

Forward Looking Statements

Information Contained in this Presentation

This presentation is a summary description of NexGen Energy Ltd. ("NexGen" or the "Company") and its business and does not purport to be complete. This presentation is not, and in no circumstances is to be construed as a prospectus, advertisement or a public offering of securities. No securities regulatory authority or similar authority has reviewed or in any way passed upon the document or the merits of the Company's securities and any representation to the contrary is an offence.

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Forward-Looking Information

The information contained herein contains "forward-looking statements" within the meaning of applicable United States securities laws and regulations and "forward-looking information" within the meaning of applicable Canadian securities legislation. "Forward-looking information" includes, but is not limited to, statements with respect to mineral reserve and mineral resource estimates, the 2021 Arrow Deposit, Rook I Project and estimates of uranium production, grade and long-term average uranium prices, anticipated effects of completed drill results on the Rook I Project, planned work programs, completion of further site investigations and engineering work to support basic engineering of the project and expected outcomes. Generally, but not always, forward-looking information and statements can be identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes" or the negative connotation thereof or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" or the negative connotation thereof. Statements relating to "mineral resources" are deemed to be forward-looking information, as they involve the implied assessment that, based on certain estimates and assumptions, the mineral resources described can be profitably produced in the future.

Forward-looking information and statements are based on the then current expectations, beliefs, assumptions, estimates and forecasts about NexGen's business and the industry and markets in which it operates. Forward-looking information and statements are made based upon numerous assumptions, including among others, that the mineral reserve and resources estimates and the key assumptions and parameters on which such estimates are based are as set out in this presentation and the technical report for the property, the results of planned exploration activities are as anticipated, the price and market supply of uranium, the cost of planned exploration activities, that financing will be available if and when needed and on reasonable terms, that third party contractors, equipment, supplies and governmental and other approvals required to conduct NexGen's planned exploration activities will be available on reasonable terms and in a timely manner and that general business and economic conditions will not change in a material adverse manner. Although the assumptions made by the Company in providing forward looking information or making forward looking statements are considered reasonable by management at the time, there can be no assurance that such assumptions will prove to be accurate in the future.

Forward-looking information and statements also involve known and unknown risks and uncertainties and other factors, which may cause actual results, performances and achievements of NexGen to differ materially from any projections of results, performances and achievements of NexGen expressed or implied by such forward-looking information or statements, including, among others, the existence of negative operating cash flow and dependence on third party financing, uncertainty of the availability of additional financing, the risk that pending assay results will not confirm previously announced

preliminary results, conclusions of economic valuations, the risk that actual results of exploration activities will be different than anticipated, the cost of labour, equipment or materials will increase more than expected, that the future price of uranium will decline or otherwise not rise to an economic level, the appeal of alternate sources of energy to uranium-produced energy, that the Canadian dollar will strengthen against the U.S. dollar, that mineral resources and reserves are not as estimated, that actual costs or actual results of reclamation activities are greater than expected, that changes in project parameters and plans continue to be refined and may result in increased costs, of unexpected variations in mineral resources and reserves, grade or recovery rates or other risks generally associated with mining, unanticipated delays in obtaining governmental, regulatory or First Nations approvals, risks related to First Nations title and consultation, reliance upon key management and other personnel, deficiencies in the Company's title to its properties, uninsurable risks, failure to manage conflicts of interest, failure to obtain or maintain required permits and licences, risks related to changes in laws, regulations, policy and public perception, as well as those factors or other risks as more fully described in NexGen's Annual Information Form dated February 24, 2023 filed with the securities commissions of all of the provinces of Canada except Quebec and in NexGen's 40-F filed with the United States Securities and Exchange Commission, which are available on SEDAR+ at www.sedarplus.com and Edgar at www.sec.gov.

This presentation includes Mineral Reserves and Mineral Resources classification terms that comply with reporting standards in Canada and the Mineral Reserves and the Mineral Resources estimates are made in accordance with NI 43-101. NI 43-101 is a rule developed by the Canadian Securities Administrators that establishes standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects. These standards differ from the requirements of the Securities and Exchange Commission ("SEC") set the SEC's rules that are applicable to domestic United States reporting companies. Consequently, Mineral Reserves and Mineral Resources information included in this presentation is not comparable to similar information that would generally be disclosed by domestic U.S. reporting companies subject to the reporting and disclosure requirements of the SEC Accordingly, information concerning mineral deposits set forth herein may not be comparable with information made public by companies that report in accordance with U.S. standards.

Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in the forward-looking information or statements or implied by forward-looking information or statements, there may be other factors that cause results not to be as anticipated, estimated or intended. Readers are cautioned not to place undue reliance on forward-looking information or statements due to the inherent uncertainty thereof. There can be no assurance that forward-looking information and statements will prove to be accurate, as actual results and future events could differ materially from those anticipated, estimated or intended. Accordingly, readers should not place undue reliance on forward-looking statements or information. The Company undertakes no obligation to update or reissue forward-looking information as a result of new information or events except as required by applicable securities laws.

The world is embracing nuclear energy as the linchpin to a carbon-free future. At the same time, geopolitical tensions are increasing pressure on the limited uranium supply necessary to make this future a reality.

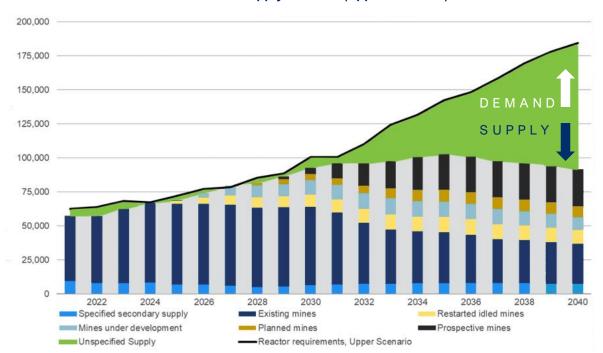
The Rook I Project is essential to meeting the growing demand for uranium and delivering clean and secure energy solutions.





Rising Demand

WNA Uranium Supply Demand (Upper Scenario)



Demand for uranium is expected to rise by

127% by 2030 and 200% by 2040

Creating a ~240M lbs. deficit in 2040 that will continue to widen¹ as growth in annual demand of 180-190mlbs is expected to triple by 2050².

Growing supply deficit requires over 5 new Rook I sized projects to be found, permitted, financed and constructed over the next 20 years. <u>Current mine supply has never been more fragile.</u>



Fundamental Demand Factors

Climate change, energy security and energy affordability have led to a significant increase in demand and new investments in nuclear energy.

Demand Shocks

- Extensions / Refurbishments
- Closure U-turns
- Capacity Increases
- Physical Trusts
- Small Modular Reactors
- Procurement for HALEU production in UK and USA

Government Policies

- COP28 22 countries to triple nuclear capacity by 2050
- EU Net Zero Industry Act
- ADVANCE Act
- Great British Nuclear
- Japanese Green
 Transformation
- China 5-year Plan

Industry Growth

- \circ U₃0₈ Demand ~190M lbs./yr³
- ~60 reactors are under construction, an additional 110 planned¹
- Doubling of nuclear capacity expected by 2050²
- Conversion of coal facilities to nuclear

~75% of Demand is from OECD Countries⁴







Fundamental Supply Factors

Supply Deficits

- Underinvestment in exploration and mine development during 2014-2020³
- Strategic reserve and mine depletion
- Secondary supply drawn down
- Bottlenecks in fuel services
- Idled mines face challenged restarts

Geopolitical Risk

- Prohibiting RussianUranium Imports Act
- Nationalization
- Unprecedented conflict
- Highly concentrated supply chains
- Trade challenges
- Bifurcating markets

Supply Landscape

- U_30_8 supply $\sim 130 \text{M lbs./yr}^3$
- Structural primary deficit ~60M lbs./yr¹
- Mobility of supply issues
- Producers contracted for 5+ years, limiting access
- Uranium supply will need to triple by 2050² to meet the growing demand

~75% of supply is from state-sponsored entities.1

~90% of western mine supply is contracted for the next 5+ years with pricing subject to ceilings significantly below current spot price of \$106 per lb.

ROOK | PROJECT

100% Leverage to Uranium

NexGen is utilizing a volume-based contracting approach, referencing spot prices at the time of delivery.

NexGen's AISC profile provides natural downside protection, and with production tailored to market conditions at the time of delivery, optimal leverage to future uranium prices can be achieved.

NexGen's approach will provide customers with reliable, flexible supply with the added knowledge that it has been sourced in an elite ESG manner.

An industry-leading approach that will optimize the sustainability of the uranium supply-chain.





ECONOMICS

Rook I At A Glance*

Robust Economics⁵ @ US\$100/lb.

