# Socalix Full Year Results FY24 27 August 2024



# MARS IS FOR QUITTERS



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# **About Calix**

Calix Limited is an environmental technology company solving urgent global challenges in industrial decarbonisation and sustainability.

Calix's unique patented core platform technology delivers indirect heating of raw materials to enable efficient, precise, flexible and renewably powered mineral processing and capture of unavoidable industrial emissions.

With strong and increasing demand driven by global decarbonisation commitments, Calix is applying its platform technology to the cement, steel, alumina, and critical minerals industries, as well as the direct air capture of atmospheric carbon dioxide, and the production of sustainable environmental products.

Leveraging its core platform technology and a global network of partners, Calix is urgently developing multiple businesses that deliver positive global impact. Because there's only one Earth.

### **MARS IS FOR QUITTERS**

### Solving global challenges

Electrification of industrial processing | Capture of unavoidable emissions | Sustainable environmental solutions



**CEMENT & LIME** 

**IRON & STEEL** 

One platform technology, multiple opportunities

**LITHIUM & CRITICAL MINERALS** 

**ALUMINA** 

DIRECT AIR CAPTURE

WATER

AGRICULTURE



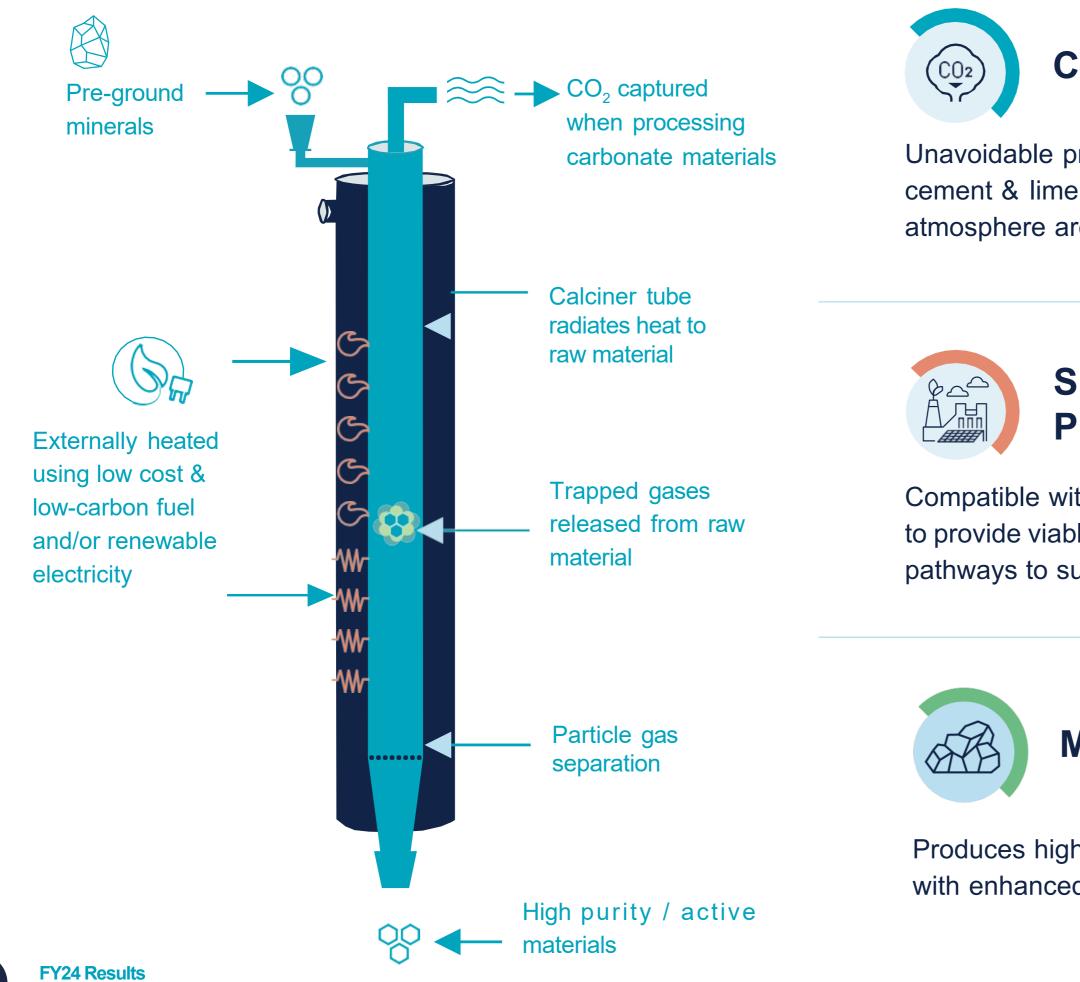
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PATENT FAMILIES

