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Silex Systems Limited
Investor Presentation

(ASX: SLX) (OTCQX: SILXY)

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CEO/Managing Director

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Forward Looking Statements and Risk Factors



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

Silex Systems Limited ABN 69 003 372 067 (Silex) is a research and development 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 engineering scale-up program and uranium market conditions and therefore remains subject to associated risks.

Silex is also in the early stages of pursuing additional commercial applications of the SILEX technology, including the production of 'Zero-Spin Silicon' for the emerging technology of silicon-based quantum computing. The 'Zero-Spin Silicon' project remains dependent on the outcomes of the project and the viability of silicon quantum computing and is therefore at risk. The future of the SILEX technology is therefore uncertain and any plans for commercial deployment are speculative.

Additionally, Silex has an interest in a unique semiconductor technology known as 'cREO®' through its ownership of subsidiary Translucent Inc. The cREO® technology developed by Translucent has been acquired by IQE Plc based in the UK. IQE is progressing the cREO® technology towards commercial deployment for 5G mobile handset filter applications. The outcome of IQE's commercialisation program is also uncertain and remains subject to various technology and market risks.

Forward Looking Statements

The commercial potential of these technologies is currently unknown. Accordingly, no guarantees as to the future performance or competitiveness of these technologies can be made. The nature of the statements in this Presentation regarding the future of the SILEX technology, the cREO® technology and any associated commercial prospects are forward-looking and are subject to a number of variables, including but not limited to, 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, 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.

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 the impacts of the COVID-19 pandemic; the results of the SILEX uranium enrichment engineering development program; the market demand for natural uranium and enriched uranium; the outcome of the project to develop technology for the production of 'Zero-Spin Silicon' for the emerging technology of silicon-based quantum computing; 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; results from IQE's commercialisation program and the market demand for cREO® products; decisions made or actions taken by the Company's commercialisation partners that could adversely affect technology commercialisation programs; and the outcomes of various strategies and projects undertaken by the Company.

Cover page image accreditation: Prof. Michelle Simmons team at UNSW/CQC2T demonstrated the fastest 2 qubit gate in silicon using atom qubits. Nature 571, 371 (2019) (Illustration by Tony Melov).

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Silex is commercialising its unique SILEX laser enrichment technology for application to:



Uranium production and enrichment (nuclear power)



Silicon enrichment (silicon quantum computing)



Other potential markets (e.g. medical radioisotopes)

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

SILEX Technology Commercialisation Overview

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Silex

51% Owned	100% Owned	Other Potential Markets
92 U Uranium 238.03	14 Si Silicon 28.0855	

SILEX Uranium Production via GLE

Technology	SILEX laser enrichment Licensed to Global Laser Enrichment (GLE)
Revenue Model	51% ownership of GLE + 7% (min.) perpetual royalty
Partners	Cameco
Market Size[1].	Uranium: US$7bn Uranium Enrichment: US$3bn

1. UxC 2022 estimates, UMO and EMO Q2, 2021

SILEX Zero-Spin Silicon Production

Technology	SILEX laser enrichment
Revenue Model	Producer-based revenues for silicon quantum computing
Partners	UNSW THE UNIVERSITY OF NEW SOUTH WALES; Silicon Quantum Computing
Market Size[2].	Quantum Computing: $50bn (by 2040)

2. CSIRO, Growing Australia's Quantum Technology Industry, May 2020
(Note: raw materials such as ZS-Si would represent a very small fraction of this)

E.g. Medical Radioisotopes

Technology	SILEX laser enrichment
Revenue Model	Producer-based revenues TBD
Partners	TBD
Market Size	TBD

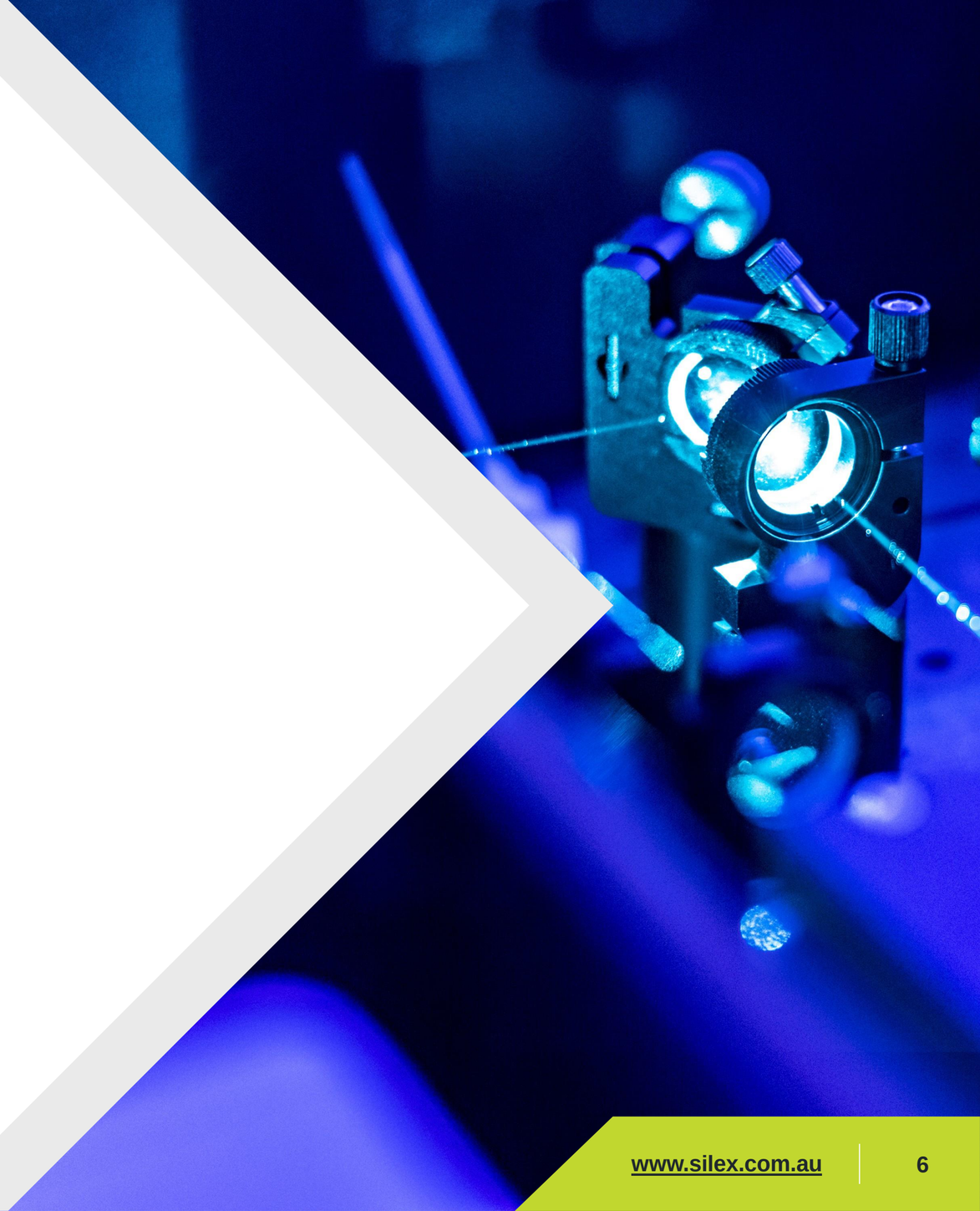
Highlights of the Year in Review

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- US Government approvals for the GLE acquisition were received in January 2021
- GLE acquisition completed - resulting in Silex acquiring 51% interest in GLE (Cameco 49%)
- Silex and Cameco strengthen the GLE commercialisation plan and build the engineering teams
- GLE recruits key executive team members – Chief Executive Officer and Chief Commercial Officer
- Zero-Spin Silicon project achieves key milestones, including construction of prototype test facility
- IQE Plc achieved key demonstration milestone for 5G mobile filter device built on cREO®

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Uranium Production and Enrichment for Nuclear Fuel



