

## US EXIM BANK PRESENTATION

The attached presentation was provided to US EXIM Bank in connection with its ongoing discussions with the Company and Sunlands Energy Co. regarding the potential financing of the Uley 2 Project and the downstream purification facility respectively.

US EXIM Bank has recently confirmed its receipt of applications for Letters of Interest from both parties. The applications follow the briefing of US EXIM Bank and US agencies including the Department of Energy in early March 2024 (see ASX announcement 4 March 2024, *Briefing To US Agencies*) and attendance by Executive Director of Chimaera Capital USA, Robert Grant, Managing Director, Sal Catalano and board member, David Trimboli at the US EXIM Bank Conference in Washington D.C. on 6-7 June 2024.



Left to right: Robert Grant, Executive Director Chimaera Capital USA, Sal Catalano, Managing Director and David Trimboli, Director

**FOR MORE INFORMATION PLEASE CONTACT:**

Company Secretary  
Quantum Graphite Limited  
E: [info@qgraphite.com](mailto:info@qgraphite.com)



**ABOUT QUANTUM GRAPHITE LIMITED**

QGL is the owner of the Uley flake graphite mineral deposits located south-west of Port Lincoln, South Australia. The company's Uley 2 project represents the next stage of development of the century old Uley mine, one of the largest high-grade natural flake deposits in the world. For further information, [qgraphite.com](http://qgraphite.com)

