

**Haranga**  
Resources

# Investor Presentation

October 2023

[haranga.com](http://haranga.com)

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## **Competent Person Statement, Previously Reported Information & Cautionary Statement**

The information in the referenced in this presentation that relates to Exploration Results including the Mineral Resources at the Saraya Project has previously been released on the ASX. The Company confirms that it is not aware of any information or data that materially affects the information included in the market announcement, and that all material assumptions and technical parameters underpinning the announcement continue to apply. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements referred to above.

### **Mineral Resources**

The Company confirms it is not aware of any new information or data that materially affects the information included in the 25 September 2023 announcement *Significant maiden high grade uranium mineral resource*, Uranium Resource estimate and all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed when referring to its resource announcement made on 25 September 2023. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.

### **Cautionary Statement LR 5.16.4**

There is a low level of geological confidence associated with the inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resources or that production target itself will be realised.

# Investment Highlights



**Commodity performance:** Uranium prices continue to perform strongly in 2023, spot up >30%



**Historical data:** Prior exploration work, including in excess of 68,000m of drilling, radiometric and magnetic surveys, at Saraya indicates good uranium potential with data available and maiden MRE completed – 16 Mlbs Inferred



**Stable Government, Good infrastructure:** The Kedegou region already hosts numerous operating gold mines providing good infrastructure and access to mining services and skilled labour. Sealed roads and other supporting infrastructure is located within close proximity to target projects



**Gold potential:** In addition to good prospects for uranium, the geological structure at the Ibel South project also presents the prospect of gold and a range of other minerals



**Low cost:** In-country costs are low when it comes to exploration work



**Experienced team:** Board and management with significant mining industry experience ranging from exploration to production and including uranium in Africa and with ASX-listed companies



**Regional influence:** West Africa based staff with regional and historic understanding

# Company information



## Corporate structure

**\$0.160**

Shares price  
(As at 12 October 2022)

**75.1m**

Shares on issue  
NOTE: A further 11m shares are  
subject to shareholder approval

**\$12.02m**

Market capitalisation

**\$1.65m**

Cash on hand  
(As at 4 Oct 2023)  
NOTE: Company to receive an  
additional \$1.21m, subject to  
shareholder approval

**9.3m**

Escrowed shares  
(fully paid)

NOTE: Included in  
shares on issue above

**38.5m**

Listed options  
(exercisable @ \$0.30,  
expiring 27 January 2025)

NOTE: 14.5m options are  
subject to escrow

**4m**

Unlisted broker options  
(exercisable @ \$0.18,  
expiring 4 October 2026)

## Share Price



## Top Shareholders

First Growth Fund Ltd	5.38%
Martin Pawlitschek	5.99%
Dusko Ljubojevic	5.99%
Jason Peterson	8.00%
Fotios Lekkas	11.73%



# Key personnel



**Michael Davy**  
Non-Executive Chairman

Michael is an Australian Accountant with over 15 years' experience across a range of industries. Michael is currently a director and owner of numerous successful private businesses. During the past five years Michael has held directorships in several ASX listed companies and is currently the Non-Executive Chairman of Raiden Resources Limited (ASX: RDN), Non-Executive Director of Arcadia Minerals Limited (ASX: AM7) and a Non-Executive Director of Vanadium Resources Limited (ASX:VR8).



**Peter Batten**  
Managing Director

Mr Batten is a geologist with more than 30 years' experience in mineral exploration and development in Australia, Africa, Asia, Europe and North and South America including uranium, base metals, gold, iron ore and industrial minerals. He was Managing Director for Bannerman Resources Ltd, with uranium projects in Namibia and Botswana and Managing Director of White Canyon Uranium Ltd operating an underground uranium mine in Utah, USA. He was founding Managing Director of Berkeley Resources Ltd and also served as a Technical Director of Kalia Ltd.



**John Davis**  
Non-Executive Director

Mr Davis is a geologist with more than 30 years' experience in mineral exploration and development in Australia and Southern Africa, including gold, base metals and rare metals. He has extensive experience in the gold sector, from regional exploration and resource development to production, including as Exploration Manager/Chief Geologist for Metana Minerals NL. He was founding Managing Director of Jabiru Metals Ltd, playing a key role in the discovery of the Jaguar base metal deposit, and also served as a Technical Director of Monarch Gold Mining Co Ltd.



**Hendrik Schloemann**  
Non-Executive Director

Dr Schloemann is a geologist with a track record of more than 20 years of exploration around the world, with particular experience in Africa. His experience covers adapting to new social and technical environments and leading and motivating multi-cultural teams. He has experience with gold, uranium, pegmatite, diamond and gemstone exploration. Dr Schloemann is experienced in a broad range of corporate requirements for public companies including raising funds, marketing, corporate compliance, staffing and formulation of long-term strategy.



**Jean Kaisin**  
Chief Operating Officer

Mr Kaisin is a geologist, based in Senegal, with more than 23 years' experience operating in West Africa. He has been involved in mineral exploration from greenfield work through to completion of feasibility studies. He holds a Master of Sciences – Group of Geological and Mineralogical Sciences from the University of Louvain, Belgium. He has also completed the Oxford Executive Leadership Program at the Saïd Business School, Oxford University.



**Kyla Garic**  
Company Secretary

Kyla is a Chartered Accountant and a Founder and Director of Onyx Corporate Pty Ltd (Onyx). Onyx provides corporate services to listed companies or those that are in the process of listing. These services include the provision of financial reporting, disclosures, corporate compliance and governance. Kyla's qualifications include a Bachelor of Commerce, Master of Accounting, Grad Dip Institute of Chartered Accountants Australia and New Zealand and Grad Dip in Applied Corporate Governance. Kyla currently holds several other roles as Company Secretary for ASX listed and Unlisted Public Companies.

