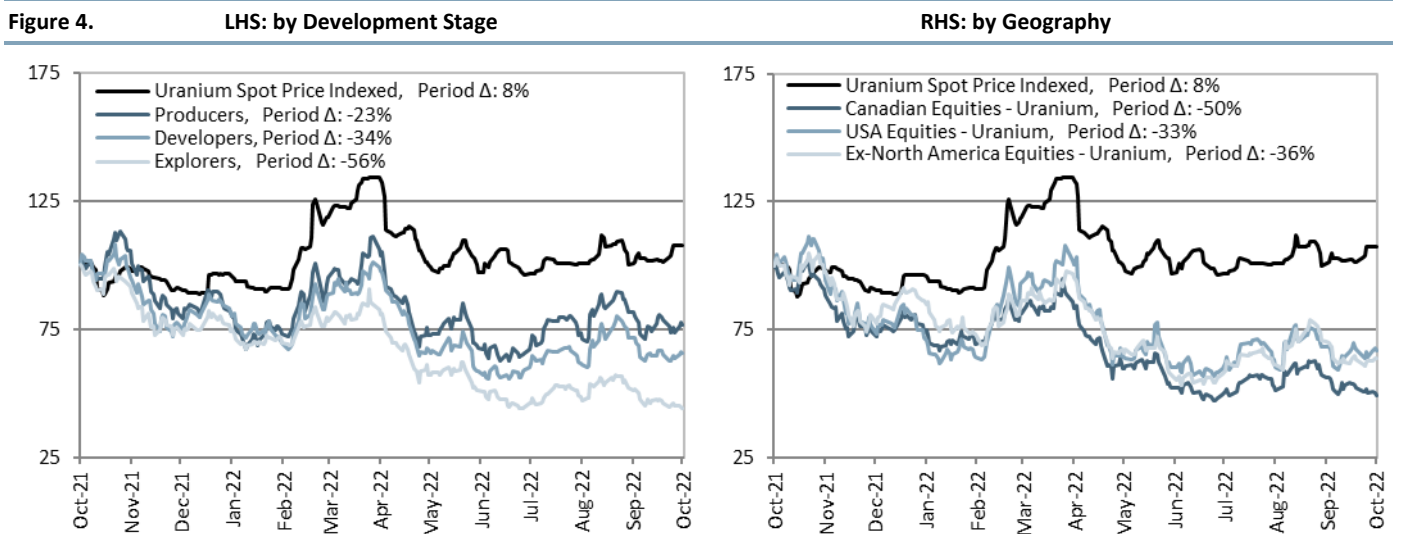


Uranium Price Charts



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 Oct. 12, 2022 to Oct. 19, 2022
		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)	\$31.41	\$43.40	38%	398	\$12,515	\$8,804	1078.4	\$8.16	\$27.98	1.12x	30.4x	15.0x	14.7x	2.0%
Kazatomprom (KAP-LSE)	\$28.00	\$38.54	38%	259	\$7,262	\$7,390	1339.5	\$5.52	\$40.27	0.70x	11.1x	8.4x	6.1x	1.4%
Paladin Energy (PDN-AU)	\$0.81	\$0.72	(11)%	2,979	\$2,413	\$1,376	381.7	\$3.61	\$1.28	0.63x	5062.5x			7.4%
Uranium Energy (UEC-US)	\$4.02	\$6.92	72%	346	\$1,392	\$1,361	306.7	\$4.44	\$6.23	0.65x			44.7x	9.8%
Energy Fuels (UUU-US)	\$6.61	\$9.70	47%	158	\$1,042	\$950.0	119.6	\$7.95	\$8.96	0.74x	22.4x	165.3x		7.5%
Boss Energy (BOE-AU)	\$2.64	\$3.30	25%	353	\$930.8	\$501.1	71.4	\$7.02	\$3.20	0.83x		28.9x		4.4%
EnergyResources (ERA-AU)	\$0.21			3,691	\$756.7	\$392.7	302.3	\$1.30						0.1%
Ur-Energy Inc. (URE-T)	\$1.59	\$4.08	156%	223	\$354.3	\$228.1	41.3	\$5.52	\$4.11	0.39x	19.9x			0.7%
Lotus Resources (LOT-AU)	\$0.24	\$0.31	32%	1,326	\$311.6	\$192.1	44.2	\$4.35	\$0.32	0.73x				12.0%
Peninsula Energy (PEN-AU)	\$0.17	\$0.35	115%	999	\$164.8	\$95.6	53.7	\$1.78	\$0.40	0.41x	116.2x			3.2%
Group Average - Producers								\$4.96		0.69x	52.6x	1025.6x	51.9x	5.0%
DEVELOPERS														
NexGen Energy (NXE-T)	\$5.30	\$9.32	76%	480	\$2,543	\$1,791	337.8	\$5.30	\$8.35	0.63x				5.4%
Denison Mines (DML-T)	\$1.63	\$2.08	28%	818	\$1,333	\$918.7	207.5	\$4.43	\$2.55	0.64x				2.6%
Global Atomic (GLO-T)	\$3.94	\$6.07	54%	180	\$710.9	\$505.2	161.1	\$3.14	\$5.64	0.70x				8.0%
Deep Yellow (DYL-AU)	\$0.81	\$1.05	30%	732	\$592.6	\$333.7	392.2	\$0.85						5.3%
Fission Uranium (FCU-T)	\$0.67	\$1.28	90%	682	\$456.7	\$304.9	130.3	\$2.34	\$1.43	0.47x				3.1%
American Lithium (LI-V)	\$2.06	\$8.63	319%	208	\$428.7	\$299.4	123.4	\$2.43	\$11.00	0.19x				4.1%
IsoEnergy Ltd. (ISO-V)	\$3.37	\$6.50	93%	107	\$360.0	\$267.6	51.3	\$5.22	\$6.61	0.51x				(7.1)%
enCore Energy (EU-V)	\$3.66	\$7.60	108%	108	\$393.8	\$263.2	129.6	\$2.03	\$7.55	0.48x				14.1%
Bannerman Energy (BMN-AU)	\$2.08	\$2.96	42%	150	\$311.2	\$162.7	238.8	\$0.68						14.1%
GovEx Uranium (GXU-V)	\$0.22	\$0.65	195%	593	\$130.4	\$98.0	201.7	\$0.49	\$0.89	0.25x				0.0%
Forsys Metals (FSY-T)	\$0.64			195	\$124.9	\$77.6	127.0	\$0.61						12.3%
Laramide Resources (LAM-T)	\$0.50	\$0.80	60%	208	\$104.2	\$73.1	122.7	\$0.60						3.1%
A-Cap Energy (ACB-AU)	\$0.08			1,232	\$92.4	\$50.4	190.6	\$0.26						12.0%
Berkeley Energia (BKY-AU)	\$0.27			446	\$120.4	\$25.4	89.4	\$0.28						3.9%
Western Uranium (WUC-L)	\$1.41			44	\$61.5	\$34.1	52.4	\$0.65						1.5%
Toro Energy (TOE-AU)	\$0.02			3,897	\$66.3	\$38.0	90.9	\$0.42						0.1%
Anfield Energy (AEC-V)	\$0.07	\$0.25	257%	624	\$43.7	\$25.8	22.5	\$1.15	\$0.42	0.17x				0.0%
