



Silex Systems Limited

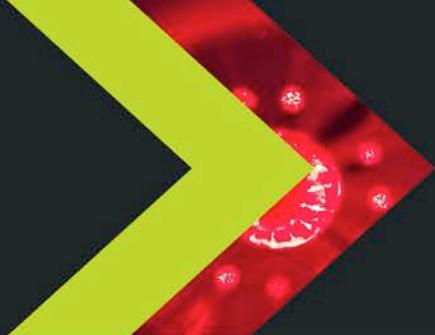
2018 Annual General Meeting

(ASX: SLX) (OTCQX: SILXY)

Dr Michael Goldsworthy
CEO/Managing Director

30 November 2018

Forward Looking Statements



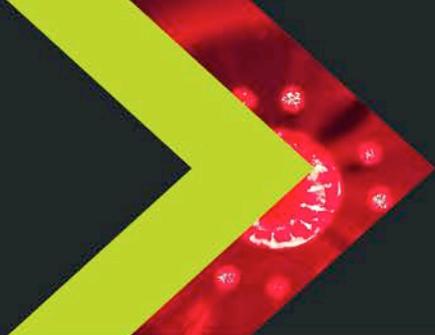
Silex Systems Limited (Silex) is a research and development company whose primary asset is the SILEX laser uranium enrichment technology, originally developed at the Company's technology facility in Sydney, Australia. The SILEX technology was licensed exclusively in 2006 to GE-Hitachi Global Laser Enrichment LLC (GLE) in the USA. The ensuing development project undertaken by GLE was put on hold in June 2018 due to the failure to restructure GLE, after GE-Hitachi disclosed it was seeking to exit the venture. In view of this and the continuing depressed nuclear fuel market conditions, plans for commercial deployment of the SILEX technology have been significantly delayed, and may not happen at all. The future of the SILEX technology is therefore highly uncertain and any plans for commercial deployment are speculative, at best.

Silex also 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 in various advanced semiconductor products. The outcome of IQE's commercialisation program is also highly uncertain and remains subject to various technology and market risks.

The commercial potential of these two technologies is currently unknown. Accordingly, the statements in this presentation regarding the future of the SILEX technology, the cREO™ technology and any associated commercial prospects are forward looking and actual results could be materially different from those expressed or implied by such forward looking statements as a result of various risk factors.

Risk factors that could affect future results and commercial prospects include, but are not limited to: the outcome of the GLE restructure; the future of the SILEX uranium enrichment engineering development program (in particular whether this program will be successfully completed); the market demand for natural uranium and enriched uranium; the potential development of competing 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; and the outcomes of various strategies undertaken by the Company.

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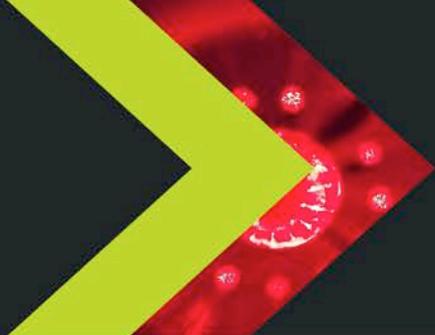
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Silex Systems Limited

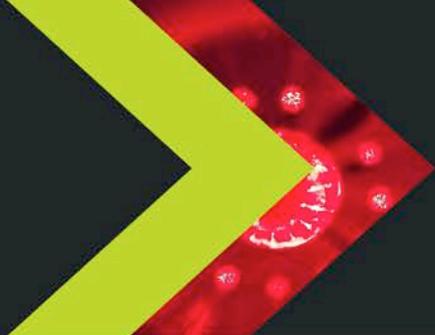
Silex Systems (Silex) is an advanced technology company focused on the commercialisation of its innovative SILEX laser enrichment technology

The Year in Review

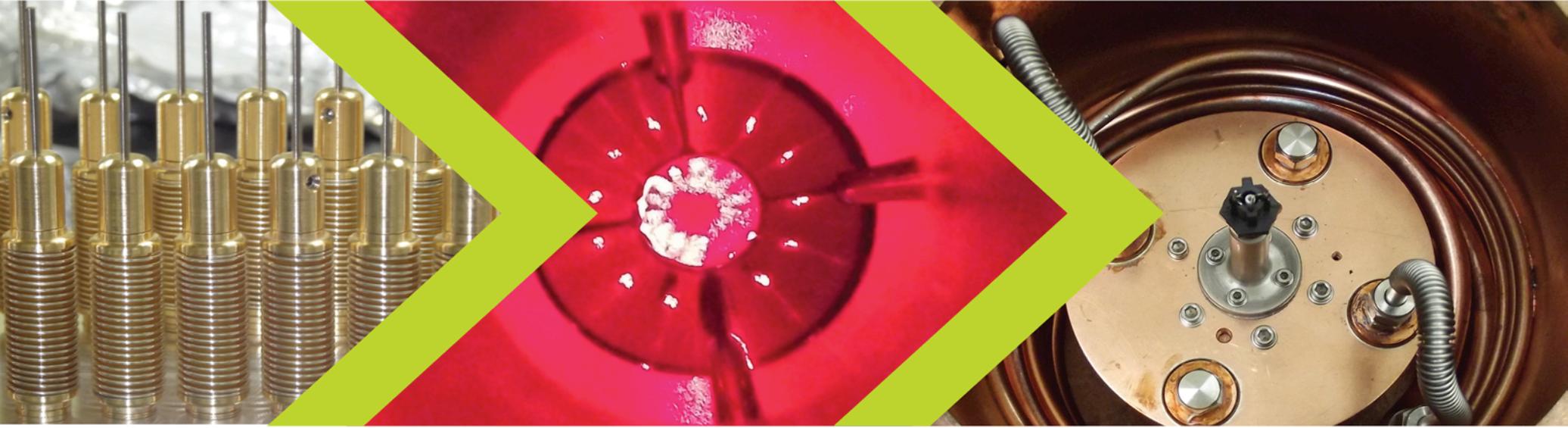


- Efforts to restructure US-based SILEX technology Licensee, Global Laser Enrichment (GLE) stalled in June 2018 when Silex withdrew from a term sheet to acquire GE-Hitachi Nuclear Energy's (GEH) 76% interest in GLE
- In conjunction with key stakeholders, Silex continues to assess various options to preserve value created in the SILEX technology commercialisation project conducted by GLE in the US over the last decade
- The process to resolve the Company's future direction and in particular, consider a revised commercialisation plan for the SILEX technology continues, however at this point we are unable to identify a clear path forward
- The license agreement between GLE and Silex remains in force, pending the outcome of the GLE restructure
- The Agreement between GLE and the US Department of Energy (DOE) which underpins the Paducah tails re-enrichment opportunity – key to the future commercialisation of the SILEX technology – also remains in force
- UK-based IQE Plc, elected to purchase Translucent's 'cREO™' technology in March 2018 – a payment of US\$5 million was received in September 2018 (in IQE shares)
- cREO™ technology continues to be developed and progressed towards commercial deployment in some of IQE's advanced semiconductor markets
- Rationalisation and consolidation of our operations is ongoing, with a focus on cost cutting across the board

Our Current Strategy



- Preserve value and optionality for future commercialisation of the SILEX technology in the key application of uranium enrichment
- If possible, maintain a presence in the US, which remains the best target market for deployment of the SILEX uranium enrichment technology
- Retain our core expertise in the SILEX technology (at a reduced level)
- Explore alternative uses of the SILEX technology – involving assessment of potentially attractive applications for stable isotope separation
- Focus on effective cost management to ensure the most efficient use of cash reserves