# Global uranium demand soaring

Sentiment regarding the energy produced from nuclear reactors is changing from ill informed rejection to a fast growing acceptance of the sectors ability to supply reliable baseload energy 24/7/365 with a clean, green footprint that will become essential in the global push for carbon free energy.

It is estimated that nuclear power generation will range between its current 10% of the global electricity supply and may increase to 14% by 2040<sup>1</sup>.

Between now and 2050 the world's power consumption is projected to grow by 50%<sup>1</sup>.

Uranium supplies have been augmented since Fukushima (2011) by stockpile selloffs and from the secondary market, this had reduced to 18% of the supply (2022) and will further decrease to 10% by 2040<sup>2</sup>.

The bottom was reached by 2018 and the spot price has recovered from US\$18/lb to US\$65/lb since.

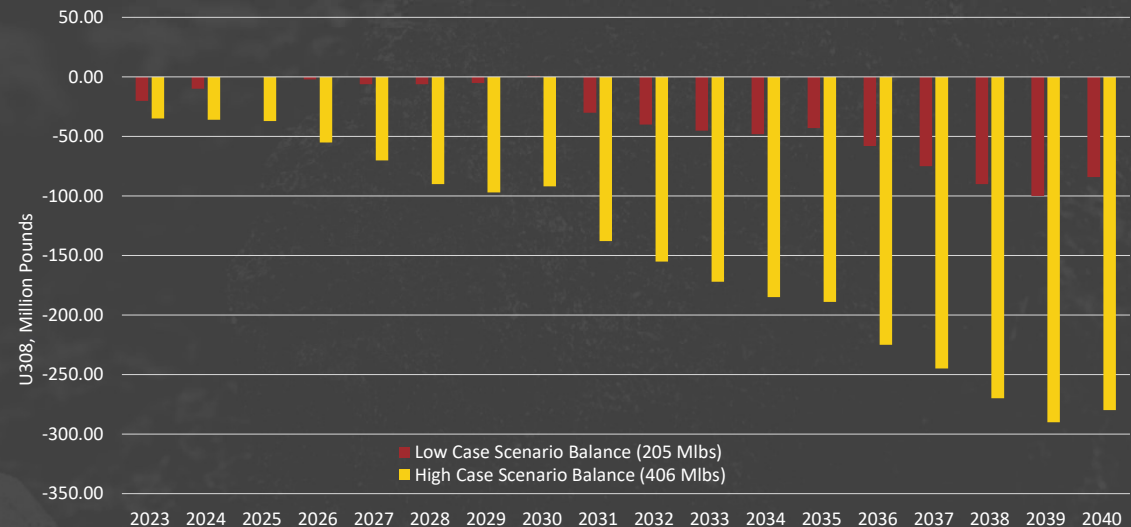
The IAEA is forecasting that power generation from nuclear plants will increase from 393GW (2022) to 812GW (2050)<sup>1</sup>.

The WNA notes that consumption was 162.4Mlbs in 2021 and provides three scenarios by 2040:

- Low 205.4Mlbs pa
- Base 291.9Mlbs
- High 406.8Mlbs<sup>3</sup>

Mothballed and near development operations are advancing into the current supply deficit but are expected to increase annual production by 30Mlbs pa not even matching the 41Mlbs lost following Fukushima.

Uranium Market Balance



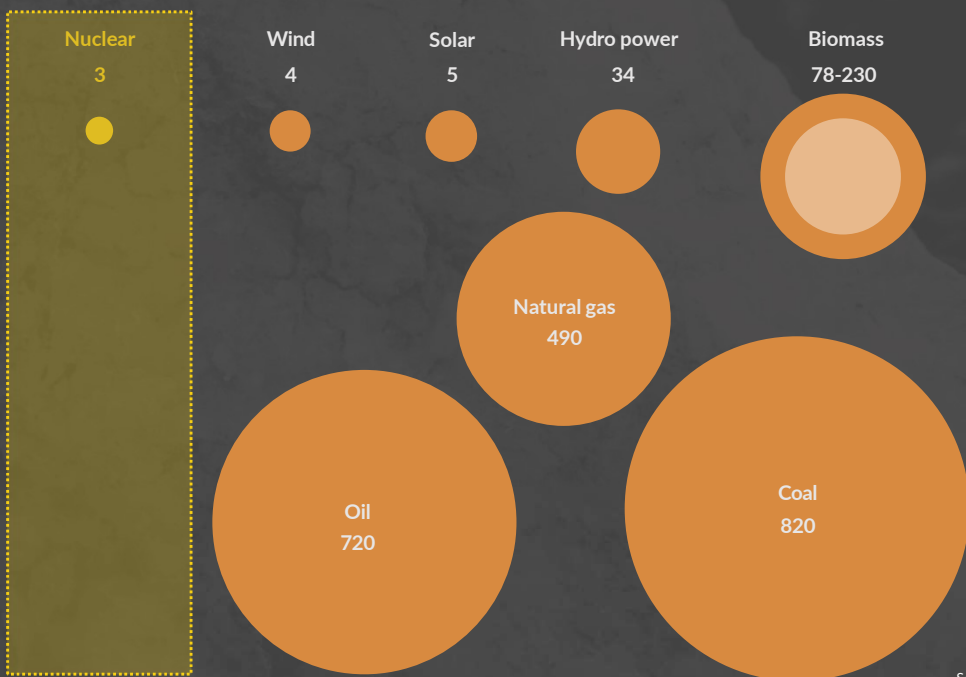
Source

Source: WNA, IAEA, NEA, UxC, Company Doto, Morgon Stanley, Cantor Fitzgerald, Trade Tech, Independent Speculator estimates

