Full Year Operational Update

6 August 2025

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Recent Highlights and Progress

The SILEX Laser Uranium Enrichment Technology:

- The principal focus of Silex is on the commercialisation of our unique, third-generation SILEX laser-based uranium enrichment technology for nuclear fuel production, in conjunction with exclusive licensee, US-based Global Laser Enrichment LLC (GLE);
- GLE commenced large-scale enrichment testing for the SILEX technology TRL-6[1] demonstration program in May 2025 at its Wilmington, NC, Test Loop facility. This large-scale pilot demonstration project represents a key milestone in advancing the SILEX technology towards commercial readiness;
- The status of testing is summarised as follows: The Test Loop is operating routinely as an integrated enrichment system, with multiple test runs being performed most weeks. The GLE team is seeing positive enrichment results and throughputs, but continues to work through a structured test and optimisation plan to improve performance as part of the normal course of TRL-6 activities;
- All results of the pilot demonstration project will be subject to assessment by an independent engineering contractor, which has been engaged by GLE on behalf of its joint venture owners, Silex and Cameco;
- Testing is expected to continue over the next two to three months and GLE expects to receive the completed validation assessment report by the end of CY2025;
- GLE acquired a ~700-acre parcel of land in Paducah, Western Kentucky (KY), for the planned PLEF in November 2024. The site is strategically located adjacent to the US Department of Energy's (DOE) former first-generation Paducah Gaseous Diffusion Plant (PGDP), and provides access to the cylinder yards where over 200,000 metric tonnes of tails inventories are stored – to be used as feed for the planned Paducah Laser Enrichment Facility (PLEF);
- In December 2024, GLE was selected by the DOE as one of six awardees under the DOE's LEU[2] Enrichment Acquisition Request for Proposals (LEU RFP) program. The program, which is designed to incentivise the establishment of new LEU enrichment capacity in the US by the end of 2031, provides a maximum aggregate value for all awardees totalling US$3.4bn. GLE was awarded an initial US$0.5m under Task Order 1 of the program in April 2025;
- In August 2025, the DOE issued the solicitation for Task Order 2 (TO2) under the LEU RFP, inviting GLE to bid for up to US$900m in competitive funding, with bids due on 25 August 2025. Any funding awarded to GLE under TO2 has the potential to offset the significant funding contributions that GLE's owners, Silex and Cameco, would need to provide;
- In addition to the LEU RFP, in March 2025, GLE submitted its response to the High-Assay LEU (HALEU) Nuclear Fuel Supply Chain Innovative Technology Notice of Funding Opportunity (NOFO), under which GLE could attract up to US$24m of funding;

[1] Technology Readiness Level 6 (TRL-6), as defined by DOE Technology Readiness Assessment Guide (G 413.3-4A)

[2] Low Enriched Uranium (LEU)

- GLE submitted its Safety Analysis Report (SAR) to the US Nuclear Regulatory Commission (NRC) in July 2025. This followed GLE's December 2024 submission of its Environmental Report, and completed GLE's full licence application for NRC review;
- Discussions held on a confidential basis with Cameco regarding the potential acquisition by Cameco, and sale by Silex, of 26% equity in GLE per the previously disclosed Cameco call option. Noting that, in February 2025, Cameco stated in its consolidated financial and operating results for the year ended 31 December 2024 that "*we have no plans to exercise our option to increase our ownership interest in GLE from 49% to 75% at this time*", the outcome of any discussions on the call option or any alternative transaction framework is currently unknown, and there is no certainty that this will result in a transaction for the 26% equity;
- Initial discussions have been held on the possibility of Cameco taking an exclusive marketing role for GLE through potential offtake arrangements. These discussions are also being held on a confidential basis and, as at the date of this update, the outcome of any discussions remains unknown.

Other Highlights:

- Construction of the first full-scale Quantum Silicon (Q-Si) Production Plant module progressed during the year at the Company's Lucas Heights facility;
- The Company held cash, term deposits, and dual currency investments at 30 June 2025 of ~$80.6m with no corporate debt.

Our Strategy

We are committed to the commercialisation of our innovative SILEX laser enrichment technology across multiple global markets, with a primary focus on contributing to the reliable and sustainable supply of nuclear fuel for the global nuclear power industry, a vital enabler of the world's energy security and clean energy needs.