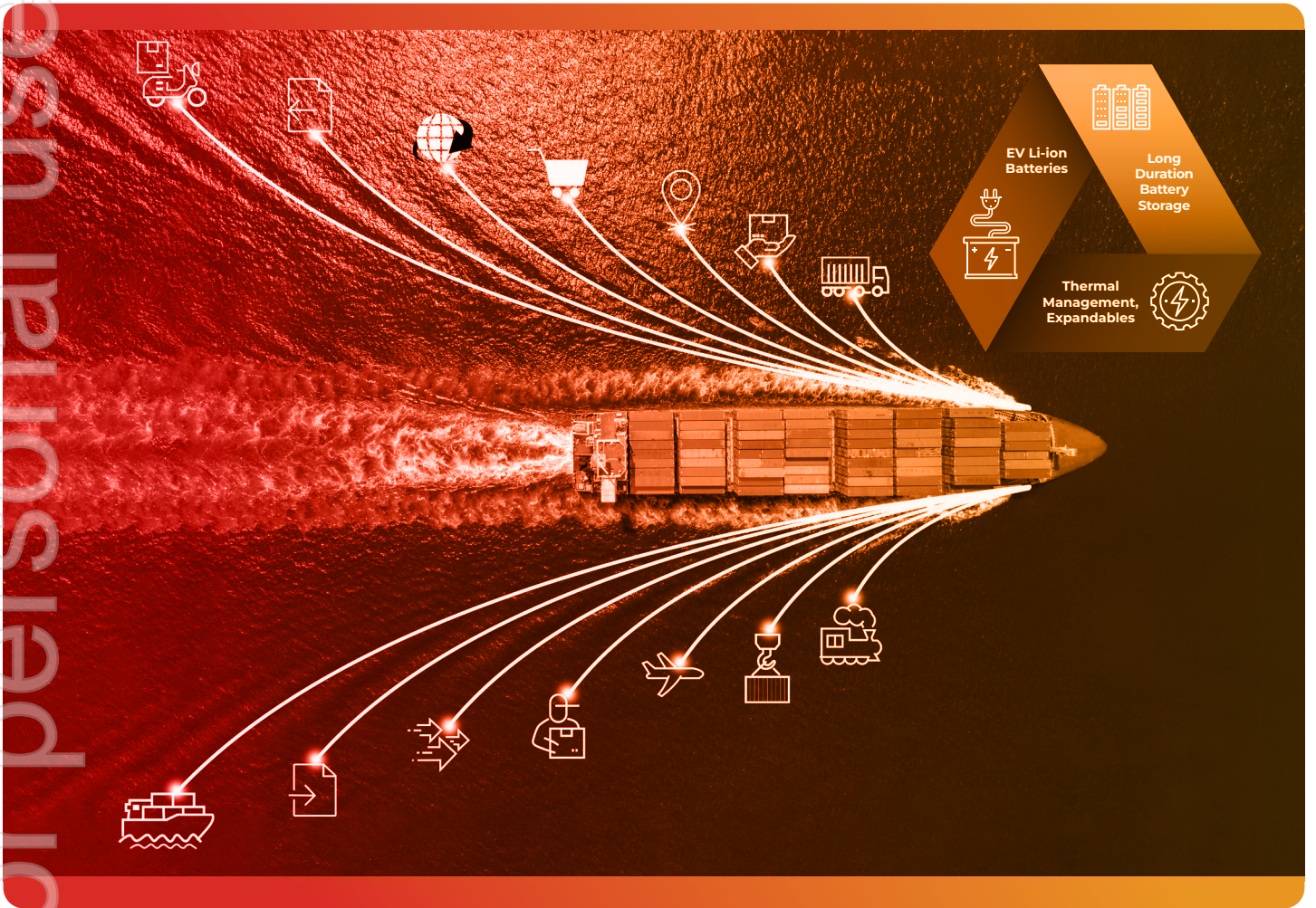


**ABOUT SUNLANDS ENERGY CO.**

Sunlands Energy Co. is the leading developer of thermal energy storage technology (TES Graphite Cells) designed to drive commercial, industrial and utility-scale steam turbine generators. The company's TES Graphite Cells are capable of restoring baseload generation, delivering critical synchronous support to grid networks and eliminating the large-scale curtailment of renewables generation. For further information, [www.sunlandsco.com](http://www.sunlandsco.com)

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# THE FUTURE OF GRAPHITE



**US EXIM Bank Briefing June 2024**

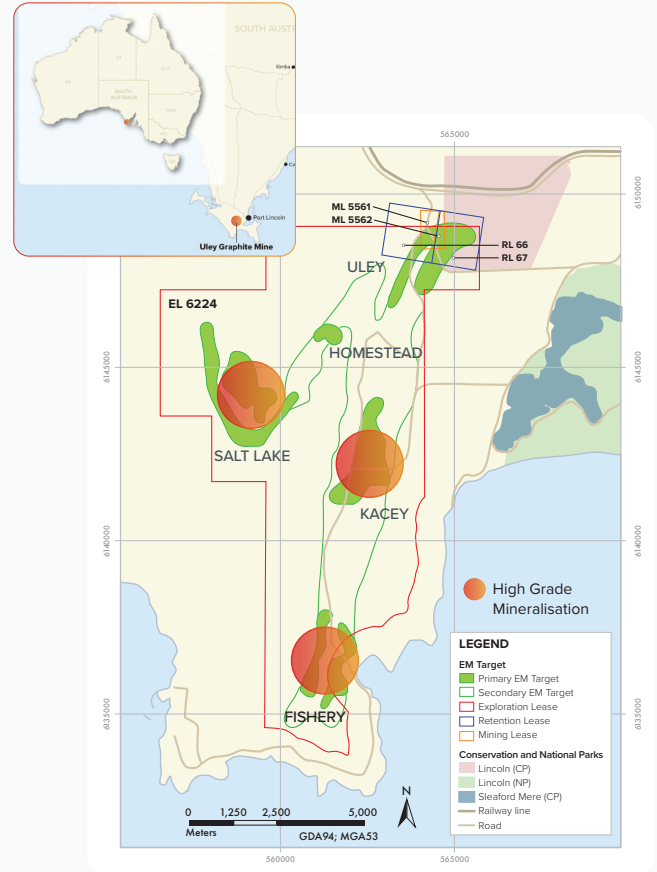
# ULEY 2 HIGHLIGHTS (STAGE 1 ONLY)

## About Quantum Graphite Limited

Quantum Graphite is the ASX-listed owner of the century old Uley graphite mine and the broader Mikkira Deposit located in South Australia's Eyre Peninsula, one of the world's largest natural coarse flake graphite deposits