Energy Metals (EME-AU)	\$0.14			210	\$29.4	\$9.2	57.6	\$0.16						(6.6)%
Group Average - Developers								\$1.72		0.45x				4.2%
EXPLORERS														
Alligator Energy (AGE-AU)	\$0.06			3,303	\$181.7	\$97.0								7.9%
Consolidated Uranium (CUR-V)	\$1.91	\$4.15	117%	77	\$146.8	\$88.3	89.6	\$0.99						2.7%
Elevate Uranium (EL8-AU)	\$0.51			275	\$139.1	\$77.5	137.5	\$0.56						13.6%
DevEx Resources (DEV-AU)	\$0.30			360	\$107.9	\$63.0								(3.1)%
Mega Uranium (MGA-T)	\$0.24			359	\$84.3	\$50.5								9.3%
Skyharbour Resources (SYH-V)	\$0.40	\$0.98	144%	144	\$57.7	\$38.8	7.0	\$5.57	\$1.01	0.40x				1.3%
Baseload Energy (FIND-V)	\$0.67			87	\$58.0	\$34.2								(4.2)%
ValOre Metals (VO-V)	\$0.35	\$1.05	200%	154	\$53.8	\$36.9	43.5	\$0.85						(5.4)%
Appia Rare (APL)	\$0.45			123	\$55.4	\$34.5	55.8	\$0.62						(8.1)%
Azimut Exploration (AZM-V)	\$0.58	\$2.65	357%	79	\$46.0	\$18.8								1.8%
92 Energy (92E-AU)	\$0.52			88	\$45.7	\$21.2								9.6%
Aurania Resources (ARU-V)	\$0.51			54	\$27.5	\$24.0								10.9%
CanAlaska Uranium (CWV-V)	\$0.42			102	\$42.3	\$21.9								(2.3)%
Blue Sky (BSK-V)	\$0.14			200	\$27.0	\$17.7	22.7	\$0.78						(3.5)%
Okapi Resources (OKR-AU)	\$0.25			136	\$33.3	\$20.2								9.0%
Purepoint Uranium (PTU-V)	\$0.07			369	\$25.8	\$15.6								7.7%
Globex Mining (GMX-T)	\$0.62			56	\$34.5	\$10.8								(18.4)%
GTI Energy (GTR-AU)	\$0.02			1,505	\$24.1	\$10.8								6.8%
Forum Energy (FMC-V)	\$0.11			172	\$18.1	\$10.7	0.6	\$18.00						(4.5)%
Standard Uranium (STND-V)	\$0.11			166	\$17.4	\$12.5								(4.5)%
Fission 3.0 (FUU-V)	\$0.08			302	\$24.2	\$4.6								(5.8)%
Azincourt Energy (AAZ-V)	\$0.05			227	\$11.4	\$0.6								0.0%
ALX Resources (AL-V)	\$0.05			208	\$9.4	\$5.1								0.0%
Cauldron Energy (CXU-AU)	\$0.01			535	\$6.2	\$4.0	30.9	\$0.13						4.6%
Tarku Resources (TKU-V)	\$0.03			86	\$2.6	\$1.9								0.0%
Northern Uranium (UNOH-V)	\$0.02			162	\$2.4	\$1.8								0.0%
X-Terra Resources (XTT-V)	\$0.02			99	\$2.0	\$1.2								0.0%
Avrupa Minerals (AVU-V)	\$0.02			55	\$1.1	\$0.5								0.0%
International Prospect (IZZ-V)	\$0.05			41	\$1.8	\$1.2	0.6	\$2.05						0.0%
Vanadian Energy (VEC-V)	\$0.03			42	\$1.1	\$1.0								(16.6)%
UraVan Minerals (UVN-V)	\$0.16			5	\$0.8	\$0.3								0.0%
Eros Resources (ERC-V)	\$0.06			98	\$5.4	(\$4.8)								(8.3)%
Group Average - Explorers								\$3.28						0.0%
INVENTORY FUNDS														
Sprott Physical (U.UN-T)	\$17.33	\$23.50	36%	236	\$2,970	\$3,021	58.7	\$51.49						7.0%
Yellow Cake (YCA-LN)	£4.11	£5.80	41%	183	£752.2	\$714.9	19.8	\$36.05						8.0%
														7.5%
ROYALTY COMPANIES														
Uranium Royalty (URC-V)	\$3.08	\$6.72	118%	97	\$299.8	\$146.6			\$5.32	0.58x				0.0%

