



# **Silex Systems Limited**

## **2024 Annual General Meeting**

**22 November 2024**

(ASX: SLX) (OTCQX: SILXY)

**Dr Michael Goldsworthy**  
*CEO/Managing Director*

# Forward Looking Statements and Risk Factors

## About Silex Systems Limited (ASX: SLX) (OTCQX: SILXY)

Silex Systems Limited ABN 69 003 372 067 (**Silex** or **Company**) is a technology commercialisation company whose primary asset is the SILEX laser enrichment technology, originally developed at the Company's technology facility in Sydney, Australia. The SILEX technology has been under development for uranium enrichment jointly with US-based exclusive licensee Global Laser Enrichment LLC (GLE) for a number of years. Success of the SILEX uranium enrichment technology development program and the proposed Paducah commercial project remain subject to a number of factors including the satisfactory completion of the TRL-6 pilot demonstration program, nuclear fuel market conditions, industry and government support, project feasibility and commercial plant licensing, and therefore remains subject to associated risks.

Silex is also at various stages of development of additional commercial applications of the SILEX technology, including the production of 'Quantum Silicon' for the emerging technology of silicon-based quantum computing. The 'Quantum Silicon' project remains dependent on the outcomes of the project as well as the successful development of silicon quantum computing technology by third parties, and is therefore subject to various risks. Silex is also conducting research activities in its Medical Isotope Separation Technology (MIST) Project, which is early-stage and subject to numerous risks. The commercial future of the SILEX technology in application to uranium, silicon, medical and other isotopes is therefore uncertain and any plans for commercial deployment are speculative.

## Forward Looking Statements

The commercial potential of the abovementioned technologies and activities is currently unknown. Accordingly, no guarantees as to the future performance of these technologies can be made. The nature of the statements in this Presentation regarding the future of the SILEX technology as applied to uranium enrichment, Quantum Silicon production, medical and other isotope separation projects, and any associated commercial prospects are forward-looking and are subject to a number of variables, including but not limited to, known and unknown risks, contingencies and assumptions which may be beyond the control of Silex, its directors and management. You should not place reliance on any forward-looking statements as actual results could be materially different from those expressed or implied by such forward-looking statements as a result of various risk factors. Further, the forward-looking statements contained in this Presentation involve subjective judgement and analysis and are subject to change due to management's analysis of Silex's business (including project outcomes), changes in industry trends, government policies and any new or unforeseen circumstances. The Company's management believes that there are reasonable grounds to make such statements as at the date of this Presentation. Silex does not intend, and is not obligated, to update the forward-looking statements except to the extent required by law or the ASX Listing Rules.

Except as required by law or regulation (including the ASX Listing Rules and OTCQX Rules for US Companies), Silex does not intend, and is not obligated, to update the forward-looking statements and Silex disclaims any obligation or undertaking to update forward-looking statements in this Presentation to reflect any changes in expectations.

No representation, warranty or assurance (express or implied) is given or made in relation to any forward-looking statement by any person (including the Company or any of its advisers). In particular, no representation, warranty or assurance (express or implied) is given that the occurrence of the events expressed or implied in any forward-looking statements in this Presentation will actually occur.

## Risk Factors

Risk factors that could affect future results and commercial prospects of Silex include, but are not limited to: ongoing economic and social uncertainty, including in relation to global economic stresses such as interest rates and inflation; geopolitical risks, in particular relating to Russia's invasion of Ukraine and tensions between China and Taiwan which may impact global supply chains; uncertainties related to the effects of climate change and mitigation efforts; the results of the GLE/SILEX uranium enrichment pilot demonstration (TRL-6) program; the market demand for natural uranium and enriched uranium; the outcome of the project for the production of Quantum Silicon for the emerging technology of silicon-based quantum computing; the outcome of the MIST program; the potential development of, or competition from alternative technologies; the potential for third party claims against the Company's ownership of Intellectual Property; the potential impact of prevailing laws or government regulations or policies in the USA, Australia or elsewhere; actions taken by the Company's commercialisation partners and other stakeholders that could adversely affect the technology development programs and commercialisation strategies; and the outcomes of various strategies and projects undertaken by the Company.





Our Mission: to commercialise the unique SILEX laser enrichment technology for application to:



**Uranium production and enrichment**  
(nuclear power)



**Silicon enrichment**  
(silicon quantum computing)



**Medical isotope enrichment**  
(new cancer therapies)

Our strategy is focused on extracting maximum value from our core SILEX technology and expertise

# Evolution of Enrichment Technology

For personal use only

## 1st Generation Technology

### Gaseous Diffusion

Very low efficiency – tails legacy

High cost

Obsolete



## 2nd Generation Technology

### Centrifuge

Modest efficiency

Moderate cost

Current technology



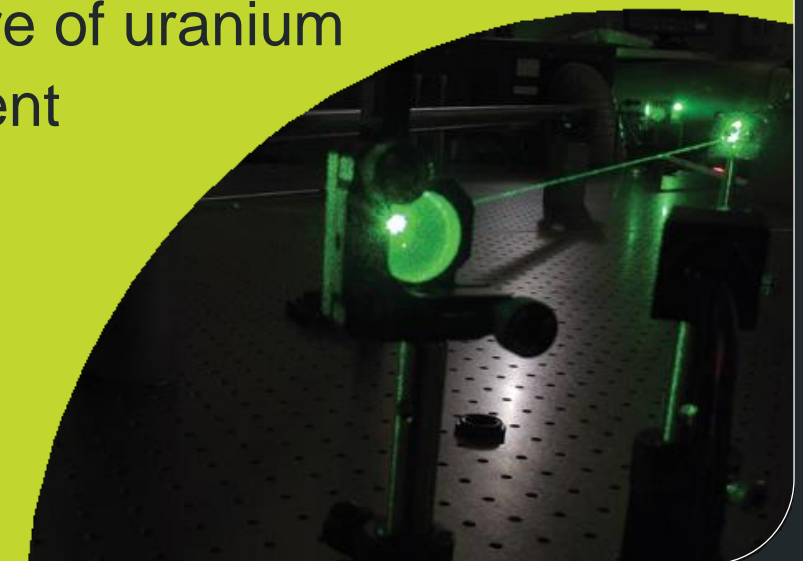
## 3rd Generation Technology

### SILEX Laser

High efficiency and throughput

Anticipated to be lower cost

The future of uranium enrichment



SILEX laser process → higher separation efficiency and throughput vs. centrifuge technology

# Recent Highlights and Developments

## ***Global Laser Enrichment (GLE) / SILEX Uranium Enrichment Technology Project:***

- GLE's owners (51% Silex and 49% Cameco) continue to support accelerated activities in GLE's CY2024 plan and budget for the SILEX uranium enrichment technology full-scale pilot demonstration project
- GLE's new leased facility in Wilmington, operational since June 2024 – providing significant additional space for continued growth in GLE's engineering, in-house classified manufacturing, and commercial activities
- In May 2024, the *Prohibiting Russian Uranium Imports Act* was passed into law and is now effective – with limited waivers until the end of 2027
- On 15 November 2024, Russia announced temporary restrictions on exports of enriched uranium to the US – exemptions may be available
- Prohibition Act triggered US\$2.7bn in funding to support new nuclear fuel production capacity, with the DOE releasing the Low Enriched Uranium (LEU) Enrichment Acquisition Request for Proposal (RFP) in July 2024
- GLE submitted a bid for the LEU RFP on 9 September 2024 – currently under assessment by the DOE
- GLE has made significant progress towards securing the site for the planned Paducah Laser Enrichment Facility (PLEF)

## ***Quantum Silicon Project, Medical Isotope Project, and Other Highlights:***

- Design and construction of the first full-scale Quantum Silicon (Q-Si) Production Plant continues at the Company's Lucas Heights facility, with \$5.1m in funding support from the Federal Government's Defence Trailblazer program and a further \$4.35m cash contribution from first offtake partner, Silicon Quantum Computing (SQC)
- The Medical Isotope Separation Technology (MIST) project continues at Lucas Heights – focused on developing a process to produce enriched Ytterbium (Yb-176), the key precursor required for Lutetium (Lu-177) production – a breakthrough therapy for advanced cancers
- As at 30 June 2024, the Company had cash and term deposit holdings of ~\$113.1m and no corporate debt



# Primary Focus on GLE Commercialisation



## Uranium production and enrichment for nuclear fuel

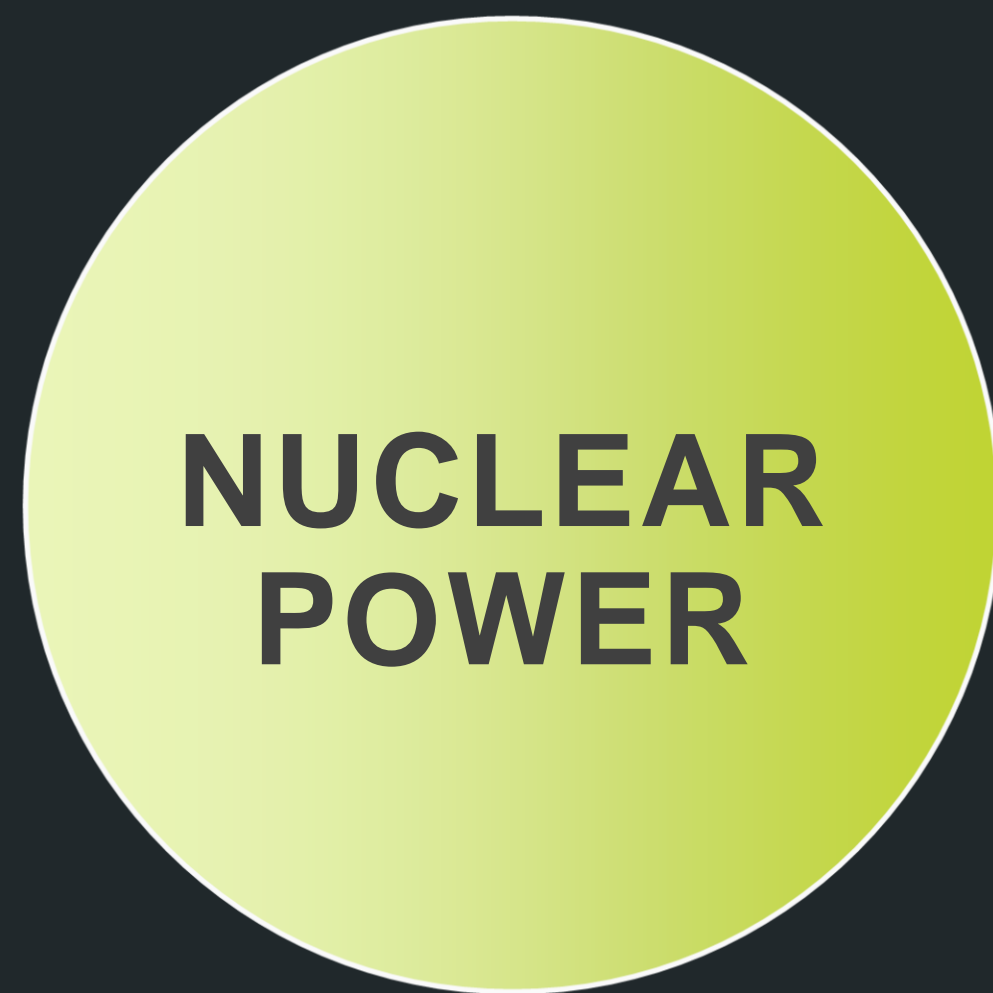
- Global nuclear fuel industry undergoing disruptive bifurcation, intensifying the nuclear renaissance in the Western world
- GLE and Silex commercialising SILEX technology under favourable market conditions with ~US\$500m invested to date
- US-based GLE headquartered in Wilmington, NC: ~70k sq ft office space, manufacturing facility, and Test Loop pilot plant
- Key technology de-risking demonstration (TRL-6) with pilot demonstration facility operational and preliminary testing underway
- Parallel focus with GLE's commercialisation activities, including the RFP process, PLEF site acquisition and licensing efforts
- GLE's path to market focused on its unique ability to address the '*Triple Opportunity*' that is emerging in the global nuclear fuel supply chain with the potential for future production of three forms of nuclear fuel:
  1. **Natural UF<sub>6</sub> production** - from DOE\* tails inventories (support rising demand for uranium and conversion)
  2. **LEU production** - enriched fuel for existing reactor fleet (help mitigate supply risks for enriched uranium products)
  3. **HALEU production** – High Assay LEU (HALEU) fuel for next generation advanced reactors, including Small Modular Reactors (SMRs) (help establish HALEU capacity in the US)