1. International Atomic Energy Association
2. Nuclear Energy Association
3. World Nuclear Association

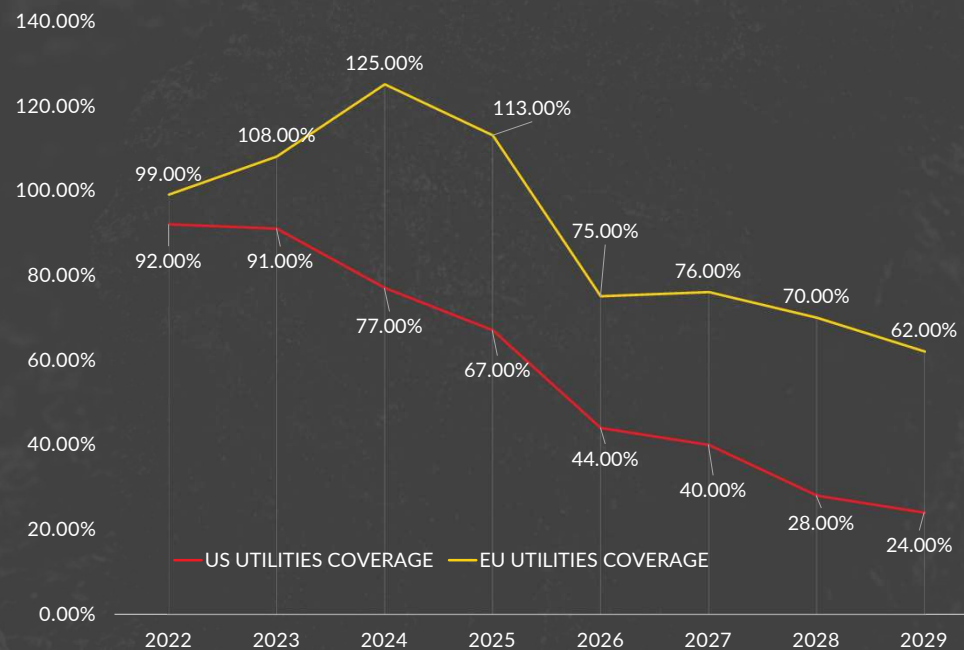
## CO2 equivalent emissions per GWh over the lifecycle of a power plant (tonnes)<sup>1</sup>

Even compared to the two next lowest emission power sources of wind and solar, nuclear generates 25% and 40% less CO<sub>2</sub> equivalent emissions per unit of power<sup>1</sup>



Note: Range of emissions from biomass depend on material being combusted

## Future contracted coverage rates of US and European utilities<sup>2,3</sup>



Sources:

1. Our World in Data, "Safest Sources of Energy", 2020
2. US Energy Information Administration: Maximum anticipated uranium market requirements of owners and operators of U.S. civilian nuclear power reactors, 2021-2030, at end of 2021 (May 2022, Table 12)
3. Euratom Supply Agency Annual Report 2021 (2022)

# Investment in nuclear energy



- Five operating reactors with another planned, will take nuclear contribution to 60%
- On 16 February, Finland's government issued operating license extensions until the end of 2050 for Units 1 & 2 at the Loviisa nuclear plant, which had previously been set to expire in 2027 and 2030



- Due to a long-standing policy based on energy security, 70% of France's electricity is from nuclear energy
- March 2023, President Macron's office announced funding for six EPR-2 PWRs across the country, a US\$50bn proposal for the nation's new-build reactor program will be presented to the government by the end of 2023



- February 2023, Japan's Cabinet approved nuclear reactors to operate beyond the current 60-year statutory limit
- Government aims to restart additional 7 reactors by this summer



- In 2021, Netherlands announced plans to build two nuclear reactors by 2035, which should supply up to 13% of the country's total electricity production
- The government has earmarked US\$5.3bn in funding, and construction is expected to commence in 2028



- Nuclear power plants accounted for 29.6% of South Korea's total power generation in 2022, with the government aiming for 32.4% by 2030
- South Korea restarted construction of idled project



- Swedish state run utility, Vattenfall, is considering adding up to 2,800 MWe to the Ringhals nuclear power plant's current capacity of 2,190 MWe
- The company is also advancing plans for several SMRs, each with an output power between 300 MWe to 400 MWe