SILEX Uranium Production Opportunity

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Global demand for Uranium is set to rise:



A significant potential uranium supply shortage is forecast

- Structural supply deficit could occur without a timely increase in production
- Demand could grow significantly as zero-emissions nuclear is embraced
- There are few low cost resources to supply increasing demand from the mid 2020's
- Uranium prices must increase soon to provide stimulus for increased production

The Flagship Paducah uranium project – Global Laser Enrichment (GLE)

- Silex owns 51% equity interest in GLE with Cameco Corporation owning the balance of 49%
- GLE has an agreement with US DOE[1] to purchase tails inventories owned by the US Government
- GLE's Paducah project aims to enrich the tails using the SILEX technology to produce natural uranium

1. US Department of Energy

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Paducah Uranium Production Opportunity

Target Commercial Operation Date

late 2020's

'Tier 1' Uranium Resource*

based on low cost and longevity of production

(Silex estimate of all-in cost < US$25/lb)

Equivalent U_3O_8 Production

~ 5 million lbs per year for ~30 years

Captures Value of Conversion

Product is UF_6 (current conversion value ~US$10/lb)

Potential to enrich further

From natural grade (0.7%) to LEU (up to 5%) & HALEU (up to 19.9%)

* Per current estimates by Silex of project economics and longevity

Paducah – GLE's Flagship Uranium Project



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Paducah, Kentucky (US) Project – a 'Tier 1' Uranium Resource*

- Paducah Laser Enrichment Facility (PLEF) commercial project to deploy the SILEX technology in the US
- Opportunity for low-cost production of ~5 million pounds natural grade uranium (U_{nat}) annually for around 30 years
- Add-on opportunity to enrich PLEF output to produce Low Enriched Uranium (LEU) for nuclear reactor fuel
- Additional opportunity to enrich to High Assay LEU (HALEU) for next generation Small Modular Reactors (SMR's)

U_{nat}

Natural Grade Uranium (U_{nat})

via enrichment of DOE inventories of depleted tails in the Paducah commercial project to produce uranium at natural U^{235} assay (~0.7%)

LEU

Low Enriched Uranium (LEU)

for use as fuel in today's conventional nuclear power reactors (includes U^{235} assays between 3% to 5%)

HALEU

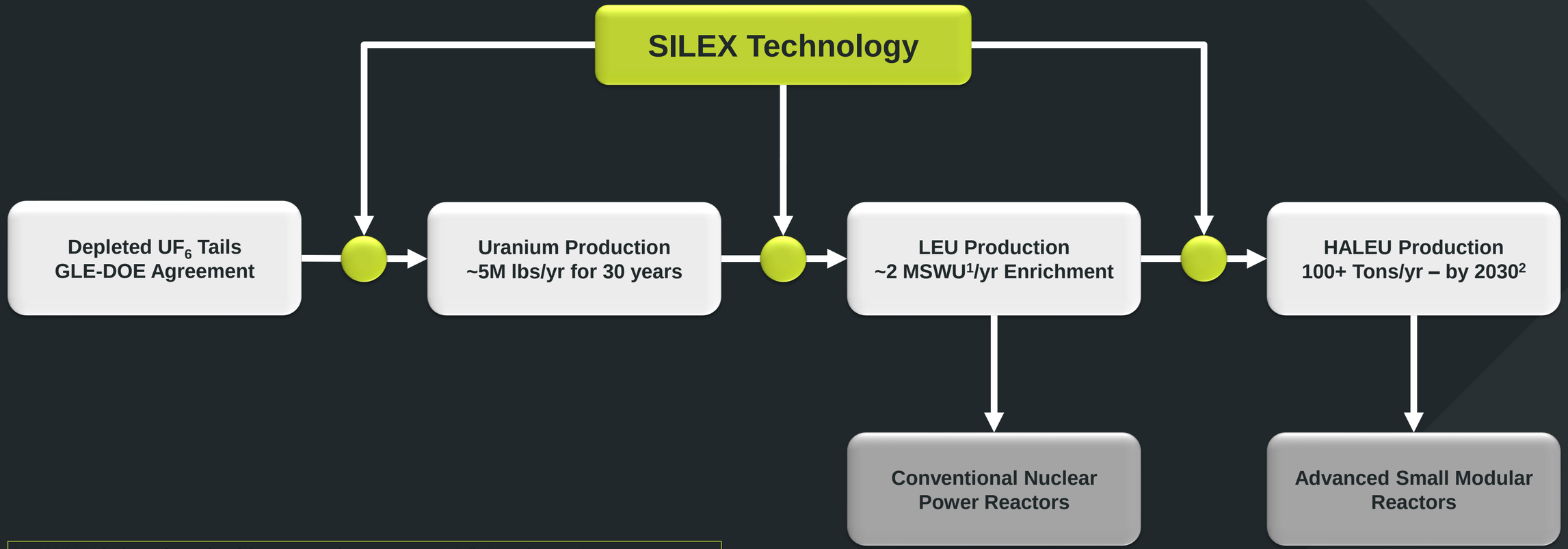
High Assay LEU (HALEU)

customised fuel for next generation SMR's currently under development (includes U^{235} assays up to 19.9%)

* Per current estimates by Silex of project economics and longevity

The Paducah Opportunity Value Chain

‘Full Service’ Nuclear Fuel Materials Concept



1. 2 MSWU is the estimated enrichment capacity to process ~5M lbs U_{nat} into LEU;
   SWU – Separative Work Unit - is the unit of enrichment traded in the market;
2. US Nuclear Energy Institute estimates demand of 137 tons/yr by 2030 (2020 Letter to US DOE)

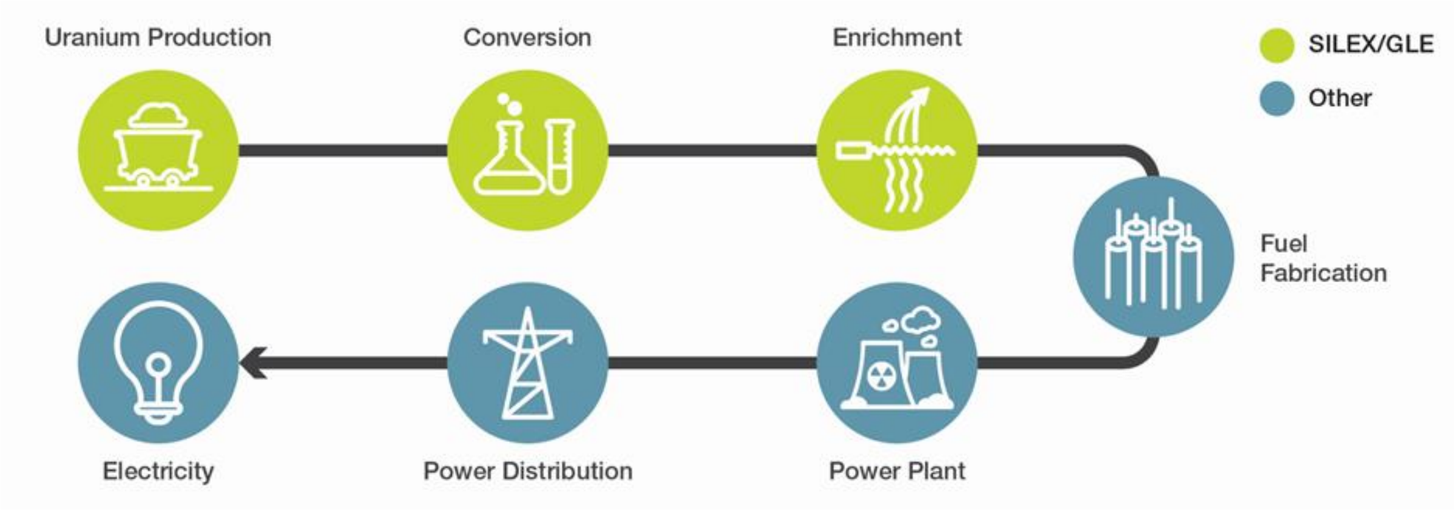
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SILEX and Nuclear Fuel Production