C\$8.13B NPV

C\$2,114M FCF

8% discount, after tax

(after tax, Years 1 – 5)

High Grade Production⁵ 28.8M lbs. U₃0₈ Year 1- 5 Avg Annual

Production

256.7M lbs. M&I

@ 3.10% U₃O₈

Longevity⁵

10.7 year Initial Mine Life

24 year

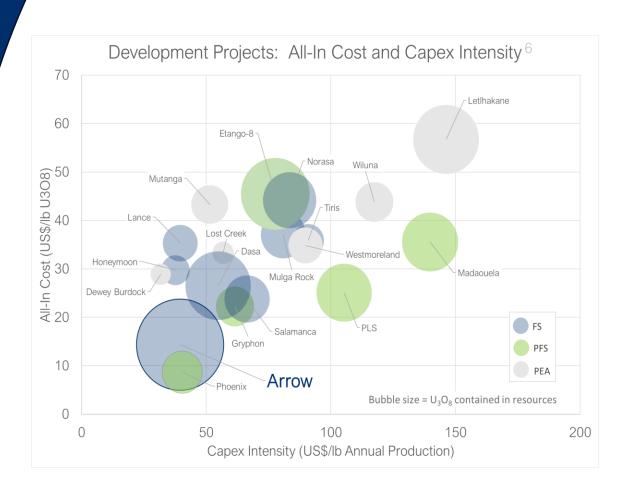
Quick Payback⁵ C\$1.3B Capex 0.6 year payback

81.6% IRR

(after tax, 8% discount)

*21'FS done at \$50/lb. Does not include inferred resources or growth potential





ECONOMICS

Highly cash generative in all pricing environments with downside protection from low-cost profile⁷



Uranium Price (\$ USD/lb U3O8)	After-Tax NPV ₈	After-Tax IRR	Avg. Annual EBITDA ⁹ (Years 1-5 production)
\$150/lb U ₃ O ₈	CAD \$12.80 Billion	101.8%	\$5.18 Billion
\$125/Ib U ₃ O ₈	CAD \$10.46 Billion	92.4%	\$4.28 Billion
\$100/lb U ₃ O ₈	CAD \$8.13 Billion	81.6%	\$3.39 Billion
\$75/lb U ₃ O ₈	CAD \$5.80 Billion	68.7%	\$2.50 Billion
\$60/lb U ₃ O ₈	CAD \$4.40 Billion	59.5%	\$1.97 Billion
\$50/Ib U ₃ O ₈ (Base Case)	CAD \$3.47 Billion	52.4%	\$1.61 Billion

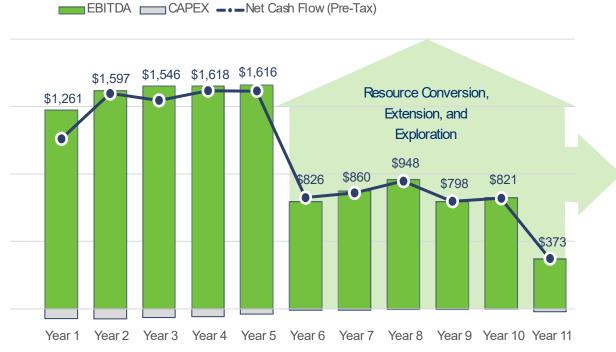






ECONOMICS

Expansion Potential¹



The Rook I Project has Generational Potential

BENEFITS

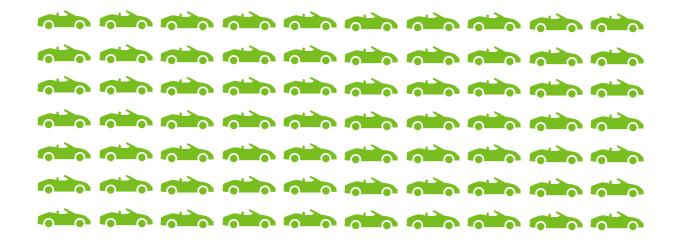
Enough carbon-free energy to power up to 46 million homes 10



That's approximately 1/3 of the homes in the U.S. ✓ Over 300,000,000 tonnes of CO₂ would be avoided annually from Rook I's uranium fuel: the equivalent of taking nearly **70 million cars** off the road each year.¹⁰



By comparison, Tesla produced ~1.8 million cars in 2023





ROOK I PROJECT

An Unrivaled Mining Deposit

MEASURED RESOURCES 11:

2,183,000 Tonnes

4.35% Grade U₃O₈

209,600,000 lbs. U₃O₈ (contained)

INDICATED RESOURCES¹¹:

1,572,000 Tonnes

1.36% Grade U₃O₈

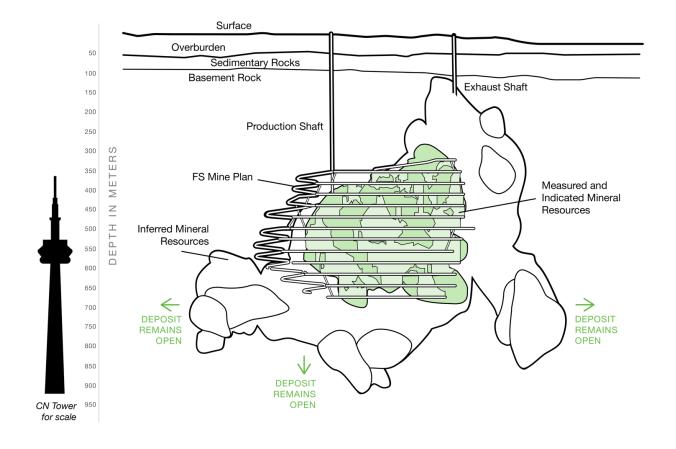
47,100,000 lbs. U₃O₈ (contained)

INFERRED RESOURCES¹¹: (not included in NPV)

4,399,000 Tonnes

0.83% Grade U₃O₈

80,700,000 lbs. U₃O₈ (contained)



M&I: 256,000,000 lbs. U₃O₈ @3.10% | MI&I: 337,400,000 lbs. U₃O₈ (contained)

Over 60% of M&I lbs. at ~17% grades, or 170x the average.

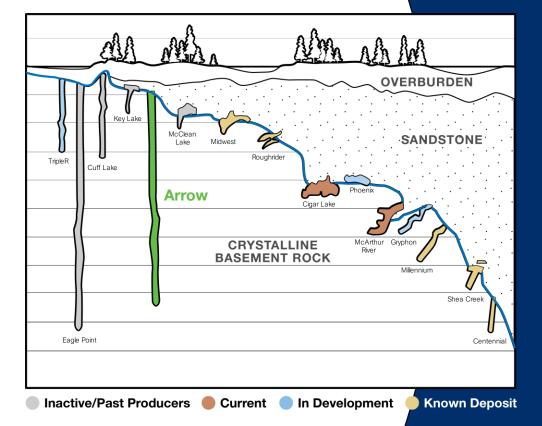
ROOK | PROJECT

Optimal Geological Setting Ensuring Innovative Development and Natural Cost Hedging

Rook I provides a sustained production, capital and cost advantage:

- Hosted underground in crystalline-granite rock with low hydraulic conductivity in mining areas. Ideal conditions for conventional bulk mining methods.¹¹
- Competent rock conditions facilitate the ability to store all tailings generated from the Project underground.
- As a result of the high grades and technical setting, the AISC is \$10.69/lb¹¹, establishing a natural cost hedge through low operating costs.

Allows for flexibility of production volumes and provides consistent grades with predictable supply.







ROOK I PROJECT

Permitting Timelines



Provincial EA approved. Federal EA and licensing advancing in parallel. 100% Support and Advocacy from local Indigenous Nations.



* We are Here

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Path to Becoming a Top 10 World Mining Company

Mining Companies Ranked by 2024E FCF (Excl. Precious Metals and Steel Companies)

	•	-	•			•
Rank	Company Name	2024E FCF (US\$ mm)	# of Assets (#)	# of Regions (#)	Market Cap. (US\$ mm)	Enterprise Value (US\$ mm)
1	BHP Group	\$11,030	59	8	\$158,387	\$172,442
2	Rio Tinto	\$9,148	54	9	\$120,308	\$148,539
3	Glencore	\$7,986	108	19	\$65,325	\$89,889
4	Vale	\$6,033	58	7	\$62,246	\$70,732
5	Fortescue Metals	\$4,507	12	3	\$60,816	\$61,915
6	Southern Copper	\$2,334	34	4	\$63,472	\$68,361
7	Anglo American	\$2,274	25	9	\$32,306	\$44,394
8	Freeport-McMoRan	\$2,146	20	4	\$56,915	\$71,346
9	Cameco	\$629	13	3	\$20,845	\$19,677
10	Arch Resources	\$417	6	1	\$3,251	\$3,263
11	Hudbay Minerals	\$370	32	4	\$1,951	\$3,274
12	Alpha Metallurgical Resources	\$261	43	1	\$5,303	\$5,348
13	Stanmore Resources	\$236	16	1	\$2,354	\$2,577