21 reactors under construction, 47 planned



8 reactors under construction, 12 planned



3 reactors under construction, 25 planned



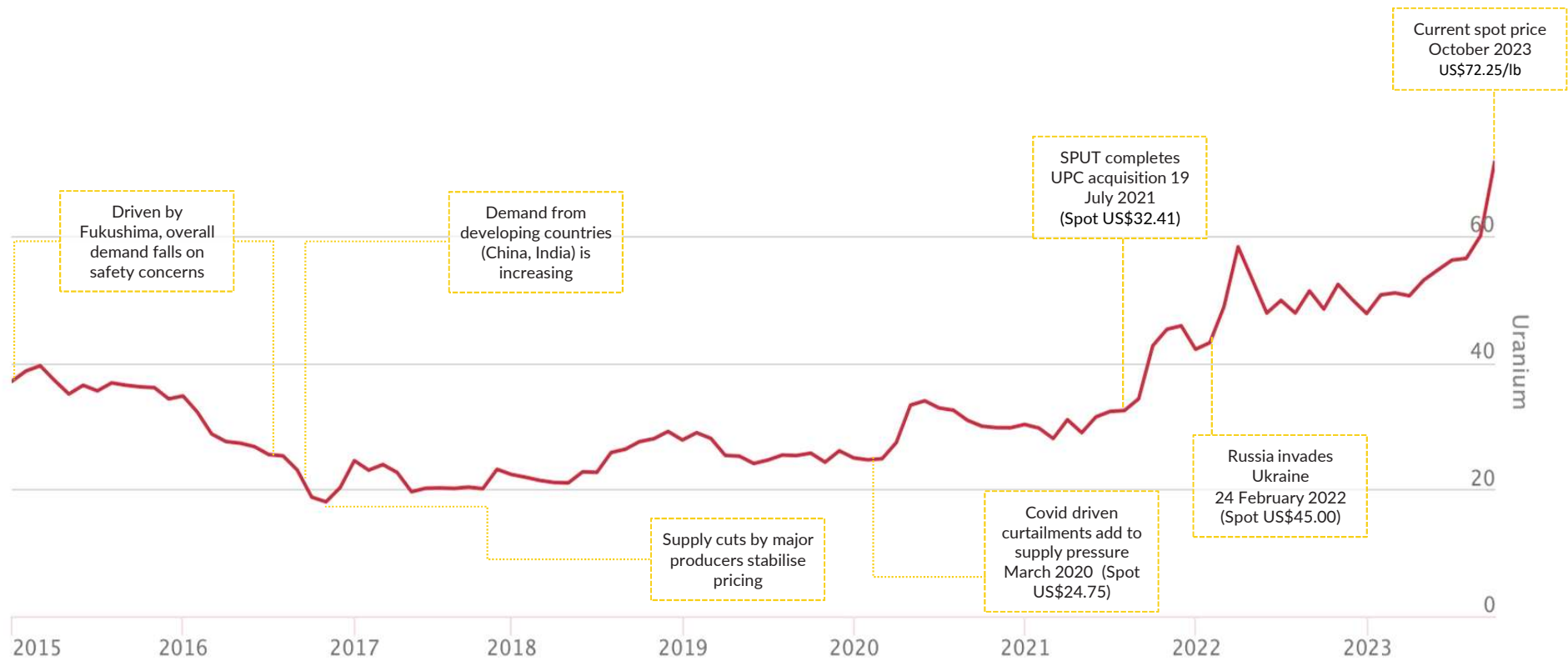
3 operating reactors, 1 reactor under construction

Investment in nuclear power	Operable reactors	Reactors under construction	Planned Reactors	Proposed Reactors
World Nuclear Reactor Fleet	438	58	104	341
Chinese Reactor Fleet	55	21	47	156

Sources:  
Reuters, "Netherlands plans to build two nuclear power plants by 2035", December 2022; UxC Weekly, Vol 37, No 10; UxC Weekly, Vol 37, No 8; UxC Weekly, Vol 37, No 5  
World Nuclear Association, World Nuclear Power Reactors & Uranium Requirements (February 2023)



# Uranium Price



Source  
1) UxC, LLC, "Historical Daily Broker Average Price", 17 March 2023  
2) McKinsey, "Uranium Commodity Perspective", December 2022  
3) Trading Economics Uranium Data 2023

# Senegal

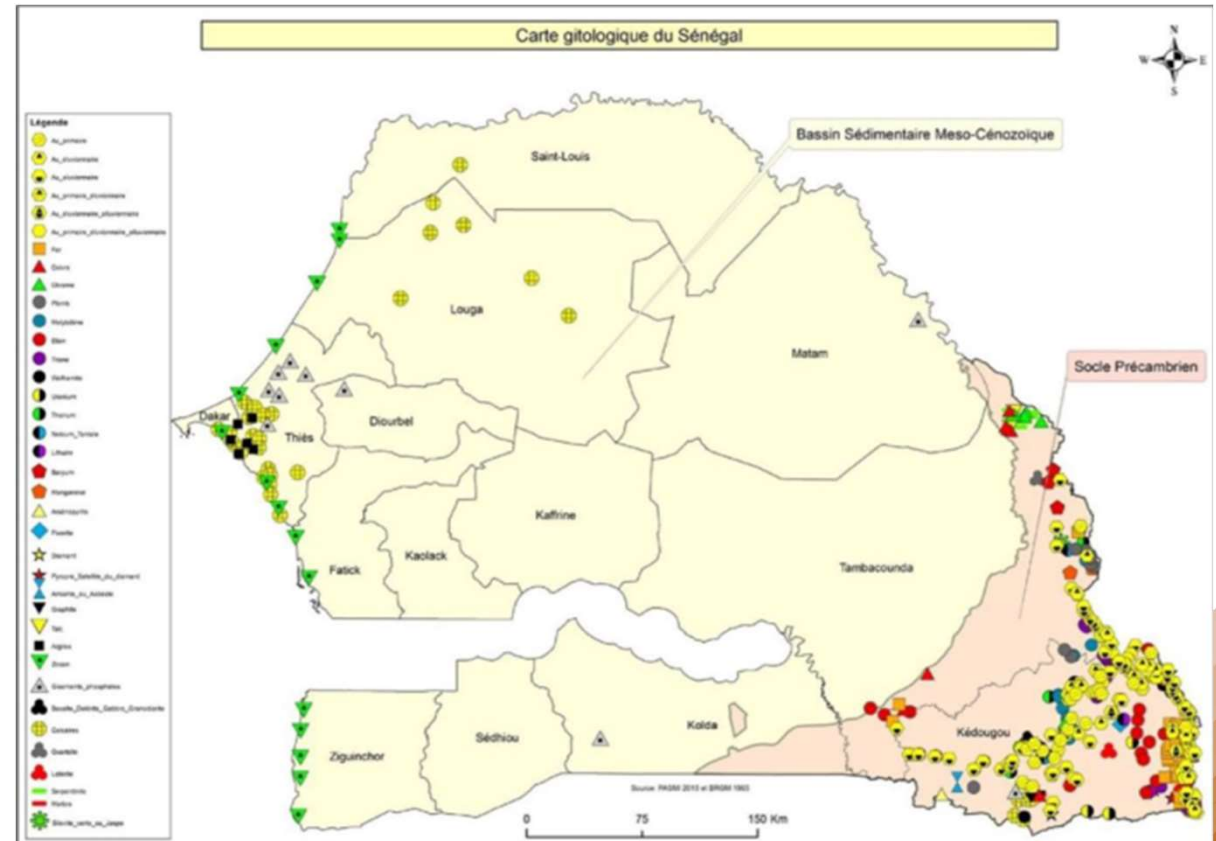
- Senegal independence from France in 1960, a stable democratic system with peaceful transitions of power through elections.
- Senegal has cemented a reputation as a stable and politically mature nation within the region.
- As of 2023, Senegal's population is approximately 17 million consisting of various ethnic groups, with Wolof, Pulaar, and Serer being some of the largest.
- The capital city, Dakar, is the most populous urban centre and the country's economic hub.
- Senegal has made significant investments in its infrastructure development. The country has invested in expanding and modernizing its road systems, connecting major cities and regions to support economic growth and trade.
- Senegal has made substantial progress in ensuring a reliable supply of electricity, bolstered by investments in energy generation and distribution.