\* DOE: US Department of Energy



# **SILEX Uranium Enrichment Technology: *Triple Opportunity for Silex and GLE***

# Nuclear power is a leading source of carbon-free base load electricity



- Clean Energy, Net Zero 2050
- Advanced Reactors, including SMRs
- Low Cost LCOE ~US\$70/MWhr<sup>1</sup>
- 24/7 Reliability and Base Load Stability
- Highest Capacity Factor (> 93% in the US)
- Clean Electricity for Data Centres, AI, Crypto, EVs and Hydrogen

1. LCOE ~US\$70/MWhr, IEA Projected Costs of Generating Electricity 2020  
(LCOE = Levelised Cost of Electricity on an all-in costs basis)



# Nuclear Renaissance – Latest Industry Developments

## 31 Countries Sign Declaration to Triple Nuclear Power Capacity by 2050<sup>1</sup>

### United States

- billions of dollars to reinvigorate nuclear power industry, including SMRs
- significant supportive legislation in place
- billions in new funding for enrichment and conversion capacity

### United Kingdom

- launched roadmap in 2024 to quadruple nuclear energy capacity by 2050 – to 24 GWe
- UK government investments into new reactor builds
- SMR selection process advancing rapidly

### European Union

- defined nuclear power as sustainable and included in Taxonomy
- France announced plan to construct up to 14 new GW-scale reactors
- Eastern European countries moving forward

### Asia

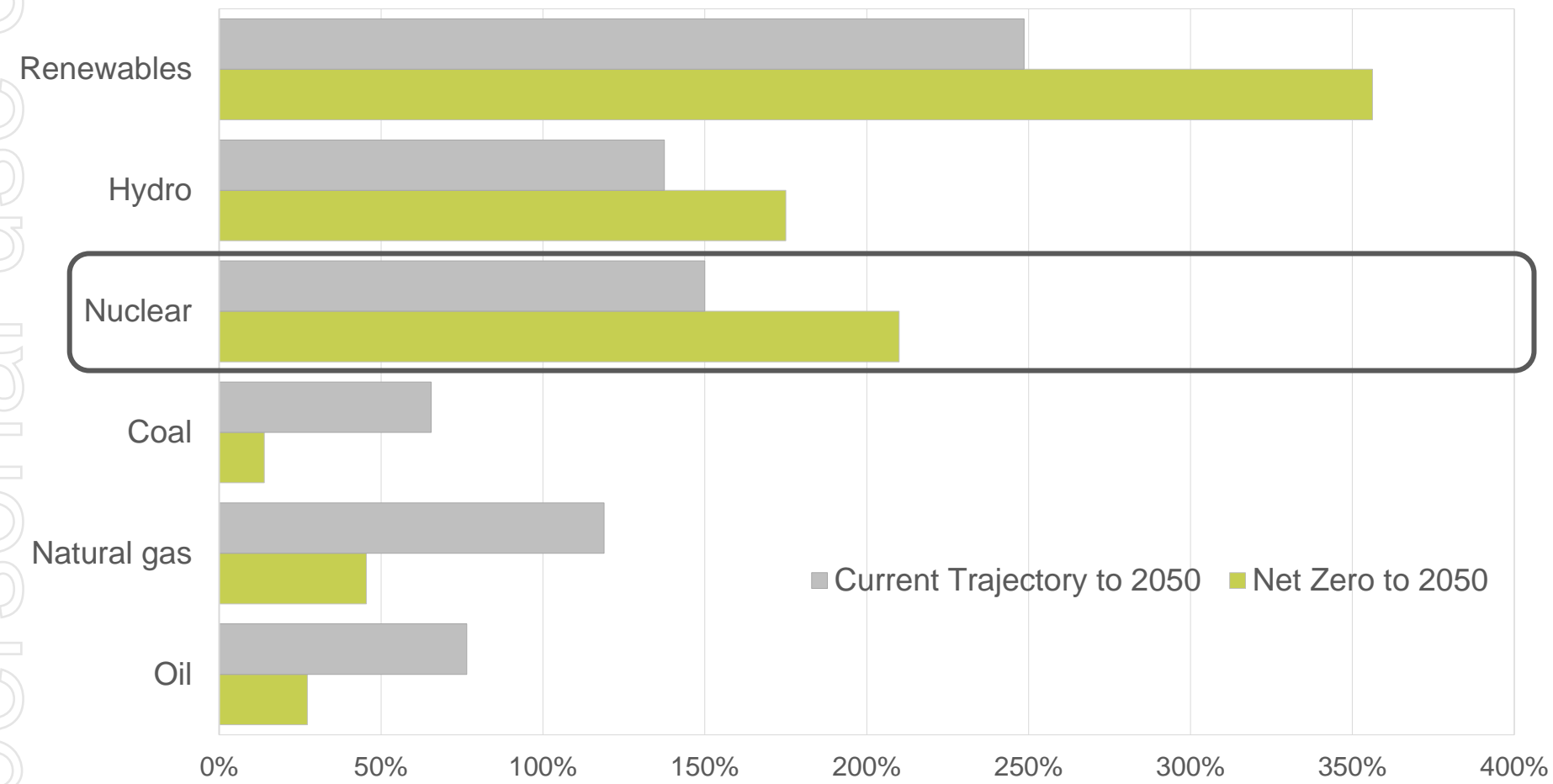
- Japan continues to restart reactors; new nuclear build in energy policy
- Korea building new plants and exporting technology
- Philippines program
- Other Asian countries considering nuclear power

## US Sets Targets to Triple Nuclear Energy Capacity by 2050

The DOE estimates the US will need an additional 200 GW of new nuclear capacity to keep pace with future power demands and reach Net Zero emissions by 2050 - plans to add 35 GW of new capacity by 2035 and achieve a sustained pace of 15 GW per year by 2040<sup>2</sup>

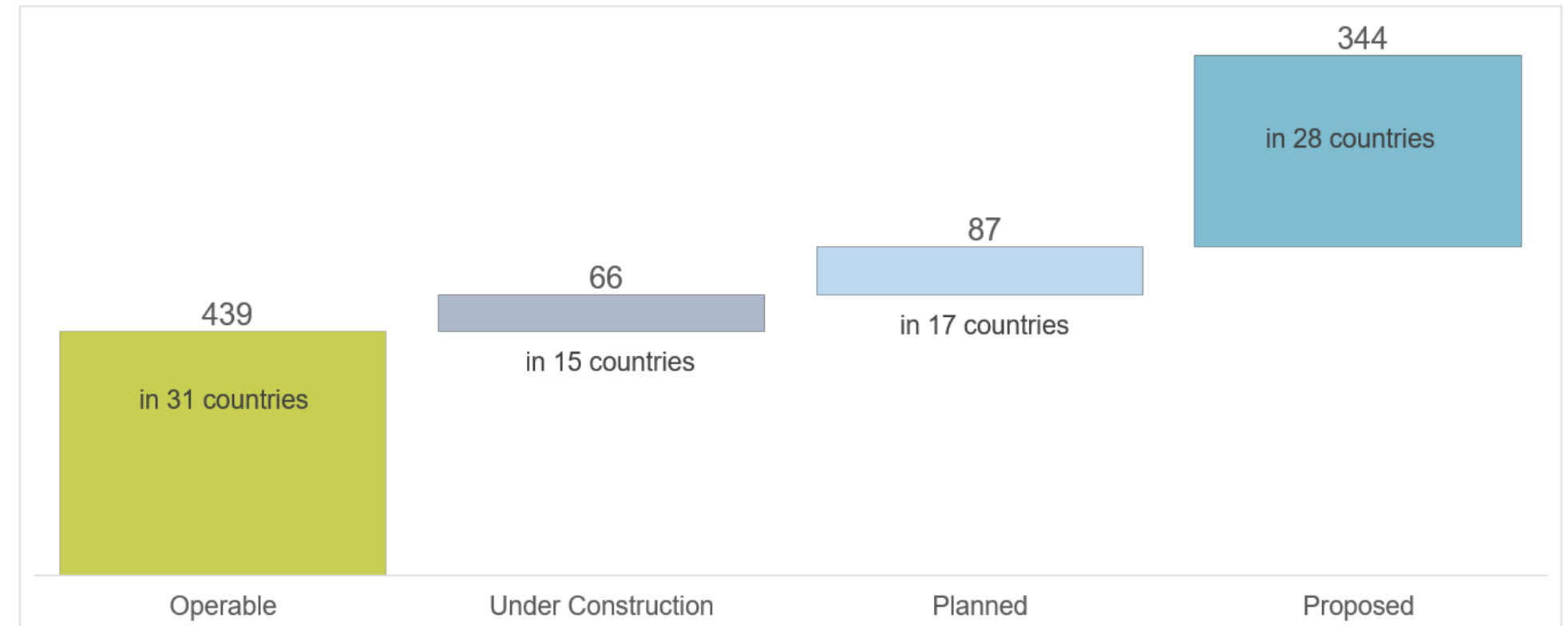
# Significant Nuclear Power Growth to achieve Net Zero by 2050