# Calix's core platform technology

### A new way to "heat stuff up"

27 August 2024



### **Carbon Capture**

Unavoidable process CO<sub>2</sub> emissions from cement & lime production & CO<sub>2</sub> from the atmosphere are captured for use or storage.

#### **Sustainable** Processing

Compatible with electricity & alternative fuels to provide viable, flexible and economical pathways to sustainable processing.

### Magnesia

Produces high purity / active materials with enhanced chemical and / or bioactivity.

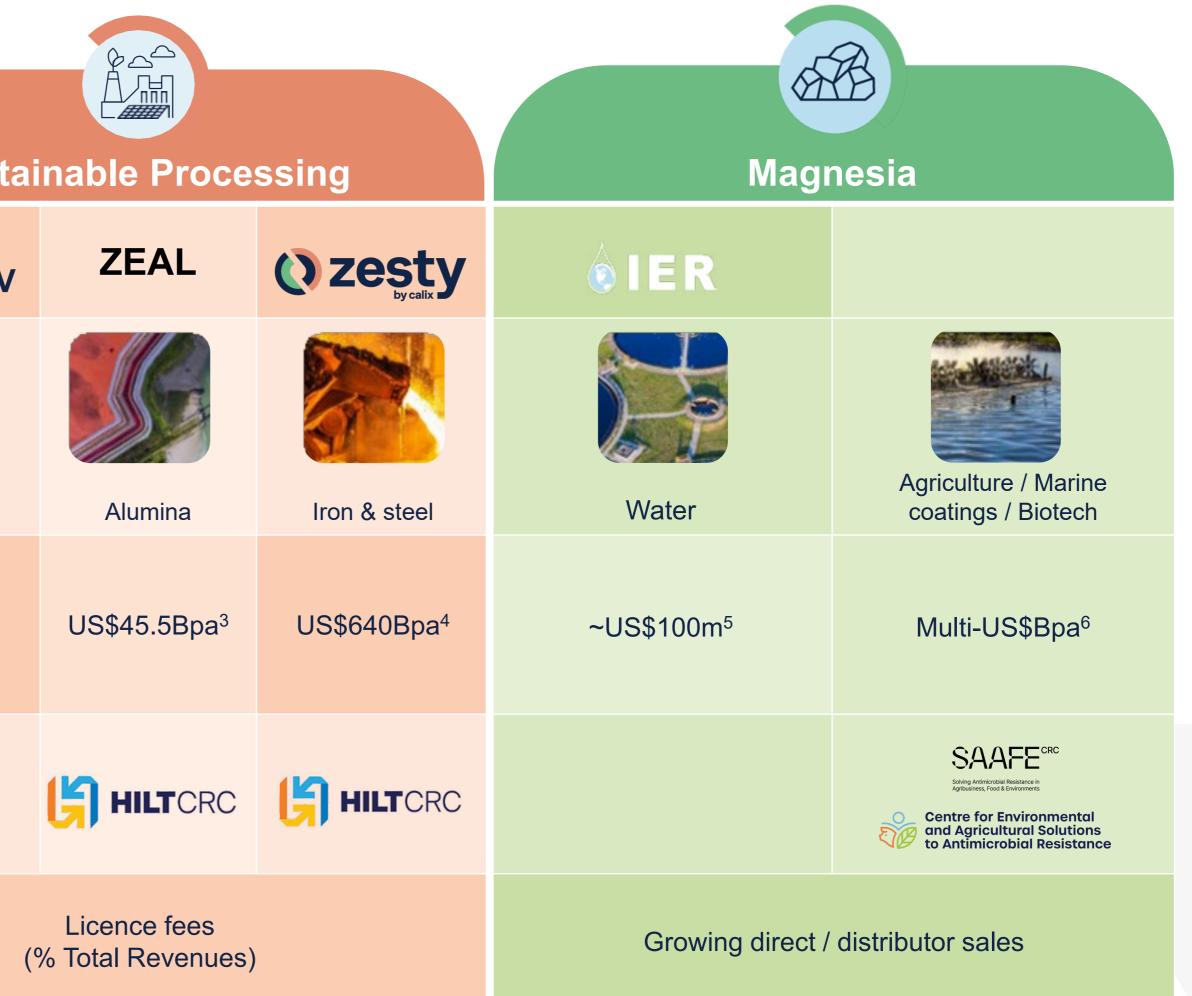




#### Calix's structure underpins a solid foundation for growth One core platform technology with multiple applications for global industries $\varphi \bigtriangleup$ Platform output **Carbon Capture Sustainable Processing** Business **Pilbara Leilac** ZEAL () zesty **Minerals UJV** subsidiary Application Cement & lime Lithium **Direct Air Capture** Alumina Iron & steel Targeting Market Size 1.4 BTpa $CO_2^1$ US\$7Bpa<sup>2</sup> US\$45.5Bpa<sup>3</sup> US\$640Bpa<sup>4</sup> > 1 BTpa $CO_{2}^{7}$ Heidelberg Materials Pilbara Minerals Heirloom Partners **HILT**CRC HILTCRC multiple others Revenue Licence fees Licence fees (\$ per tonne CO<sub>2</sub>) (% Total Revenues) model GCCA 2050 Net Zero Global Industry Roadmap 1. Estimated as 50% of total lithium market as measured by lithium carbonate equivalent (LCE) derived from spodumene - https://www.mckinsey.com/industries/metals-and-mining/our-insights/australias-potential-in-the-lithium-market 2. Alumina global market revenue estimated at https://www.precedenceresearch.com/press-release/alumina-market#:~:text=The%20global%20alumina%20market%20size,combination%20of%20aluminum%20and%20oxygen FY24 Results Estimated as US\$400 per tonne of iron @, 1.6BTpa https://www.statista.com/statistics/589979/metal-content-of-the-global-iron-ore-production/ 27 August 2024 US magnesium hydroxide market management estimate, caustic replacement market likely several multiples of this 5. Frost and Sullivan – Independent Market Report – Calix IPO Prospectus 2018 6.