### Company Highlights

- Only coarse graphite company that is fully permitted and development ready and has executed a binding offtake agreement for 50% of its production with a major European trading group
- Only global flake graphite producer that has prequalified with major European and north Asian manufacturers
- Only graphite company that has a decades long history of supplying major European and north Asian refractory manufacturers
- Only graphite company that has an exclusive graphite supply arrangement with Sunlands Energy Co., a leading thermal energy storage technology company
- Only graphite company that has an exclusive arrangement with Sunlands Pure LLC which has designed and developed proprietary advanced processing technologies for the production of graphite products for the energy/renewables industry from Uley 2 flake concentrate
- All mineral tenements are 100% owned including Mining Leases 5561 and 5562 (Uley 2 Project), Retention Leases 66 and 67 and Exploration Licence 6224



## Corporate



### Capital Structure

Shares on Issue 337,884,169.

Top 50 Shareholders >75%.

Board represents approximately 40% of the issued capital.

Clean balance sheet – as at 31 December 2023, rehab liability of \$0.56 million matched by security bond of \$1.07 million with South Australia Department of Energy and Mining (DEM).



### Board of Directors

Bruno Ruggiero,  
Chairman

Sal Catalano,  
Managing Director

Michael Wyer

David Trimboli

Rochelle Pattison,  
Company Secretary



### Key Management and Technical Partners

Chief Financial Officer,  
Pauline Borg

Metallurgical, Mineral  
Process Engineers  
(Lycopodium Minerals)

Thermal Process Engineers  
(ProTherm Systems)

High Temperature  
Research Partner  
(TU Freiburg, INEMET)

## ULEY 2 HIGHLIGHTS (STAGE 1 ONLY)

### About Sunlands Pure LLC

- Sunlands Pure is QGL's purification technology partner. It was established by the Sunlands Energy Co. following agreement with QGL for the specific purpose of undertaking all downstream purification of Uley 2 flake graphite concentrate
- As a member of the Sunlands Energy Co. Group, it has access to a global technology team with extensive experience in the key chemical and materials engineering disciplines of metallurgy, minerals processing, thermal processing and product engineering
- The Sunlands Pure processes achieve a purification of Uley 2 concentrate without any further degradation of particle size, i.e., purification is achieved whilst retaining the very same size fraction of the Uley 2 concentrate delivered from minesite processing
- The purification technology is a continuous (not a batch) process and capable of producing purified flake graphite at a far larger scale than currently available in China. The initial facility, with a production capacity of 100,000 dmtpa will be the single largest purification facility in the world



Technical collaboration partnerships include TU Bergakademie Freiberg's INEMET group. From left to right: Prof. Dr. Alexandros Charitos INEMET Director and Professor for high temperature processes in metallurgy, Mr Thomas Kraft INEMET technician and Mr Ludwig Blenau INEMET Research Associate and PhD candidate.

### Corporate



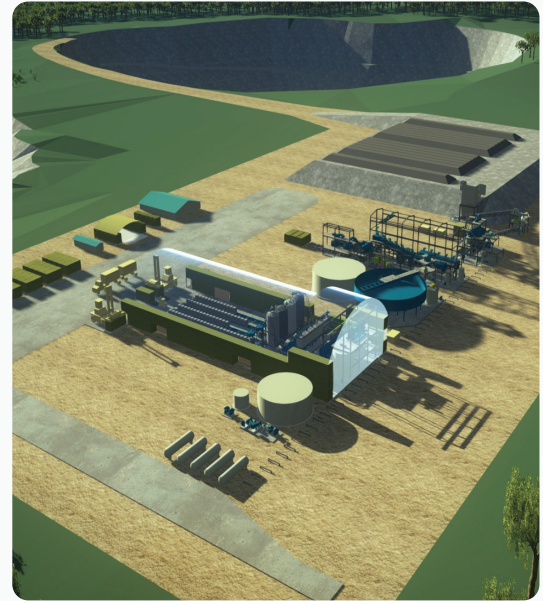
- Sunlands Pure is part of the Sunlands Energy Co. group and responsible for the group's implementation of the various technologies and processes for the purification of Eyre Peninsula natural flake graphite
- Its corporate strategy is closely aligned with Quantum Graphite's key commercial objective to lead the development of an ex-China, Western Hemisphere independent flake graphite supply chain serving the US, European and Japanese and South Korean markets
- Expansion of the Sunlands Pure business is directly linked to the growth in Eyre Peninsula flake graphite production and the potential to provide a shared access purification facility for all Eyre Peninsula flake graphite producers