## Growth in Primary Energy

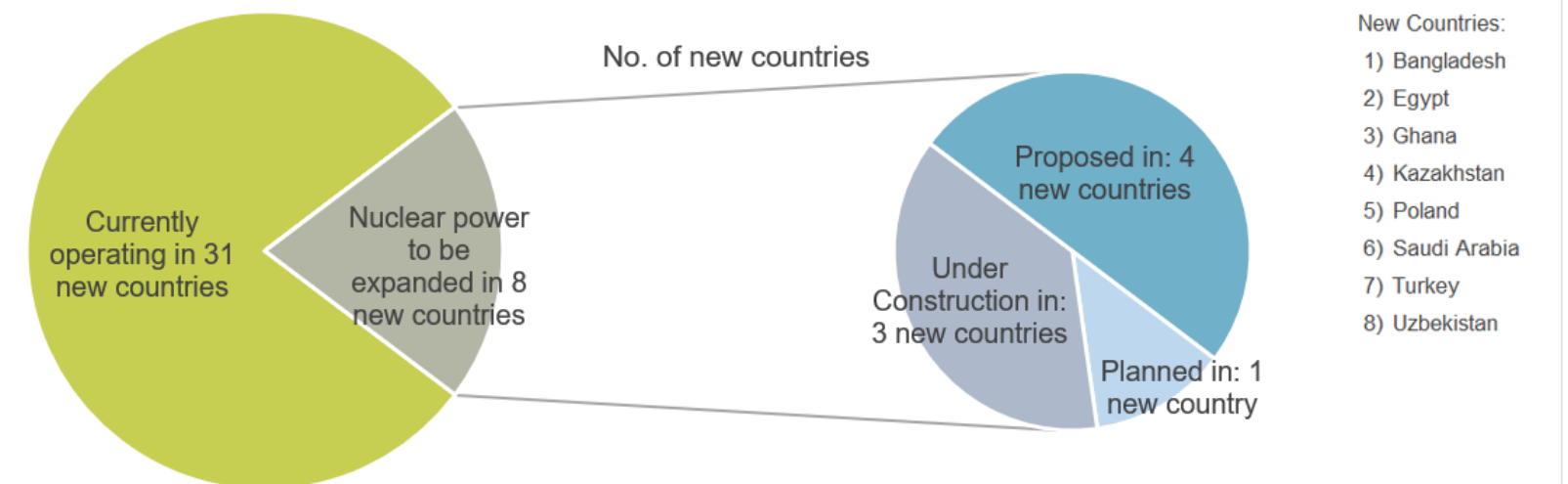


Source: BP Energy Outlook 2024 Edition

## World Nuclear Power Reactor Population



### Nuclear Power Generation to be expanded to 8 new countries



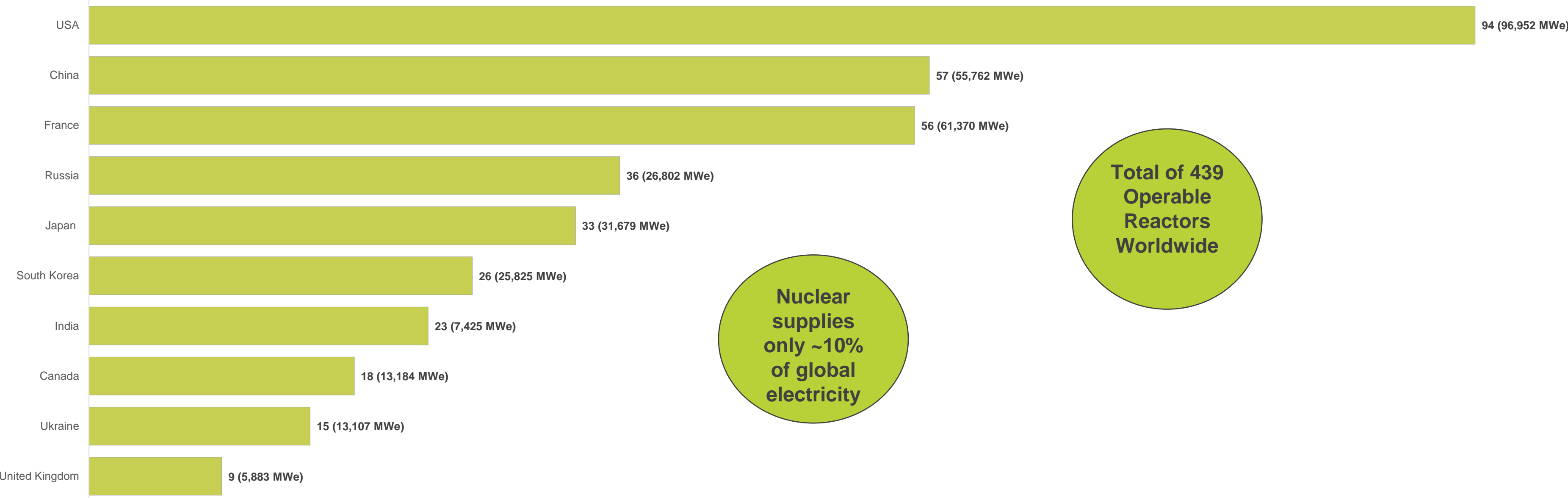
Source: World Nuclear Association November 2024



# World's Largest Producers of Nuclear Power

## Conventional Large-Scale Reactor Population

Total Operable Reactor Units (Top 10)



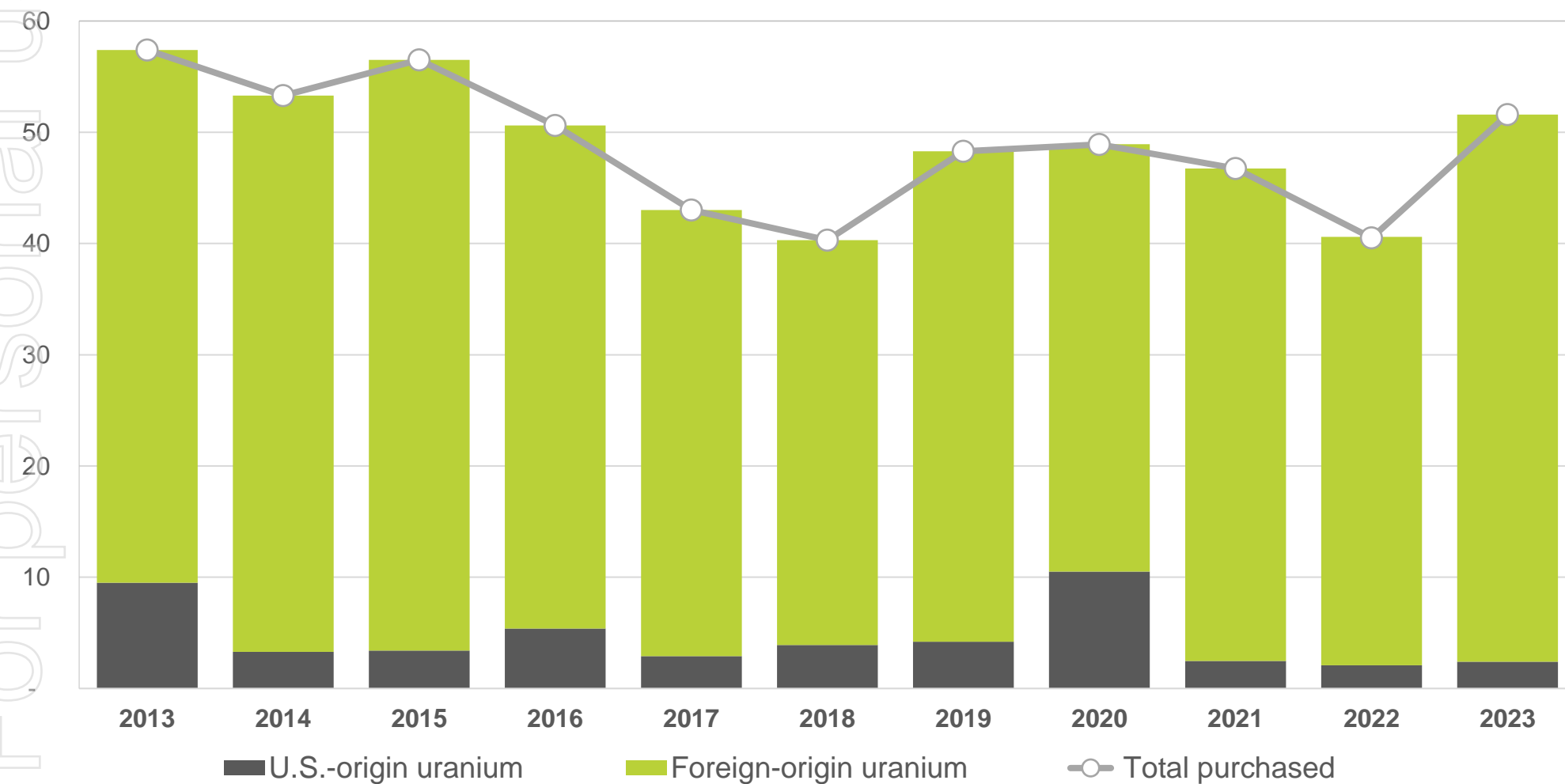
Source: World Nuclear Association November 2024

# GLE may help address US Uranium and Enrichment Vulnerability

*US currently imports ~95% of its uranium requirements and ~70% of its enriched uranium requirements:*

