



**LINKING THE WORLD'S LARGEST LITHIUM MINES WITH  
EUROPE'S BURGEONING BATTERY GIGAFACTORY MARKET**

**TEES  
VALLEY  
LITHIUM**

**ALKEMY CAPITAL INVESTMENTS PLC  
(ALK.LSE) (JV2.FRA)**

# ALKEMY CAPITAL INVESTMENTS PLC

Listed on the London Stock Exchange (ALK.LSE)  
and Frankfurt Stock Exchange (JV2.FRA).

Tees Valley Lithium Ltd, a wholly-owned subsidiary of ALK, is establishing Europe's largest, low-carbon lithium mid-stream refining solution that links the largest lithium mines in Australia with Europe's burgeoning electric vehicle market.

## CORPORATE PROFILE

LSE standard listing (LSE: ALK)

FRA standard listing (FRA: JV2)

7.2M shares on issue

Market cap ~£20 million

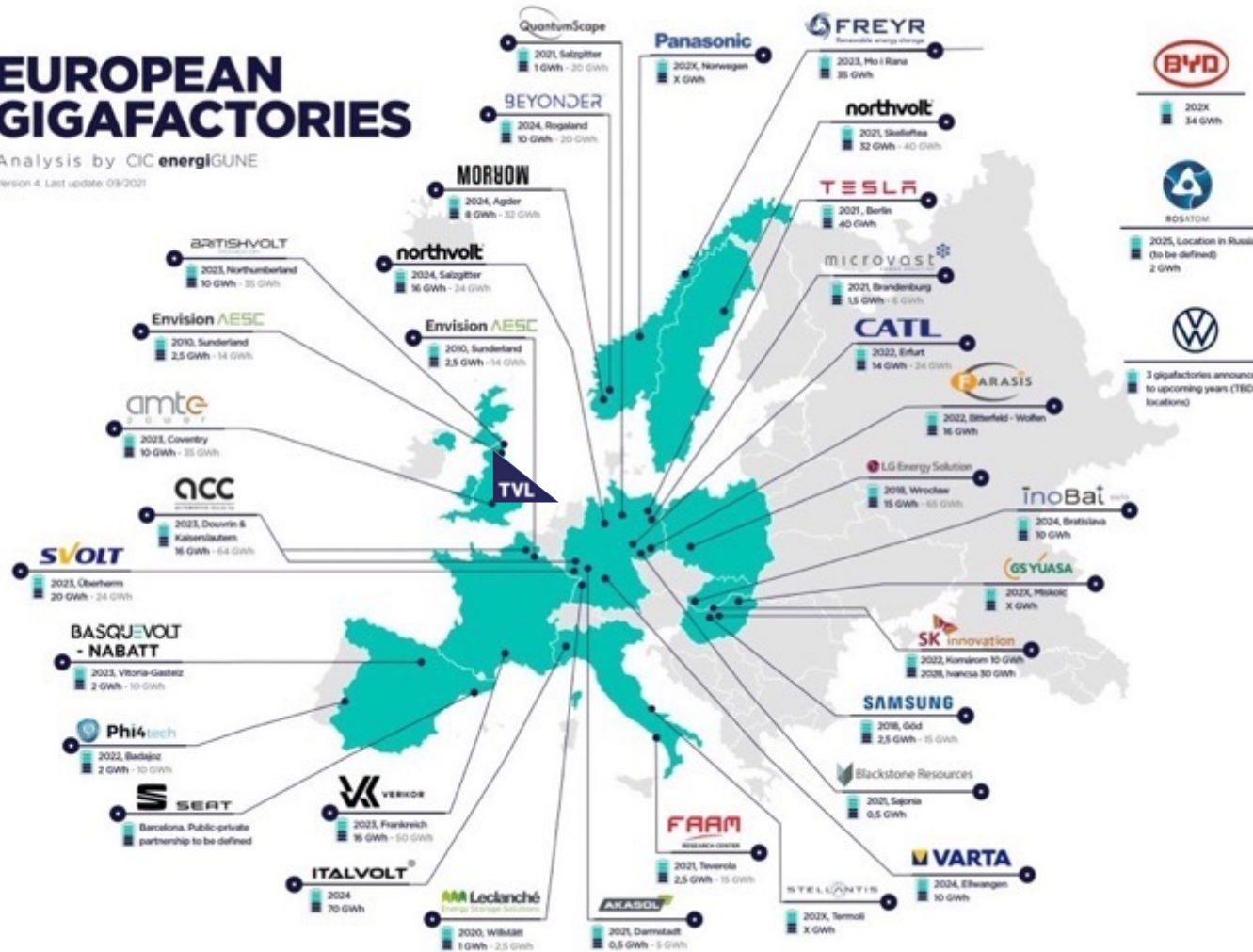
### HISTORICAL ALKEMY SHARE PRICE



# EUROPEAN GIGAFACTORIES

Analysis by CIC energigUNE

Version 4, Last update: 09/2021



Europe will have 700 GW of Gigafactories by 2025.

..which will need over 325,000 tonnes of Lithium Hydroxide and Carbonate per year.

There is currently zero Lithium production capacity in Europe.

# CHINA CONTROLS 90% OF THE WORLD'S LITHIUM HYDROXIDE PRODUCTION



*“China will need all of its lithium production for its US\$11 trillion Carbon Neutral 2060 plan.”*

# FOCUSED ON MID-STREAM LITHIUM REFINING SECTOR

TEES  
VALLEY  
LITHIUM



PORT  
HEDLAND  
LITHIUM



TVL has identified the opportunity to link the world's largest spodumene producers in Australia with the burgeoning battery gigafactory market in Europe.

To execute this strategy, TVL plans to build two linked refineries in Australia and the UK

- **PORT HEDLAND LITHIUM**  
Lithium Sulphate Refining