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The SILEX technology provides GLE with multiple opportunities in the production of nuclear fuel:

- produce natural grade uranium via enrichment of depleted tails inventories (Paducah project)
- capture the value of conversion contained in the depleted UF_6 tails material (Paducah project)
- enrich natural uranium to produce LEU - $^{235}UF_6$ assay increased up to 5%
- enrich uranium up to 20% - HALEU to fuel advanced Small Modular Reactors



The Nuclear Fuel Supply Chain

Emerging Opportunity - Small Modular Reactors (SMR's)

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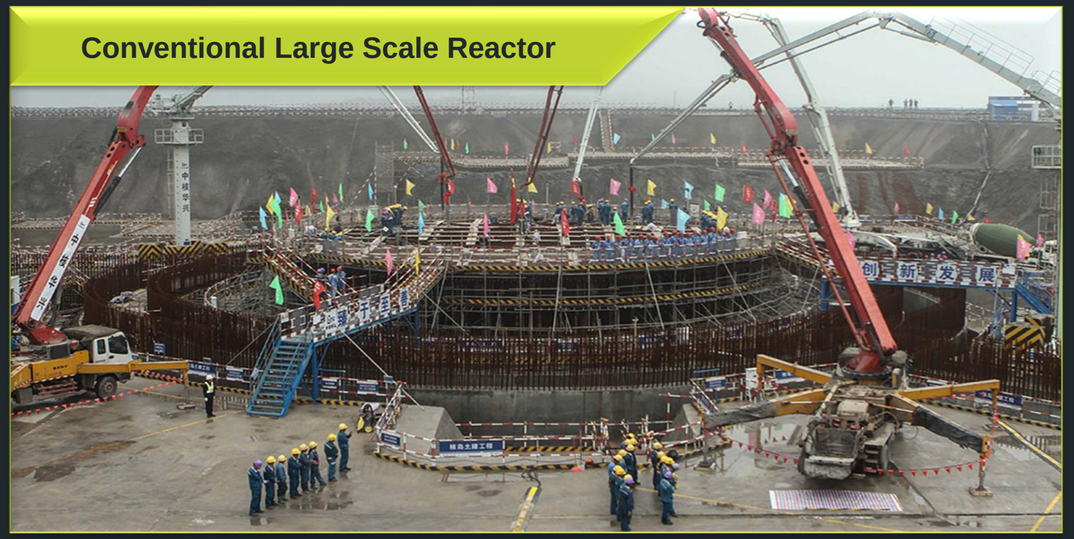
- Several next generation SMR designs use High Assay Low Enriched Uranium (HALEU)
- SILEX technology may provide a flexible low cost alternative to produce HALEU for SMR's
- SMRs are modular, smaller size (50 MWe to 300 MWe) allows greater flexibility in deployment
- Designed for production-line manufacturing rather than conventional custom built capital projects
- SMR's anticipated to result in significant reduction in capital costs and shorter construction times
- Leading contenders anticipated to be introduced commercially in early 2030's in the US

Small Modular Reactor (concept)



VS

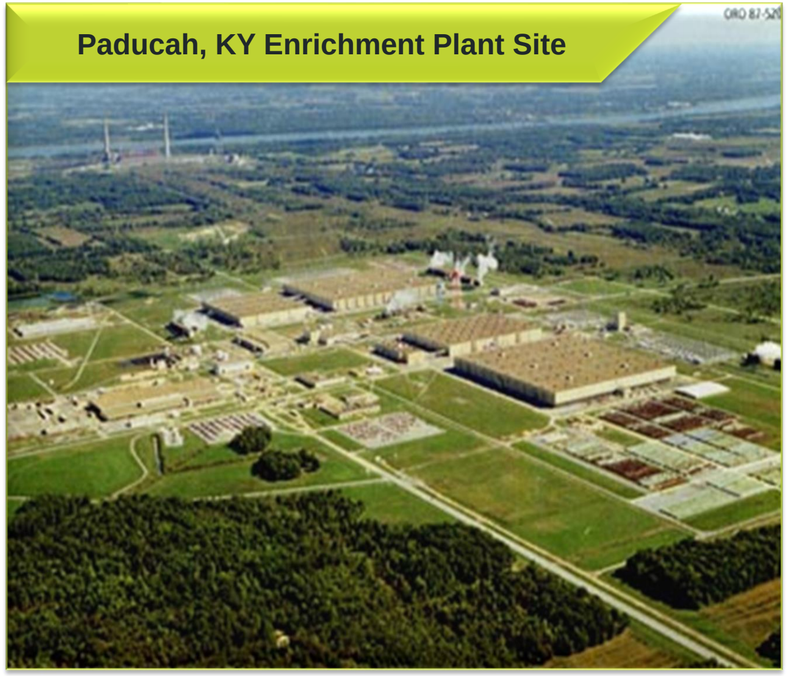
Conventional Large Scale Reactor



SILEX Commercialisation and Royalty Agreement

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- GLE holds exclusive worldwide license for use of SILEX laser technology for uranium
- License agreement includes US$20 million in payments to Silex triggered by commercial development milestones:
  - US$5 million: Commercial pilot demonstration (c.2025)
  - US$5 million: Commencement of PLEF EPC (c. 2027)
  - US$10 million: PLEF commercial operations (c. late 2020's)
- Perpetual royalty of 7% (min.) on GLE's enrichment SWU revenues from use of SILEX for production of natural and enriched uranium
- Royalty and milestone payments are in addition to any equity-based distribution of profits payable from GLE's commercial operations (currently Silex holds 51% ownership)
- Cameco holds an option to purchase 26% of GLE equity from Silex at fair market value



SILEX Uranium Technology Target Commercialisation Timeline*:

Commercial Pilot Demonstration	PLEF Feasibility	PLEF EPC**	PLEF Commercial Operations
c. 2025	c. 2027	c. late 2020's	

* Subject to technology development program outcomes, market conditions and other factors. ** Engineering, Procurement and Construction (EPC)

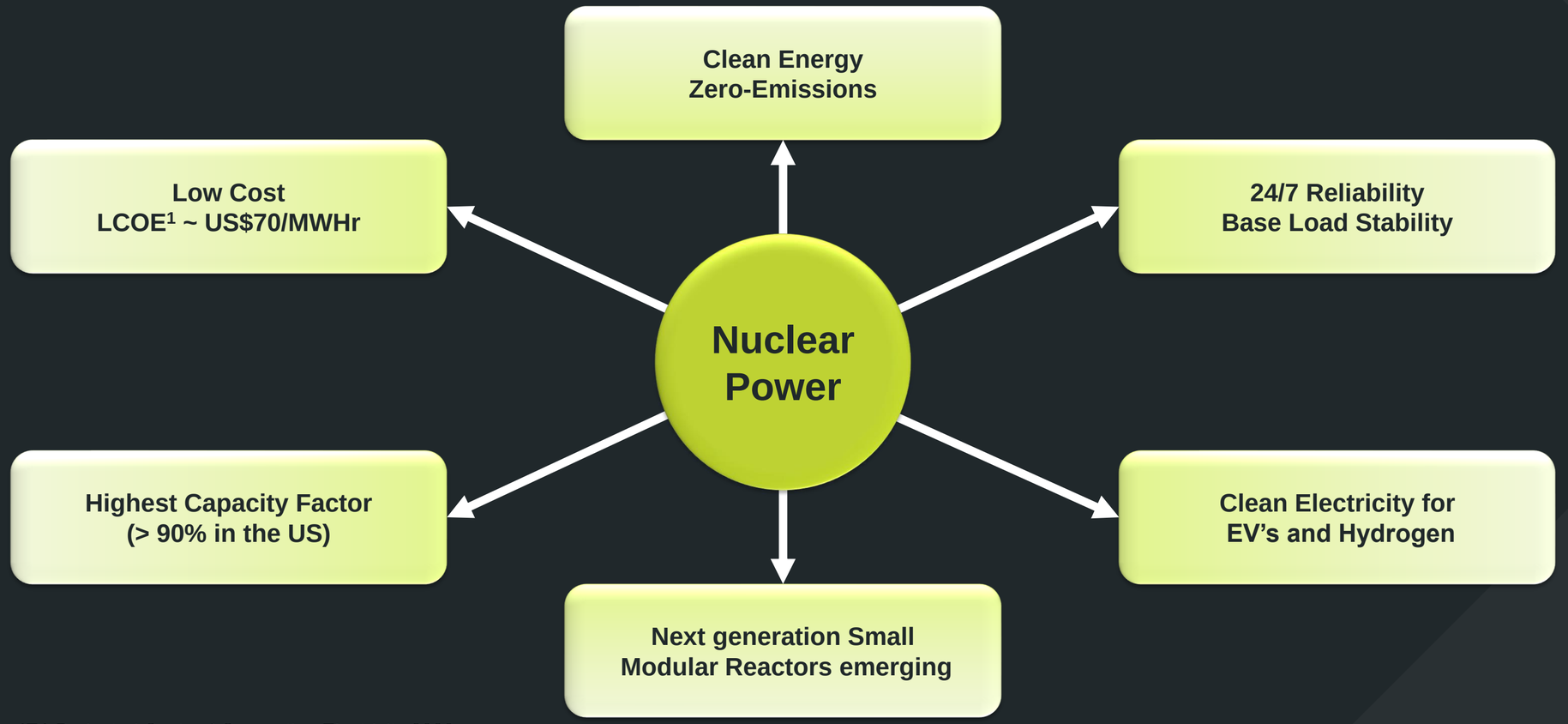
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Nuclear Power and the Nuclear Fuel Market Opportunity