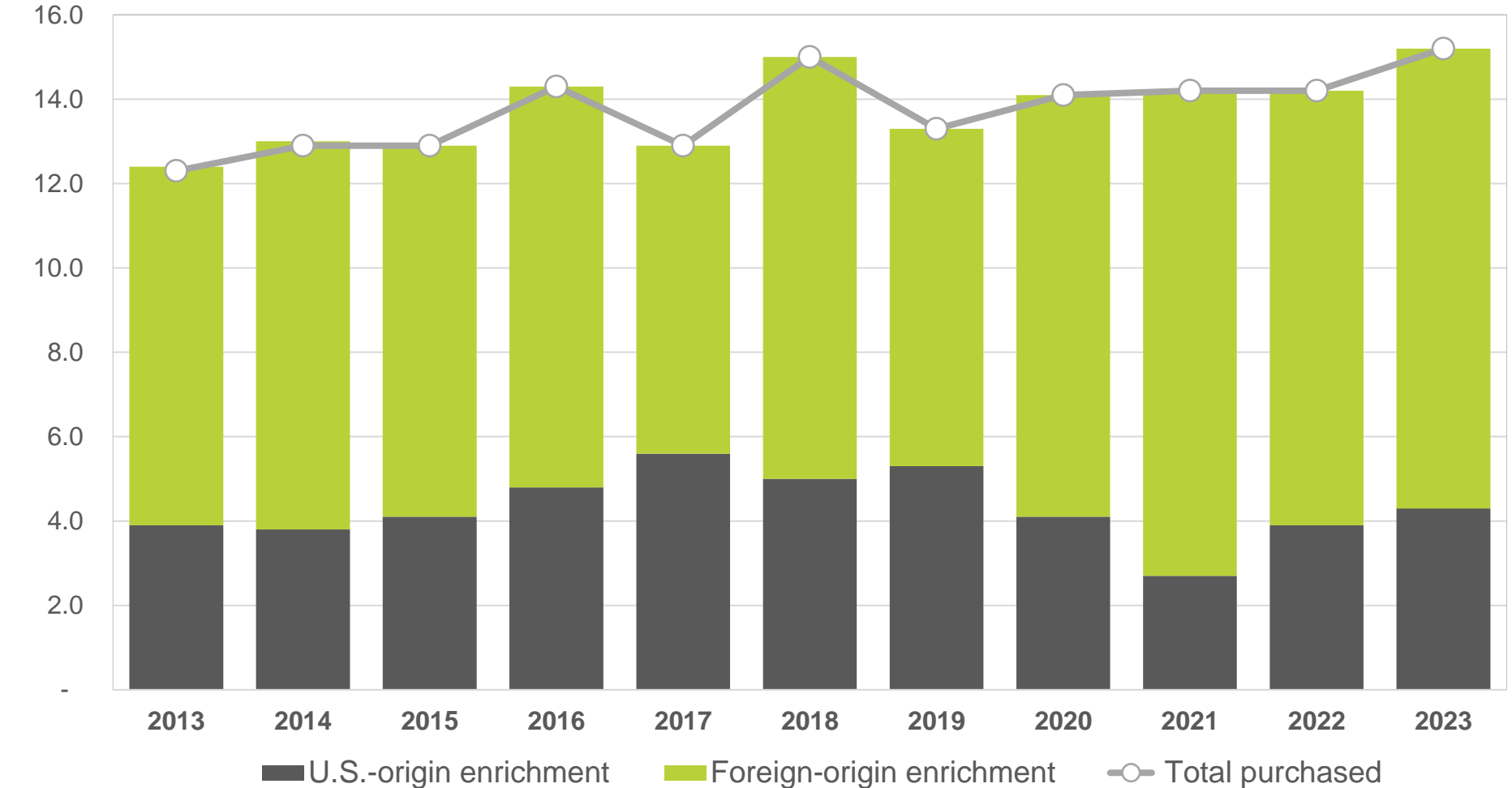
**Uranium purchased by owners and operators of U.S. civilian nuclear power reactors, 2013-2023**

Million pounds U<sub>3</sub>O<sub>8</sub> equivalent



**Enrichment purchased by owners and operators of U.S. civilian nuclear power reactors, 2013-2023**

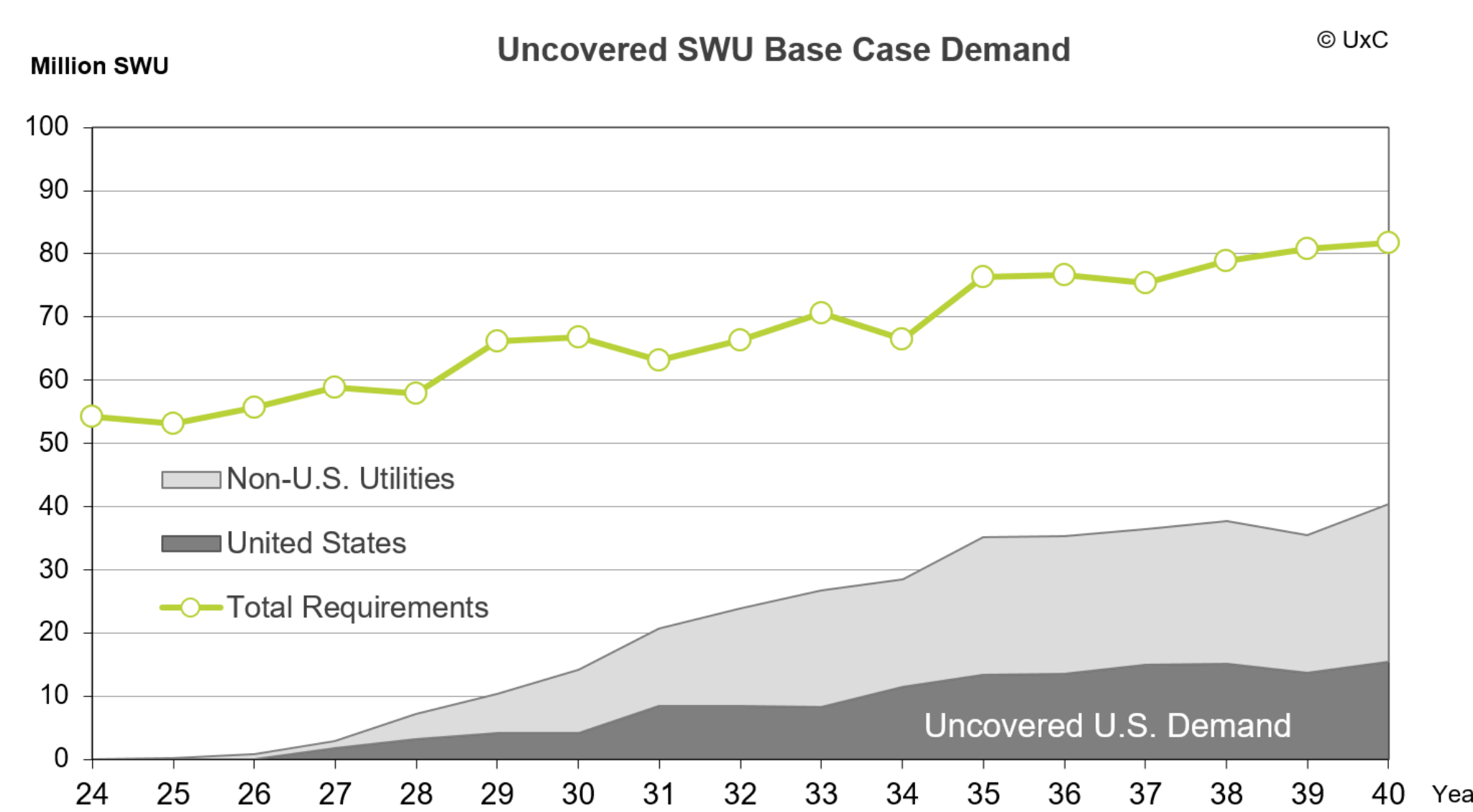
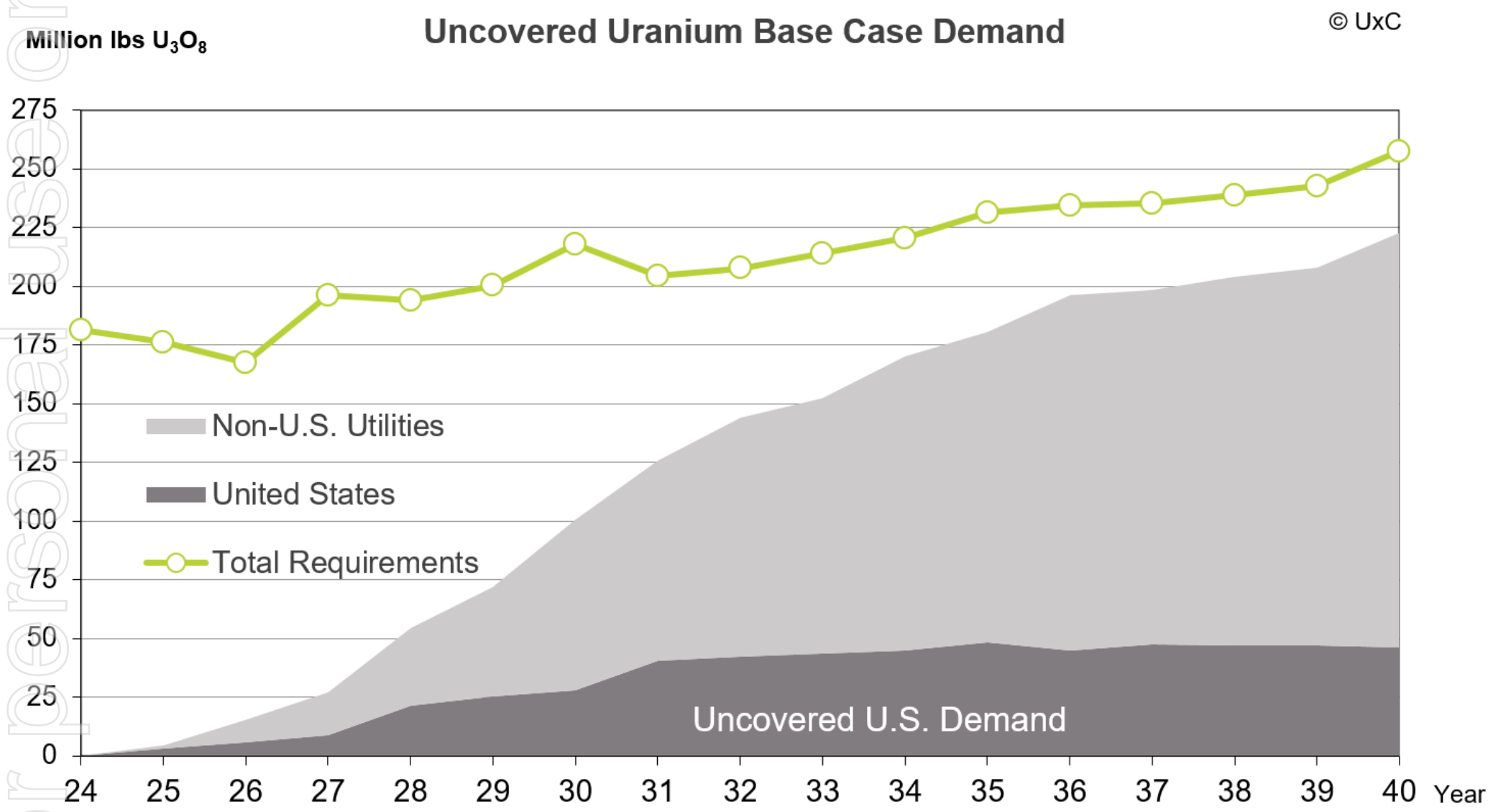
Million SWU