NexGen 1 Asset CAP: C\$5,379 mm



Source: Factset, CapIQ, BMO, NexGen FS Financial Model; First 5 year average FCF for Rook I at various U₃O₈ commodity prices pulled from internal corporate FS model; Screened and ranked largest mining companies by market capitalization (excluding precious metals and steel producers); 2024E FCF calculated as 2024E Operating Cash Flow (OCF) less 2024E CAPEX; Mining properties and jurisdictions pulled from CapIQ; Based on FactSet as at 31-Jan-24. NXE Market cap as of 31-Jan-24

Rook I First 5 Year Avg. FCF at Different U₃O₈ Prices





BENEFITS

Sustainability 13



\$9.6M

in purchases of good and services from local suppliers



\$3.1M

invested in initiatives & cultural activities in local communities



\$19B

in economic output nationally over the life of the Project using \$50/lbs



+85

engagement activities with Indigenous Groups and local communities



+10

partnerships in place to support our focus on youth wellness, education and skills training for local communities



82%

of Rook I site employees are from the Local Priority Area in northwestern Saskatchewan

Project designed for elite environmental performance: Underground Tailings Management Facility, optimized surface footprint, progressive reclamation



BENEFITS

Full support and partnership for Rook I from Iocal Indigenous Nations

Industry-leading Benefit Agreements signed with four local Indigenous communities with tremendous advocacy for the Project:

- ✓ Clearwater River Dene Nation
- ✓ Birch Narrows Dene Nation
- ✓ Buffalo River Dene Nation
- Métis Nation Saskatchewan Northern Region II, in partnership with the Métis Nation – Saskatchewan

Creating positive and generational opportunities through the responsible development of the Rook I Project.





Capital Structure













ANALYST COVERAGE

























Executive and Leadership Team



Leigh Curyer
Chief Executive Officer,
President & Director



Travis McPherson
Chief Commercial Officer



Ben Salter, CPA Chief Financial Officer



Luke Moger
VP, Environment,
Permitting, Licensing



Kevin Small SVP, Engineering & Operations



Monica Kras VP, Corporate Development



Adam Engdahl VP, Community



Grant Greenwood VP, Exploration



Mary Fraser VP, Communications



Kevin Oakes
VP, Project Development



Dylan SmartVP, Regional Development

The NexGen Executive team spans the entire mining cycle, including experience in permitting, project financing, construction and operations.



Board Overview



Christopher McFadden (Chairman)



Richard Patricio



Trevor J. Thiele



Brad Wall



Sybil Veenman



Karri Howlett CFA, C.Dir



Warren Gilman



Don J. Roberts



Ivan Mullany

The Board enhances NexGen's deep expertise through a dozen subject matters, ranging from mining to capital markets and regulatory and government affairs.





2024 Priorities Establish Federal Approvals Hearing Date.

Provide Federal License Update.

Complete Site Confirmation Program.

Award Shaft Sinking Contracts.

Commence Major Construction.

Commence Exploration Program.

Formalize Financing Package.

Sign Contracts for Uranium.







Appendix



NexGen Energy and the Rook I Project

Is the largest uranium asset under development globally. It is identified as one of the world's leading resource projects with strategic importance, the Rook I Project will have a small footprint and high environmental standards with a lasting positive impact on Canada and the globe.

It will be capable of producing **nearly 30M lbs.** of uranium annually, providing **over 50%** of Western supply, based on current dynamics, once online.^{19,5}



ROOK | PROJECT

The largest uranium asset under development globally, in a Tier 1 mining jurisdiction

Located in the uranium-rich district of the southwestern area of the Athabasca Basin in Saskatchewan, one of the world's top mining jurisdictions⁴.

Saskatchewan is a mining-friendly province that approaches resource development sensibly and sustainably—ranked #3 in the 2022 Best Practices Mineral Potential Index by the Fraser Institute⁴.

Rook I will be capable of producing nearly 30M lbs of uranium annually, providing over 50% of Western supply 19,5.