Why Nuclear Power is so important to achieving net zero

Nuclear power is the only economic source of zero-emissions base load electricity



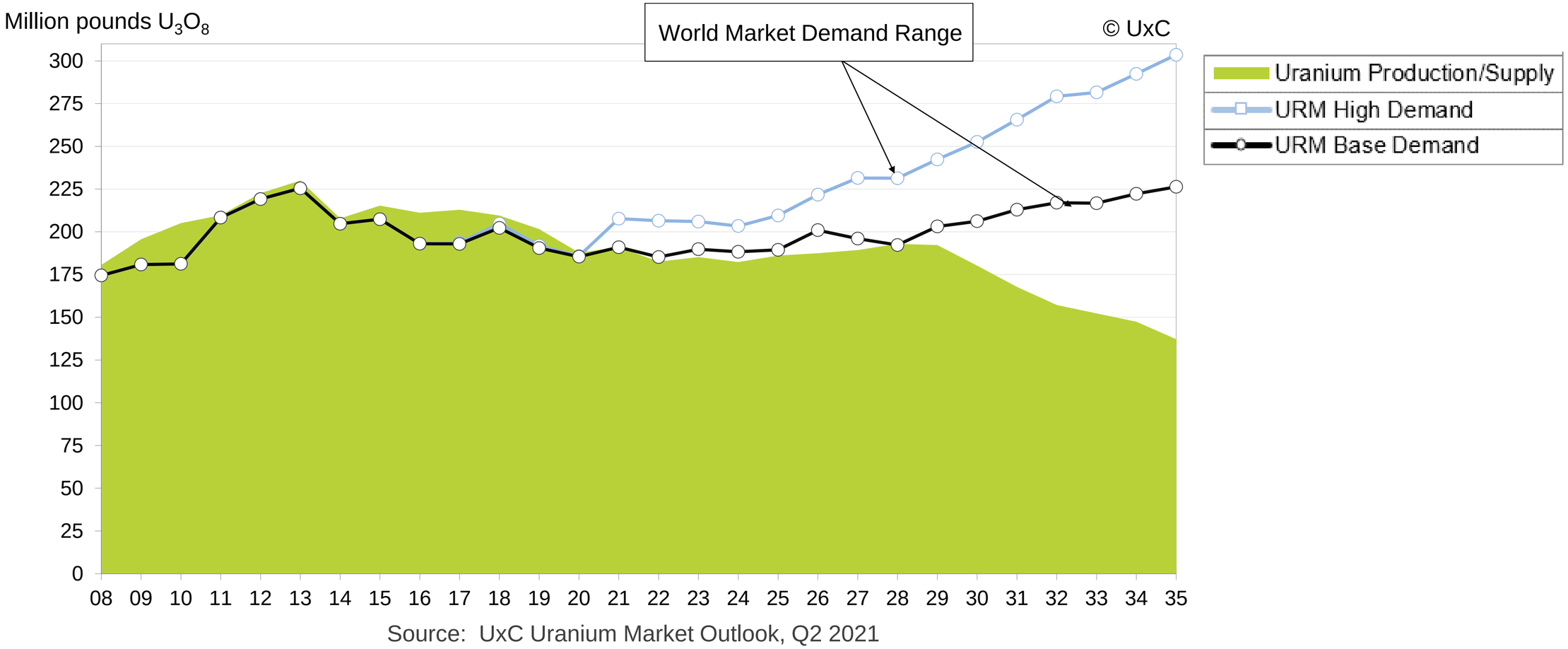
1. LCOE ~US$70/MWhr, IEA Projected Costs of Generating Electricity 2020
(LCOE = Levelised Cost Of Energy – all-in costs basis)

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US Uranium Market Outlook – Supply Shortage Forecast

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Mid-Case Uranium Supply and Demand Forecast



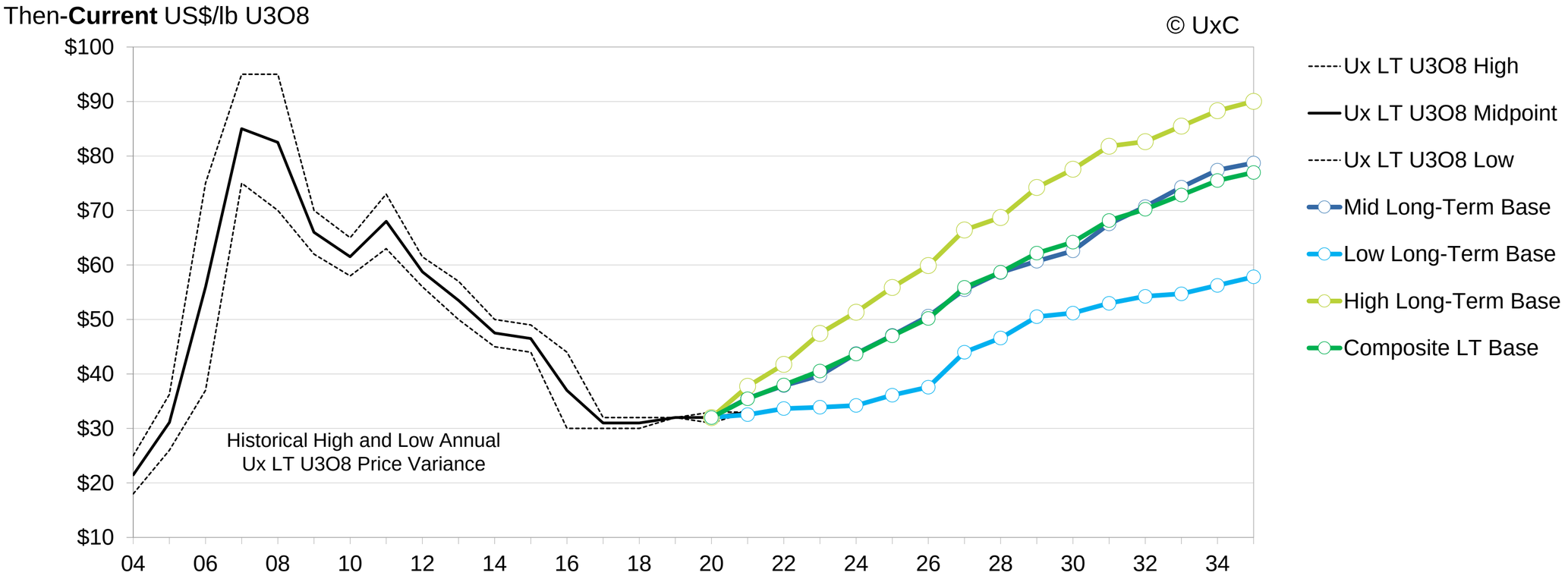
Source: UxC Uranium Market Outlook, Q2 2021