Nuclear Power Growth and Market Outlook

Drivers of Value for Nuclear Power

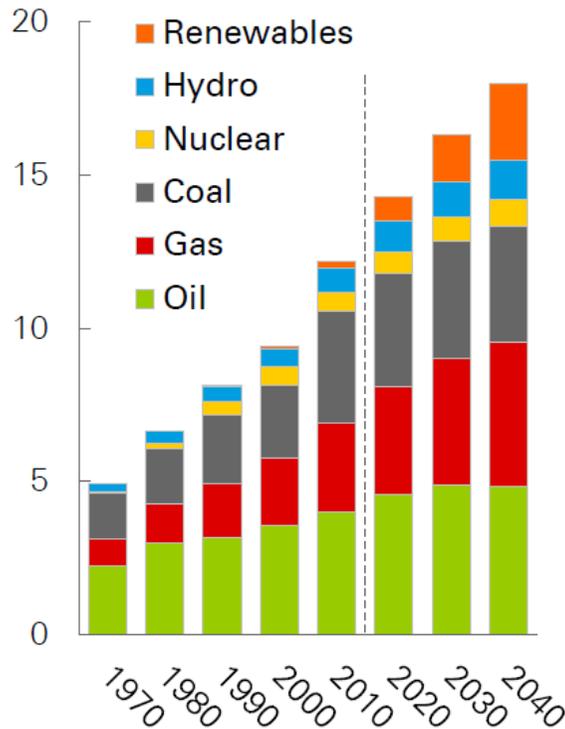
- Growing electricity demand globally
- Proven, robust and reliable base-load generation
- Nuclear's ability to help decarbonise the power sector
- Largest source of carbon-free power in the US, EU and many other advanced economies - key to climate change mitigation
- Affordable and reliable electricity to a growing global population - low generation cost per unit (LCOE of around \$100 /MWh or 10c /kWh – US Energy Information Administration, March 2018)
- Electricity generated is dispatchable on demand and able to be varied up or down with grid loading
- Power price stability - fuel is a low proportion of power cost, (~30%) (coal fired plant ~80%, gas-fired plant ~90%)
- 54 nuclear reactors under construction globally today – highest for last 20 years



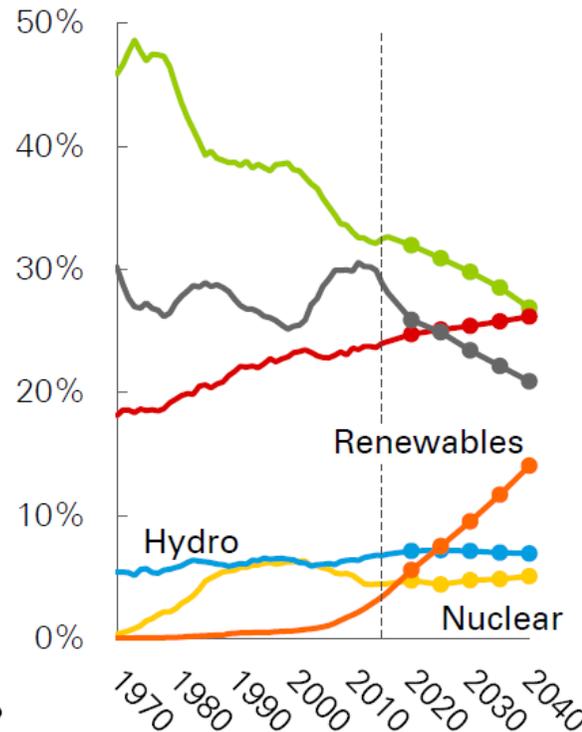
Nuclear Power Growth Remains Steady

Shifts in Primary Energy Consumption by Fuel, 1970 - 2040

Billion toe*



Source: BP Energy Outlook 2018

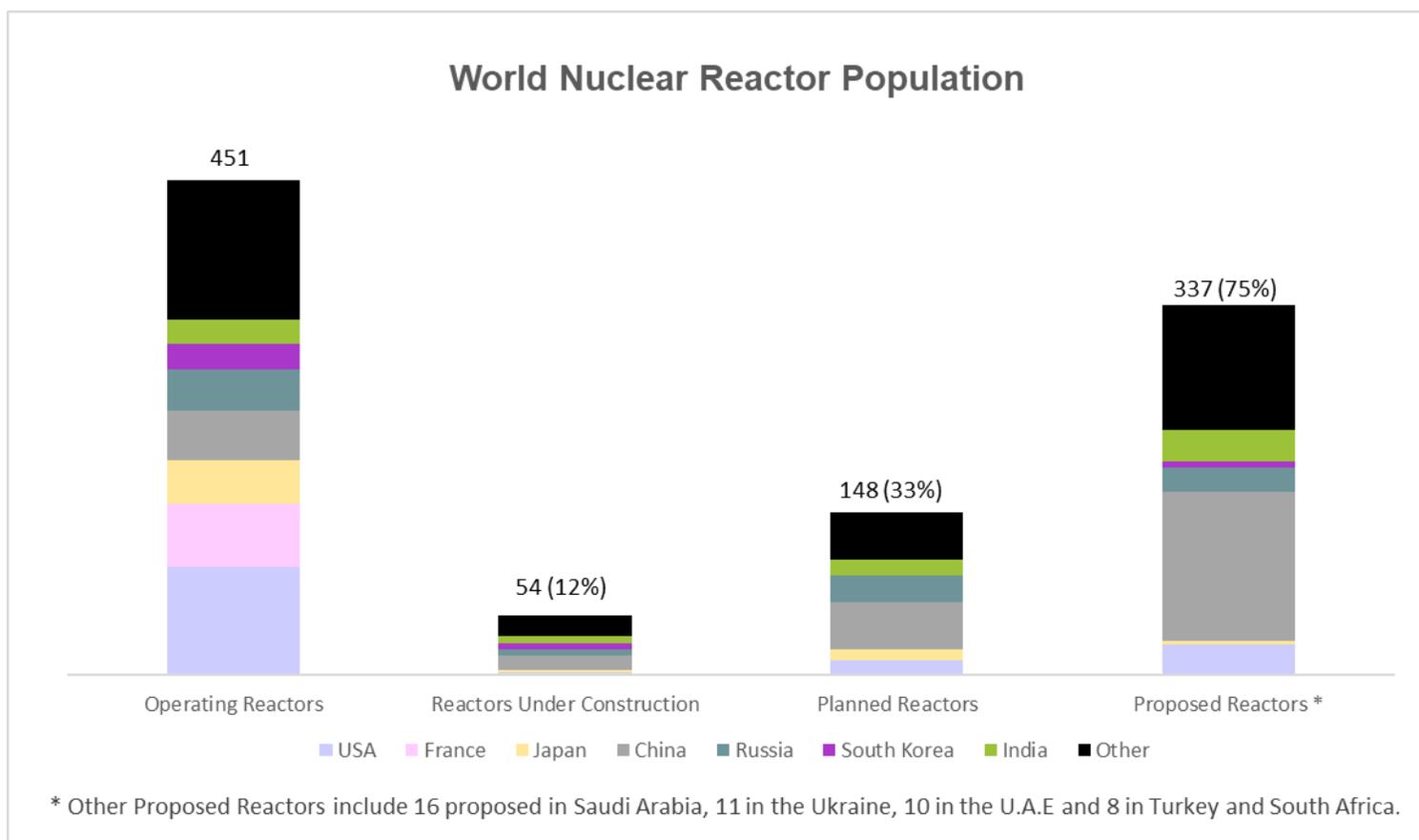


* toe - Tons of Oil equivalent

- Projection for largest percentage growth in share of global energy consumption to 2040 is in renewables, followed by natural gas
- Nuclear predicted to hold steady through 2040 at ~5% (percentage of total energy consumed) and ~11% of electricity generation
- A clear shift from fossil fuels to low-carbon power sources is underway globally
- But growth in nuclear is being held back by an unlevel playing field (e.g. renewable subsidies and cheap gas in some regions)