Image Caption?

# Senegal

- New Mining Code - 8 November 2016 and its Implementing Decree 2017-459 dated 20 March 2017.
- The Mining Ministry of Senegal is immensely positive of the mineral potential of the country.
- Early traces of mining includes Iron metallurgy along the Senegal river, dating back to the early 10th century BCE and artisanal gold mining in Eastern Senegal and continuing through colonial period with specific development for Phosphate and for Iron, Gold, Copper, Tin in Eastern Senegal.
- In the 70s and 90s gold and diamond exploration was funded by the U.N. 2010 saw the European Development Fund fund large scale geochemical surveys and geophysical surveys.
- Recent exploration activities have been driven by major gold discoveries in neighboring Mali. This has led to significant gold discoveries with Sabodala, Massawa (Endeavour), Mako (Resolute), Diamba Sud (Chesser) and Boto (Managem).



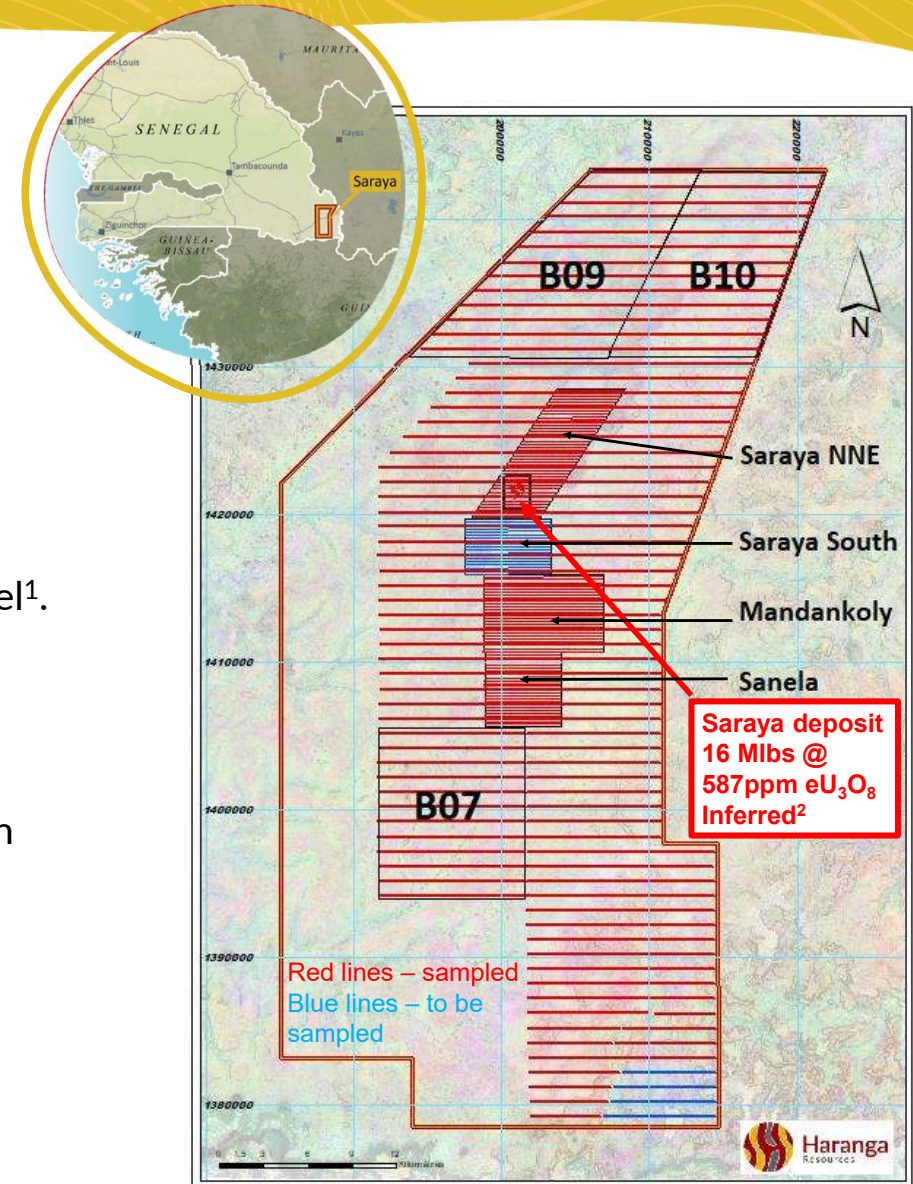
# Saraya Uranium Project

Senegal

- The Saraya Uranium Project is a JV between Haranga Resources Ltd (70%) and Mandinga Resources SARL (30%, free carried to PFS) and relates to permit PR02208 in East Senegal.
- Ground partially explored by Areva and Cogema prior to 2010.
- Uranium mineralisation occurs in structural corridors within an episyenite, mineralisation is modelled on a Na metasomatic model<sup>1</sup>.
- The surface geology at Saraya is masked by 2 to 7m of lateritic hardcap making it difficult to trace mineralisation from soil sampling, requiring drill penetration.
- 68,000m of historic drilling completed in permit area, 65,000m in the Saraya deposit, all data contained in Summary reports.
- Drilling at Saraya extends past 200m vertical depth but the majority is above 160m, the known mineralisation is limited by drilling only, with possible extensions along strike and down dip.