- Current uranium supplies will be insufficient to meet demand from mid-2020's

Uranium Price – Near Term Price Recovery Forecasted

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Uranium Long-Term Base Price Forecast



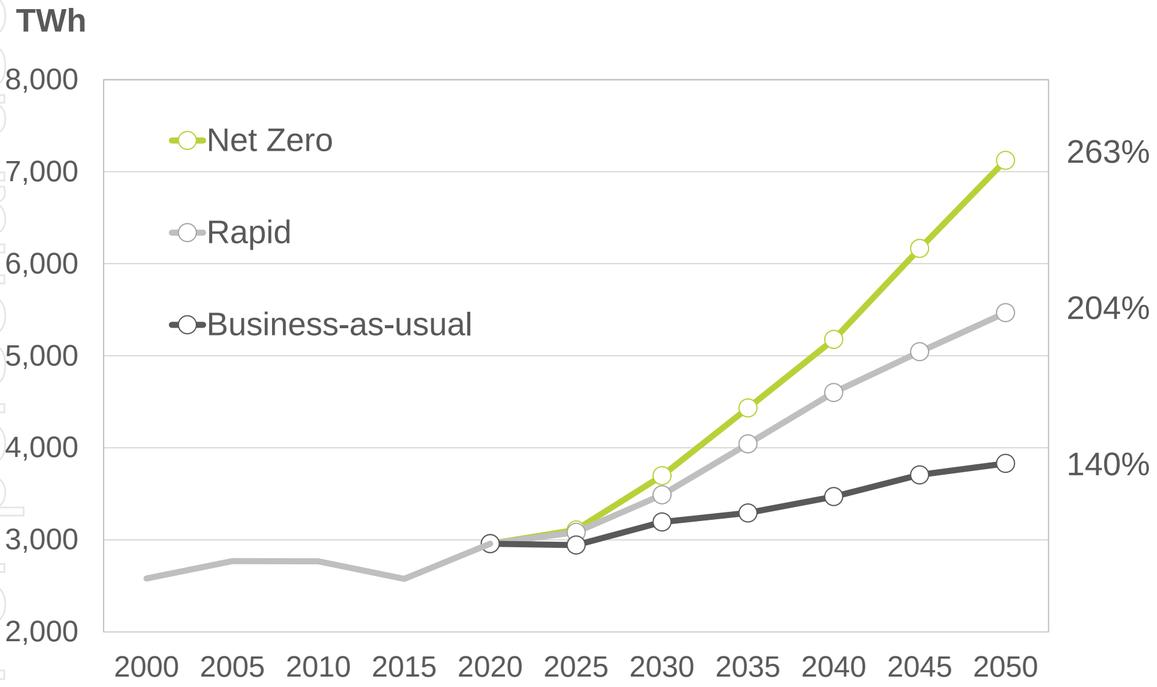
Source: UxC Uranium Market Outlook, Q2 2021

- UxC forecasts mid-case uranium price ~$47/lb by 2025 and ~$65/lb by 2030
- Spot price now around $33/lb – up over 80% since 2016 low ($18/lb)

Significant Nuclear Power Growth Essential for Net Zero 2050

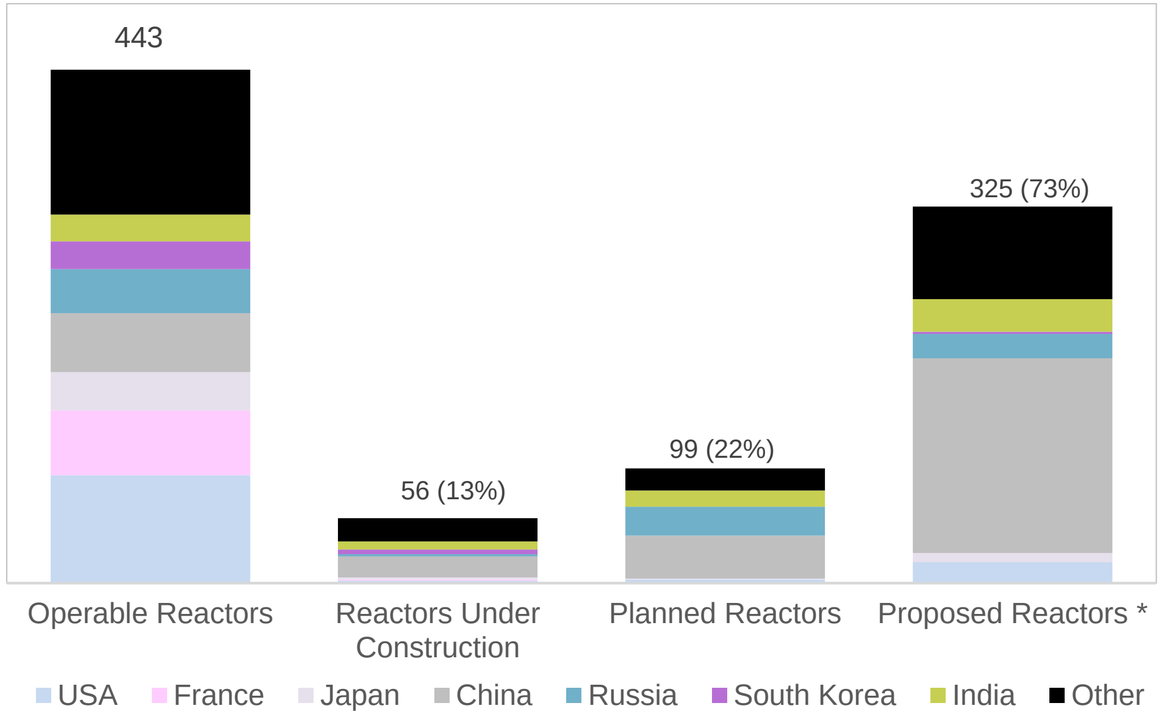
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Nuclear Generation Scenarios