## ULEY 2 HIGHLIGHTS (STAGE 1 ONLY)

### Uley 2 Project Technicals

Total undiscounted cash flow	A\$990.4 million <sup>1</sup>
Crusher feed	1,200,000 tonnes per annum
Graphitic carbon grade	11.89%
Graphitic carbon recovery	84%
Concentrate purity	97% graphitic carbon (gC)
Capital expenditure	A\$152.7 million
Processing cost (PCAF)	A\$236.05 per tonne (inclusive of admin)
Mining cost (MCAF)	A\$2.5/t milled at surface plus 5c for every 4m
Production	100,000 dmt per annum
Product Cost (Av LOM)	US\$401.14 dmt (inclusive of drying and bagging)
Product Price (Ex-works)	US\$1,225 dmt

<sup>1</sup> Includes JORC 2012 Reserves and Resources



Detailed graphic of the Uley 2 minesite process plant

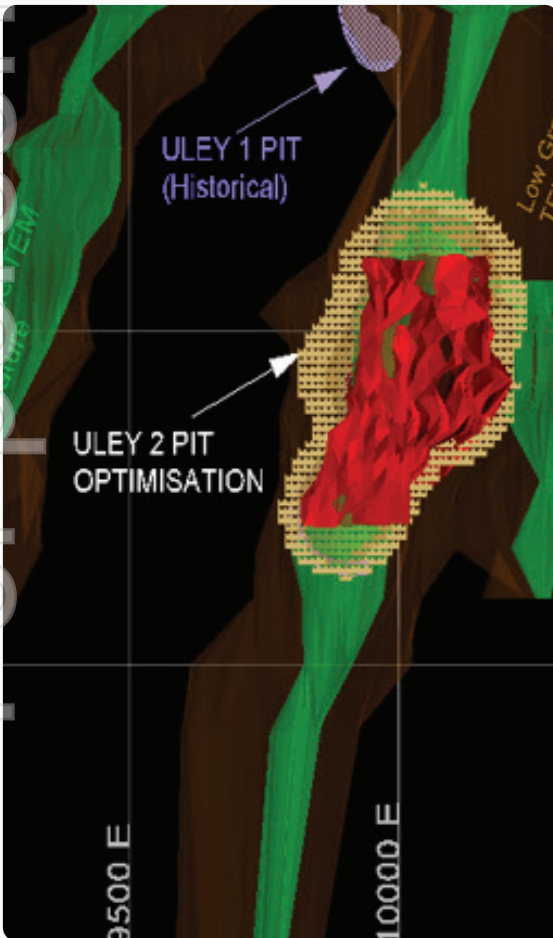


Illustration of the Uley 2 pit and surrounding (green) extensions to main Uley 2 ore body.

### Uley 2 Project Overview

**Status:** DFS completed for Uley 2 (Stage 1) December 2019, Updated DFS completed December 2023

**Location:** Eyre Peninsula, South Australia; 20km west-south-west of Port Lincoln

**Government approvals:** All approvals obtained pursuant to South Australian Department of Energy and Mining Program for Environment Protection and Rehabilitation PEPR 2014/110

**Project readiness:** Immediate

**Stage 1 mine life:** 12 years (Stage 1)

**Mineral Resources or Reserves (JORC 2012):** Total Mineral Resources 7.2Mt @ 11.10% TGC; Total Ore Reserves 4.3Mt @ 11.89% TGC

Uley 2 & 3	Measured	800	15.6
	Indicated	4,200	10.4
	Inferred	2,200	10.5
	<b>TOTAL</b>	<b>7,200</b>	<b>10.5</b>

<sup>2</sup> Released to the market on 18 November 2021 and includes Proved and Probable resources of 4.003 million tonnes

**Stage 1 production level:** Uley 2 processing plant will produce a minimum of 100,000 tonnes of high purity coarse flake concentrate