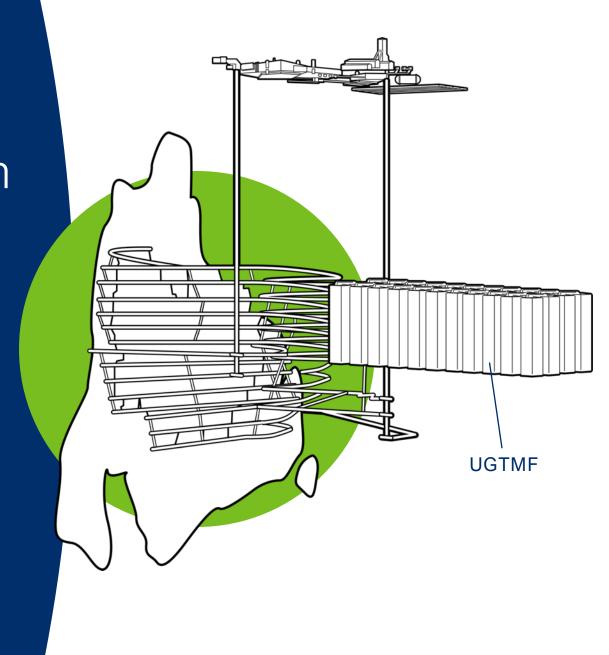
ROOK | PROJECT

Tailings Management: Industry-Leading Design

All processed waste streams will be stored underground, in **backfilled mine stopes**, or a purpose-built, innovative **Underground Tailings Management Facility (UGTMF)**⁵.

- Eliminates surface tailings disturbance and reclamation.
- Near ZERO risk of surface tailings failures, mitigating one of the most significant risks in operating mining projects.

The UGTMF will set a new global standard in environmental mine management.



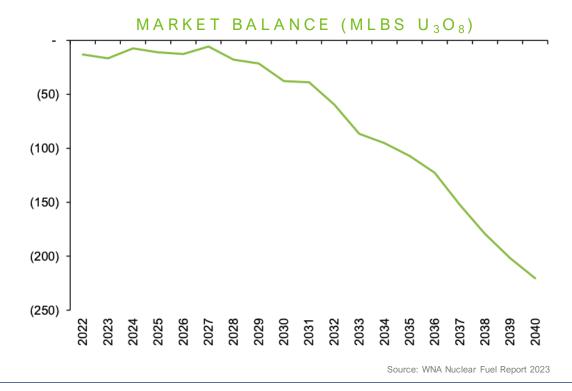
Waning Supply

Restarting of idled operations and planned new mines will not be able to meet demand.

Current producers face difficulties in meeting production targets.

Over 75% of current supply is state or quasicontrolled increasing national security concerns. ¹

Most of the world supports nuclear energy as more countries invest heavily in the energy source to reach net zero goals, but only 3 countries produce material uranium.



Uranium may likely be in a long-term supply deficit, with a cumulative undersupply of approximately 1.5 billion pounds expected through 2040.¹

We see priced rising substantially, in an inelastic market.





BENEFITS

Energy Security Commitments

With an asset located in a premier stable democracy, NexGen is committed to being a supplier of choice. NexGen will:

Only sell to nations who are allied for energy security and targeting net zero.

Maintain a checklist of standards for all partners in the chain of custody of our uranium. Keep our supply chain and operations onshore in these nations to guarantee the highest levels of security, safety, labour standards and local community partnership.

Advocate for policies that support sensibly produced uranium to set a new standard for the industry.

Our commitments make NexGen a supplier of choice for utilities as they seek to expand their nuclear energy operations.



NexGen mineral resources and reserves

2021 FS Mineral Resources

Classification	Zone	Tonnage (k Tonnes)	Grade (% U ₃ 0 ₈)	Contained Metal (Mlb U ₃ O ₈)
Measured	A2 LG	920	0.79	16.0
	A2 HG	441	16.65	161.9
	A3 LG	821	1.75	31.7
Measured Total		2,183	4.35	209.6
	1010			100
	A2 LG	700	0.79	12.2
Indicated	A2 HG	56	9.92	12.3
	A3 LG	815	1.26	22.7
Indicated Total		1,572	1.36	47.1
	A2 LG	1,620	0.79	28.1
Measured & Indicated	A2 HG	497	15.9	174.2
	A3 LG	1,637	1.51	54.4
Measured & Indicated Total		3,754	3.10	256.7
			0.00	20.5
Inferred	A1 LG	1,557	0.69	23.7
	A2 LG	863	0.61	11.5
	A2 HG	3	10.95	0.6
	A3 LG	1,207	1.12	29.8
	A4 LG	769	0.89	15.0
Inferred Total		4,399	0.83	80.7