Source: BP Energy Outlook 2020 Edition

World Nuclear Reactor Population



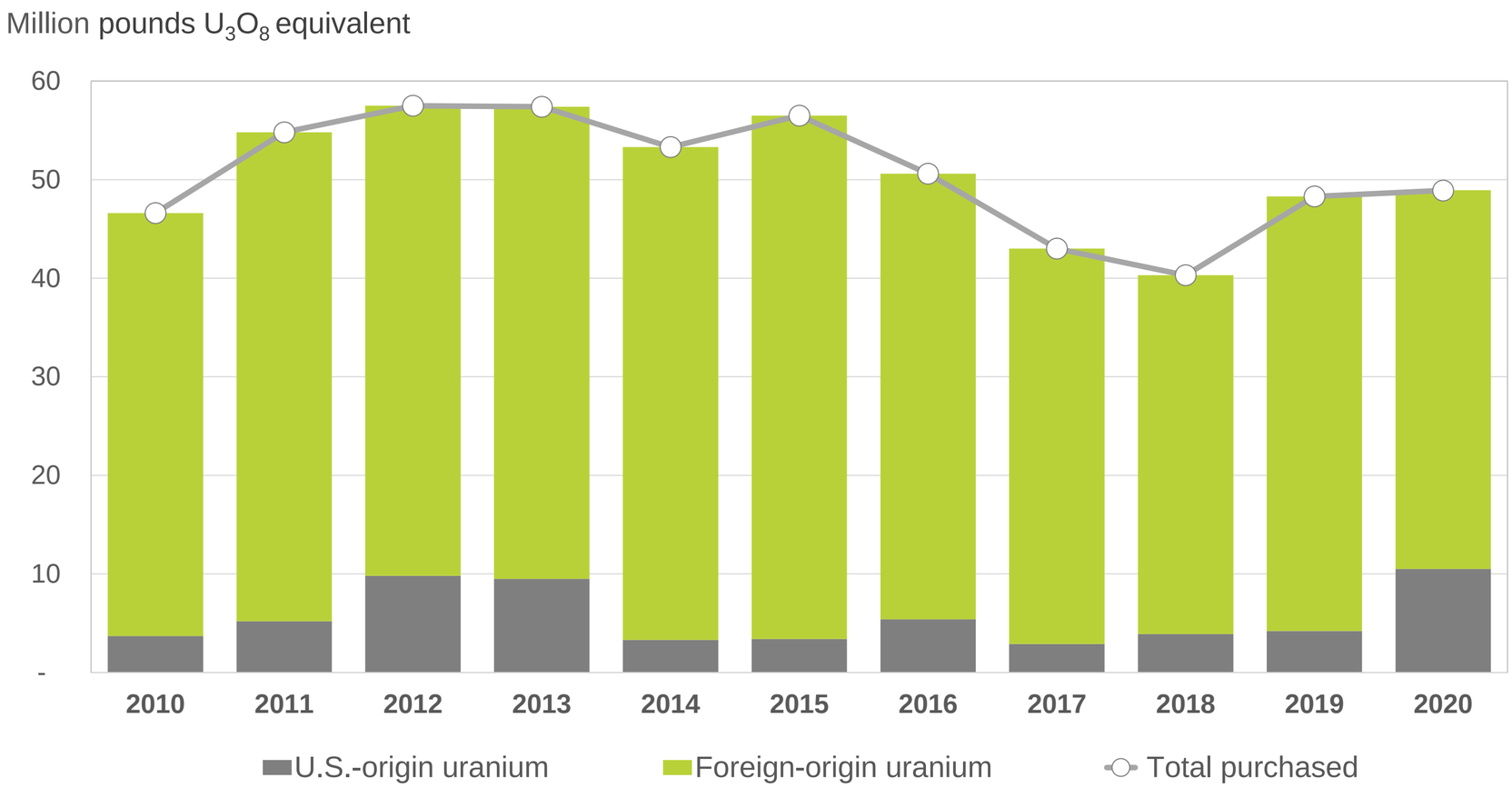
* Other Proposed Reactors include 16 proposed in Saudi Arabia, 8 in Turkey and 8 in South Africa

Source: World Nuclear Association July 2021

Paducah Opportunity helps address US Uranium Vulnerability

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Uranium purchased for U.S. nuclear power reactors, 2010 - 2020

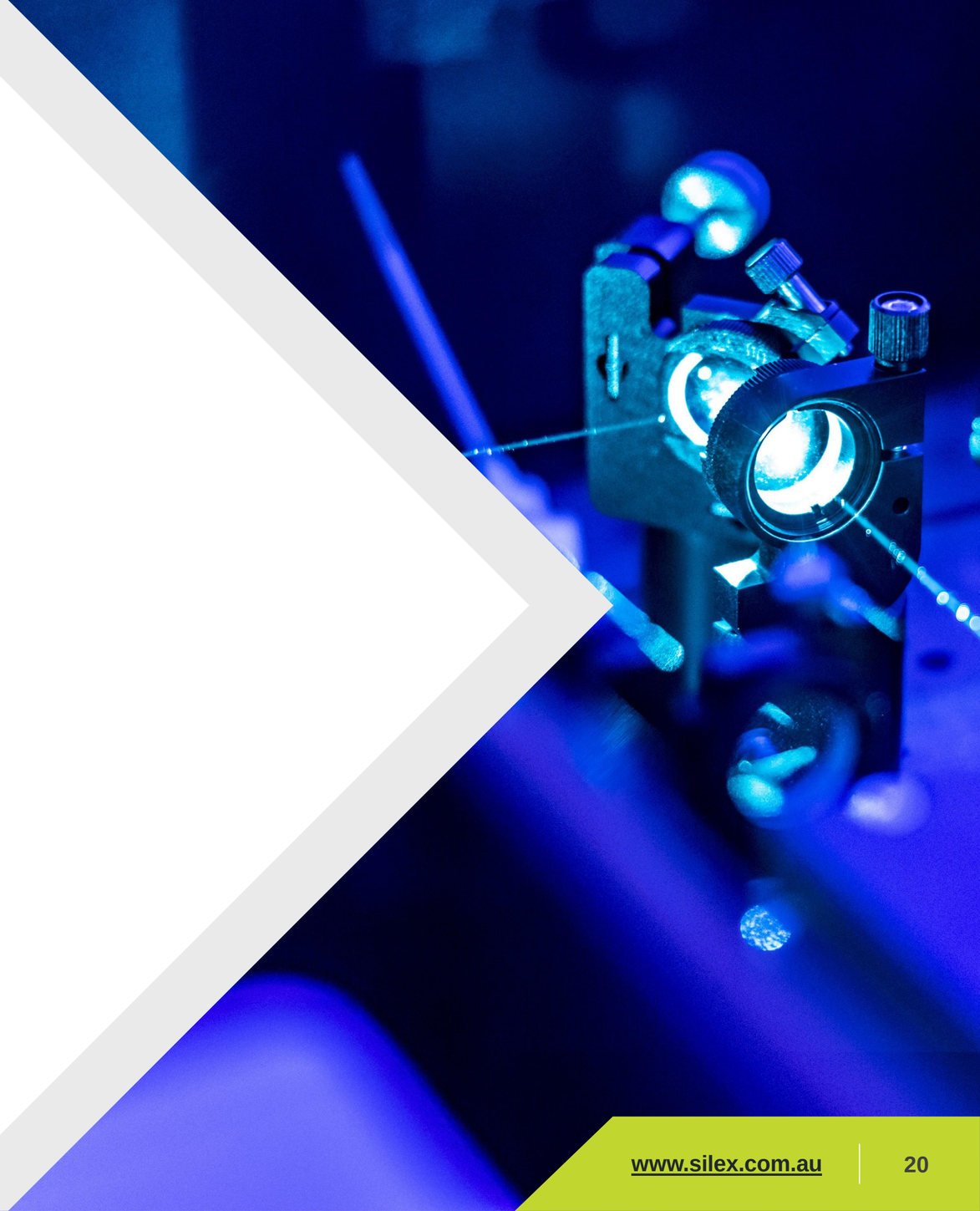


US Imports ~90% (avg.) of Uranium purchased

Source: 2020 EIA Uranium Marketing Annual Report
(Released May 2021)

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Zero-Spin Silicon for Quantum Computing



SILEX Zero-Spin Silicon Opportunity

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Global race to develop world's first Quantum Computers

- QC's will be 1000's of times more powerful than today's conventional computers
- QC will create new opportunities in medicine, AI, cybersecurity, finance, logistics etc
- Governments around the world and corporates such as Intel, Google, IBM, Microsoft are vying for leadership in QC development

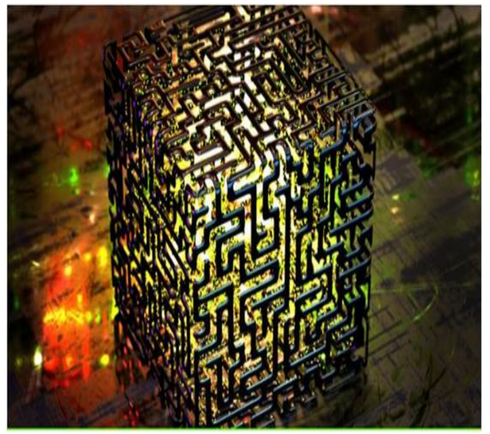
Silicon Quantum Computing (QC) is a leading contender for QC technology

- Silicon QC is well placed to leverage off the existing silicon semiconductor industry
- Silicon QC requires highly enriched silicon, currently limited supply and expensive
- A reliable enriched silicon supply chain needs to be established to ensure commercial path
- With viable supply chain and timely commercialisation - silicon could lead global QC efforts