<sup>1</sup> Refer to ASX Announcement 28 Feb 2023 Drill Results Confirm Wide, Shallow, High Grade Uranium

<sup>2</sup> Refer to ASX Announcement 25 Sept 2023 Significant Maiden High Grade Uranium Mineral Resource





# Saraya Uranium Project

Senegal

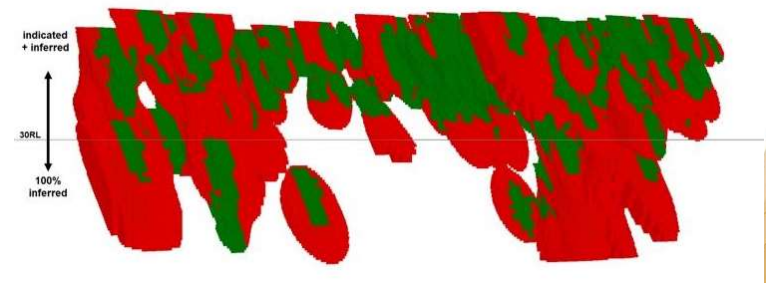
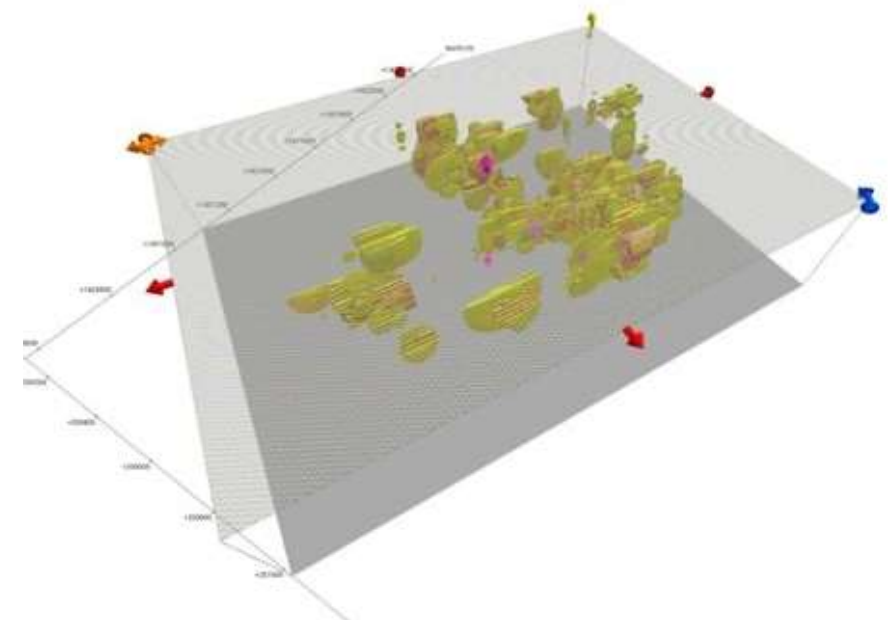
- Haranga verified the historic data with the completion of 22 diamond core holes for 3,021m, resulting in 45 uranium intercepts for 524m of mineralisation with a weighted average grade of 775ppm eU<sub>3</sub>O<sub>8</sub><sup>1</sup>.
- MRE is based upon 541 drillholes combining historic exploration programs with more recent (2022) drilling undertaken by Haranga Resources.
- Characterised as 100% Inferred (JORC 2012) but could be upgraded with successful metallurgical testwork.
- The model is data bound and possible extensions exist along strike, downdip and down plunge. 30RL is approximately 160m below the surface at Saraya.
- Maiden Mineral Resource Estimate was completed in September 2023<sup>2</sup>.

Zone	Classification	Tonnage	Grade	Contained eU3O8	
		Mt	eU3O8 ppm	Mlb	tonnes
+30RL	Inferred	9.40	641	13.29	6,000
-30RL	Inferred	3.05	419	2.82	1,300
<b>Total</b>	<b>Inferred</b>	<b>12.45</b>	<b>587</b>	<b>16.11</b>	<b>7,300</b>

Grade calculated using a 250ppm bottom cut and 10,000ppm top cut Indicator kriging

1 Refer to ASX Announcement 28 Feb 2023 Drill Results Confirm Wide, Shallow, High Grade Uranium  
 2 Refer to ASX Announcement 25 Sept 2023 Significant Maiden High Grade Uranium Mineral Resource

3D Oblique view of the Saraya Ore Block model.



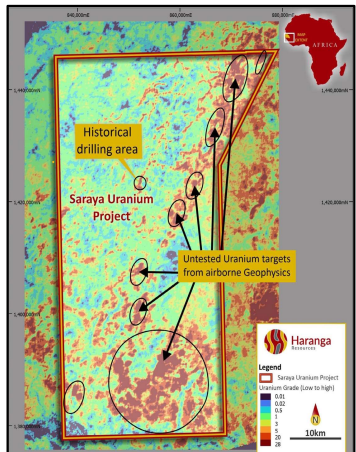
Est: Combined Estimator copy  
 ■ eU3O8 in Global Model 1300 -dip 0-15, eU3O8 indicated  
 ■ eU3O8 in Global Model 1300 -dip 0-15, eU3O8 inferred