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
ASX:EL8	Elevate Uranium Ltd	1.67	12.303	(17%)	1	4	12
TSXV:AEC	Anfield Energy Inc.	1.55	11.473	(53%)	2	7	41
US:UEC	Uranium Energy Corp.	1.52	9.913	13%	3	15	2
ASX:TOE	Toro Energy Limited	1.48	11.559	(55%)	4	6	43
ASX:PEN	Peninsula Energy Limited	1.44	13.728	(43%)	5	1	33
ASX:BMN	Bannerman Energy Ltd	1.42	11.300	(50%)	6	8	37
ASX:AGE	Alligator Energy Limited	1.37	10.066	(32%)	7	14	22
TSXV:FMC	Forum Energy Metals Corp.	1.37	9.282	(79%)	8	21	63
ASX:DYL	Deep Yellow Limited	1.36	11.294	(30%)	9	9	17
TSX:FSY	Forsys Metals Corp.	1.32	9.478	(37%)	10	19	27
ASX:92E	92 Energy Limited	1.29	10.129	(39%)	11	13	28
ASX:LOT	Lotus Resources Limited	1.27	11.608	(29%)	12	5	15
ASX:OKR	Okapi Resources Limited	1.24	9.760	(60%)	13	16	47
CNSX:WUC	Western Uranium & Vanadium	1.24	9.358	(61%)	14	20	49
ASX:GTR	GTI Energy Ltd	1.22	9.126	(52%)	15	22	39
TSXV:URC	Uranium Royalty Corp.	1.22	10.467	(51%)	16	12	38
TSX:URE	Ur-Energy Inc.	1.17	10.786	(32%)	17	11	19
TSXV:FIND	Baselode Energy Corp.	1.16	9.629	(45%)	18	18	34
TSXV:ISO	IsoEnergy Ltd.	1.09	7.857	(28%)	19	34	14
TSXV:GXU	GoviEx Uranium Inc.	1.06	8.063	(56%)	20	33	44
TSX:EFR	Energy Fuels Inc.	1.06	8.731	(12%)	21	25	9
ASX:BKY	Berkeley Energia Limited	1.05	8.480	(11%)	22	29	8
ASX:BOE	Boss Energy Limited	1.04	11.269	0%	23	10	4
TSX:MGA	Mega Uranium Ltd.	1.03	8.175	(36%)	24	32	23
TSXV:EU	enCore Energy Corp.	0.99	9.033	(36%)	25	23	25
ASX:ACB	A-Cap Energy Limited	0.98	6.628	(3%)	26	43	5
TSXV:SYH	Skyharbour Resources Ltd.	0.92	7.408	(49%)	27	39	36
TSX:FCU	Fission Uranium Corp.	0.92	8.393	(41%)	28	31	30
TSXV:UNO.H	Northern Uranium Corp.	0.90	6.618	(73%)	29	44	58
ASX:PDN	Paladin Energy Ltd	0.88	9.655	(14%)	30	17	10
TSX:GLO	Global Atomic Corporation	0.88	9.009	(6%)	31	24	7
AIM:YCA	Yellow Cake plc	0.88	13.374	7%	32	2	3
TSX:DML	Denison Mines Corp.	0.87	8.622	(29%)	33	28	16
TSXV:FUU	Fission 3.0 Corp.	0.86	7.008	(64%)	34	41	53
TSXV:XTT	X-Terra Resources Inc.	0.86	5.182	(60%)	35	49	48
TSXV:AAZ	Azincourt Energy Corp.	0.83	7.792	(78%)	36	36	62
TSX:NXE	NexGen Energy Ltd.	0.82	8.695	(31%)	37	26	18
TSXV:PTU	Purepoint Uranium Group Inc.	0.82	7.417	(52%)	38	38	40
TSXV:CVV	CanAlaska Uranium Ltd.	0.81	5.275	(47%)	39	48	35
TSX:U.U	Sprott Physical Uranium Trust Fi	0.76	12.714	14%	40	3	1
TSX:CCO	Cameco Corporation	0.74	8.661	(5%)	41	27	6
ASX:EME	Energy Metals Limited	0.73	7.735	(65%)	42	37	54
TSXV:VEC	Vanadian Energy Corp.	0.70	3.451	(72%)	43	56	57
TSX:GMX	Globex Mining Enterprises Inc.	0.67	7.808	(36%)	44	35	24
TSXV:CUR	Consolidated Uranium Inc.	0.67	7.043	(32%)	45	40	21
ASX:DEV	DevEx Resources Limited	0.66	4.669	(15%)	46	50	11
TSXV:BSK	Blue Sky Uranium Corp.	0.64	5.979	(58%)	47	47	45
TSXV:VO	ValOre Metals Corp.	0.59	6.281	(20%)	48	45	13
CNSX:API	Appia Rare Earths & Uranium Cc	0.58	4.322	(42%)	49	52	31
TSXV:AL	ALX Resources Corp.	0.58	6.217	(64%)	50	46	52
TSXV:AVU	Avrupa Minerals Ltd.	0.57	3.835	(76%)	51	55	61
TSXV:STND	Standard Uranium Ltd.	0.57	4.543	(73%)	52	51	59
KAS:KZAP	JSC National Atomic Company K	0.51	8.422	(32%)	53	30	20
ASX:ERA	Energy Resources of Australia Li	0.46	6.888	(54%)	54	42	42
TSXV:UVN	Uravan Minerals Inc.	0.45	4.308	(59%)	55	53	46
TSXV:ERC	Eros Resources Corp.	0.38	3.979	(42%)	56	54	32
TSXV:IZZ	International Prospect Venture	0.37	3.338	(76%)	57	57	60
TSXV:LI	American Lithium Corp.	0.29	2.171	(37%)	58	59	26
ASX:LAM	Laramide Resources Ltd.	0.28	3.255	(40%)	59	58	29
ASX:CXU	Cauldron Energy Limited	0.23	1.583	(63%)	60	61	50
TSXV:AZM	Azimut Exploration Inc.	0.13	2.067	(70%)	61	60	56
TSXV:TKU	Tarku Resources Ltd.	0.07	0.295	(67%)	62	62	55
TSXV:ARU	Aurania Resources Ltd.	-0.02	-0.147	(64%)	63	63	51