- **TEES VALLEY LITHIUM**  
Lithium Hydroxide Refining

# APPROVAL GRANTED TO BUILD EUROPE'S LARGEST AND THE UK'S FIRST LITHIUM REFINERY

TVL has received full planning permission from Redcar & Cleveland Borough Council to build the UK's first – and Europe's largest – Lithium Hydroxide refinery.

Following an 18-month consultation period, TVL is now shovel-ready and will generate over 1,000 local jobs.

**TEES  
VALLEY  
LITHIUM**

**PLANNING PERMISSION GRANTED**

# A NEW LITHIUM HUB FOR EUROPE

Producing up to 96,000 tpa of battery grade Lithium Hydroxide.

Equivalent to 15% of European demand by 2030.

UK has a unique opportunity to compete globally in lithium refining through the combination of world class chemical parks and expertise and low cost sustainable offshore wind power.



# WILTON INTERNATIONAL PLUG & PLAY CHEMICALS PARK

Tees Valley Lithium will be the first major ultra-low carbon Lithium Hydroxide plant to be established in Europe.

Being established in a world-class chemicals park on a *plug & play* basis with ultra-low capital cost.

Major power, reagents and utilities provided by owner Sembcorp Energy UK and port logistics provided by PD Ports.



# Semcorp Energy welcomes Tees Valley Lithium, UK's first Lithium Hydroxide Facility to Wilton International

*"I'm delighted that Tees Valley Lithium has chosen Wilton International for their new plant, having been attracted by the benefits of the Teesside freeport and the readily-available connectivity of our site."*

*"We welcome new customers and new low-carbon jobs that are supporting the UK's transition to net zero, similar to Semcorp's strategic goals."*