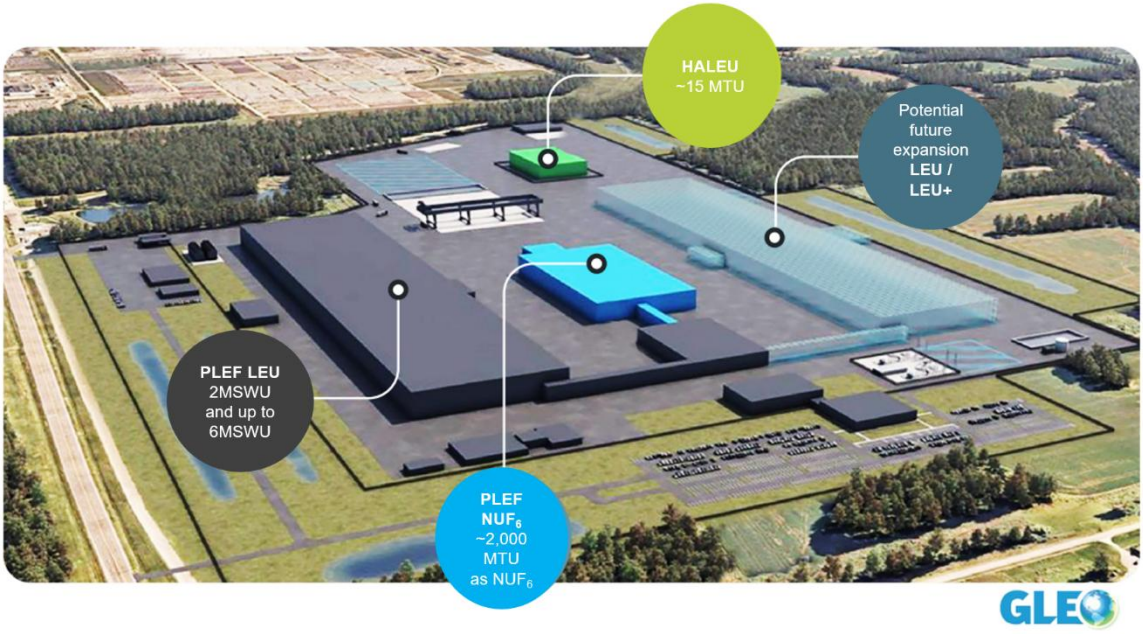
The execution of this strategy focuses on the pursuit of the *'Triple Opportunity'* in the global nuclear fuel supply chain for the SILEX uranium enrichment technology, through exclusive uranium enrichment technology licensee, GLE.

The 'Triple Opportunity' for GLE and SILEX Technology

GLE's path to market is focused on its ability to address the *'Triple Opportunity'* for nuclear fuel production, which has emerged as a result of international developments that are driving a transformation of the global nuclear fuel supply chain:

- the uptake of nuclear power globally – in response to heightened concerns about climate change and the need to establish emissions-free electrical energy systems;
- rapidly increasing global demand for electricity, driven by large investments in Artificial Intelligence (AI), cloud computing, and data centres – as evidenced by partnerships between hyperscalers (Amazon, Google, Microsoft, etc.) and nuclear power utilities;
- the impact of geopolitical tensions on global energy security;
- in the US, various pieces of nuclear industry-enabling legislation and executive orders.

PLEF Commercial Plant Opportunities (conceptual)



The *'Triple Opportunity'* could involve production of three different grades of nuclear fuel in the US by GLE:

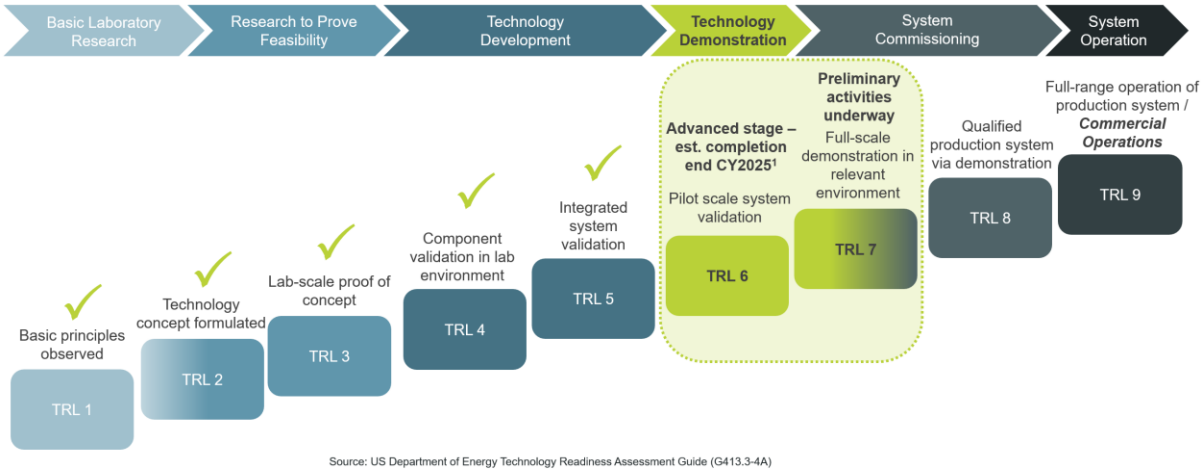
1. **PLEF UF_6 Production:** production of natural grade uranium hexafluoride ($UF_{6)}$ (with U-235 assays of 0.7%) via processing of depleted UF_6 tails (U-235 assays of 0.25% to 0.5%) with the SILEX technology, which, being already converted, would also help alleviate UF_6 conversion supply pressures;
2. **PLEF LEU Production:** production of LEU (U-235 assays up to 5%) and LEU+ (assays from 5% to 10%) achieved with additional SILEX enrichment capacity – to supply fuel for existing and future large-scale conventional and advanced reactors;
3. **PLEF HALEU Production:** production of HALEU (U-235 assays up to ~20%) via enrichment with the SILEX technology – to supply fuel for next-generation advanced reactors, including small modular reactors (SMRs).

GLE's Commercialisation Program

i. TRL-6 Pilot Demonstration Program Update:

The TRL-6 pilot demonstration test program is advancing and will produce hundreds of kilograms of enriched uranium over the full demonstration period. GLE is the only company in the world to be operating large-scale, third-generation laser-based enrichment technology under plant-like conditions at TRL-6. GLE aims to complete the TRL-6 program by the end of CY2025, subject to assessment by an independent engineering contractor, which has been engaged by GLE on behalf of Silex and Cameco.

Technology Readiness Level (TRL) Framework



Source: US Department of Energy Technology Readiness Assessment Guide (G413.3-4A)

1. All scheduling is tentative and remains dependent on progress and delays, and is subject to change at any time

The TRL-6 demonstration being conducted in GLE's Test Loop facility in Wilmington, NC, is an important milestone that aims to validate large-scale enrichment performance under operationally relevant conditions.

Activities are currently focused on optimising enrichment performance, tuning process parameters and system operations, and accumulating data to inform design refinements and de-risk the path to TRL-7 and commercial deployment. Tests to-date have yielded positive enrichment results and expected throughput levels, but work continues to optimise enrichment performance and repeatability to meet GLE's stringent TRL-6 validation standards. This work is part of the normal course of TRL-6 activities. Testing is expected to continue over the next two to three months, and absent unforeseen delays, GLE expects to receive the completed validation assessment report by the end of CY2025.

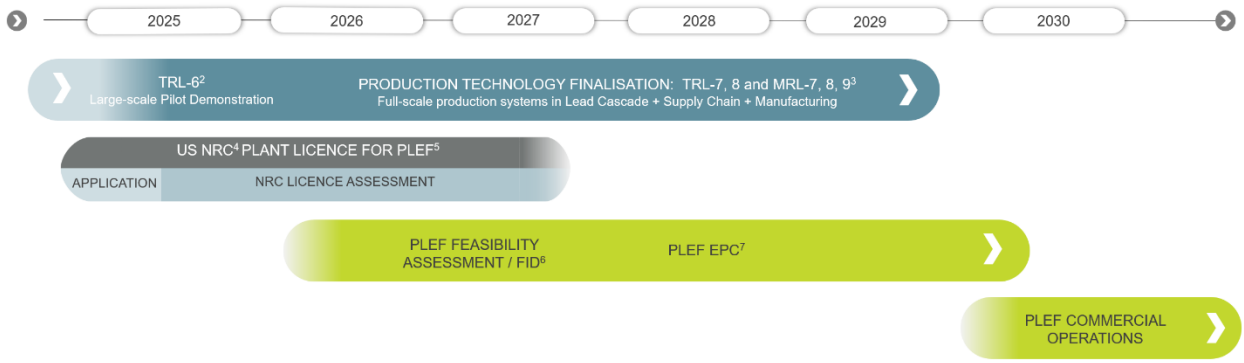
ii. GLE's Commercialisation Activities and Timeline:

During the year, GLE made considerable progress in key commercialisation activities in parallel with the TRL-6 pilot demonstration program:

- Advancing technology maturation (TRL-7) and manufacturing activities (MRL-7), including the establishment and operation of significant in-house manufacturing capability at GLE's headquarters in Wilmington, NC, to support the commercialisation program;
- Installation of a third full-scale laser system module, designed and built at Silex's Lucas Heights facility, at GLE's headquarters. This advanced laser system will be used for TRL-7 and MRL-7 activities, which focus on full-scale operational reliability and manufacturability;
- Development of supply chains, with outreach to vendors, identification of long-lead procurement items, planning for onshoring / reshoring of component and system manufacture, and build-out of GLE's in-house classified manufacturing capability at its Wilmington headquarters;
- Paducah, KY, site acquisition, with GLE acquiring a ~700-acre parcel of land for the planned PLEF – situated adjacent the DOE's former first-generation PGDP, at which the legacy depleted uranium inventories (PLEF feedstock) are located, minimising transportation between the PGDP and the acquired site for GLE's PLEF. GLE has exclusive access to over 200,000 metric tonnes of these inventories, which will be used to produce natural grade UF_6 with the SILEX technology at an equivalent annual output rate of up to 5 million pounds of uranium for three decades;
- GLE submitted its Safety Analysis Report to the US NRC in July 2025, marking a significant milestone for the planned PLEF and completing GLE's full licence application for NRC review. GLE is the first in line with the NRC to seek a licence for a new uranium enrichment facility in the US. GLE is hopeful of an expeditious review by the NRC;
- Extensive engagement with the Wilmington and Paducah communities, including economic and business development, planning for expansion of local education and training programs to support future GLE workforce development, and building relationships with the Wilmington Chamber of Commerce and the Paducah Area Chamber of Commerce, among other local community groups;

Subject to various factors, including the successful completion of TRL-6 pilot demonstration program, industry and government support, a feasibility study for the PLEF, and supportive market conditions, GLE will continue to advance these commercialisation activities in order to support the potential commencement of commercial operations at the PLEF by 2030.

GLE's Tentative Commercialisation Timeline[1]



1. Indicative target timeline subject to schedule risks, such as technology demonstration outcomes, market conditions, licensing, industry and government support, PLEF feasibility assessment, unforeseen delays 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)
4. NRC: Nuclear Regulatory Commission
5. PLEF: Paducah Laser Enrichment Facility
6. FID: Final Investment Decision
7. EPC: Engineering, Procurement, and Construction of commercial plant

iii. Government and Industry Support:

GLE actively engages with government and industry to attract strategic support and develop opportunities to help expedite and de-risk the commercialisation program for the SILEX uranium enrichment technology.

US Government Initiatives

The US Congress, with the support of successive administrations, has enacted pivotal bipartisan legislation to incentivise the new nuclear fuel production capacity in the US, as well as to reassert America's global nuclear industry leadership. The strong bipartisan support is continuing under the new Trump Administration.

In December 2024, GLE was selected by the DOE as one of six awardees under the DOE's LEU RFP program (authorised by the 2023 *Nuclear Fuel Security Act*), which aims to build domestic enrichment capacity, promote market and technology diversity, and provide a reliable supply of commercial nuclear fuel to support US energy security free from Russian influence. The award provides a maximum aggregate value for all awardees totalling US$3.4bn, including over US$2.7bn in funds already appropriated by Congress. GLE was awarded an initial US$0.5m-funded task order in April 2025.

On 1 August 2025, the DOE issued the solicitation for Task Order 2 (TO2) under the LEU RFP program, inviting GLE to bid for up to US$900m in competitive funding, noting that the DOE selected six awardees under the program. GLE's bid is due on 25 August 2025. Any funding awarded to GLE under TO2 has the potential to offset the significant funding contributions that GLE's owners, Silex and Cameco, would need to provide.

In addition to the LEU RFP, **in March 2025, GLE submitted its response to the HALEU Innovative Technology NOFO**, under which GLE may be eligible for up to US$24m in funding to support a Demonstration Project and Research and Development Project aimed at addressing innovative technology advancement across the front-end of the nuclear fuel cycle. This funding is made available under the DOE's HALEU Availability Program, authorised under the *Inflation Reduction Act* in August 2022.