Source: UxC, CapitalIQ, Bloomberg, Haywood



Figure 7. Uranium Comps Performance with Short Interest / Days to Cover

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		(0.7)%	1.9%	0.5%	(4.5)%	(2.0)%	(12.0)%	(11.4)%	14.7%
S&P/TSX VENTURE COMPOSITE	.JX-T		(0.2)%	1.1%	(3.4)%	(6.2)%	(4.7)%	(37.5)%	(38.2)%	(18.2)%
S&P/TSX 60 INDEX	T.XLX-T		(0.5)%	2.1%	0.8%	(4.3)%	(1.9)%	(12.0)%	(10.6)%	16.4%
PRODUCERS										
CAMECO CORPORATION	CCO-T	3.8% / 1.3	(1.7)%	6.4%	(14.3)%	(16.3)%	4.6%	13.9%	(4.6)%	154.1%
KAZATOMPROM S	KAP-LN		1.2%	0.0%	(1.1)%		(2.7)%	(23.8)%	(38.1)%	97.9%
PALADIN ENERGY L	PDN-AU	6.2% / 8.7	1.3%	4.5%	3.8%	(1.8)%	18.2%	(8.0)%	(14.3)%	592.3%
URANIUM ENERGY CORP	UEC-US	13.2% / 4.8	1.5%	11.7%	0.8%	3.1%	15.2%	20.0%	12.9%	318.8%
ENERGY FUELS INC	UUUU-US	18.0% / 7.7	(1.2)%	9.1%	(2.1)%	(1.3)%	13.8%	(13.4)%	(20.1)%	310.6%
BOSS EN FPO	BOE-AU	3.4% / 6.4	(0.4)%	2.7%	(1.5)%	2.3%	30.0%	17.3%	0.0%	415.6%
ENERGY RESOURCES	ERA-AU	0.0% / 0.1	(4.7)%	(6.8)%	(2.4)%	(10.9)%	(8.9)%	(39.7)%	(54.4)%	32.3%
UR ENERGY INC	URE-T	4.3% / 5.8	(3.0)%	3.2%	(1.2)%	(8.1)%	12.0%	3.2%	(31.8)%	156.5%
LOTUS RESOURCES	LOT-AU	1.2% / 2.1	2.2%	6.8%	4.4%	0.0%	0.0%	(24.2)%	(28.8)%	161.1%
PENINSULA ENERGY	PEN-AU	1.0% / 2.4	(2.9)%	(2.9)%	(0.0)%	(2.9)%	(10.8)%	(17.5)%	(43.1)%	157.8%
DEVELOPERS										
NEXGEN ENERGY LTD	NXE-T	6.2% / 3.7	(2.4)%	5.2%	0.6%	(4.7)%	5.8%	(4.3)%	(31.1)%	139.8%
DENISON MINES CORPORATION	DML-T	6.2% / 5.5	(1.8)%	7.2%	(1.2)%	(3.0)%	11.6%	(6.3)%	(29.1)%	254.3%
GLOBAL ATOMIC CORPORATION	GLO-T	1.6% / 3.6	0.3%	4.2%	8.8%	0.8%	28.3%	(6.0)%	(6.0)%	545.9%
DEEP YELLOW	DYL-AU	1.8% / 3.4	0.6%	1.9%	(1.8)%	(19.0)%	12.5%	(5.8)%	(30.2)%	153.1%
FISSION URANIUM CORP	FCU-T	1.5% / 3.0	(5.6)%	0.0%	(4.3)%	(10.7)%	3.1%	(14.1)%	(40.7)%	119.7%
AMERICAN LITHIUM CORP	LI-V	0.8% / 2.4	5.6%	7.9%	(3.7)%	(2.8)%	2.0%	(51.6)%	(36.6)%	70.2%
ISOENERGY LTD	ISO-V	1.4% / 2.9	(3.7)%	(0.3)%	(5.6)%	(12.2)%	5.0%	(9.9)%	(28.5)%	140.7%
ENCORE ENERGY CORP	EU-V	0.4% / 1.5	2.5%	7.0%	3.7%	(7.3)%	8.9%	(23.8)%	(36.5)%	216.9%
BANNERMAN ENERGY	BMN-AU	1.5% / 3.6	2.5%	6.9%	3.0%	2.5%	3.5%	(23.0)%	(50.5)%	494.3%
GOVIEK URANIUM INC	GXU-V	0.9% / 2.1	0.0%	(2.2)%	0.0%	(18.5)%	(21.4)%	(38.0)%	(55.6)%	69.2%
FORSYS METALS CORP	FSY-T	0.5% / 3.5	(3.0)%	(1.5)%	3.2%	(3.0)%	4.9%	(24.7)%	(37.3)%	
LARAMIDE RESOURCES LTD	LAM-T	1.9% / 5.6	(3.8)%	0.0%	(3.8)%	(7.4)%	13.6%	(29.6)%	(49.5)%	108.3%
A-CAP ENERGY	ACB-AU	0.1% / 0.4	1.4%	10.3%	8.7%	(20.2)%	(6.3)%	(48.3)%	(2.6)%	294.7%
BERKELEY ENERGIA	BKY-AU	0.0% / 0.0	1.9%	5.9%	0.0%	(12.9)%	(28.0)%	17.4%	(11.5)%	(40.7)%
WESTERN URANIUM & VANADIUM CORP	WUC-L	0.1% / 0.4	(3.4)%	0.0%	(8.4)%		11.0%	(24.6)%	(61.5)%	110.4%
TORO ENERGY	TOE-AU	0.1% / 1.2				(5.6)%	21.4%	(22.7)%	(55.3)%	21.4%
ANFIELD ENERGY INC	AEC-V	0.0% / 0.1	(6.7)%	(0.0)%	(0.0)%	16.7%	(0.0)%	(26.3)%	(53.3)%	40.0%
ENERGY MET FPO	EME-AU				(0.0)%	(17.6)%		(48.1)%	(65.0)%	
EXPLORES										
ALLIGATOR ENERGY	AGE-AU	2.2% / 3.3	0.0%	3.8%	0.0%	(17.9)%	0.0%	0.0%	(32.1)%	1,000.0%