**Andy Koss, CEO, UK & Middle East, Semcorp Industries.**



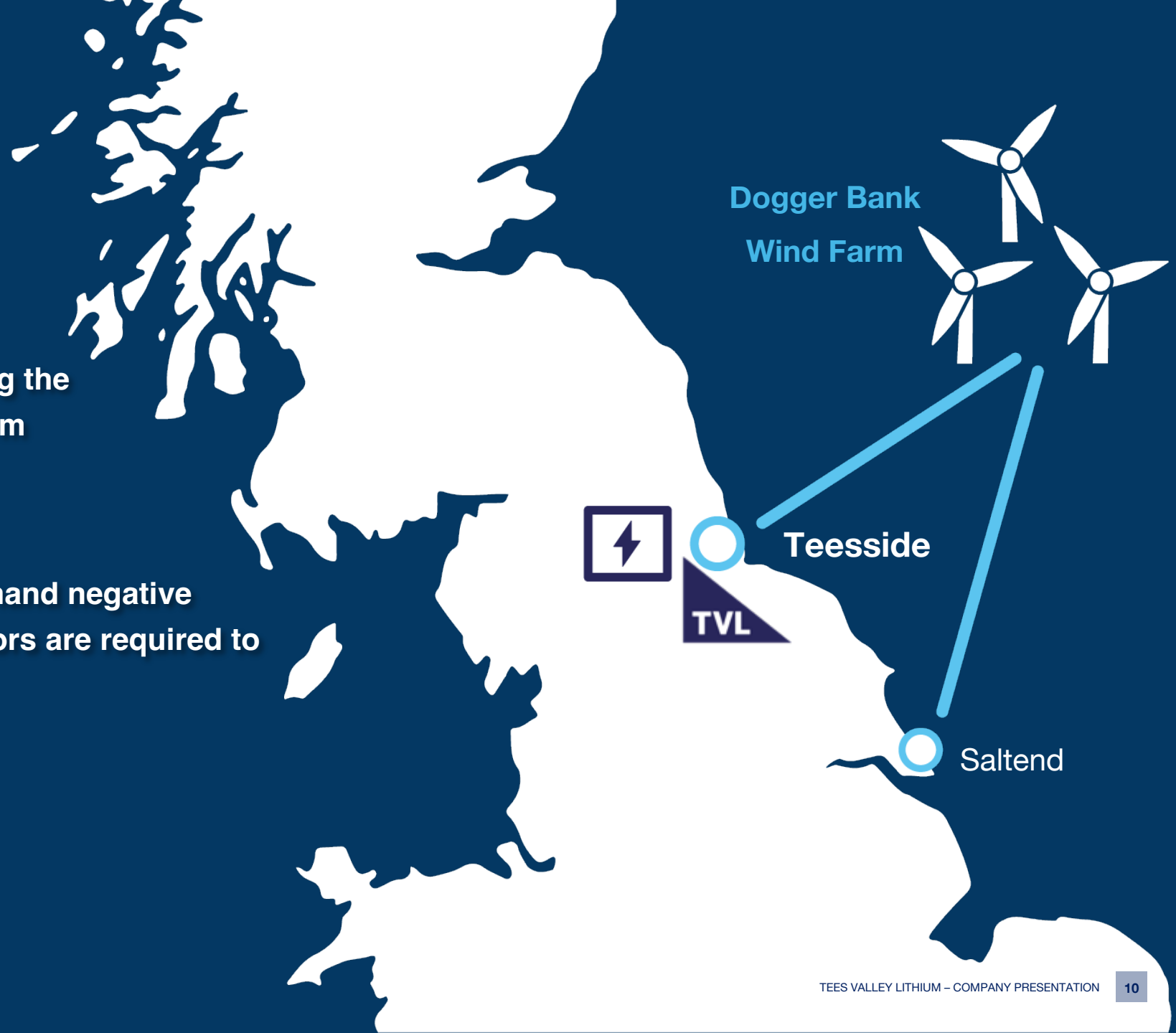
**TEES  
VALLEY  
LITHIUM**



# TO BE POWERED BY LOW-COST RENEWABLE ENERGY

Hitachi is laying a HVDC cable connecting the 2.45 GW Dogger Bank Offshore Wind Farm with a 360 MW battery storage facility at Teesside.