**Processing path and methodology:** Liberation of graphite particles through crushing and grinding followed by flotation and polishing sections. Multi-stage polishing critical to enhanced flake graphite recoveries and maximising purity and coarse flake size

**Offtake agreements in place:** Binding offtake agreement executed with Swiss trading group MRI Trading AG for 50% of Uley 2 production for a minimum of 5 years

## ULEY 2 HIGHLIGHTS (STAGE 1 ONLY)

### Resource Expansion Priorities - Uley Near Mine (20 years) Exploration Strategy

A detailed Uley region resource expansion strategy has been developed to meet the short, medium and long term resource requirements that will support a sustainable and reliable production of high quality flake graphite. This strategy exploits existing knowledge of the Uley orebodies' structure within the proven mineralised zones of this region and is summarised below as three discrete but connected priorities.

#### Priority 1 Short Term Ore Reserve extension

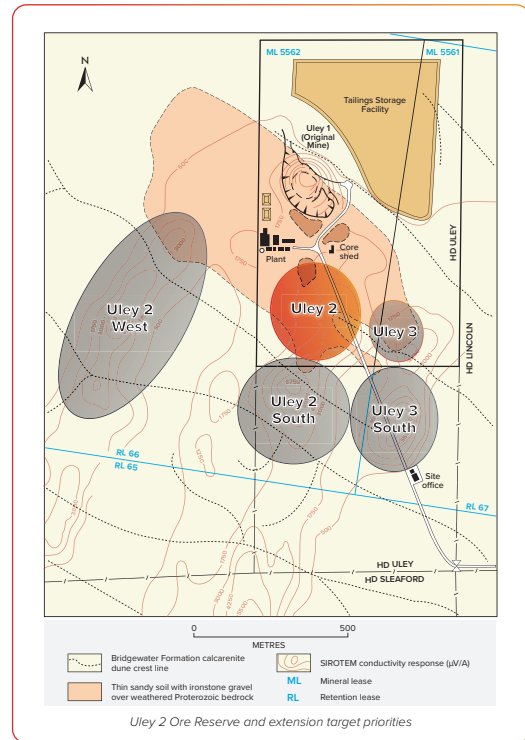
- Uley 2 South 50m
- Infill drilling at Uley 3

#### Priority 2 Medium Term Resource extension

- Uley 3 South
- Extension drilling to 50m-by-50m intervals

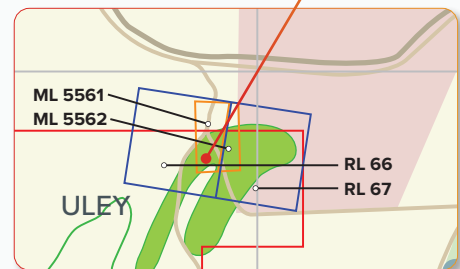
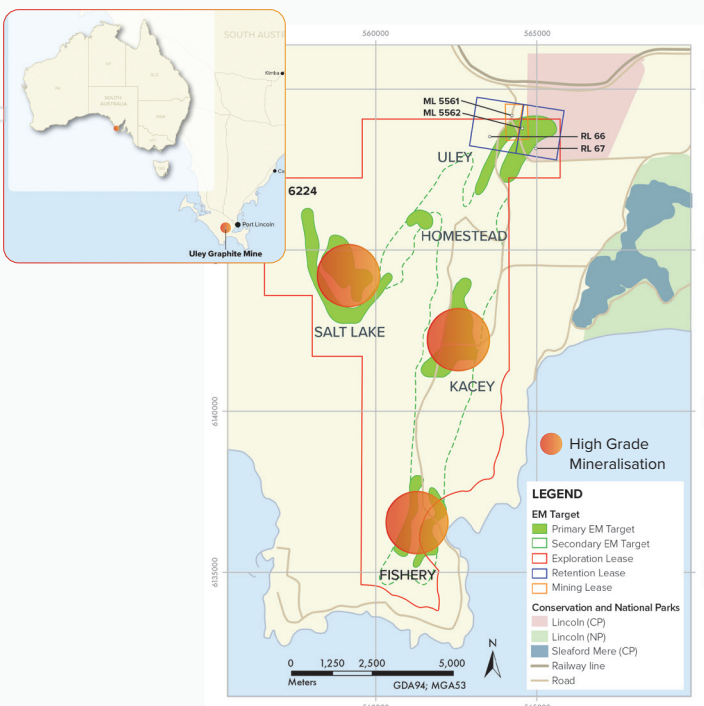
#### Priority 3 Long Term Resource extension