Source: US EIA Report – 2023 *Uranium Marketing Annual Report*, June 2024



# Emerging Nuclear Fuel Supply Opportunities for GLE



Source: UxC Uranium Market Outlook, Q3, 2024

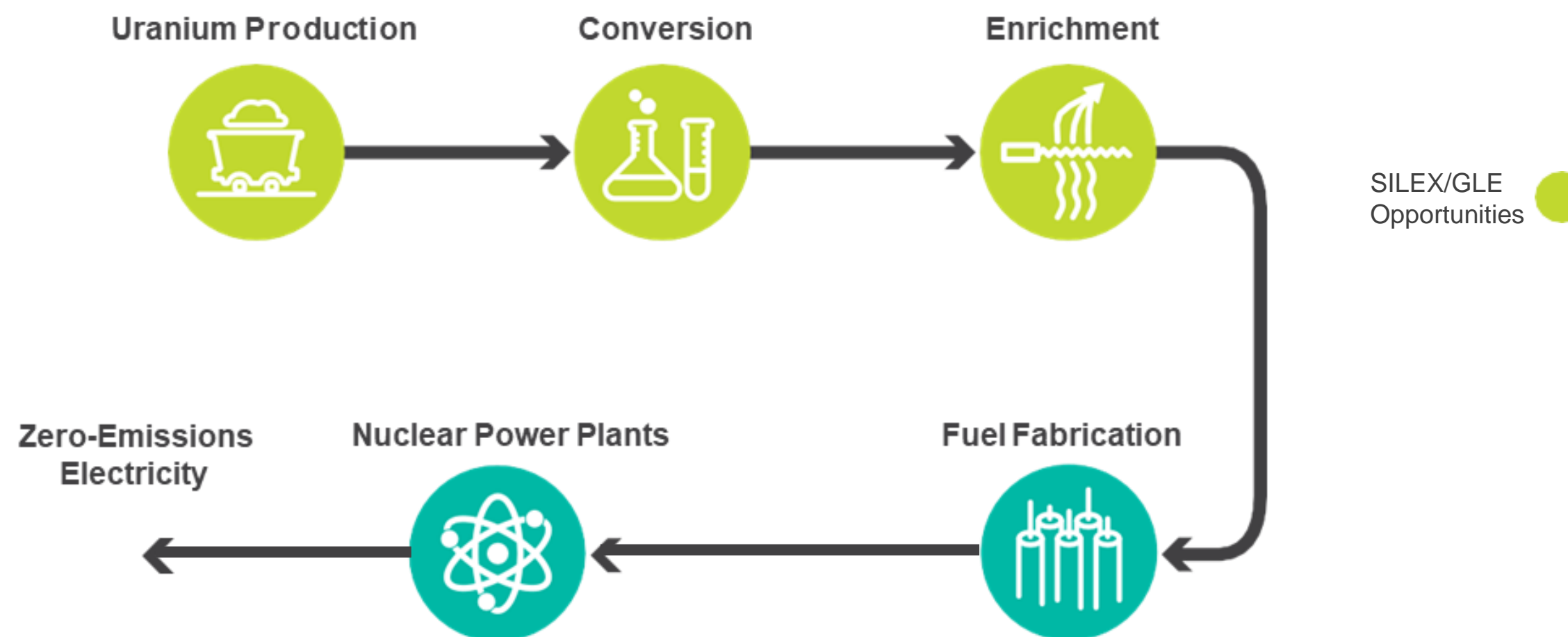
Source: UxC Enrichment Market Outlook, Q3, 2024

- Forecast uncovered **US Uranium demand** from 2030 is in excess of ~25 million lbs
- Forecast uncovered **US SWU demand** in 2028 is ~3 million SWU rising to ~13 million SWU by 2035

**Significant nuclear fuel opportunities for GLE extend from 2030**

# Nuclear Fuel Supply Chain and Evolving Issues

## The Nuclear Fuel Supply Chain



### Issues facing the Global Nuclear Fuel Supply Chain:

- Western supply chain recent history – curtailments and under-investment in resources and production capability
- Supply chain risks have been exposed by over-dependence on Russian-sourced nuclear fuel
- Conversion services – only 3 Western suppliers (Cameco, Orano, Converdyn) excluding Russia
- Enrichment services – only 2 Western suppliers (Urenco, Orano) excluding Russia
- HALEU fuel for advanced reactors, including SMRs – no current Western suppliers; developers were relying on Russian HALEU



# US and EU Nuclear Fuel Requirements Supplied by Russia

	Russian Share of Global Production Capacity <sup>1</sup>	EU Nuclear Fuel Supplied by Russia <sup>2</sup>	US Nuclear Fuel Supplied by Russia <sup>1,3</sup>
Uranium (U <sub>3</sub> O <sub>8</sub> )	~14%	~17%	~12%
Conversion	~22%	~22%	~18%
Enrichment (SWU)	~44%	~30%	~27%

- Major concerns regarding Western reliance on Russia for the supply of nuclear fuel
- Open market<sup>^</sup> currently accounts for ~65% of global enriched uranium fuel demand
- US is the largest market for nuclear fuel, with ~25% of worldwide generation of nuclear power

<sup>^</sup>Open market consists of North America, Europe, Northeast Asia, and various other parts of the world

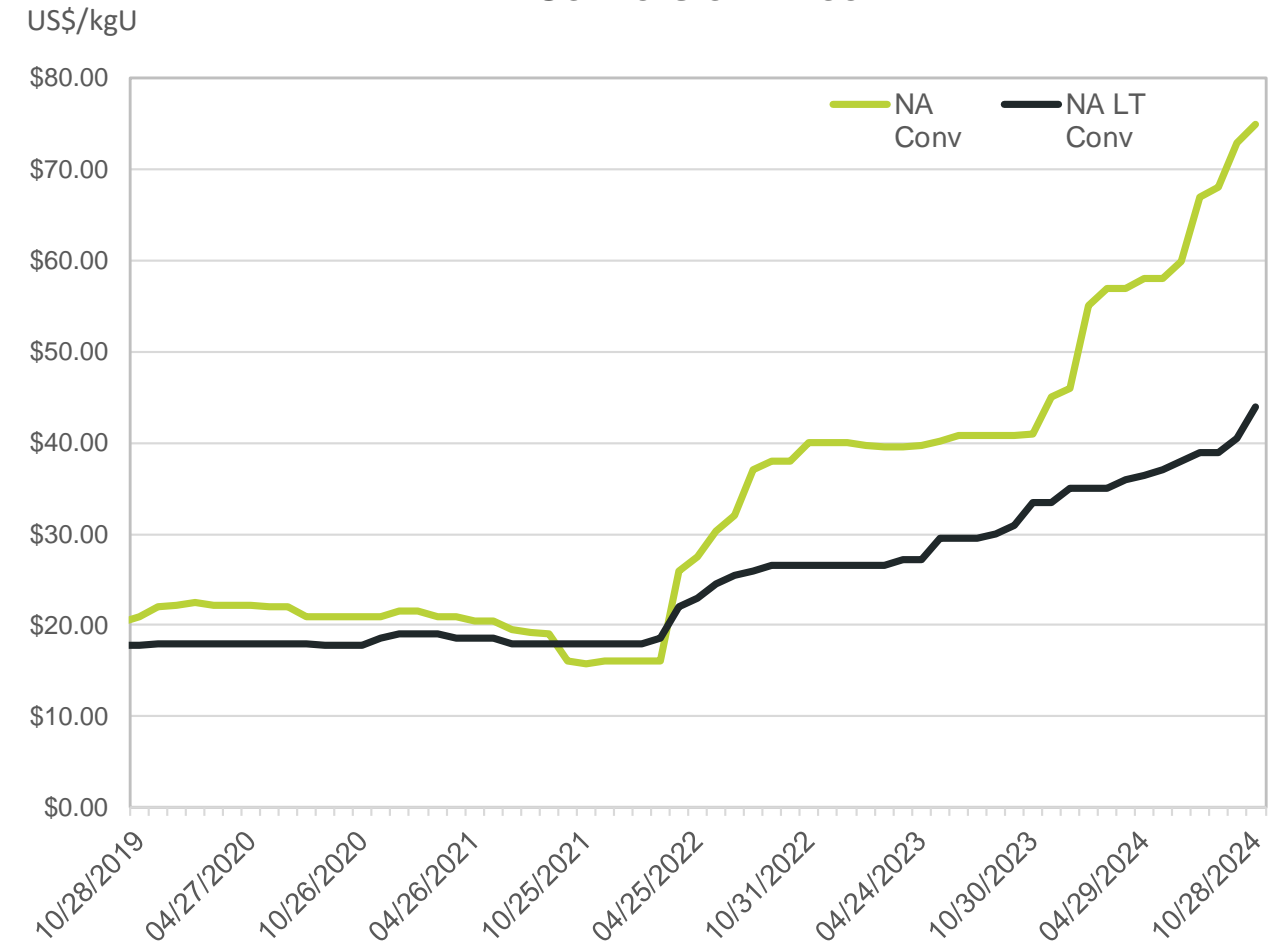
1. UxC, various sources 2024
2. Euratom Supply Agency Annual Report 2022, published January 2024
3. EIA, 2023 Uranium Marketing Annual Report, June 2024