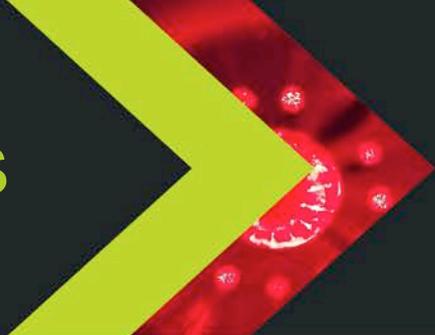
Nuclear Power Growth

(TOE = Tons of oil equivalent)



Source: World Nuclear Association November 2018

The Future - Small Modular Reactors

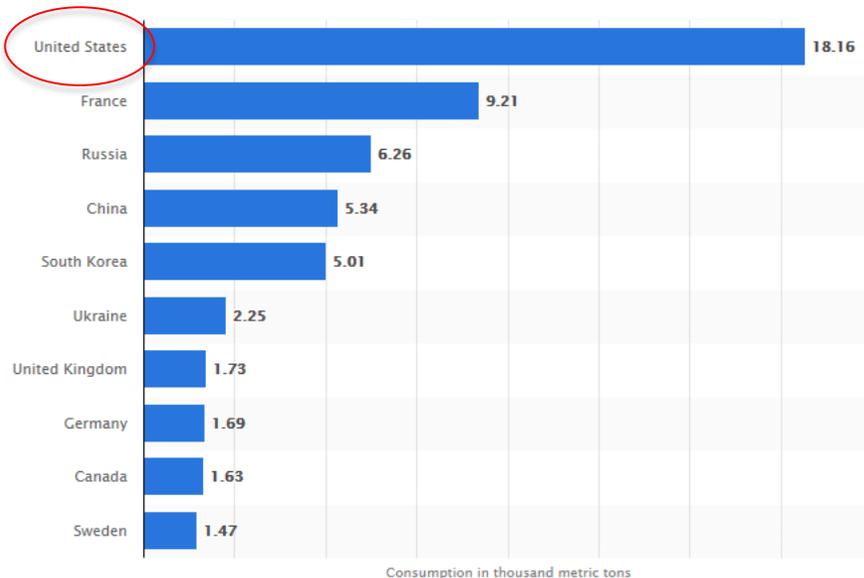


Next generation of nuclear reactors - offer significant advantages over large conventional reactors

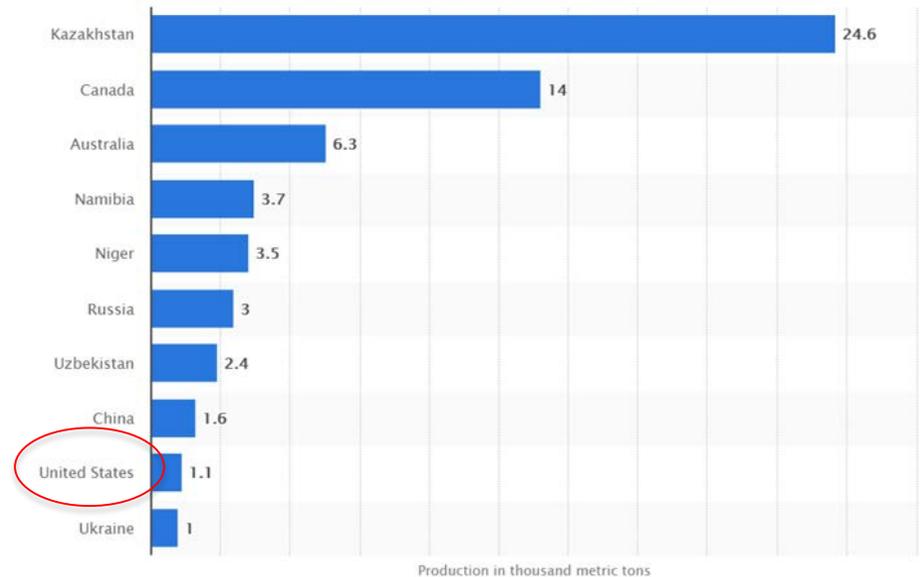
- Modular, smaller size (< 300 MWe) allows flexibility and competition with distributed generation such as renewables
- Designed-in load-following versatility – ramp up or down quickly as needed
- Smaller upfront project investment – competitive in deregulated markets
- Can be mass produced on a modern factory production line rather than as custom built capital projects – significant reduction in capital costs
- Several can use High Assay Low Enriched Uranium (HALEU) - SILEX technology provides flexibility and low cost to produce HALEU for SMR's
- Around 20 different designs being developed – expected to reduce to a few
- Leading contenders anticipated to be introduced around 2030

Uranium Market Focus

Uranium consumption by country worldwide (in thousand metric tons)



Uranium production by country worldwide (in thousand metric tons)



Source: Statista, November 2018, for year 2016

- US market the largest user of nuclear fuel with 98 reactors
- US uranium requirements met predominately by imports – currently subject of Department of Commerce investigation in the US
- US is leading the development efforts for next generation SMRs
- China, India and Middle East growing, US remains the dominant consumer of uranium through 2030

Uranium Price – Early Signs of Recovery



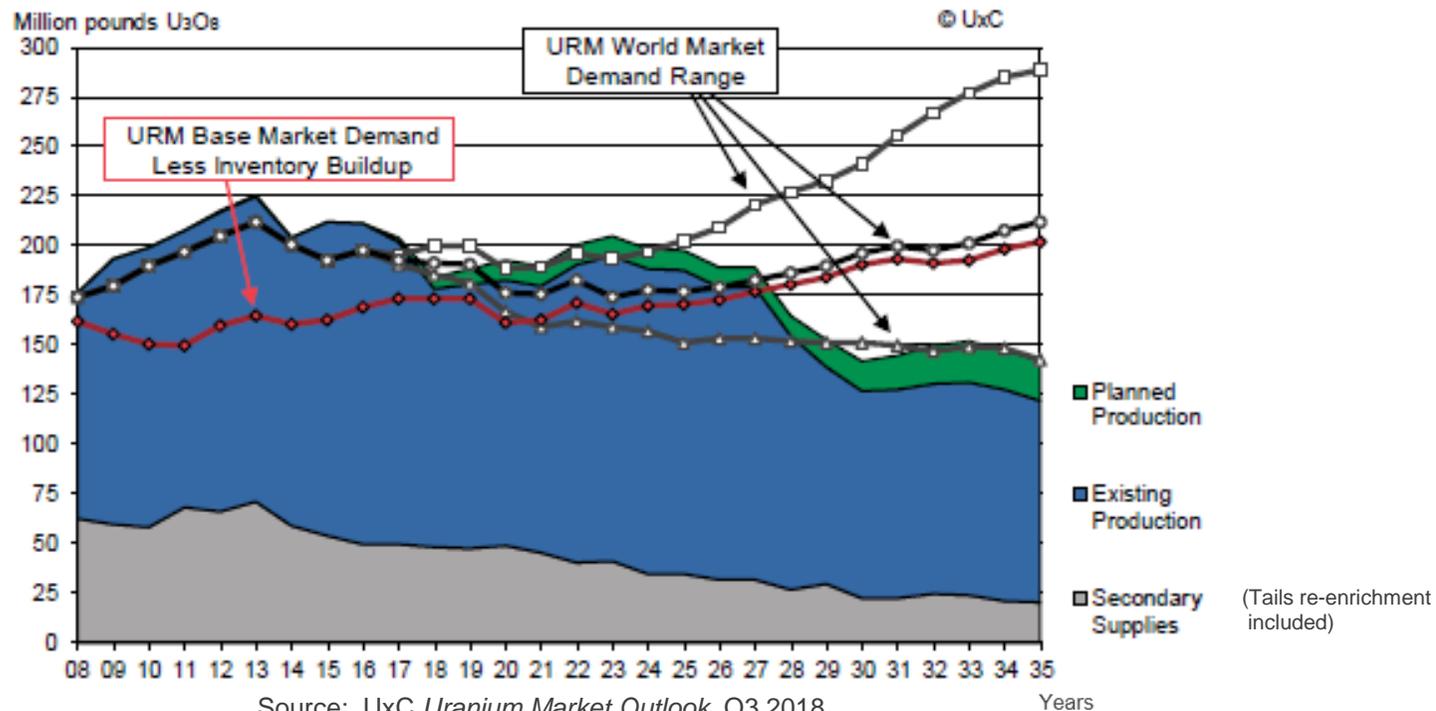
Source: UxC Uranium Market Outlook, Q3 2018