- Uley 2 West geophysical anomaly target
- Uley 2 South beyond Priority 1 along strike of the geophysical anomaly



### Resource Expansion Priorities - District (20-50 years) Exploration Strategy

An extensive exploration strategy is being developed within the large scale exploration licence, EL 6224 that includes much of the greater Mikkira graphite structure. A detailed geophysical study combined with historical drilling data and planned targeted drilling will form the basis of an exploration strategy designed to deliver multi-decade, generational increases in resources. The immediate results of the study will deliver several drilling targets across the major high-grade mineralised envelopes.



## ULEY 2 HIGHLIGHTS (STAGE 1 ONLY)

### Uley 2 Vertically Integrated Product Strategy



### Uley 2 Minesite Concentrate Products

Minesite processing path and production profile for Uley 2 will focus on high purity coarse flake production of approximately 100,000 tonnes per annum. Details of flake product mix is set out below.

**Comprehensive met results confirm high quality production mix that has been generated for decades**

- Medium to Extra-Large Flake - 73% of overall production of gC
- Large and Extra-Large Flake purities - 97.2%gC and 97.8%gC respectively
- Process Recoveries - > 89%gC

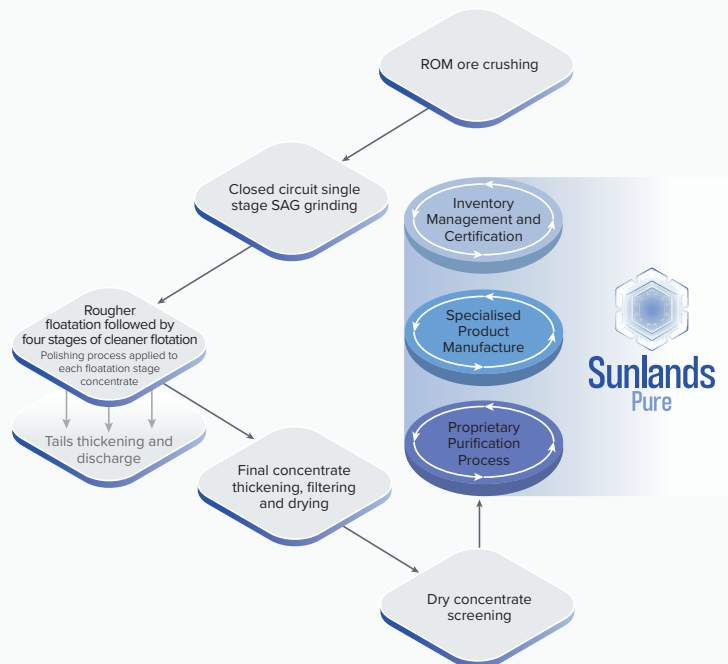
Size Fraction (µm)	Size Fraction (Mesh)	Approx. Weight Dist. (%)	Graphitic C Purity (%)
+300	+50	10.5	97.8
-300+150	-50+100	35.4	97.3
-150+75	-100+200	27.1	97.2
-75	-200	27.0	90.7

### Sunlands Pure Purification Products

- Sunlands Pure is QGL's purification technology partner. It was established by the Sunlands Energy Co. following agreement with QGL for the specific purpose of undertaking all downstream purification of Uley 2 flake graphite concentrate
- The Sunlands Pure process is uniquely capable of purifying natural flake graphite to a purity of 99.9% graphitic carbon *at each of the size fractions of the concentrate product mix*