# Saraya Uranium Project

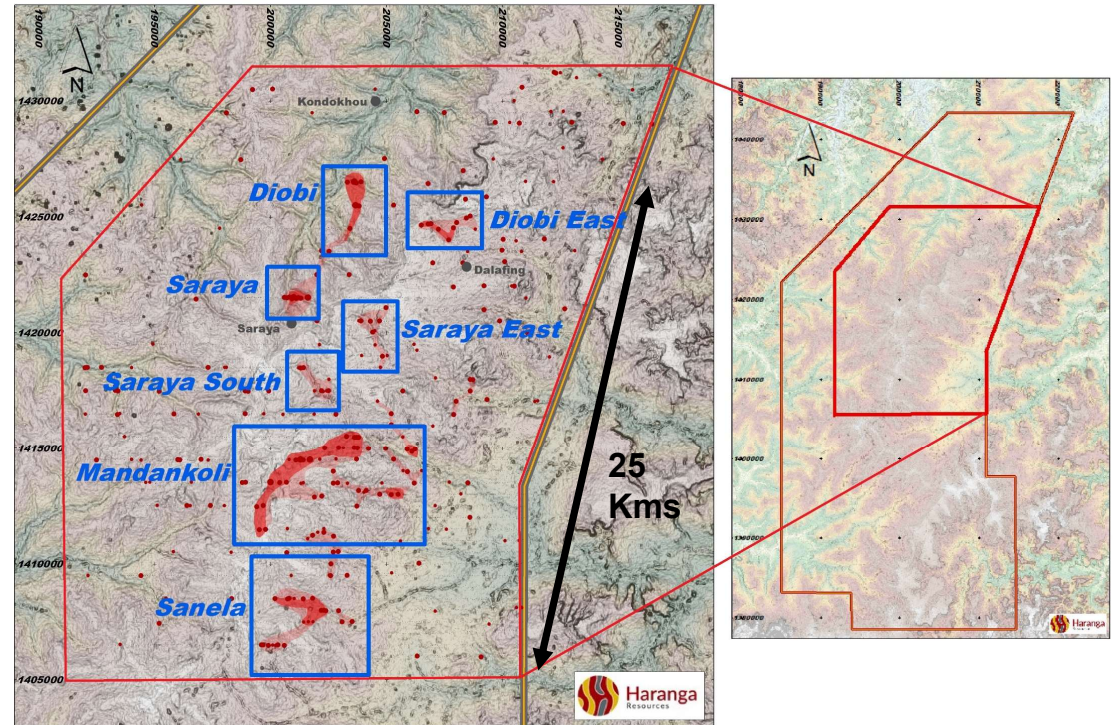
Senegal

- Outside of Saraya there are several known anomalous areas that have had some attention. Mainly surface sampling but some (Diobi, Mandankoli and Sanela) with historic drilling.
- At least three of the identified anomalies exceed the size of the Saraya anomaly at surface.
- Diobi, Mandankoli and Sanela are the most advanced and orientation work is ongoing at Diobi and Mandankoli in preparation for potential drilling. Processing of the termite mound samples is still incomplete at Sanela.



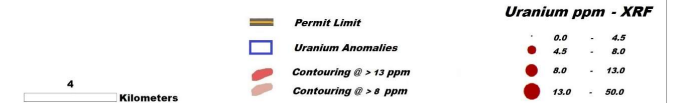
Radiometric plot showing anomalous locations away from main Saraya line.

With 60% of the permit unexplored, Haranga still has numerous radiometric anomalies that require investigation.



### Saraya Geochemistry - XRF Assays

Termite Mounds Geochemistry Assays (XRF U ppm)  
 Topography - Digital Elevation Derivative  
 Slopes and Color Contouring

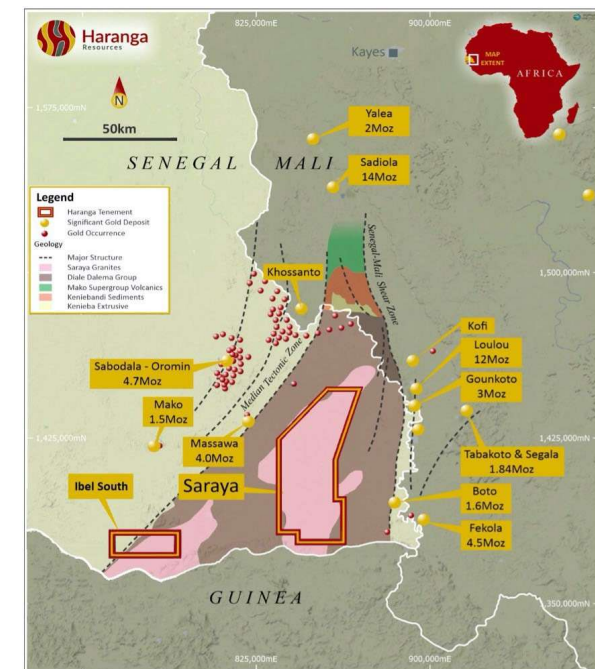
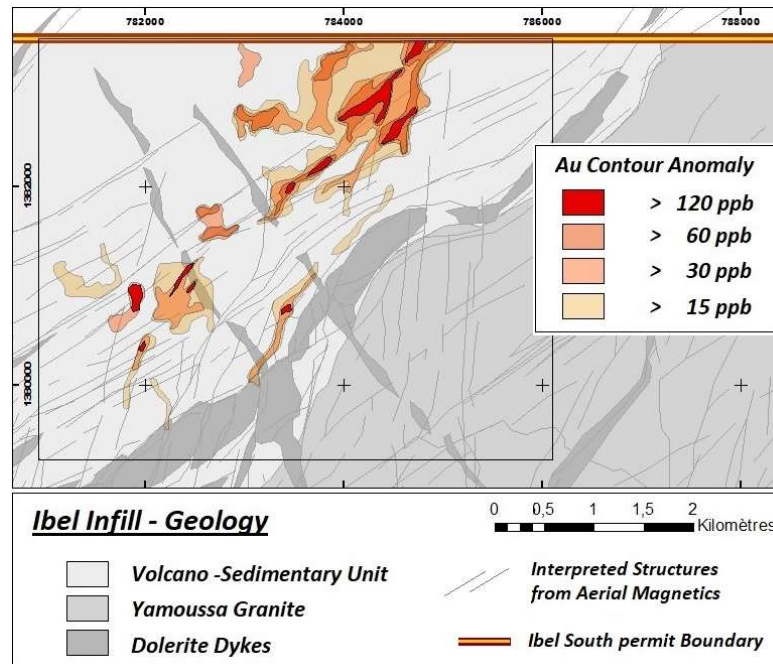