- Production cuts by various miners – supply/demand more in balance
- Investment funds entering market – buyers of excess demand
- Utilities slowly returning to longer term contracting as legacy contracts expire
- Uranium spot price moving up towards ~US\$30/lb at time of writing – up ~60%

UxC Market Views

Uranium Market Outlook

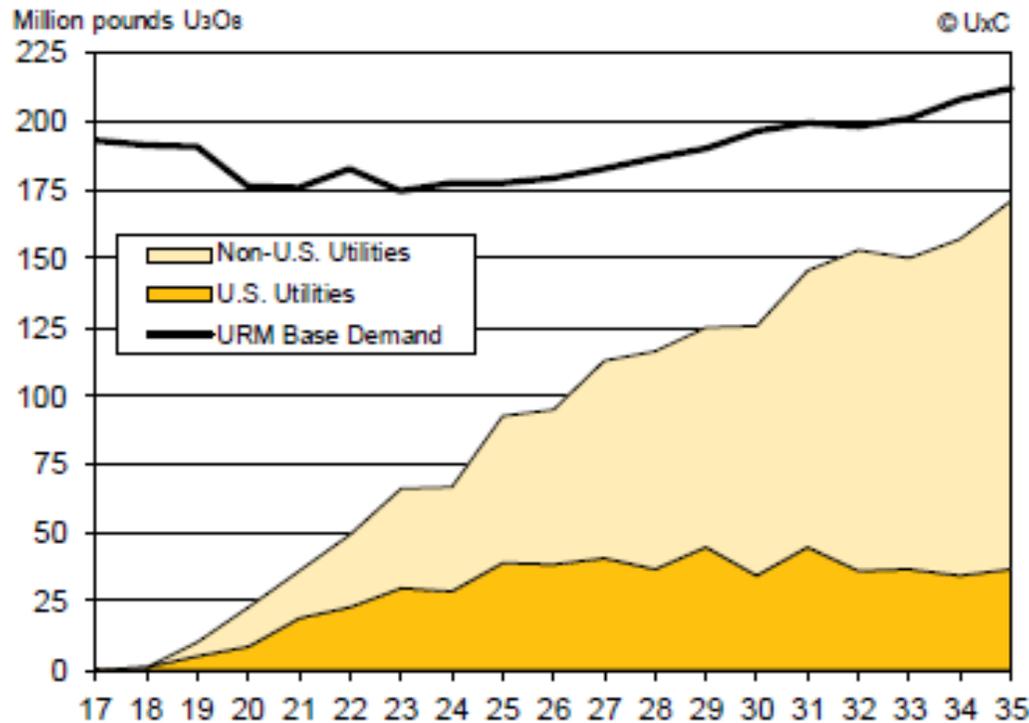
Uranium Supply and Demand Forecast



- Uranium supplies will remain excess to demand, under the mid-case scenario, until around 2027
- Potential volatility in projected production - uncertainty regarding production rates of tier-one assets
- Secondary uranium supplies include production from underfeeding and tails re-enrichment

Uranium (U_3O_8) Demand Set to Increase

U_3O_8 Uncovered Demand Forecast



Source: UxC Uranium Market Outlook, Q3 2018

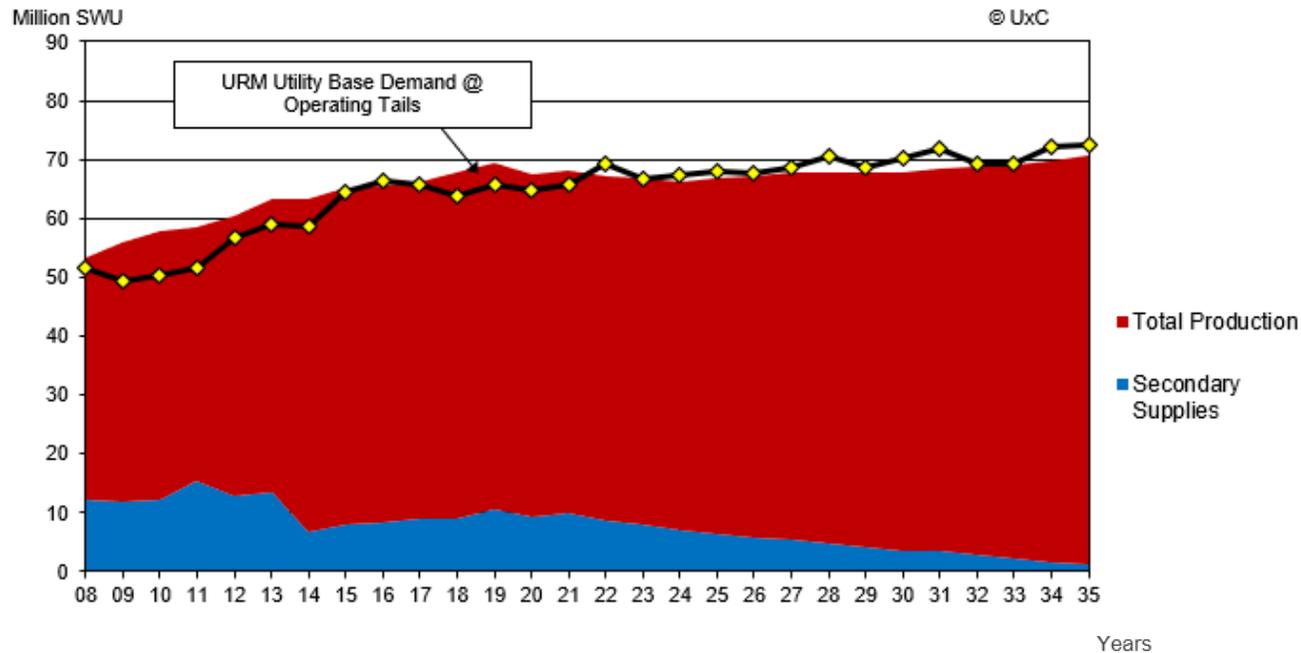
Year

- Utilities, especially US utilities, have purchased uranium in mid-term contracts to capture decreasing prices – however exposure remains in the long-term
- Utilities expected to increase contracting levels, especially as uranium prices increase