CONSOLIDATED URANIUM INC	CUR-V	0.5% / 1.3	2.1%	8.5%	4.4%	(9.0)%	6.1%	(33.4)%	(32.0)%	282.0%
ELEVATE URANIUM	EL8-AU	1.9% / 6.8	2.0%	4.1%	3.1%	4.1%	14.8%	8.6%	(16.5)%	
DEVEX RESOURCES	DEV-AU	0.1% / 2.1	(1.6)%	(6.3)%	(7.7)%	(14.3)%	0.0%	(38.8)%	(15.5)%	(7.7)%
MEGA URANIUM LTD	MGA-T	0.5% / 2.5	(2.1)%	4.4%	6.8%	2.2%	9.3%	(7.8)%	(35.6)%	74.1%
SKYHARBOR RESOURCES LTD	SYH-V	0.4% / 0.7	1.3%	2.6%	0.0%	(7.0)%	11.1%	(17.5)%	(49.4)%	142.4%
BASELODE ENERGY CORP	FIND-V	0.2% / 0.4	(2.9)%	(2.9)%	(6.9)%	(9.5)%	(8.2)%	(17.3)%	(45.1)%	65.4%
VALORE METALS CORP	VO-V	0.2% / 1.2	6.1%	(5.4)%	(6.7)%	(2.8)%	6.1%	(36.4)%	(19.5)%	29.6%
APIA RARE EARTHS & URANIUM CORP	API-L	0.2% / 0.4	(4.3)%	(11.8)%	(13.5)%	16.9%	42.9%	(22.4)%	(41.6)%	25.0%
AZIMUT EXPLORATION INC	AZM-V	0.1% / 0.5	5.5%	5.5%	7.4%	(12.1)%	(28.4)%	(64.8)%	(70.3)%	(47.7)%
92 ENERGY	92E-AU	8.5% / 13.9	1.0%	6.1%	(2.8)%	(10.3)%	22.4%	(23.5)%	(38.8)%	
AURANIA RESOURCES LTD	ARU-V	0.2% / 2.0	(10.5)%	(3.8)%	8.5%	0.0%	(23.9)%	(56.4)%	(63.8)%	(88.8)%
CANALASKA URANIUM LTD	CAV-V	0.4% / 0.7	0.0%	(3.5)%	(5.7)%	(17.0)%	(13.5)%	(5.7)%	(47.5)%	102.4%
BLUE SKY URANIUM CORP	BSK-V	2.3% / 15.8	(3.6)%	0.0%	(10.0)%	(12.9)%	(10.0)%	(30.8)%	(58.5)%	12.5%
OKAPI RESOURCES	OKR-AU	0.3% / 0.7	2.1%	2.1%	4.3%	(12.5)%	40.0%	(29.0)%	(59.5)%	
PUREPOINT URANIUM GRP INC	PTU-V	0.1% / 0.3	(0.0)%	(0.0)%	7.7%	(17.6)%	7.7%	(17.6)%	(51.7)%	75.0%
GLOBEX MINING ENTERPRISES INC	GMX-T	0.1% / 0.3	(4.6)%	(15.1)%	(12.7)%	(20.5)%	(32.6)%	(43.6)%	(36.1)%	(10.1)%
GTI ENERGY	GTR-AU	0.0% / 0.0	0.0%	6.7%	0.0%	(20.0)%	6.7%	(33.3)%	(51.5)%	(20.0)%
FORUM ENERGY METALS CORP	FMC-V	0.1% / 0.4	(4.5)%	(4.5)%	(12.5)%	(25.0)%	(27.6)%	(38.2)%	(79.0)%	(30.0)%
STANDARD URANIUM LTD	STND-V	3.0% / 17.8	(8.7)%	(4.5)%	0.0%	(8.7)%	10.5%	(51.2)%	(73.4)%	(41.7)%
FISSION 3.0 CORP	FUU-V	0.1% / 0.5	0.0%	(5.9)%	(5.9)%	(20.0)%	6.7%	(63.6)%	(64.4)%	23.1%
AZINCOURT ENERGY CORP	AAZ-V	0.1% / 0.2	0.0%	0.0%	0.0%	(23.1)%	0.0%	(71.4)%	(77.8)%	(20.6)%
ALX RESOURCES CORP	AL-V	0.5% / 1.4	0.0%	(10.0)%	12.5%	12.5%	0.0%	(50.0)%	(64.0)%	(35.7)%
CAULDRON ENERGY	CXU-AU	0.0% / 0.0	0.0%	0.0%		(7.7)%	50.0%	(58.6)%	(61.3)%	
TARKU RESOURCES LTD	TKU-V	0.1% / 0.2	0.0%	0.0%	(14.3)%		(14.3)%	(62.5)%	(66.7)%	
NORTHERN URANIUM CORP	UNO-H-V	0.1% / 2.9	0.0%	0.0%	(25.0)%	(25.0)%		(57.1)%	(72.7)%	
X-TERRA RESOURCES INC	XTT-V	0.1% / 0.3			0.0%	0.0%	33.3%	(33.3)%		(87.5)%
AVRUPA MINERALS LTD	AVU-V	0.0% / 0.2	0.0%					(42.9)%		(76.5)%
INTERNATIONAL PROSPECT VENTURES LTD	IZZ-V	0.1% / 1.3	12.5%					(30.8)%	(71.9)%	(76.3)%
VANADIAN ENERGY CORP	VEC-V	0.0% / 0.1						(50.0)%	(72.2)%	(58.3)%
URAVAN MINERALS INC	UVN-V	0.10%					28.0%		(59.0)%	
EROS RESOURCES CORP	ERC-V	0.0% / 0.3		0.0%			(26.7)%		(42.1)%	(35.3)%
INVENTORY FUNDS										
SPROTT PHYSICAL URANIUM TRUST	U.UN-T	1.5% / 2.3	(0.3)%	1.6%	7.0%	9.0%	25.6%	24.4%	13.9%	
YELLOW CAKE PLC	YCA-LN	0.1% / 0.2	(4.8)%	(1.1)%	(1.1)%		17.3%	20.8%	7.1%	106.0%
ROYALTY COMPANIES										
URANIUM ROYALTY CORP	URC-V	1.6% / 1.8	0.7%	1.3%	(2.8)%	(14.2)%	(2.5)%	(32.8)%	(51.4)%	177.5%