During periods of high wind and low demand negative electricity costs are generated as operators are required to pay consumers to take power.



# MULTIPLE FEEDSTOCKS PRODUCING *HYDROXIDE AND CARBONATE* FOR *NMC* AND *LFP* BATTERIES

Primary Lithium Sulphate

Crude Carbonate (Brine)

Crude Carbonate (Mica)

Recycled Material (EU 2027)

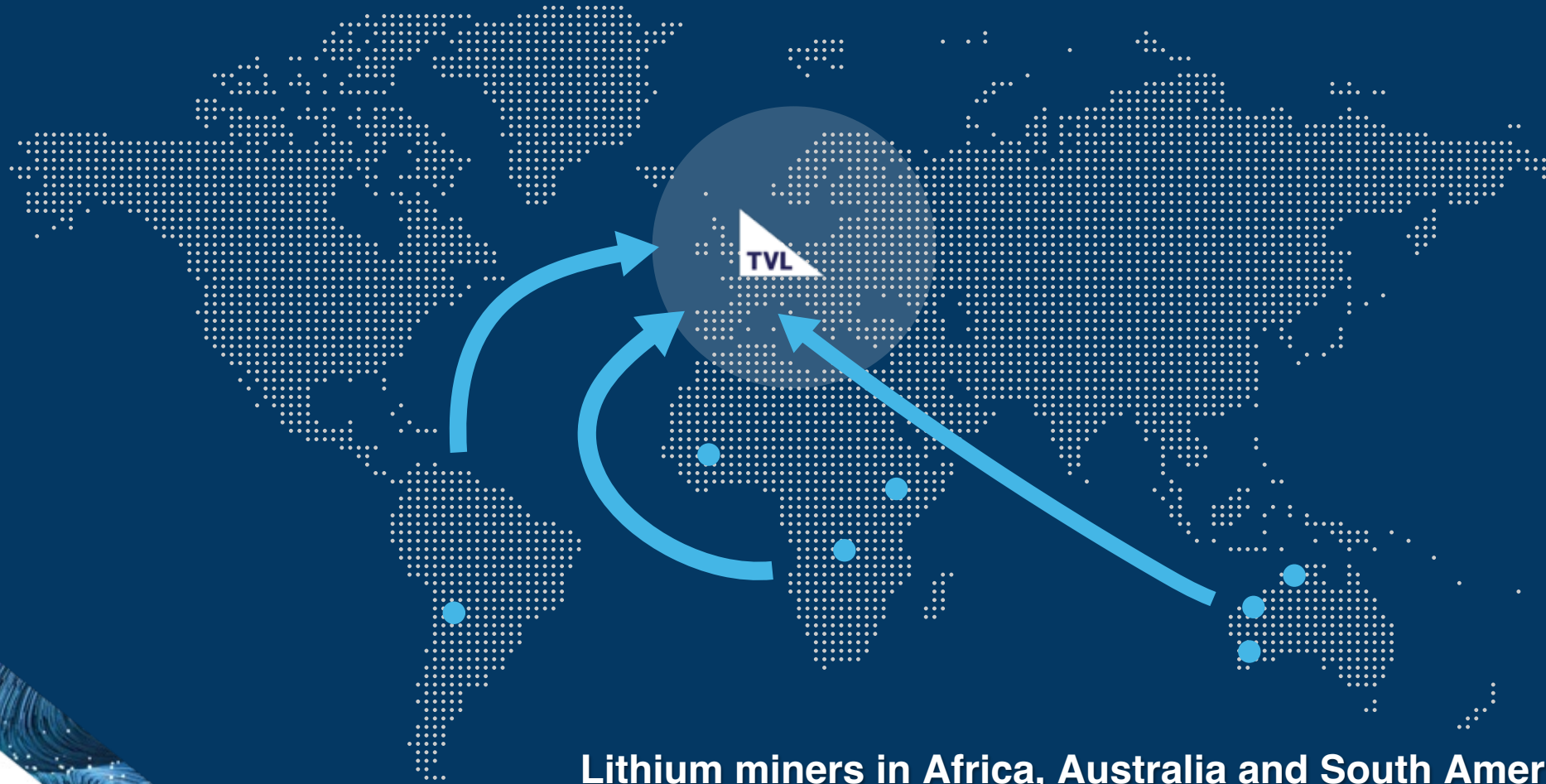


Lithium Hydroxide (NMC)