UxC Market Views

Enrichment (SWU) Market Outlook

Base Case Enrichment Supply and Demand Forecast



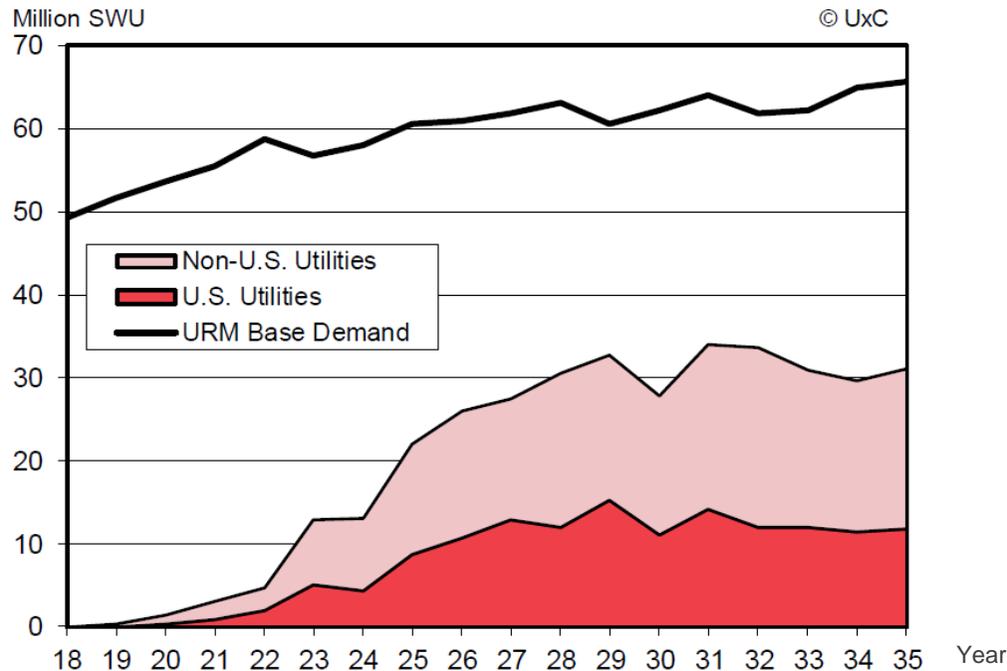
Source: UxC *Enrichment Market Outlook*, Q3 2018

- Forecast SWU demand continues to be weak and serviced by existing SWU suppliers
- Despite the softening outlook for SWU demand, US utilities are concerned about security of supply with only one domestic (foreign-owned) SWU producer meeting ~1/3rd of US SWU requirements

Target Market for SILEX SWU

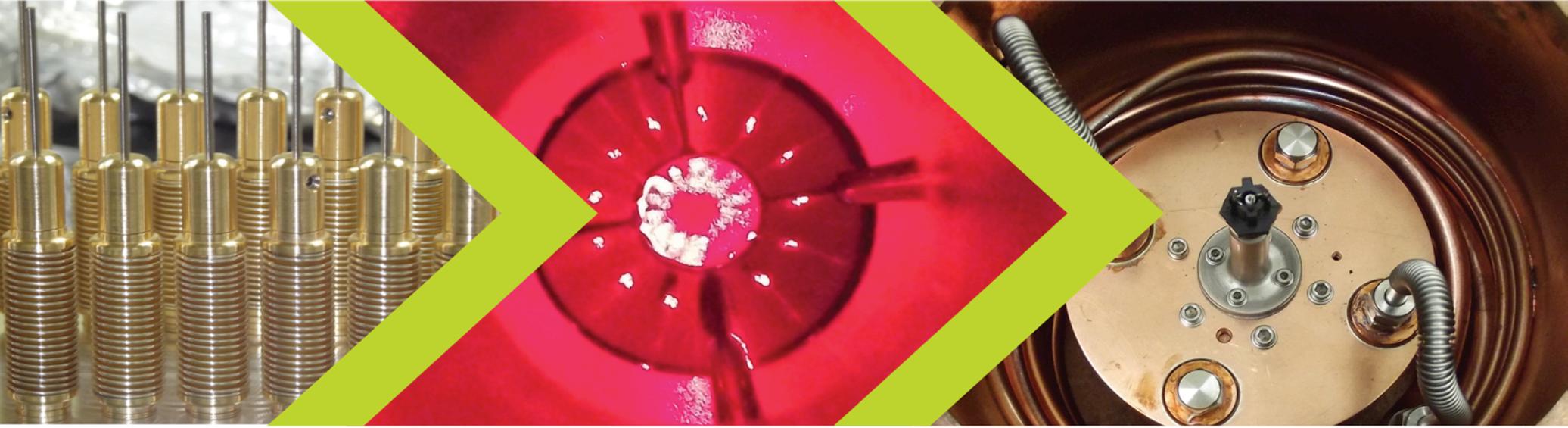
Uncovered SWU Demand

Base Case Uncovered Demand Forecast



Source: UxC *Enrichment Market Outlook*, Q3 2018

- From mid-2020's, forecast uncovered US SWU demand is in excess of 10MSWU per year
- Opportunities for SILEX SWU may evolve from 2030's depending on global supply capacities