Further to the legislative actions and funding initiatives, **in May 2025, President Trump signed a series of Executive Orders** titled, *Reinvigorating the Nuclear Industrial Base*, *Reforming Nuclear Reactor Testing at the Department of Energy*, *Ordering the Reform of the Nuclear Regulatory Commission*, and *Deploying Advanced Nuclear Reactor Technologies for National Security*, **with the goal of re-establishing the US as the global leader in nuclear energy and advanced nuclear technology by quadrupling US nuclear energy capacity from 100 GW to 400 GW by 2050**. Reinvigorating the Nuclear Industrial Base requires the development of a plan to expand US enrichment capacity – from which GLE may benefit.

Additionally, in July 2025, the DOE announced next steps in a new initiative to accelerate the development of AI infrastructure and advanced nuclear power generation technology through the establishment of large-scale AI and Data Centre sites on existing DOE reservations, including the PGDP, in support of President Trump's Executive Orders on *Accelerating Federal Permitting of Data Centre Infrastructure*, *Deploying Advanced Nuclear Reactor Technologies for National Security*, and *Unleashing American Energy*.

US Nuclear Utility Support

GLE continues to engage extensively and proactively with the US nuclear industry to explore opportunities to partner with stakeholders to obtain support for its commercialisation strategy and the planned PLEF.

During the World Nuclear Fuel Market Conference in June 2025, which was held in Sydney for the first time, Silex hosted a visit of the GLE leadership team and representatives of three of its four utility partners (who have signed Letters of Intent with GLE) – Constellation Energy, Duke Energy, and Dominion Energy. The tour provided insight into Silex's advancements in next-generation laser technology for uranium enrichment and in-house manufacturing capabilities.

Nuclear Power Outlook and Fuel Market Update

i. Nuclear Power Outlook:

Nuclear power is playing an increasingly important role in the supply of carbon-free, baseload electricity, and is anticipated to play a much greater role in the global energy mix as countries around the world adopt policies to meet more urgent Net-Zero emissions targets.

There is strong global growth in demand for nuclear power, as evidenced in the granting of life extensions for existing reactors, the planned return to service of idled reactors, including restarts announced in response to growing electricity demand from AI and data centres ('hyperscalers'), as well as construction of, and planning for, hundreds of new nuclear power units around the world. Furthering their support for nuclear energy, Amazon, Google, Meta, Dow, and other major energy users signed a pledge in March 2025 supporting the goal of at least tripling global nuclear capacity by 2050.

There is also significant international investment in the development of next-generation advanced reactor technologies, including SMRs. With substantial growth forecast in the demand for electricity, SMRs offer much greater flexibility and grid stability, particularly with today's electricity grids relying more heavily on intermittent renewable energy sources spread far and wide across national and international networks.

In the new age of electrification of the global economy in a carbon-constrained world, we are greatly encouraged by the outlook for clean nuclear energy and the multiple opportunities for the SILEX uranium enrichment technology and GLE.

ii. Fuel Market Update:

For many years, global nuclear fuel markets have been highly dependent on Russian supply. However, the shift by Western markets away from Russian-sourced material in the wake of its February 2022 invasion of Ukraine and other significant market developments has created urgency in establishing alternative supply sources for the medium to long term, leading to sustained increases in prices across the key components of the nuclear fuel cycle:

- the term price for uranium stabilising at ~US$80 per pound, which is nearing its highest level in over 20 years;
- the term enrichment price rising to ~US$170/SWU – also approaching historic highs; and
- term conversion prices also increasing to near record highs, including an increase by ~20% in the past year from ~US$40/kgU to ~US$50/kgU.

As outlined above, the markets for nuclear fuel continue to be buoyed by positive developments, creating opportunities for GLE to participate in supply constrained Western markets in the future.

Quantum Silicon (Q-Si) Production Project

Silex's Q-Si Production Project, which commenced in August 2023, is being undertaken in conjunction with initial offtake partner, SQC, and UNSW Sydney. The Project's objective is to establish the first production module for highly enriched silicon-28 and to develop the skills and capability to manufacture Q-Si products, in multiple product forms at commercial scale. The ~3.5-year Project is supported with $5.1m in funding from the Federal Government's Defence Trailblazer for Concept to Sovereign Capability program and a cash contribution of $4.35m from initial offtake partner, SQC.

It is anticipated that the Q-Si production module will produce up to 20kg annually of Q-Si, which will be converted into gaseous and solid product forms as required by potential customers in the emerging global silicon-based quantum computing industry.