# Favourable Nuclear Fuel Market Price Trends

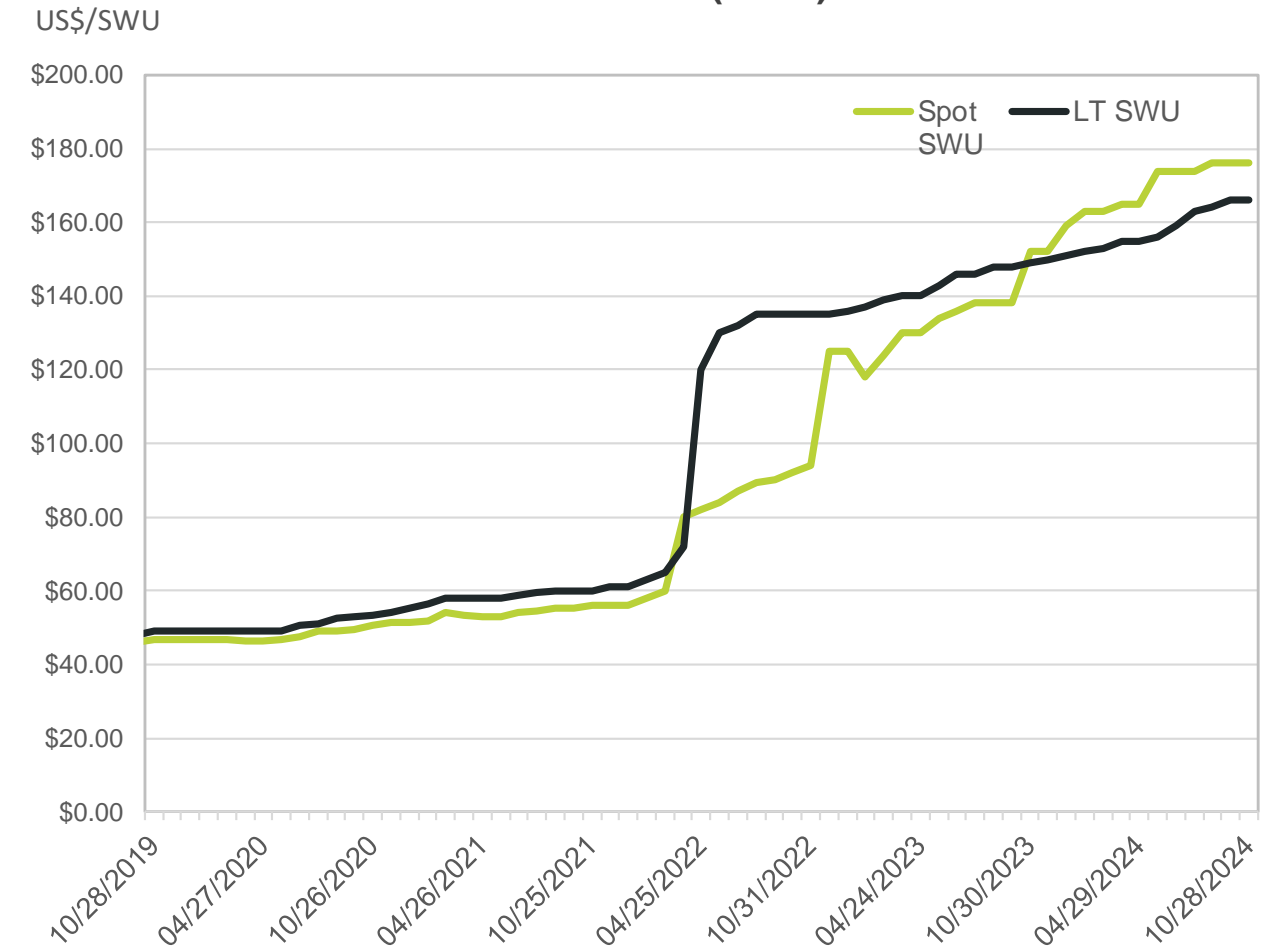
Uranium Price



Conversion Price



Enrichment (SWU) Price



Source: UxC

- Global nuclear fuel markets reflect a bifurcating industry in response to Russia's invasion of Ukraine and nuclear fuel sanctions/prohibitions
- Uranium term prices reflect the significant increase in term contracting as a result of supply-demand concerns
- Conversion term prices have steadily increased since the Russian invasion of Ukraine in February 2022
- Enrichment (SWU) term prices have increased ~150% since February 2022, reflecting a potential global enrichment shortfall without Russian supply

# US Support for GLE's Commercialisation Activities

## US Government policies support nuclear as a critical energy source:

### **Inflation Reduction Act (IRA)**

passed in August 2022 – US\$700m in support for the DOE's HALEU Availability Program, including US\$100m funding support for novel nuclear fuel technologies – a key focus for GLE

### **Nuclear Fuel Security Act (NFSA)**

passed in December 2023 – additional US\$2.7bn for new nuclear fuel capacity – DOE released the LEU RFP in July 2024. GLE submitted a bid for the LEU RFP on 9 September 2024

### **Prohibiting Russian Uranium Imports Act**

passed in May 2024 – took effect mid-August (with waivers available to eligible entities to 2027) – no imports permitted from 2028 until at least 2040

### **Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy (ADVANCE) Act**

passed July 2024 - allows for greater support for the US NRC in anticipation of the surge in nuclear regulation demand

## GLE supported by key US nuclear utilities:

GLE signed Letters of Intent (LOIs) with 4 US utilities: Constellation Energy Generation, Duke Energy, Dominion Energy and 4<sup>th</sup> (name withheld) to support GLE's commercialisation activities



# Status of Technology Pilot Demonstration Project<sup>1</sup>

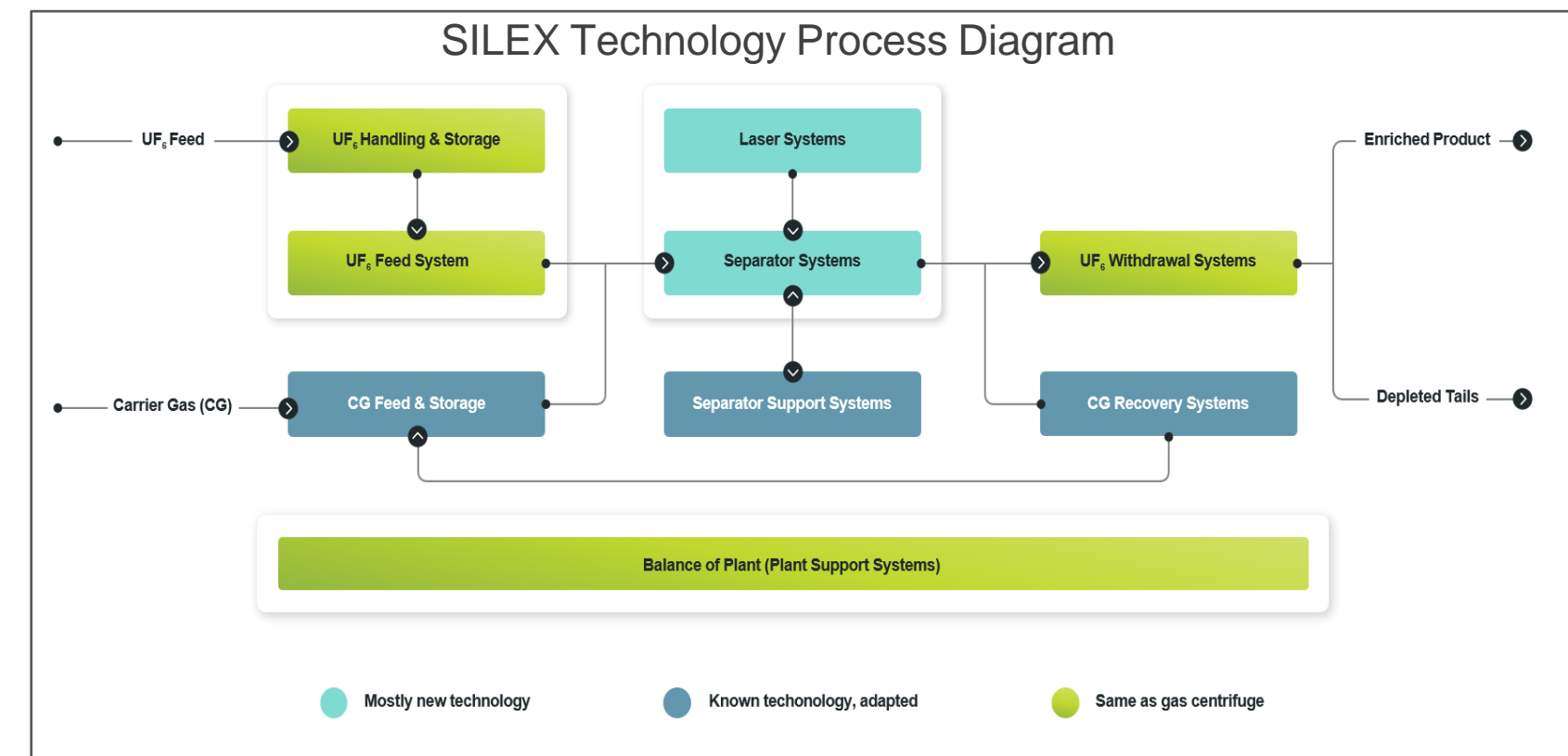
## Significant progress towards pivotal TRL-6 technology demonstration continues

### **Integrated TRL-6 Pilot Demonstration Facility:**

- Integrated large-scale Pilot Demonstration Facility built and commissioned, including two full pilot-scale laser system modules designed and built by Silex at its Lucas Heights facility in Sydney
- Nuclear Regulatory Commission (NRC) completed inspection of GLE's Test Loop facility and operations, with UF<sub>6</sub> process feed gas loaded in August 2024

### **TRL-6 Pilot Demonstration Project:**

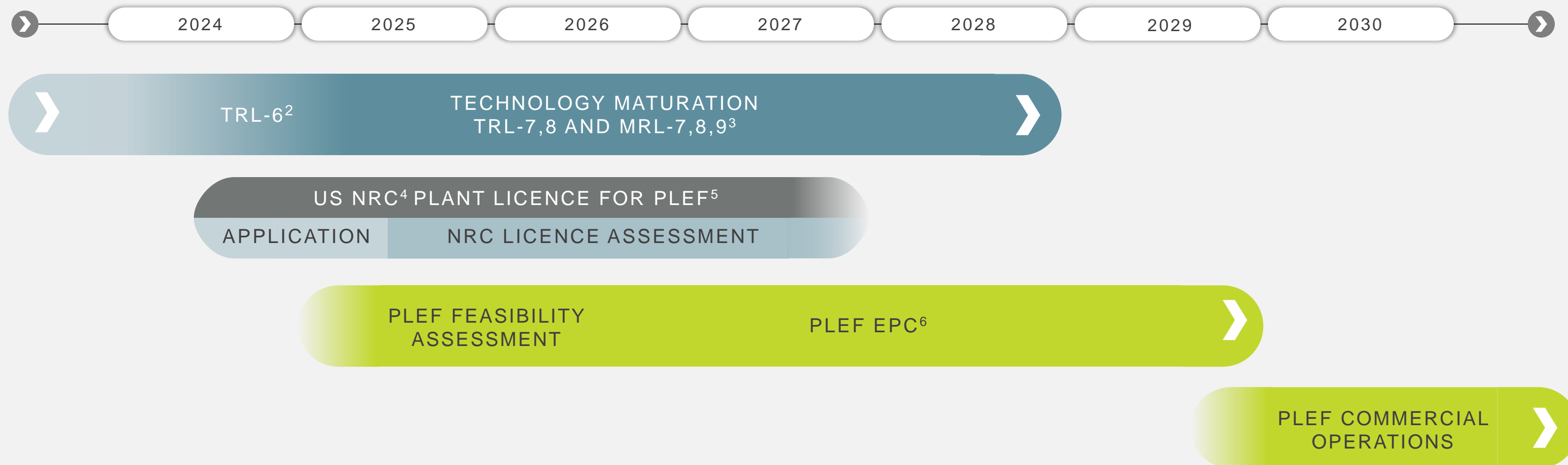
- Pilot demonstration facility is operational with preliminary testing underway
- TRL-6 technology demonstration includes completion of an independent assessment and submission of a report to GLE's owners, Silex and Cameco
- Commencement of independent assessment currently scheduled for early CY 2025<sup>2</sup>
- TRL-6 Pilot Demonstration Project still anticipated to be completed well ahead of the original schedule of end of CY2025