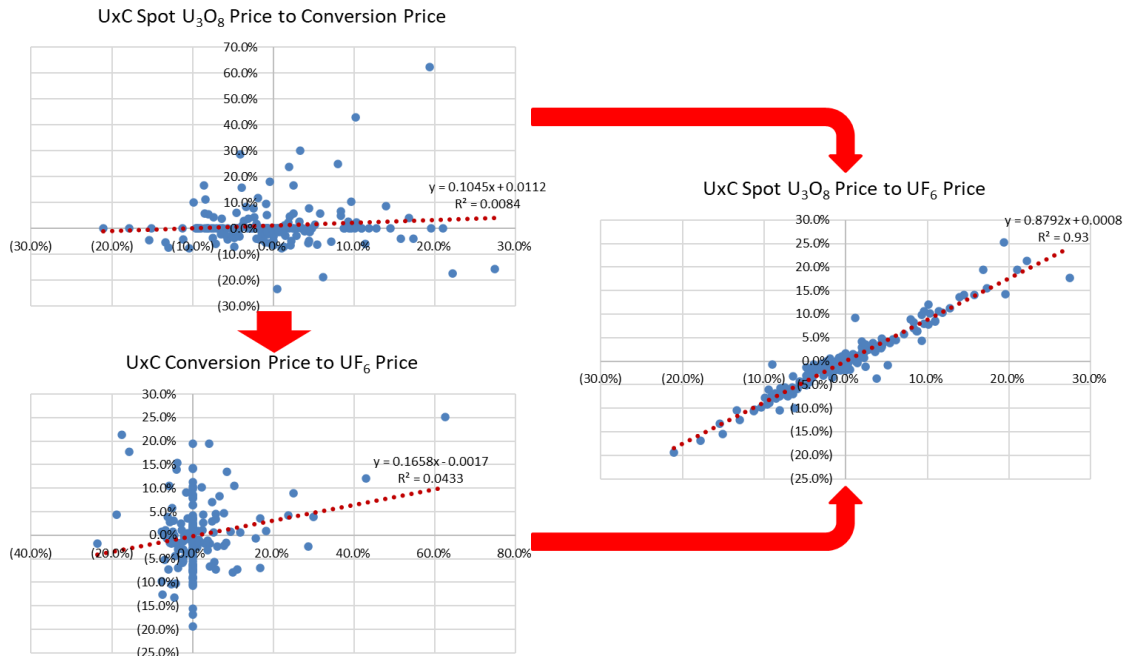
Source: UxC, CapitalIQ, Bloomberg, Haywood