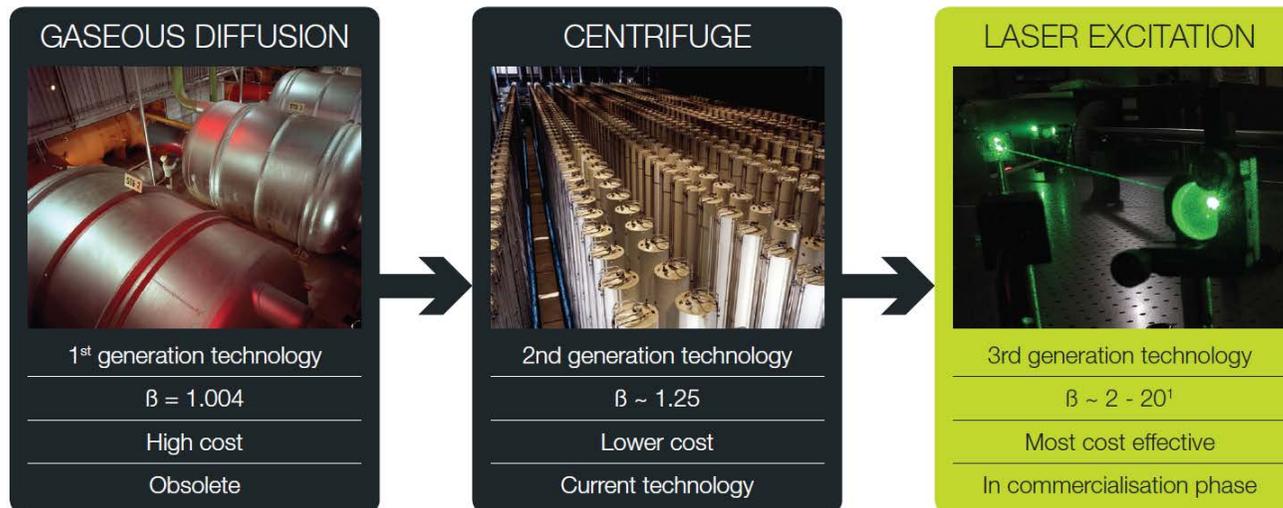
Overview of the SILEX Technology



Enrichment Technology Overview

SILEX - third generation laser enrichment technology

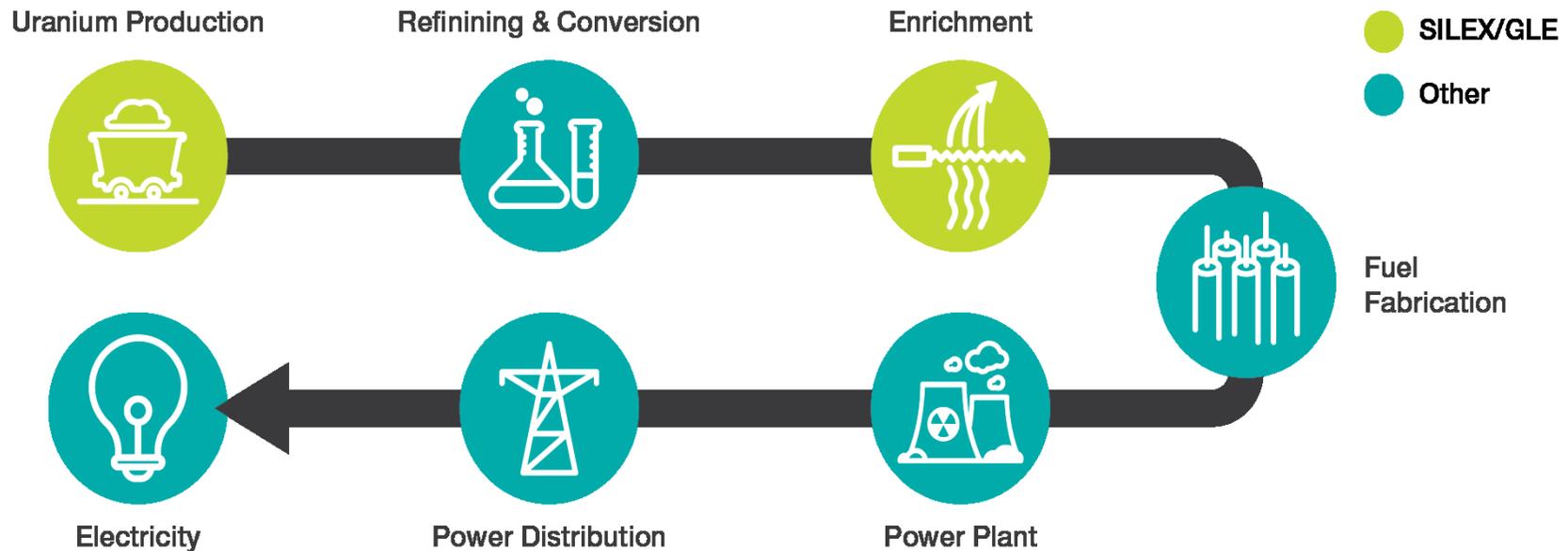
- SILEX - **S**eparation of **I**sotopes by **L**aser **EX**citation
- Highly selective laser (optical) excitation of $^{235}\text{UF}_6$ to separate isotopes
- Very high enrichment efficiency – expect relatively low SWU* costs
- Only known 3rd generation enrichment commercialisation program in the world today



1. β is the process efficiency (Classified number)

* SWU: Separative Work Unit – the marketable unit of enrichment

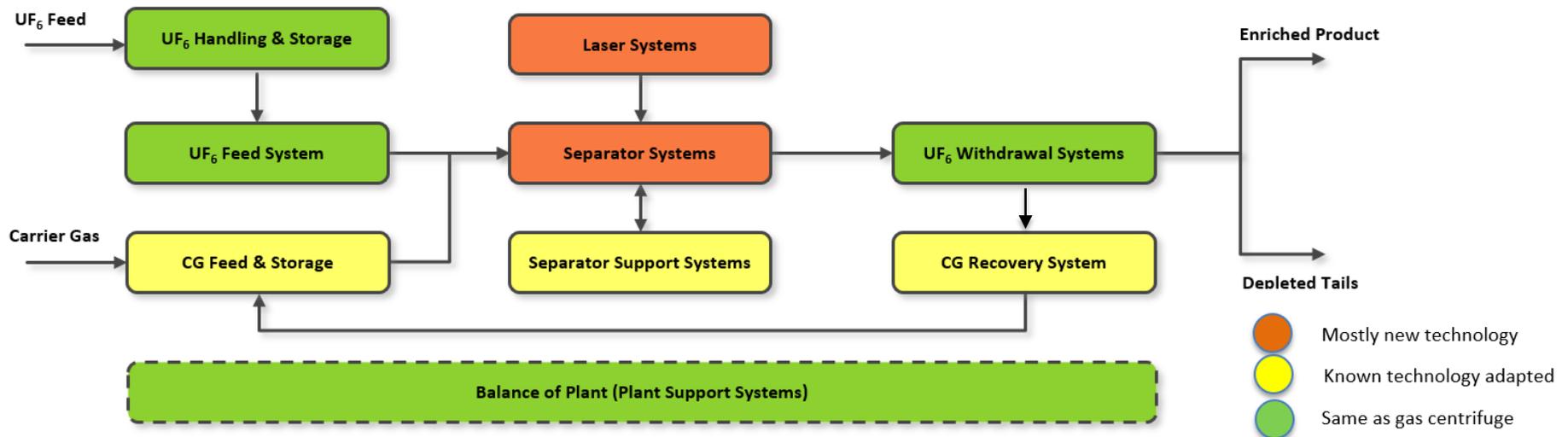
SILEX and Nuclear Fuel Production

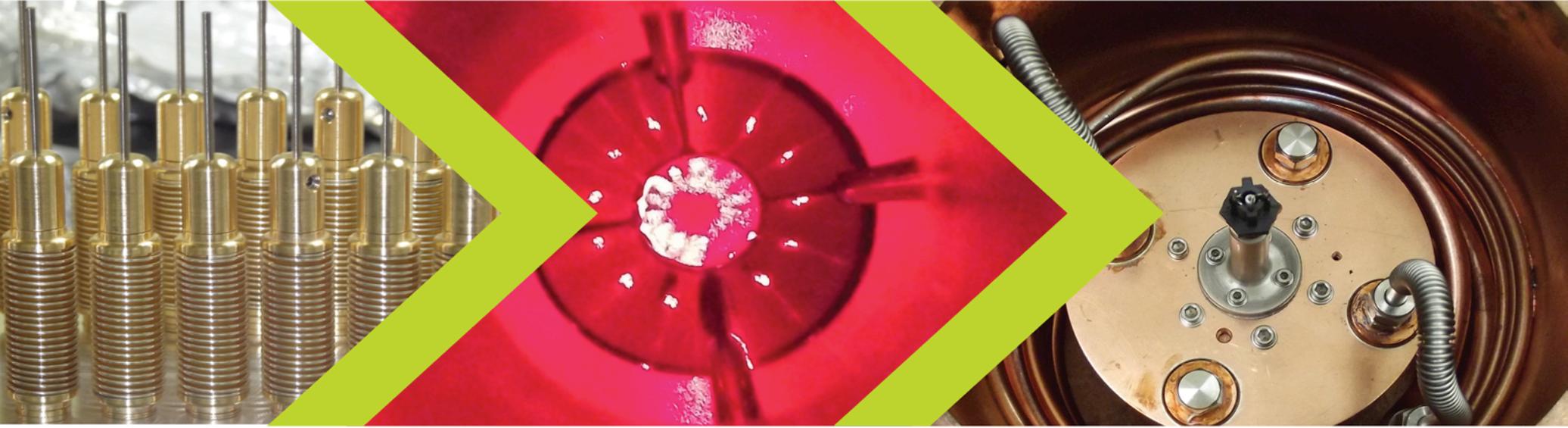


- The SILEX technology can be utilized to produce:
 - i) natural grade uranium via re-enrichment of tails inventories (Paducah project)
 - ii) enriched uranium for use as fuel in nuclear power reactors (including HALEU)
- Uranium production (~45%) and enrichment (~25%) comprise ~70% of the value in a fuel bundle (based on recent market pricing)