Lithium Carbonate (LFP)

TVL's unique chemical processing allows for flexibility in feedstock profiles and the ability to produce multiple end-products.

# TVL OFFERS MINERS DIRECT ACCESS TO THE PREMIUM-PRICE EUROPEAN LITHIUM MARKET



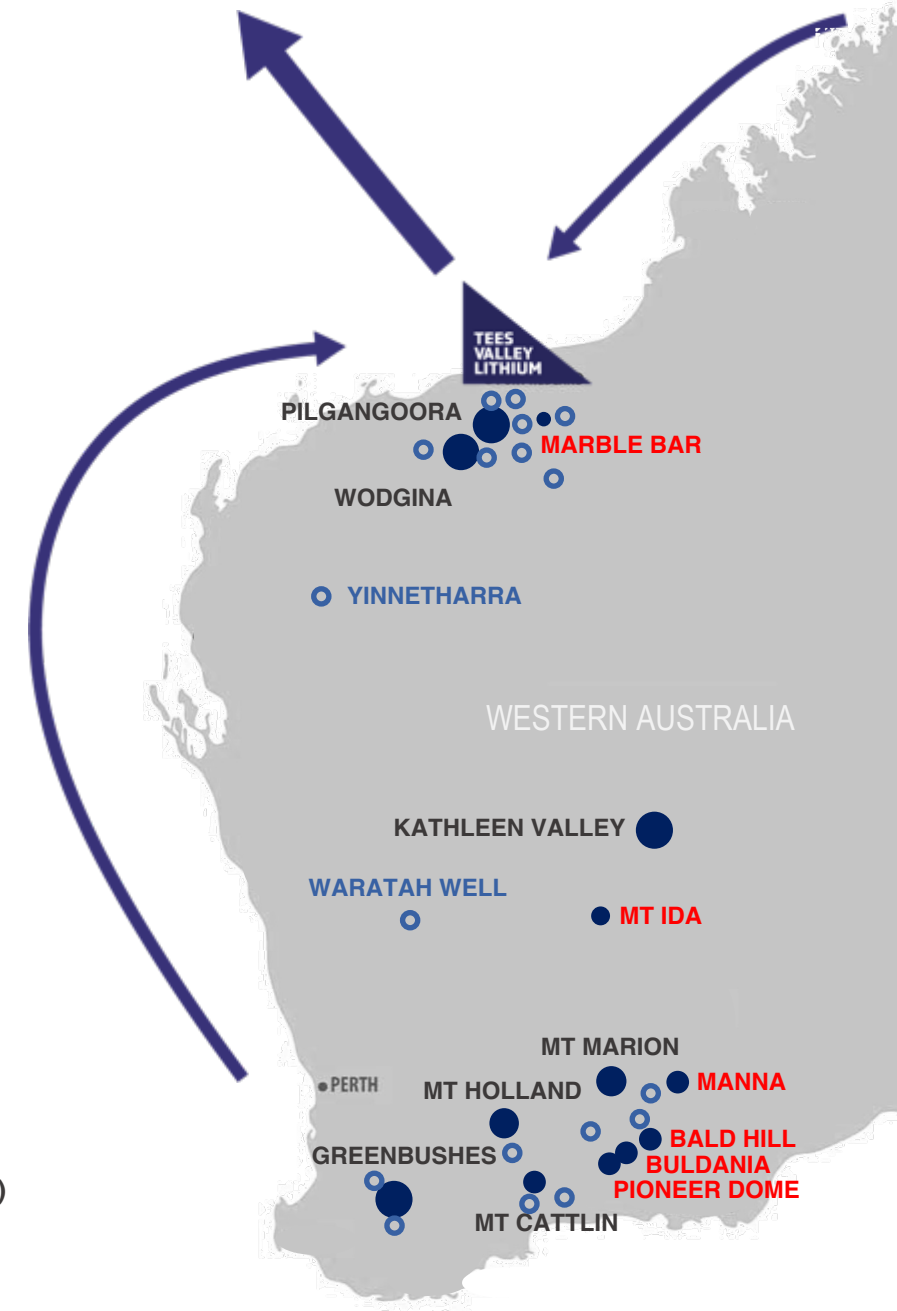
Lithium miners in Africa, Australia and South America can gain direct access to the burgeoning European battery market by exporting a high-value, low-carbon intermediate product.