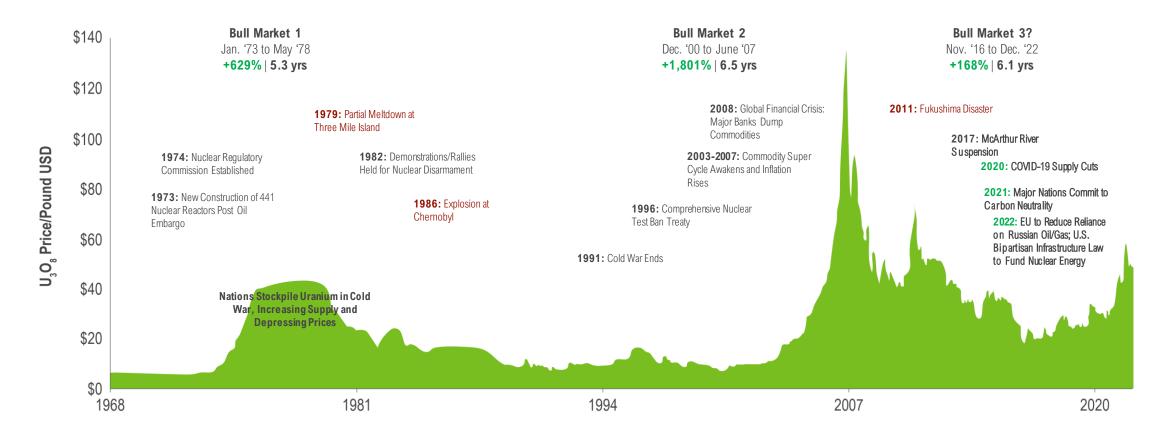
2021 FS Probable Mineral Reserves

Zone	Tonnage (kTonnes)	Grade (% U ₃ 0 ₈)	Contained Metal (Mlb U ₃ 0 ₈)
_ A2	2,594	3.32	190.0
A3	1,982	1.13	49.5
Probable Reserves Total	4,575	2.37	239.6