Uranium Fuel Cycle Price Relationships

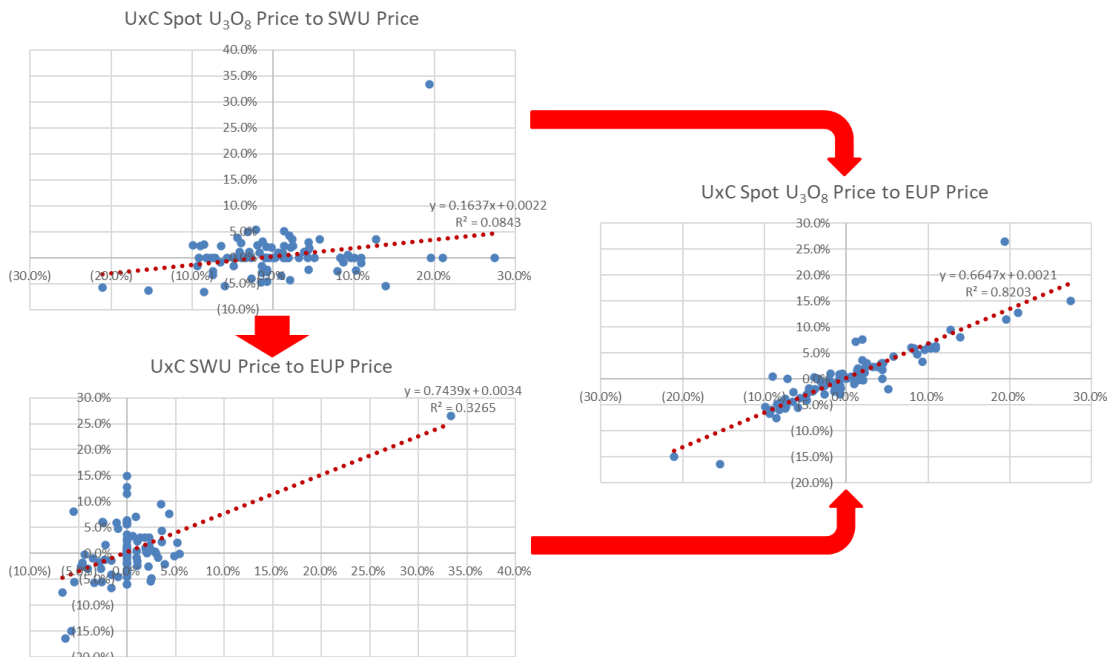
The charts below show that the price of uranium products (U_3O_8 , UF_6 and EUP) are tightly correlated (monthly % Δ) in the long term (RHS Figures 8 & 9). On the lower left chart of each Figure, we see that the cost of fuel services exhibit a much lower correlation with the monthly % change in uranium 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 22.1%), and SWU costs have made up an average of 26% of the price of EUP (currently 24.6%) (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 September 30th, 2022 (at UxC spot prices)