SILEX Technology Commercialisation Program

- Commercialisation program has had over US\$400 million invested to date
- 'Technology Validation' successfully completed in 2013 at GLE's Test Loop Facility in the US
- Next key step in commercialisation program - 'Economic and Engineering Validation' – would include demonstration of full-scale commercial production capability (if it proceeds)
- Activities at GLE's Test Loop currently on hold pending the outcome of the GLE restructure, while limited activities continue at Silex's Lucas Heights facility

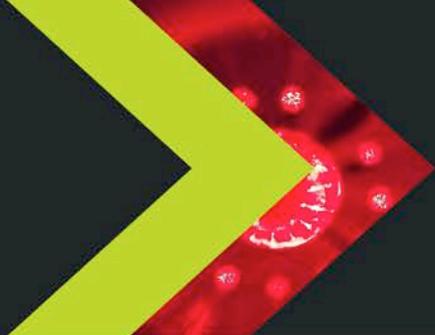




The SILEX Technology License Agreement and Paducah Opportunity



SILEX License Agreement Overview



Technology License Agreement with GLE – remains in force

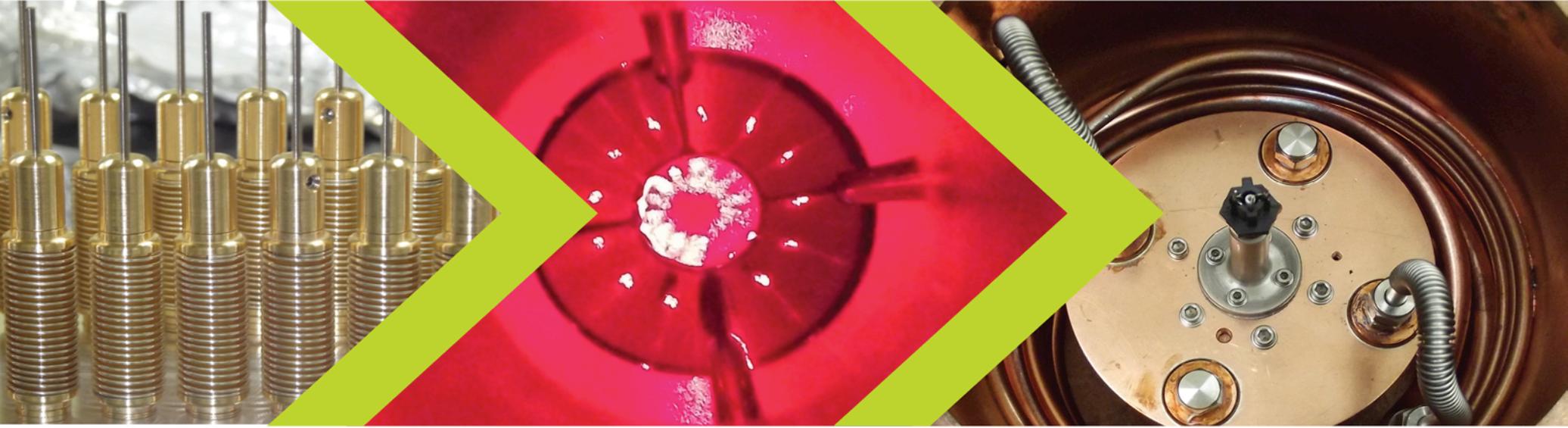
- Exclusive worldwide commercialisation and license agreement for the SILEX technology – signed in 2006
- Technology validation milestone May 2013 – triggered US\$15 million payment to Silex
- Agreement provides for a perpetual royalty and an further US\$20 million in milestones if the SILEX technology is commercialised by GLE
- Royalty streams payable upon use of SILEX technology for both normal enrichment and tails re-enrichment operations
- Perpetual royalty in range of 7% to 12% of future GLE revenues from commercial operations (based on calculation of cost per unit production installed)

GLE's Tails Re-enrichment Opportunity

- Agreement between GLE and DOE signed 10 November 2016 - underpins the Paducah Laser Enrichment Project
- Re-enrichment of DOE tails stockpiles equivalent to a large, low cost uranium mine operating for at least 40 years
- SILEX efficiency enables economic tails stripping capability and provides attractive economics
- The Paducah opportunity represents an ideal path to market – smaller plant and lower capital cost
- Attractive commercial potential, depending on the level of recovery in the uranium price
- Project plans and commercial deployment are dependent on a successful outcome in the restructure of GLE
- Even if the restructure is successful, the Paducah project will be delayed several years



Paducah Enrichment Plant Site

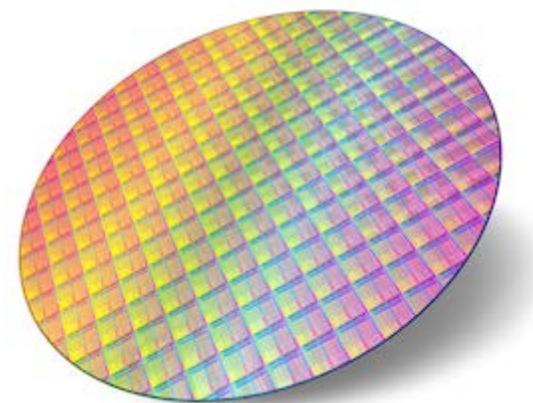
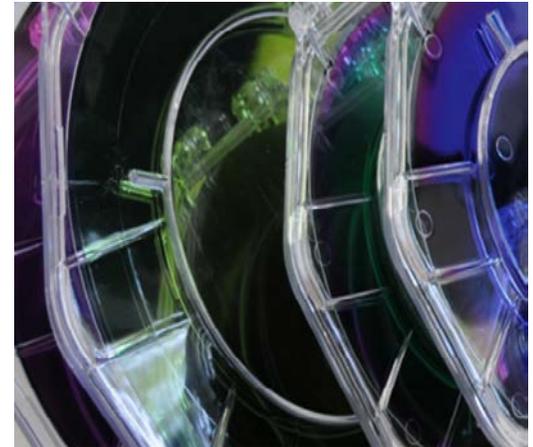