# A PRIMARY LITHIUM SULPHATE PLANT LOCATED IN THE HEART OF THE WORLD'S LARGEST SPODUMENE PRODUCING REGION

TVL is also planning to build a primary lithium sulphate plant at Port Hedland to supply feedstock to Wilton in future.

This offers Australian mining companies with capacity to convert Spodumene (SC6%) to Primary Lithium Sulphate (~50%) on an offtake or tolling basis for shipping to TVL's Wilton Refinery in Europe (*rather than shipping spodumene to China*).

43 hectare land allocation within Boodarie Strategic Industrial Area secured for refinery, approximately 10km from Port Hedland.



PRODUCERS  
(EXISTING AND NEAR TERM)

EXISTING RESOURCES

PROSPECTIVE PROJECTS

# WILTON – KEY PROJECT ECONOMICS (LHM)

	Unit	Train 1	TOTAL (4 Trains)
Life of Project	Years	30	30
LHM Sold	Tonnes	24 kt pa	96 kt pa
Gross Revenue	USD	600M pa	2,400M pa
Operating Costs Total	USD/t	18,292	18,513
Capital Cost (incl 17.5% contingency)	USD	290M	1.4bn
Free Cashflow	USD	120M pa	460M pa
Post-Tax NPV	USD	930M	2.7bn
Post-Tax IRR	%	41%	34%
EBITDA	USD	160M pa	620M pa
EBITDA Margin	%	27%	26%
Payback Period	Years	2.6	NM

**TOTAL LIFE OF PROJECT = 2.84Mt LHM, \$71bn Rev**

**TARGET DATE OF PRODUCTION = 2025**

- Assumes a long term LSM price of US\$10,000/t and LiOH price of US\$25,000/t
- The initial 24,000 tpa will process via causticisation and thereafter via electrochemical

# PORT HEDLAND – KEY PROJECT ECONOMICS (LSM)

	Value
LSM Exported (train 1 per annum)	41,500 tonnes
LSM Exported (4 trains per annum)	166,000 tonnes
Material Processed (SC6 per annum, 4 trains)	720,000 tonnes
Gross Revenue (4 trains per annum)	US\$1.6 billion
Estimated CAPEX (train 1 only)	US\$150-200 million
Statutory Approvals Timeframe	c12 months
Commencement of Construction	Mid 2024
Commencement of Operations	End 2025 / H1 2026
Operational Staffing	180 personnel
Construction Staffing (train 1 only)	300 personnel

- Assumes a long term LSM price of US\$10,000/t and LiOH price of US\$25,000/t
- Note: these project timelines are to be finalised in FEED study however the dates above are a preliminary estimate, given market demand emerging in the UK and Europe for urgent new lithium supply chains direct from Australia to the UK and Europe

# EXPERIENCED BOARD AND MANAGEMENT TEAM



**PAUL ATHERLEY**

NON-EXECUTIVE  
CHAIRMAN

Paul has extensive capital markets and industry experience.