Source: Haywood Securities Inc., UxC

Figure 9: U_3O_8 – SWU – EUP Monthly Performance Correlations – 2015 to September 30th, 2022



Source: Haywood Securities Inc., UxC



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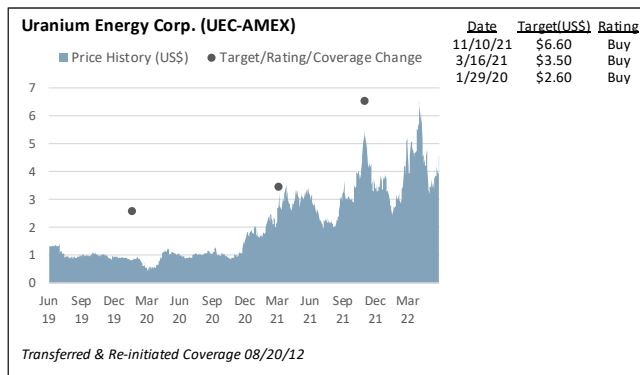
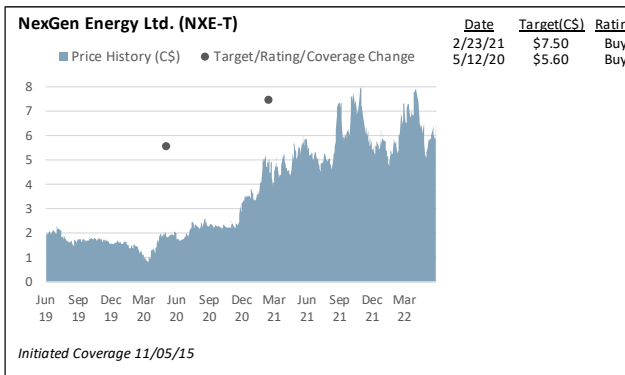
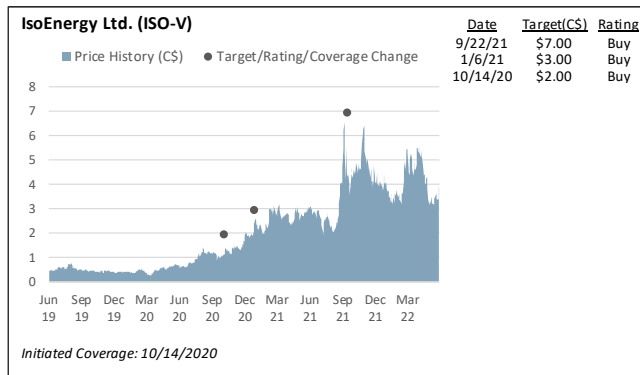
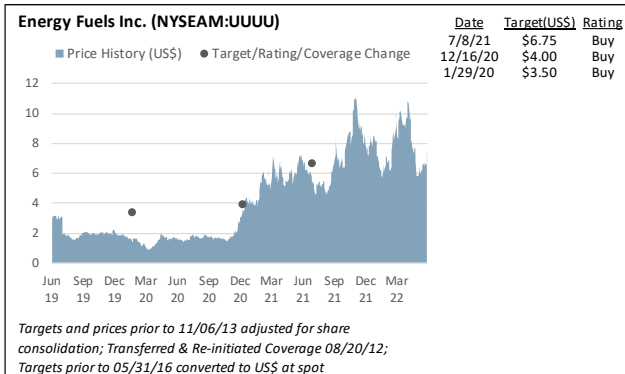
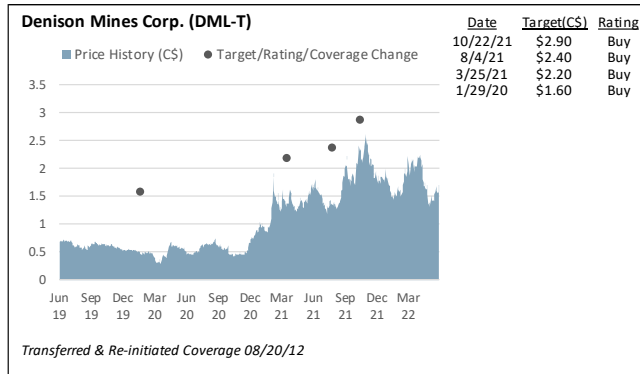
Ticker	Company	1	2	3	4	5	6	7	8	9
TSX:DML	Denison Mines Corp.			X			X			
TSX:EFR	Energy Fuels Inc.			X						
TSXV:ISO	IsoEnergy Ltd.			X						
TSX:NXE	NexGen Energy Ltd.			X						
US:UEC	Uranium Energy Corp.			X						
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	%	#	IB Clients (TTM)
Buy	76.8%	76	71.4%
Hold	10.1%	10	14.3%
Sell	0.0%	0	0.0%
Tender	1.0%	1	4.8%
UR (Buy)	0.0%	0	0.0%
UR (Hold)	0.0%	0	0.0%
UR (Sell)	0.0%	0	0.0%
Dropped (TTM)	12.1%	12	9.5%



Price Chart, Rating and Target Price History (as of October 20, 2022)



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

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