1. All scheduling is tentative and depends on progress and delays – subject to change at any time

2. Timing for testing duration and completion of assessment will be determined in consultation with the independent engineering consultant

# GLE's Tentative Timeline for Commercialisation of SILEX technology<sup>1</sup>



1. Tentative timeline subject to technology demonstration outcomes, market conditions, licensing, industry and government support, PLEF feasibility assessment and other factors and may vary according to changing circumstances and differing scenarios
2. Technology Readiness Level 6 (TRL-6) as defined by *DOE Technology Readiness Assessment Guide* (G413.3-4A)
3. MRL: Manufacturing Readiness Level (DOD Guide at [dodmrl.com/MRL\\_Definitions\\_2010.pdf](http://dodmrl.com/MRL_Definitions_2010.pdf))
4. NRC: Nuclear Regulatory Commission
5. PLEF: Paducah Laser Enrichment Facility
6. EPC: Engineering, Procurement and Construction of commercial plant

# GLE's PLEF Commercial Plant Opportunity

## The PLEF Triple Opportunity

Paducah Laser Enrichment Facility (PLEF) – an opportunity to deploy the SILEX technology in the US:

- **PLEF UF<sub>6</sub> Production:** Production of up to 5 million pounds (equivalent) natural grade uranium (as UF<sub>6</sub>) annually for up to 30 years – underpinned by GLE's 2016 agreement with US DOE to acquire over 200,000 tonnes of legacy tails inventories
- **PLEF LEU Production:** Add-on opportunity to enrich PLEF output to produce LEU/LEU+ for nuclear reactor fuel
- **PLEF HALEU Production:** Additional opportunity to enrich HALEU for next generation advanced reactors, including SMRs

### PLEF UF<sub>6</sub>

#### Natural Grade Uranium (as UF<sub>6</sub>)

via enrichment of DOE inventories of depleted tails to produce natural UF<sub>6</sub> with U<sup>235</sup> assay ~0.7%

### PLEF LEU

#### Low Enriched Uranium (LEU)

for conventional nuclear power reactors  
LEU includes U<sup>235</sup> assays of 3% to 5%  
LEU+ includes U<sup>235</sup> assays of 5% to 10%

### PLEF HALEU

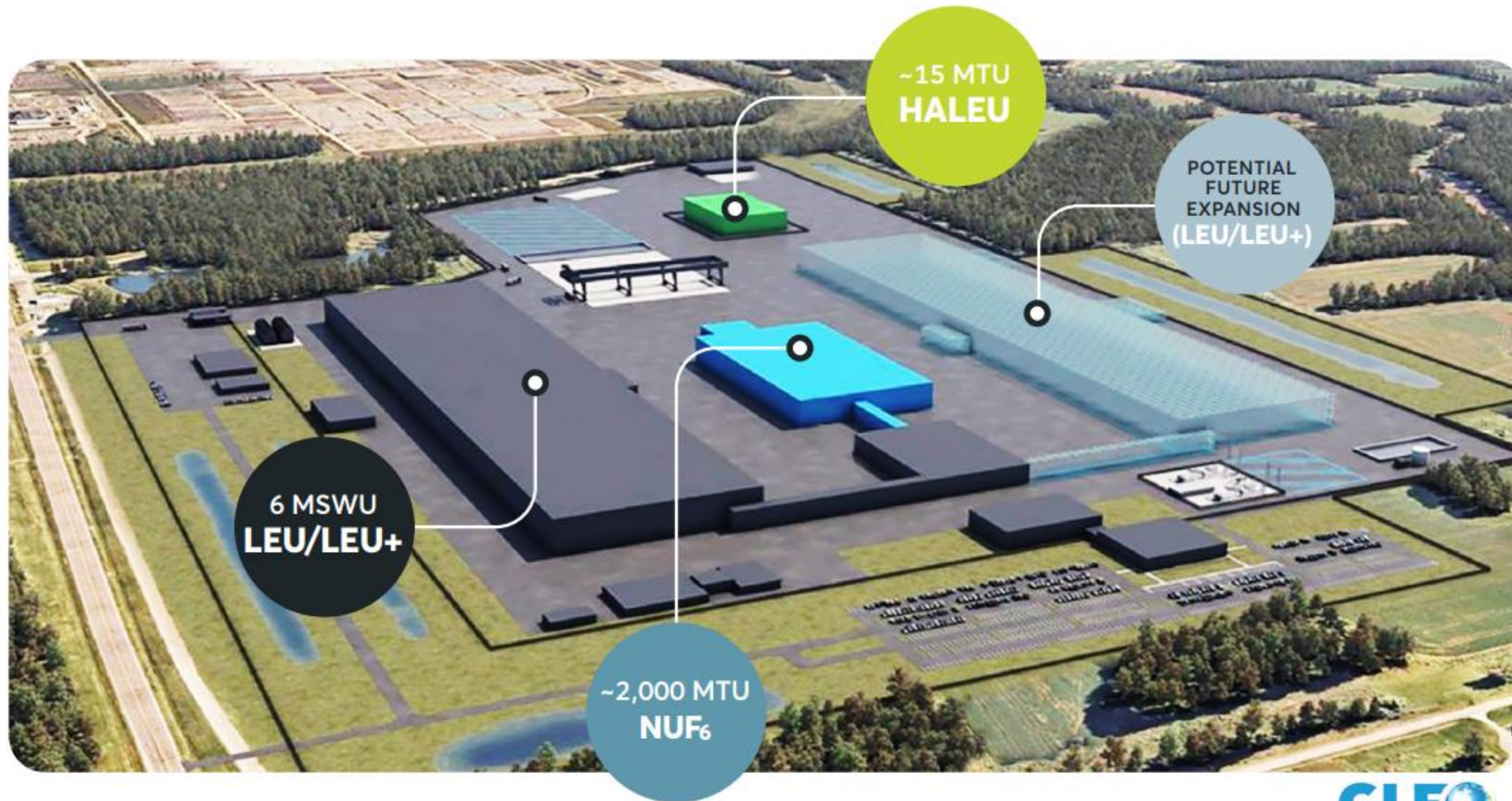
#### High Assay LEU (HALEU)

fuel for next generation advanced reactors, including SMRs  
includes U<sup>235</sup> assays up to 20%



# GLE's Potential PLEF Commercial Plant Opportunities\*

For personal use only

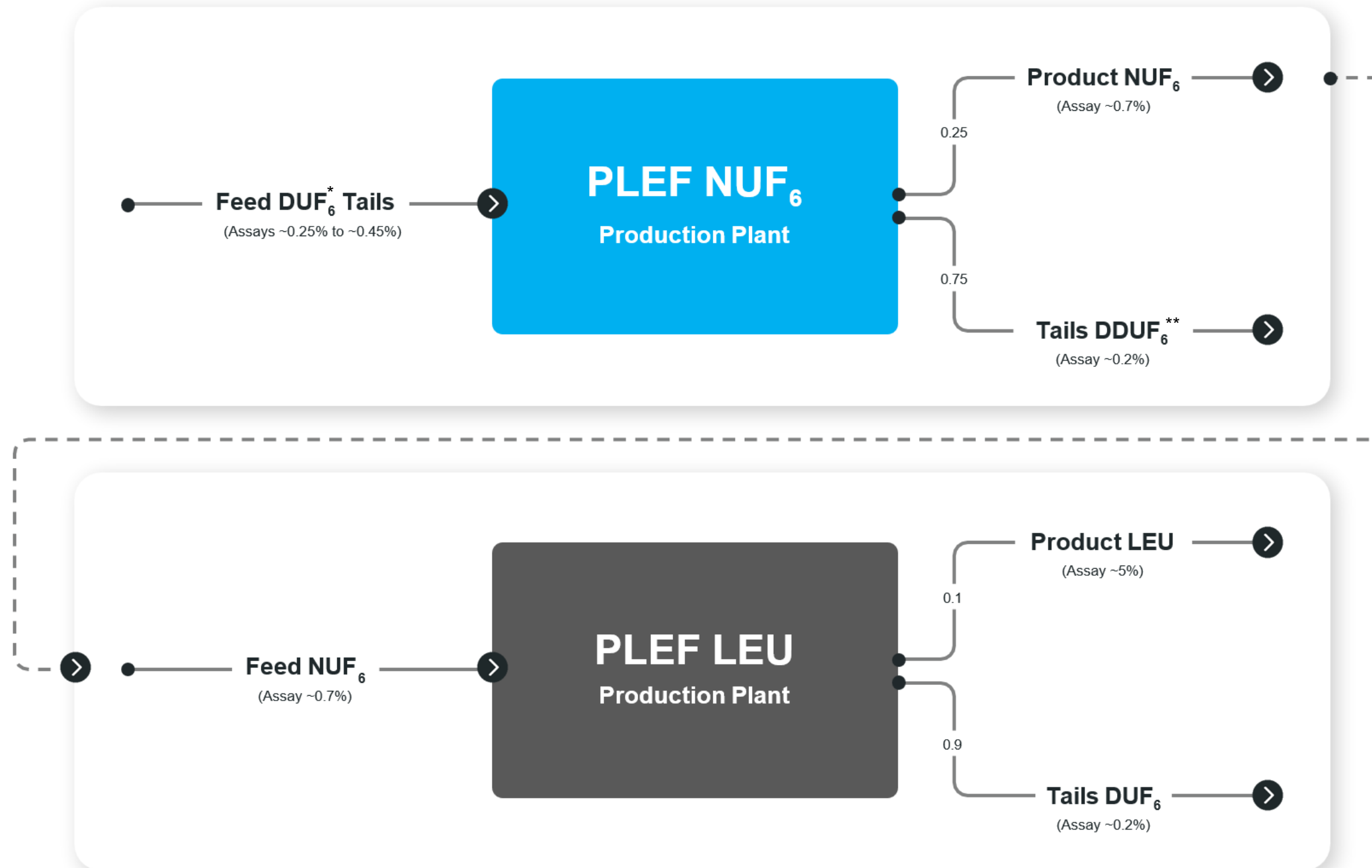


Source: GLE - PLEF Potential Commercial Plant (conceptual only)



# GLE PLEF Process streams – NUF<sub>6</sub> and LEU Production

For personal use only



Potential to further enrich LEU to LEU+ and HALEU

# PLEF UF<sub>6</sub> Production Opportunity

(Natural UF<sub>6</sub> production from tails)

**Aim to commence initial commercial operations ahead of original 2030 target\***

**Akin to a 'Tier 1' Uranium Resource\*\***

Based on low cost and longevity of production  
(Silex estimate of all-in cost currently < US\$30/lb)