The SILEX Zero-Spin Silicon (ZS-Si) production opportunity

- SILEX technology already proven capable of producing enriched silicon in the form of ZS-Si
- Current ZS-Si project aims to scale-up to pilot commercial production by end of 2022
- Project partners Silicon Quantum Computing (SQC) and UNSW Sydney are initial customers
- Silex aims to engage with other potential customers, including major semiconductor companies





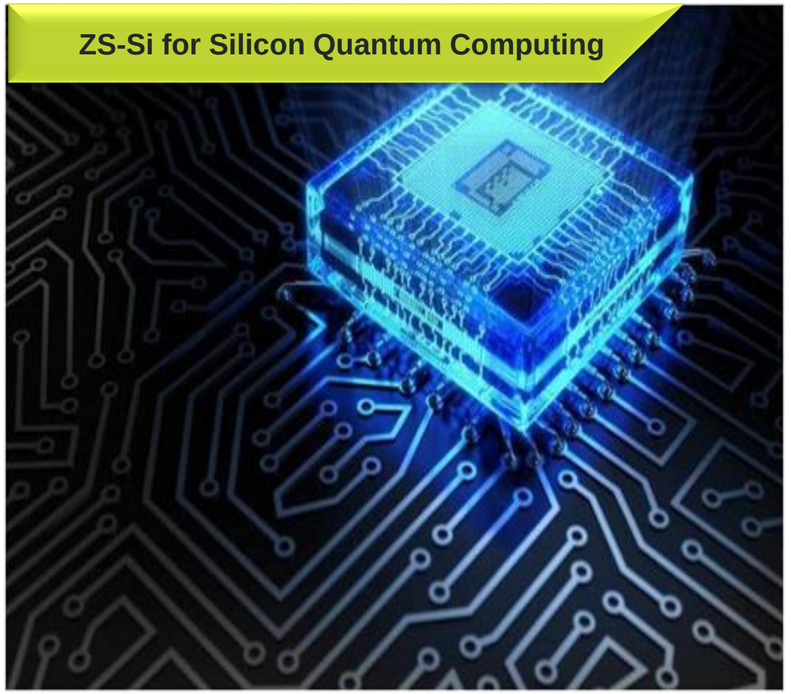
SILEX Project for ZS-Si production gathering momentum

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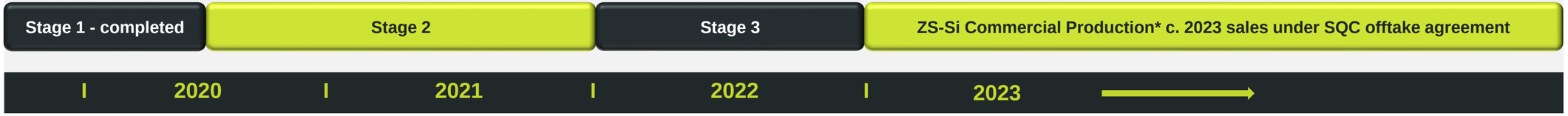
- Project partners SQC and UNSW part of the Federally funded ‘CQC2T Centre of Excellence’ – a world leader in silicon-based QC technology development
- 3-year project cost ~$8m (includes pilot plant capex) supported by $3m Federal CRC-P funding grant and $1.8m from SQC (including $0.9m in advanced ZS-Si purchases)
- Project objective is to establish reliable and cost effective production of ZS-Si for potential sale to domestic and offshore consumers in the emerging global QC industry

3-stage project aims to produce ZS-Si in increasing purity and quantity:

- **Stage 1:** (Completed June 2020) Established ‘proof-of-concept’ for the SILEX process
- **Stage 2:** (Current) Validation of the SILEX technology and scalability for ZS-Si production
- **Stage 3:** Full technology demonstration for ZS-Si production at commercial pilot scale



ZS-Si Production Commercialisation Timeline*:



* Subject to technology development program outcomes, market conditions and other factors.

ZS-Si for Silicon Quantum Computing

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Silex ZS-Si Project

Front-end process



Raw silicon

SILEX ZS-Si production



SILEX enrichment

Back-end process



Pure ZS-Si



ZS-Si Quantum chips

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SILEX Zero-Spin Silicon Production Opportunity

Aim

establish a reliable and economic supply of high purity ZS-Si

Target Commercial Operation Date

2023

Production

Commercial pilot scale production up to 5 kgs per year, anticipated to increase over the next decade

ZS-Si Target Purity

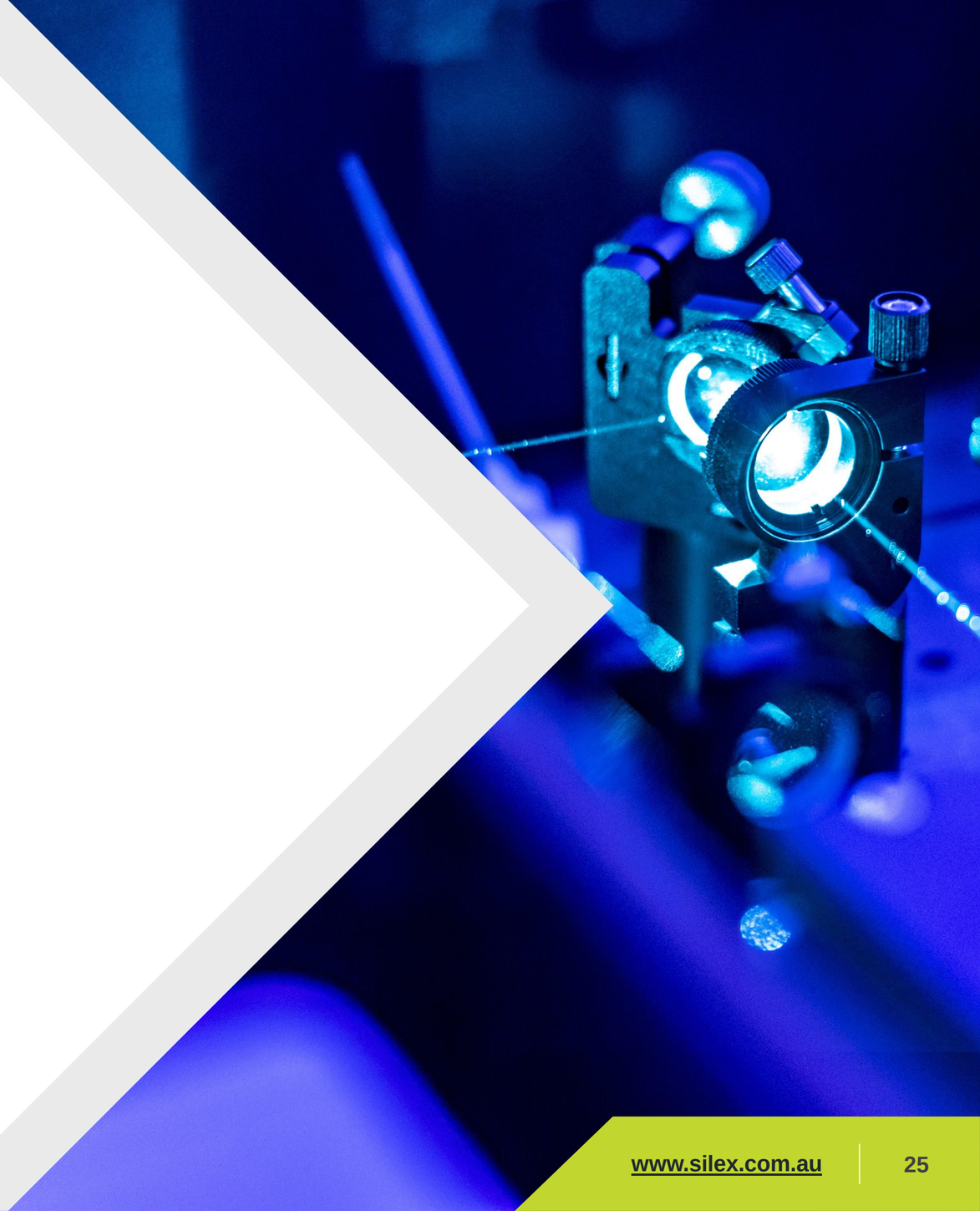
99.995% or higher

Commercial Offtake Agreement with SQC

Other potential customers to be engaged

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cREO® Advanced Semiconductor Technology



cREO® Advanced Semiconductor Opportunity

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IQE's Solution – IQepiMo™ based on cREO®