During the year, Silex continued to make substantial progress on the construction of the Q-Si production module, including in-house laser and plant component manufacture. In addition, Silex continued to engage with silicon-based quantum computing developers and other potential industrial users of Q-Si to develop a customer base for the Company's products. Silex will retain 100% ownership of the Q-Si production technology and related Intellectual Property (IP) developed through the Project.

Medical Isotope Separation Technology (MIST) Project

Silex continues to advance Stage 2 of the MIST Project, which initially is focused on the development and demonstration of a process to economically produce enriched ytterbium-176 (Yb-176), the precursor isotope required for lutetium-177 (Lu-177) production. Lu-177 is a breakthrough development for the diagnosis and treatment of a number of aggressive metastatic cancers, known as targeted beta therapy, which has been approved for use in several applications in the US, Europe, and the UK, and is under trial in Australia. Enriched Yb-176 previously was sourced almost entirely from Russia, with supply now disrupted.

Stage 2 seeks to demonstrate technology validation at prototype scale, involving enrichment testing using an in-house built small-scale enrichment process system. If successful, the MIST platform may have potential application to other high-value medical and industrial isotopes, with the technology and all associated IP wholly owned by Silex.

Corporate

Susie Corlett joined the Silex Board as an independent, non-executive director on 22 November 2024 and stood for election by shareholders at the Company's 2024 Annual General Meeting (AGM) on the same day. Ms Corlett brings extensive experience in global mining finance, project development and operations, governance, and risk management to the Silex Board.

Financial Overview

As at 30 June 2025, the Company held ~$80.6m in cash, term deposits, and dual currency investments, with no corporate debt.

Workplace Health and Safety

The health, safety, and well-being of our people is paramount. We have a steadfast focus on the health, safety, and well-being of our team members across all sites.

We have a proactive Work Health and Safety (WHS) program in place, which focuses on continuing development of our formal WHS Management System as our work environment and technology commercialisation programs evolve, as well as a strong informal “work shop floor” WHS implementation and learning process, driven by a strongly reinforced safety culture.

Authorised for release by the Silex Board of Directors.

Further information on the Company’s activities can be found on the Silex website: www.silex.com.au or by contacting:

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Important Information

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

Silex Systems Limited ABN 69 003 372 067 (**Silex** or **Company**) is a technology commercialisation company, the primary asset of which is the SILEX laser enrichment technology (**SILEX 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 also is at various stages of development of additional commercial applications of the SILEX technology, including the production of 'Quantum Silicon' (**Q-Si**) for the emerging technology of silicon-based quantum computing. The Q-Si Project remains dependent on the outcomes of the Project, as well as the successful development of silicon-based quantum computing technology by third parties, and is, therefore, subject to various risks. Silex also is conducting early-stage research activities in its Medical Isotope Separation Technology (**MIST**) Project, which also is subject to various risks and outcomes. The commercial future of the SILEX technology in application to uranium, silicon, medical, and other isotopes therefore is 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 Announcement regarding the future of the SILEX technology as applied to uranium enrichment, Q-Si production, medical and other isotope separation projects, and any associated commercial prospects, including TRL-6 achievement and other commercialisation milestones at GLE, are forward-looking and are subject to a number of variables, including, but not limited to, known and unknown risks, contingencies, and assumptions that 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 disclosure involve subjective judgement and analysis and, accordingly, are subject to: change at any time due to variations in the outlook for, and management of, Silex's business activities (including project outcomes); changes in industry trends and government policies; and new or unforeseen circumstances. The Company's management believes that there are reasonable grounds to make such statements as at the date of this disclosure. 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. None of Silex, its related companies, or any of their respective officers, directors, employees, affiliates, partners, representatives, consultants, agents, or advisers makes any representation or warranty as to the accuracy of any forward-looking statements contained in this Announcement.

Not Advice

Information in this Announcement, including forecast financial information, should not be considered as investment, legal, tax, or other advice. You should make your own assessment and seek independent professional advice in connection with any investment decision.

Risk Factors

Risk factors that could affect the 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; inflation; tariffs (including tariffs imposed by the United States); geopolitical risks, in particular, those relating to Russia's invasion of Ukraine and tensions between China and Taiwan, which may affect global supply chains and capital markets; 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 Q-Si Project for the production of enriched silicon for the emerging silicon-based quantum computing industry; the outcome of the MIST Project; the potential development of, or competition from, alternative technologies; the regulatory changes and evolving eligibility criteria under the US *Inflation Reduction Act* (2022) and the *Nuclear Fuel Security Act* (2023) 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 US, 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 of Silex; and the outcomes of various strategies and projects undertaken by the Company.