He is Founding Director of **PENSANA PLC** and has completed numerous successful acquisitions and financings of resource projects in Europe, China, Australia and Asia.



**JOHN WALKER**

CHIEF EXECUTIVE  
OFFICER - TVL

John has over 30 years of leadership experience in the mining and advanced materials processing industries with **IMERYS**. Most recently he has been providing strategic advice to lithium projects such as **PIEDMONT LITHIUM**.



**TONY VEITCH**

CHIEF EXECUTIVE  
OFFICER  
INTERNATIONAL

Tony has over 20 years' experience in senior corporate leadership roles in Western Australia and the UK. Recently, he was founding director of MACH Energy Australia and Atlantic Vanadium.



**SAM QUINN**

NON-EXECUTIVE  
DIRECTOR

Sam is a corporate lawyer with over 20 years' worth of experience in the natural resources sector, in both legal counsel, finance and management positions.



**VIKKI ROBERTS**

LITHIUM SUPPLY  
CHAIN ADVISOR

Vikki has extensive experience in the battery supply chain industry. Recently led the supply chain strategy, development and control at **JOHNSON MATTHEY PLC**. Vikki has expertise in innovative industries related to sustainable technologies.



**RYAN HANRAHAN**

PROJECT  
DIRECTOR

Ryan has been involved in the lithium industry for 20 years. Qualified as a Mechanical Engineer Ryan's key experience is in the development of projects from concept to financing, and through to implementation. Ryan has played a key role in multiple major Lithium Hydroxide developments in Australia, Asia and Europe.



**DR JINGYUAN LIU, PHD**

PRINCIPAL PROCESS  
SPECIALIST

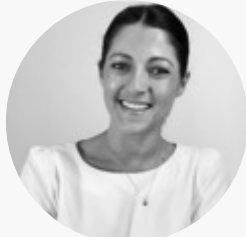
Dr Liu is a globally recognised leader in the processing of Lithium Chemicals, with 5 years of operational experience at the world's first continuous lithium chemical plant. Jingyuan has delivered process design, on site commissioning and due diligence to multiple significant Lithium Hydroxide developments in Australia, Europe and Asia.

PROJECT DELIVERY LEADERSHIP TEAM



**FUAD SILLEM**

BUSINESS  
DEVELOPMENT  
MANAGER



**ALEX DELLA BOSCA**

COMMERCIAL  
MANAGER



**MOLLY ELDRIDGE**

HEAD OF INVESTOR  
RELATIONS



# MARKET AND TECHNICAL ADVISORS

## MARKET INTELLIGENCE

### **Benchmark Minerals Intelligence**

*Market forecasts*

### **Conrad Partners**

*Feedstock pricing*

### **Exa-watt**

*Strategic consulting*

### **NOF & NEPIC**

*Supply chain*

## WILTON TECHNICAL

### **DWD**

*Planning application*

### **Sembcorp**

*Wilton International plug and play services*

### **PD Ports**

*Transport logistics and port services*

### **ITP Energised**

*Environmental Impact Assessment*

### **Minviro**

*Life-cycle assessment*

## PROCESSING TECHNICAL

### **WAVE International**

*Processing facility design*

### **ANZAPLAN**

*Benchscale electrochemical testwork*

### **JordProxa**

*Crystallising testwork & design*

### **NAGROM**

*Benchscale metallurgical testwork*

# RESEARCH INITIATED BY LONDON BROKERS SHARD AND VSA

(Current share price circa £2.80/share)

## SHARD CAPITAL

- Firmly at the front of the pack
- Fast-track credentials, envied low capital intensity and a superlative site location
- Major de-risking event box ticked
- Upgraded target price

**£12.28/share**

target price

## VSA CAPITAL

- Fast-tracked, scalable and green
- Differentiated by processing lithium sulphate and electrochemical process
- Only pure play listed conversion exposure
- Upgraded target price

**£10/share**

target price

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