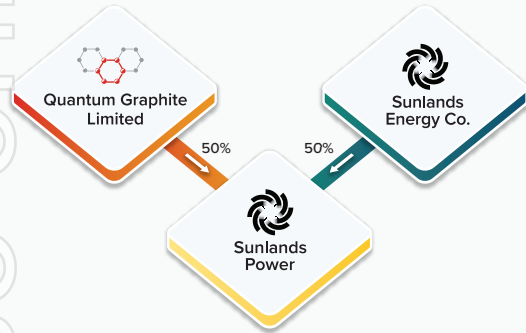
Size Fraction (µm)	Size Fraction (Mesh)	Approx. Weight Dist. (%)	Graphitic C Purity (%)
+300	+50	10.5	99.9
-300+150	-50+100	35.4	99.9
-150+75	-100+200	27.1	99.9
-75	-200	27.0	99.9

- Sunlands Pure will deliver this critical material to key markets including manufacturers in the Li-ion battery, isostatic graphite and thermal energy storage market segments



## ULEY 2 HIGHLIGHTS (STAGE 1 ONLY)

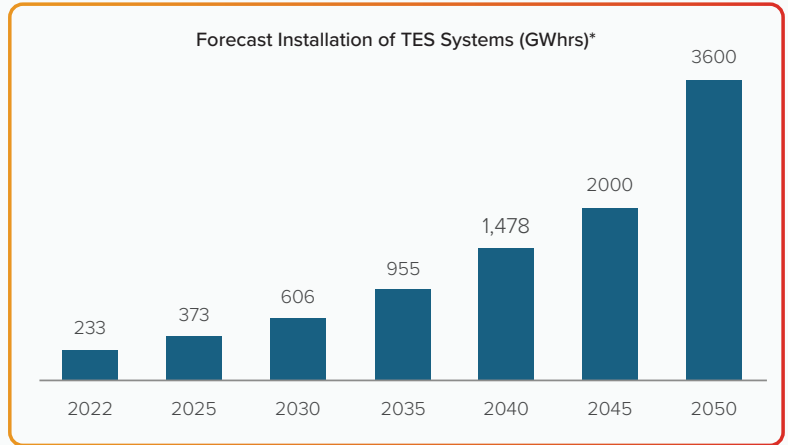
### Sunlands Power - Direct Participation in the New Energy Markets



Sunlands Power, QGL's joint venture with Sunlands Energy Co. underpins QGL's transformation from a raw material supplier to a direct participant in the ultra high growth long duration energy storage markets.

Sunlands Power's exclusive manufacture of TES Graphite Cells for Sunlands Energy Co.'s battery technology delivers, QGL:

- New global market - captive long term access to the global electricity market for its flake graphite products
- Superior product pricing margin - compared to its peers, QGL will enjoy prices that will be calculated on the basis of high value manufactured products
- Uncorrelated business exposure with global growth - a significant additional revenue stream with unmatched growth potential not impacted by any of the traditional markets for flake graphite



\*Source: LDES Council ([www.ldescouncil.com](http://www.ldescouncil.com)), Catalysing the Global ETES Opportunity (System IQ 2024)

### Unique capability to directly replace coal generation

"The power-to-heat component of TES make them ideal for installation at existing coal generation power stations when those assets reach end of life or are retired to meet emissions reductions goals. A TES asset could be used to replace the existing heat source while reusing the existing generation equipment and balance of plant infrastructure, helping to reduce overall cost to the system and for the TES asset itself. Studies have shown this approach has capital costs and delivered energy LCOE at levels comparable to other forms of LDES."

*The future of long duration energy storage, Clean Energy Council June 2024 (p. 38)*

### Sunlands Power Delivers Massive Potential Demand for Uley Flake

#### Key metrics

- 8 tonnes of flake graphite is required for 1MWh of storage
- up to 4x this tonnage may be required for a commercial installation
- Sunlands Energy Co. estimates it will require approximately 40% of the Company's production to deliver 250MW of dispatchable storage for a continuous 8 hour period

#### Major application opportunities

- Retro-fitting Sunlands Energy Co.'s. TES Graphite Cells to existing coal fired power stations is one of the major global application opportunities - most coal fired power stations are scheduled to cease operation in the next 15 to 20 years
- Decarbonisation of commercial and industrial plants including smelters, refiners and cement plants
- Providing synchronous maintenance and support services with a superior capability to that of existing technologies such as synchronous condensers



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