Historical Market Dynamics

Chart: % returns in uranium bull markets since 1973



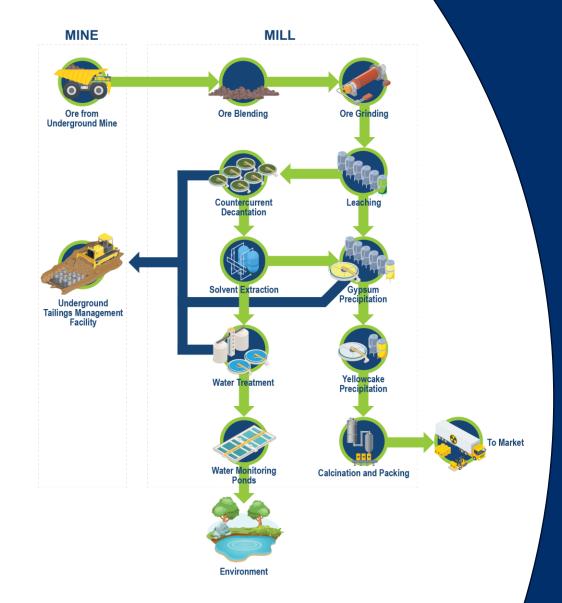




Conventional uranium flow sheet

Proven Direct Processing Route to Market

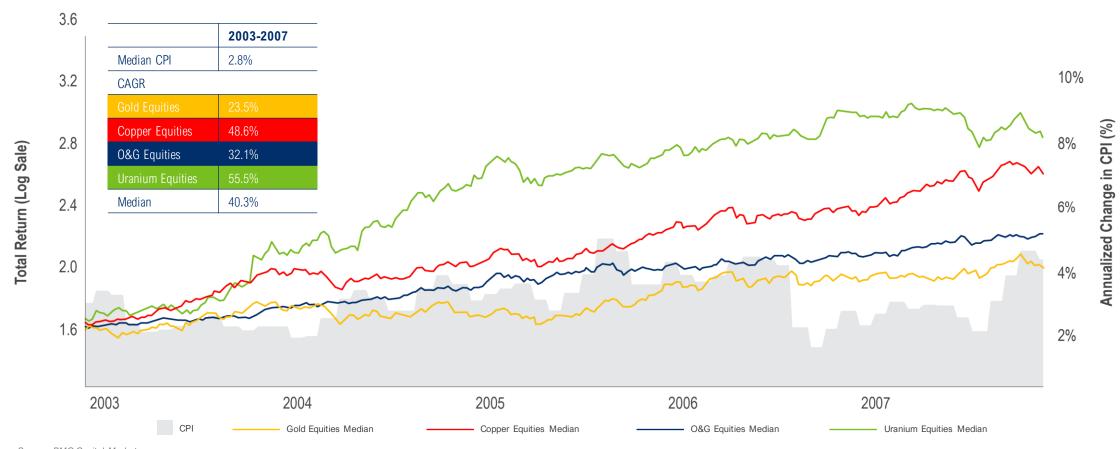
- Ore extracted from the mine is blended on the surface, maintaining a consistent head grade.
- Mill is optimized for <5% head grade.
- Conventional processing uses acid/peroxide leaching, separation of liquid and solids, solvent extraction ("SX"), precipitation and drying/calcination.
- The final product, a uranium concentrate (U3O8), reduces environmental risk and logistic costs.
- Process plant design is based on the ALARA (As Low as Reasonably Achievable) principle of Time, Distance, and Shielding for radiation safety and protection.





Commodity equities vs. inflation

Uranium equities have historically outperformed during periods of high inflation







Footnotes

- 1. WNA World Nuclear Fuel Report 2023 Upper Case scenario
- OECD Uranium 2022, Resources, Production, Demand
- 2023. Q2 Goehring and Rozencwajg Market Commentary / World Nuclear Association / TradeTech / UxC
- 4. Fraser Institute, Annual Survey of Mining Companies, 2022
- 5. Rook I Feasibility Study, 2021 using \$100/lb.
- Company reports, NI 43-101 technical report on FS (Stantec, Wood RPA, Golder 2021) Exchange rates: USD/CAD 0.75, USD/AUD 0.70; Arrow CapEx excludes pre-commitment early works of C\$158 million; Fraser Institute 2022
- 7. The base case for U3O8 in the 2021 FS is \$50/lb. Prices above this figure 18. have been used for illustrative purposes only to demonstrate the sensitivities 19. of the NPV and IRR in the 2021 FS to uranium prices, and readers are cautioned that such information may not be appropriate for other purposes. 20. Prices in the 2021 FS below \$50/lb have been removed from the extended sensitivity analysis in the FS. NPV and IRR in the 2021 FS are most sensitive to: metals prices, grade, metal recovery, and exchange rate.
- 8. Energy Information Administration, What is U.S electricity generation by energy source?
- 9. Rook I Feasibility Study, 2021 using \$50/lb.
- 10. EPA, WNA 2021, IEA, and Internal NXE calculations
- 11. Rook I Feasibility Study, 2021
- 12. The base case for U3O8 in the FS is \$50/lb. Prices above this figure have been used for illustrative purposes only to demonstrate the sensitivities of

- FCF in the FS to uranium prices, and readers are cautioned that such information may not be appropriate for other purposes. FCF in the FS is most sensitive to: metals prices, grade, metal recovery, and exchange rate.
- 13. NexGen 2022 Sustainability Report
- 14. Inclusion of the new US\$110M 2023 Debentures converted at US\$6.76, would bring the number to fully diluted shares to 606,179,316
- 15. Cash balance is as per January 19, 2024
- 16. Traded on the TSX, NYSE and ASX for September 2023
- 17. Assumes potential conversion of the US\$110M 2023 Debentures converted at US\$6.76
- 18. Based on IsoEnergy market capitalization as of January 31, 2024
 - IAEA Ten New Nuclear Reactors Connected in 2016, Bringing Generating Capacity to Highest Ever
 - Rook I 2021 FS Technical Report as source. Include additional footnotes: 1)
 Mineral Reserves are reported with an effective date of 21 January 2021.
 Mineral Reserves are estimated using a long-term metal price of US\$50/lb
 U308. (2) Mineral Resources are inclusive of Mineral Reserves. Mineral
 Resources that are not Mineral Reserves do not have demonstrated
 economic viability.





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