**Equivalent U<sub>3</sub>O<sub>8</sub> Production**

Up to 5 million lbs p.a. for up to 30 years  
(~150m lb contained resource)

**UF<sub>6</sub> production allows GLE to capture Conversion value in revenue**

Feed and Product is UF<sub>6</sub>  
(current term conversion value ~US\$40/kg)

**Potential to Enrich Further**

From natural grade (0.7%):  
- to LEU (up to 5%)  
- to LEU+ (up to 10%)  
- to HALEU (up to 20%)

\* All target dates are subject to technology demonstration outcomes, market conditions, licensing, industry and government support, PLEF feasibility assessment and other factors and may vary according to differing scenarios

\*\* All production estimates are based on preliminary modelling by Silex of project economics and longevity. Actual production output will depend on prevailing uranium market conditions and other factors



# GLE's Commercialisation Activities for the SILEX technology<sup>1</sup>

## Paducah, KY site characterisation activities:



- Progressing NRC license application for the PLEF
- GLE has commenced site characterisation work at the Paducah, KY site, for the NRC license

1. GLE's progress to commercialisation is dependent on several factors, including, but not limited to technology demonstration outcomes, market conditions, licensing, industry and government support, PLEF feasibility assessment and other factors and may vary according to differing scenarios



# GLE's Commercialisation Activities for the SILEX technology<sup>1</sup>

Completion of GLE corporate and classified manufacturing facility in Wilmington, NC:



GLE HQ and Classified Manufacturing Facility – Wilmington, NC

1. GLE's progress to commercialisation is dependent on several factors, including, but not limited to technology demonstration outcomes, market conditions, licensing, industry and government support, PLEF feasibility assessment and other factors and may vary according to differing scenarios



# GLE Value Proposition for Silex\*

## 1) GLE Equity – Minimum 25%:

- Silex currently holds 51% – Cameco has a call Option to acquire an additional 26% at fair market value
- Option window opened 1 February 2023 – closes 30 months after successful TRL-6 demonstration
- Silex has a significant equity stake in GLE as a potential nuclear fuel supplier in either case
- Attractive business case with ‘*Triple Opportunity*’ and high entry barriers

## 2) SILEX Technology License and Perpetual Royalty:

- Technology classified by Australian and US Governments with no patent disclosures permitted
- Technology kept as Trade Secret under strictest security mandates → no sunset on IP
- Perpetual SILEX royalty of 7% to 12% on GLE’s enrichment SWU revenues (could potentially reach, for example, ~US\$90m p.a. based on ~8 MSWU PLEF operations at 7% royalty rate and current SWU price)

\* GLE’s progress to commercialisation is dependent on several factors, including, but not limited to technology demonstration outcomes, market conditions, licensing, industry and government support, PLEF feasibility assessment and other factors and may vary according to differing scenarios





# Quantum Silicon for Quantum Computing – transition to commercial production



# Quantum Computing, Artificial Intelligence and Quantum Silicon

## Global race to develop world's first Quantum Computers:

- Quantum Computing (QC) will be many times more powerful than today's conventional computers and will support the emerging world of Artificial Intelligence (AI)
- QC and AI will create transformational technological advances in complex global industries, including generative and creative AI applications, defence, aerospace, finance, medicine, and logistics
- Governments and corporates around the world (including Intel, Google, IBM, Microsoft, and Amazon) are vying for leadership in this emerging strategic industry, which will underpin future national security and cybersecurity platforms
- Australia has been at the forefront of global efforts to develop and commercialise QC and this sector, and its associated technology ecosystem is a key Australian Government policy priority
- Development of Quantum Technologies is also a key plank (under 'Pillar 2') of the AUKUS Trilateral Security Partnership between Australia, the United Kingdom, and the US

## Silicon Quantum Computing is a leading contender:

- Silicon-based QC is well placed to leverage the existing global silicon semiconductor nano-fabrication industry, uniquely capitalising on 60 years of development and production capability
- Silicon QC is totally reliant on the use of highly enriched Si-28, currently high-cost and in limited supply (the main source of supply from Russia is now largely disrupted)
- A reliable supply chain for enriched silicon needs to be established to support timely commercialisation of quantum computing in the Western world



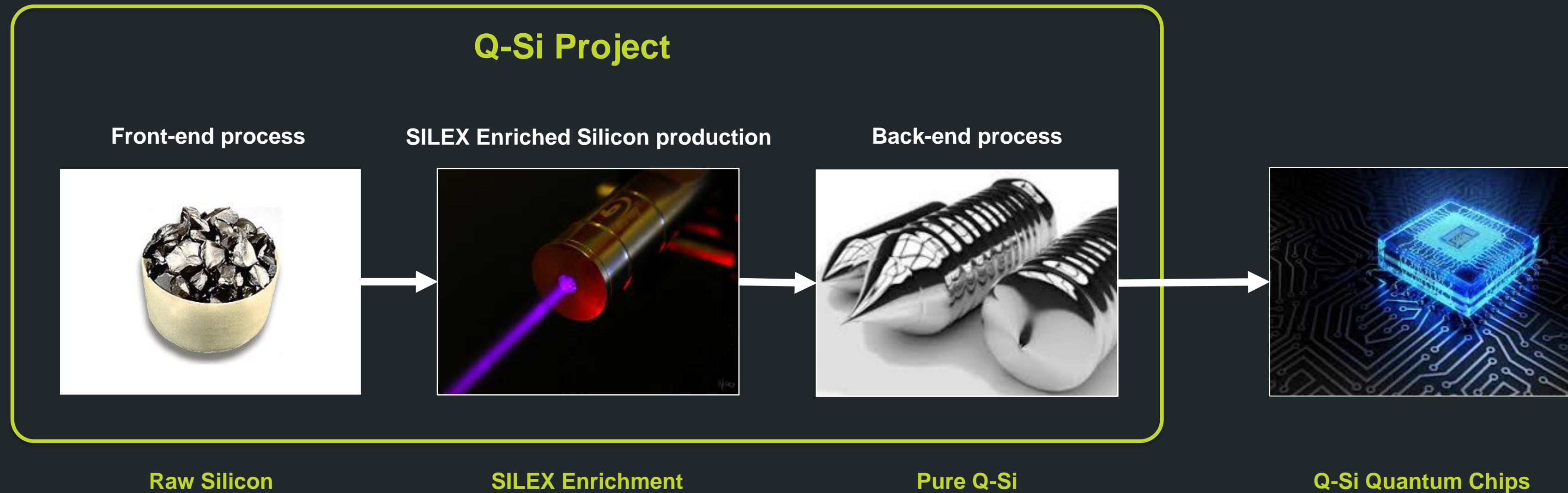
# Silex Q-Si Production Project

- Quantum Silicon (Q-Si) Production Project announced August 2023 being undertaken with partners, Silicon Quantum Computing Pty Ltd (SQC) and UNSW Sydney (UNSW) to establish the first commercial Q-Si Production Plant module
- Project leverages the successful pilot demonstration of Zero-Spin Silicon production – up to ~99.998% enriched Si-28
- 3.5-year Project (total ~\$16m) awarded \$5.1m funding from the *Defence Trailblazer Program* (partnership between The University of Adelaide and UNSW) supported by the Australian Government, and \$4.35m from initial offtake partner, SQC
- First production module anticipated to produce up to 20kg of enriched silicon annually (in the form of halo-silane), which will be converted to multiple product forms of Q-Si for potential customers in the global quantum computing industry, including:
  1. **Quantum Silicon gas** – for chemical vapour deposition (CVD) based processes used for quantum chip fabrication
  2. **Quantum Silicon solid** – for molecular beam epitaxy (MBE) processes used for quantum chip fabrication
- A new emerging opportunity is also being explored – using enriched Si-28 in advanced conventional silicon chips (for AI, Data Centres and Cloud Computing) – potential to overcome power density and thermal overload issues – with Si-28 nano-wires ('heat pipes') being developed by chip designers and nano-fabricators



# Quantum Silicon (Q-Si) for Quantum Computing

For personal use only





# Medical Isotope Separation Technology (MIST) Project

For personal use only



# MIST Project

## MIST Project aiming to develop a process to enrich Ytterbium-176 (Yb-176) for production of Lutetium-177 (Lu-177)

- Lu-177 - based radiotherapy represents a breakthrough development for the diagnosis and treatment of some aggressive metastatic cancers (initially approved for prostate cancer therapy in the US, UK and EU)
- Known as targeted beta therapy, the Lu-177 radiopharmaceutical seeks out and selectively destroys cancer cells throughout the human body

### MIST Project:

- Purpose of the 3-year MIST project (commenced in February 2023) is to develop SILEX technology to enrich Yb-176 to high purity – helping to replace the now disrupted supply chain (previously Yb-176 sourced from Russia)
- In December 2023, Stage 1 of the Project – Proof-of-Concept – was successfully completed
- Stage 2 – Technology Validation – is ongoing and aims to validate the enrichment process at prototype scale
- Potential to apply to other medical isotopes currently undergoing clinical trials around the world
- Engagement continues with potential customers and development partners in global radiopharmaceutical industry
- MIST project may provide further diversification of the SILEX technology across multiple markets, subject to technology development program outcomes, market conditions, and other factors

MIST project for Yb-176 production





# Summary

- GLE's path to market is underpinned by the PLEF UF<sub>6</sub> Project for cost effective production of natural uranium (in the form of UF<sub>6</sub>) and significant value of Conversion contained in DOE's legacy depleted UF<sub>6</sub> tails inventories
- 'Triple Opportunity' includes potential to add SILEX production capacity to produce LEU, LEU+, and HALEU nuclear fuels at the PLEF Commercial Plant, helping to alleviate dependence on Russian-sourced nuclear fuel
- Acceleration of the TRL-6 pilot demonstration project continuing with Test Loop facility operational and preliminary testing underway
- GLE's CY2024 plan and budget provides for progress in other key commercialisation efforts, including licensing and early stage activities related to the planned PLEF
- Silex represents unique leverage into the nuclear fuel supply chain, with significant potential value through equity ownership in GLE (currently 51%) in addition to potential perpetual royalty flows under the SILEX uranium enrichment technology license
- Q-Si Project launched in August 2023 to construct the first Q-Si commercial production module and establish a sovereign capability and secure supply chain in support of the emerging global silicon quantum computing industry
- Silex is assessing other applications of the SILEX technology in the field of medical radioisotopes, initially for enrichment of Yb-176, used for production of Lu-177 – a breakthrough in nuclear medicine cancer treatment

***As at 30 June 2024, the Company had cash and term deposit holdings of ~\$113.1m and no corporate debt***

For personal use only



Silex

**Thank you**