Translucent Inc – cREO™ Technology

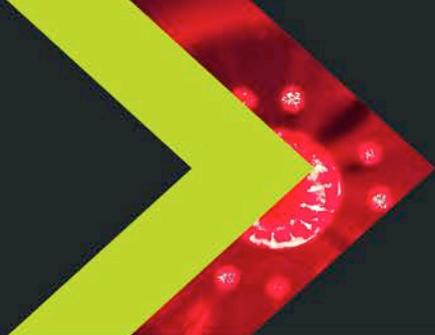


The Translucent – IQE Agreement

- Translucent's innovative 'Rare Earth Oxide' (cREO™) technology purchased by UK-based IQE in March 2018 – payment of US\$5 million received (in IQE shares)
- IQE is the global leader in the design and manufacture of advanced semiconductor wafer products
- A royalty of up to 6% of IQE's revenues derived from use of the technology payable to Translucent, with commencement of royalty payments expected within the next 2 years
- Significant semiconductor sectors being targeted by IQE – wireless communication devices and power electronics



cREO™ - IQE Development Program



- cREO™ technology was transferred to IQE's Greensboro, North Carolina manufacturing facility in late 2015 for the completion of product development activities
- Significant investment by IQE to progress development of cREO™ and complementary advanced semiconductor materials technologies
- IQE have reported good progress towards initial product development and demonstration of the cREO™ technology on silicon wafers for application in advanced semiconductor markets
- Product development focus is on high volume sectors such as wireless communications chips and power electronics devices which require higher performance semiconductor materials
- Product trials and preliminary qualification activities are currently underway within the IQE Group and with selected commercial partners
- IQE continue to expand the IP portfolio acquired from Translucent

cREO™ - IQE's Initial Applications

cREO™

ENABLING NOVEL COMPOUND MATERIALS ON SILICON



crystalline Rare Earth Oxide (cREO™) technology enables Compound Semiconductor capabilities and performance on Silicon substrates for use across all of IQE's key markets

Technology already demonstrated by IQE in wireless base station applications

- IQE Wireless
- IQE Photonics
- IQE Infrared
- IQE Solar
- IQE Power
- IQE CMOS++



Power electronics applications



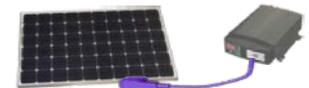
Electric vehicle power converters



Motor controllers for electrical appliances



Lighting power converters (e.g. street lights)



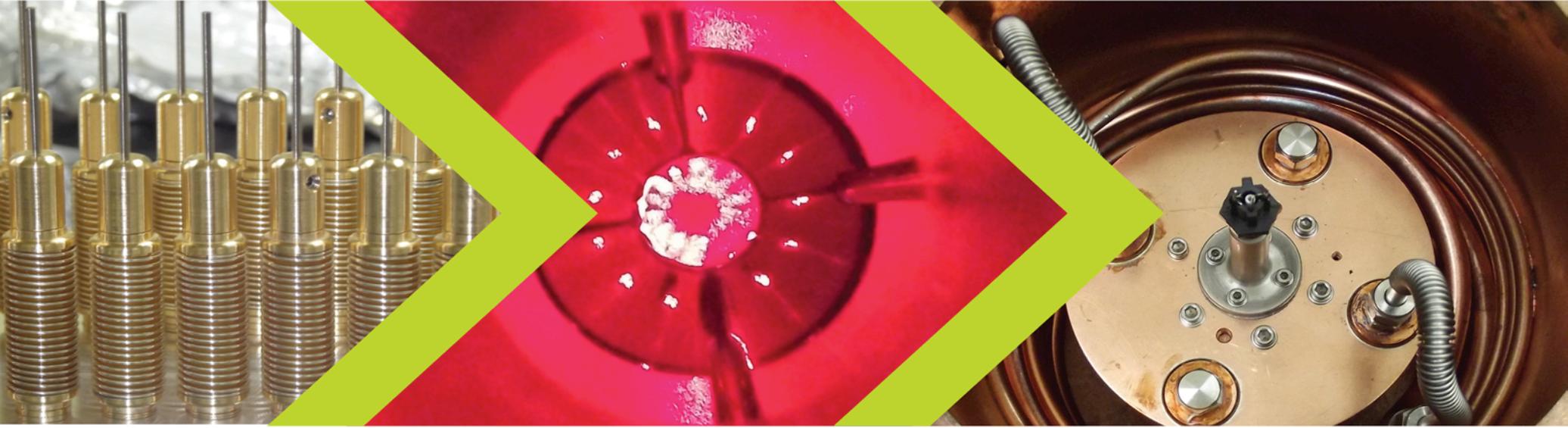
DC/AC conversion (e.g. solar inverters)

Wireless communications



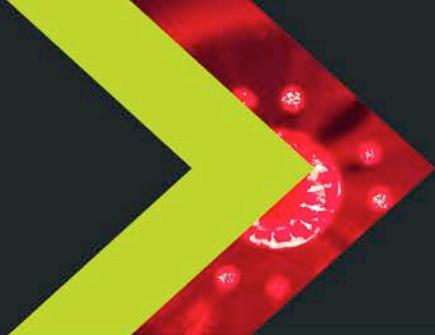
Mobile phone chips

Source: iqe.com

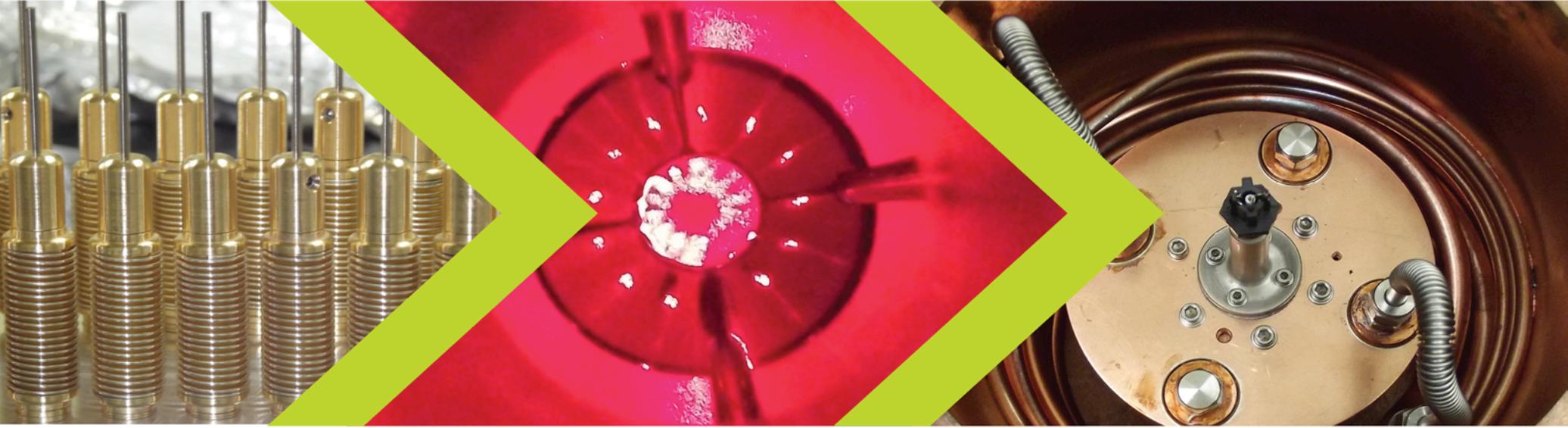


Summary and Outlook

Summary and Outlook



- Current focus is on preservation of value built up over the years with respect to the SILEX technology commercialisation program – in particular GLE’s Test Loop facility in the US
- Future of the commercialisation program is dependent on the outcome of the GLE restructure
- Key agreements underpinning the commercialisation program remain in force – the SILEX License agreement with GLE and the US DOE – GLE agreement for the Paducah opportunity
- Long-term fundamentals for global growth in nuclear power remain positive despite the short term difficulties in nuclear fuel markets
- Translucent cREO™ technology being advanced by IQE towards commercial deployment in several advanced semiconductor markets, providing additional shareholder value
- Rationalisation and consolidation of our operations ongoing with a strong focus on preserving cash and identifying a viable path to future success
- Company’s balance sheet remains healthy with net assets of ~\$42m, including ~\$29m in cash and approximately ~\$13m in IQE shares (at time of writing)



Thank you