Silex's cREO® Advanced Semiconductor materials for 5G Mobile Applications

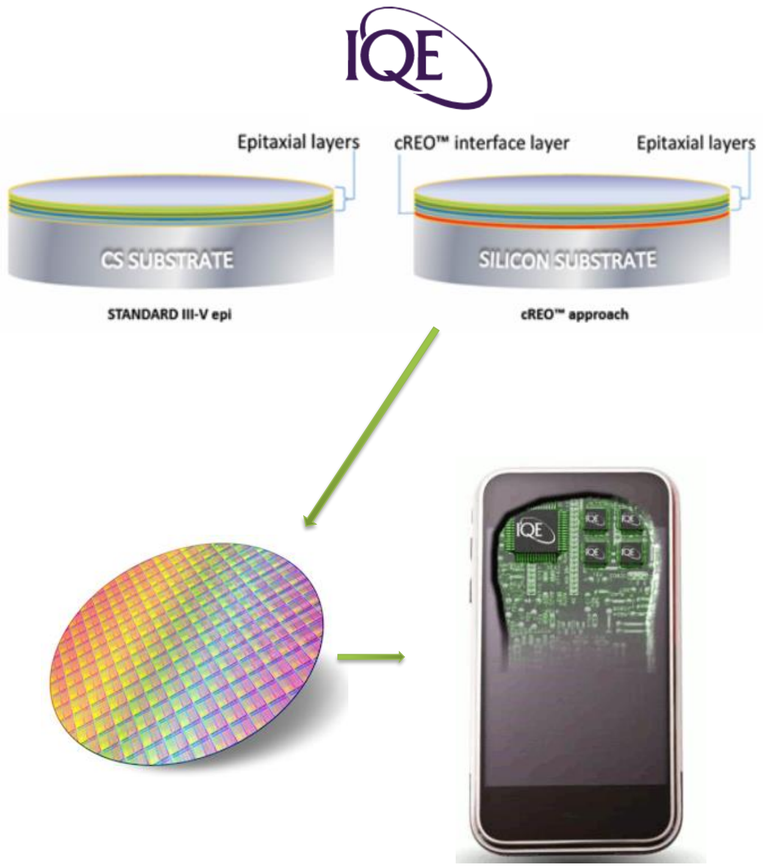
- cREO® technology purchased by IQE (AIM: IQE) in 2018 with US$5 million payment
- IQE is global leader in supply of advanced wafer products for wireless devices
- Purchase includes a perpetual royalty of at least 3% on revenues derived from use of cREO®

5G Handset Filter Technology Experiencing High-end Frequency Challenges

- Conventional signal processing filters experience problems at higher 5G frequencies
- 5G industry is looking for solutions compatible with 5G infrastructure and processes

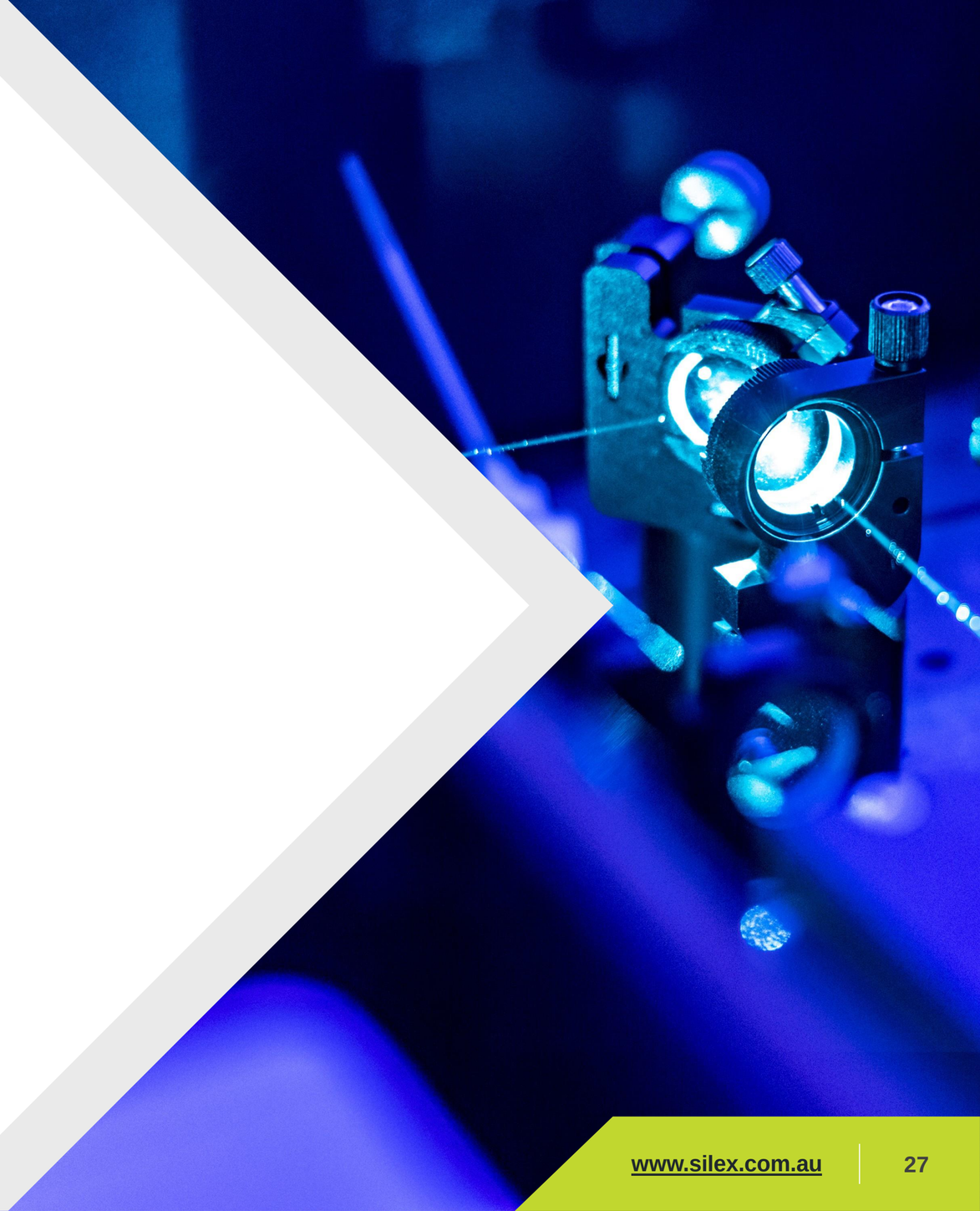
IQepiMo™ based on cREO® Template Technology

- IQE's new filter device using its proprietary IQepiMo™ technology mitigates this issue
- IQE's IQepiMo™ device is enabled by use of the cREO® template technology
- cREO® may also apply to other opportunities beyond 5G filters including Power Electronics



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Summary



Summary

- GLE JV (Silex 51% and Cameco 49%) aiming to demonstrate SILEX uranium enrichment technology at pilot commercial scale by the mid 2020's
- GLE's path to market focused on the Paducah opportunity - a large, low cost uranium production project with additional potential for uranium enrichment to produce LEU and HALEU nuclear fuels
- Long-term fundamentals for global growth in nuclear power remain positive, however a significant uranium supply deficit is looming in the absence of a timely increase in production
- SILEX silicon enrichment technology being developed to produce Zero-Spin Silicon (ZS-Si) in support of global efforts to commercialise silicon quantum computing
- Silex assessing several other applications of the SILEX technology, potentially in the fields of medical radioisotopes

As at 30 June 2021, the Company had net assets of ~$22.1m, including ~$14.1m in cash and approximately ~$5.8m in IQE shares

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Thank you