Termite mound sampling has allowed Haranga to overcome the laterite hardcap barrier, giving access to the saprock a medium for mobile elements (U, Au, Th, K, etc)

# Ibel South Gold Project

## Senegal

- Birimian Volcanics of the Kenieba inlier, which has reported in excess of 40 million ounces of gold in resources being mined or under development<sup>1</sup>
- Approximately 80 km SW of the 8.72 Moz Teranga Gold Corporation (TSX: TGZ), Sabodala-Massawa gold mine (in production)<sup>2</sup> and 30km south of the 1.5 Moz Resolute Mining (ASX: RSG) Mako gold mine (in production)<sup>3</sup>.
- Ibel South contains known gold anomalies from historical gold exploration, up to 180 ppb Au in recent termite mound sampling, yielding a 2.5 km long anomaly containing up to 643 ppb gold and providing immediate drill targets<sup>4</sup>.
- Ibel South can be serviced from the Company's existing exploration camp and sample preparation facilities.
- Active artisanal surface workings on site



<sup>1</sup> Refer to Haranga Resources Prospectus, dated 29th October 2021, Independent Geological Report Haranga Gold and Uranium Projects, West Africa, page 64, released on the ASX 25 January 2022.

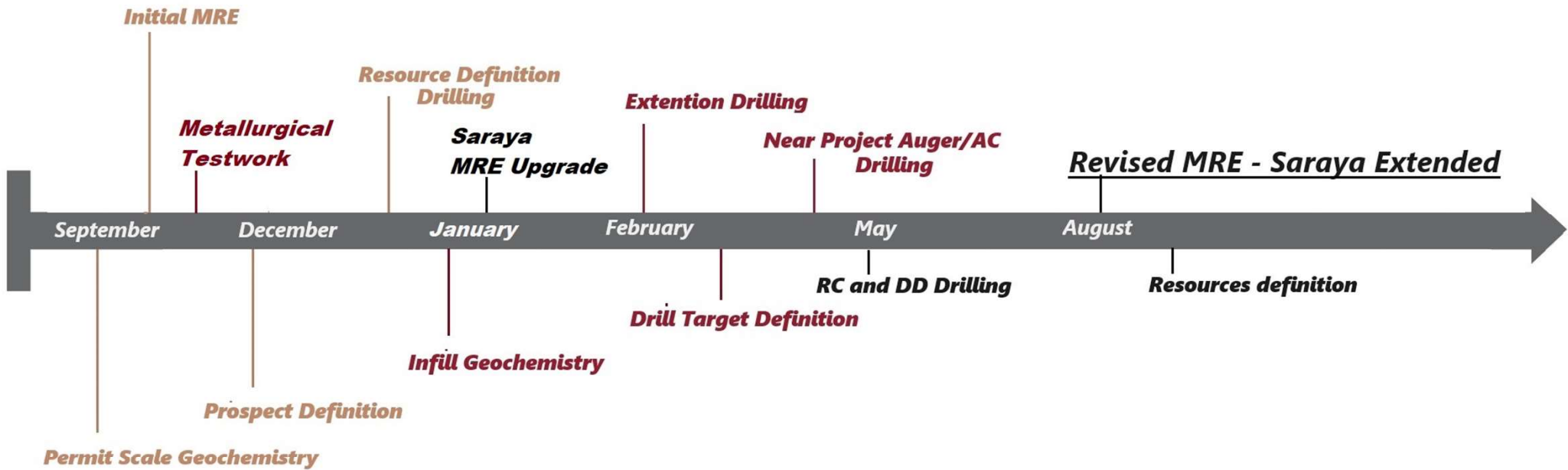
<sup>2</sup> Refer to Endeavour Mining, Technical Reports, Teranga Gold Corporation-Sabodala-Massawa Gold Project PFS NI43-101 Technical Report 21 August 2020 (<https://www.endeavourmining.com/our-business/sabodala-massawa-mine>)

<sup>3</sup> Refer to Toro Gold Ltd Annual Report 2018.

<sup>4</sup> Refer to ASX Announcement 3 July 2023 Geochemical Survey Yields Walk-Up Drill Targets at IBEL SOUTH Gold Permit

# Project Timeline

## Saraya Project





# Summary

- Senegal is a stable geopolitical location with a pro mining government and recently (2016/17) updated Mining laws
- Haranga Resources - maiden Mineral Resource Estimate of 16Mlbs Inferred @ 587 ppm eU<sub>3</sub>O<sub>8</sub> for the Saraya Deposit
- Saraya is the first of six known radiometric and geochemical anomalies to be explored in Senegal
- Three of the remaining six anomalies will be 'drill ready' by late November
- Global uranium demand is increasing as seen in the +30% increase in spot price and utilities returning to long term contracts
- The world is embracing nuclear power for its clean, carbon free electricity generating capabilities with true baseload component and 24/7/365 reliability
- The West is becoming conscious of the vulnerability inherent in outsourcing power generation
- Haranga's Senegal based team is able to move quickly on any opportunity that presents itself within Africa and specifically in West Africa
- Ibel South prospect - anomalous gold results in fertile gold territory, drill ready



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