Heirloom statement in press release https://fox40.com/news/local-news/san-joaquin-county/heirloom-carbon-technologies-tracy-co2/ 7.









# **FY24 Financial highlights**

Growing & diversified revenue streams delivered cash support in advance of licensing royalties

Revenue growth	
& diversification	

- Product & services revenue up 30% to \$24.2m
  - Magnesia revenue increased 14% to \$21.0m
  - Leilac revenues increased to \$3.2m (FY23: \$0.1m), driven by advancing pipeline to paid engineering studies
  - \$12.2m gain realised from IP contribution to PLS UJV
- Gross profit up 66% to \$10.3m
- Opex of \$42.1m (FY23: \$31.7m) is an investment in capability & capacity building for commercialisation
- Additional research, development & engineering accounted for 67% of the total increase in operational expenditure
- Investment partially offset by \$5.2m (FY23: 10.7m) in grants & tax rebates
- Cash balance of \$43.0m at 30 June 2024, down just 10% from 31 December 2023
- Balance sheet, growing revenue streams & cost management discipline to support current operations & technology development
- Capital management & funding strategy continues to focus on opportunities to secure capital in the form of equity, debt or grants at the subsidiary & project level to fund projects & accelerate industry application

Diligent investment

Capital strategy



# 

**FY24 PRODUCT & SERVICES** REVENUE (FY23: \$18.6m)

> LEILAC SERVICES REVENUE \$3.2m

> > **FY24 GROSS MARGIN** 3% (FY23: 33%)

**PLS UJV GAIN** 愆\$12.2m

> CASH ON HAND (31 Dec 2023: \$47.8m) (30 June 2023: \$74.5m)

**FY24 REVENUE, INTEREST** & OTHER INCOME (FY23: \$29.6m)

> **FY24 GRANT FUNDING & TAX INCENTIVES**

dias \$5.2m

**FY24 GROSS PROFIT** 

\$10.3m (FY23: \$6.2m)

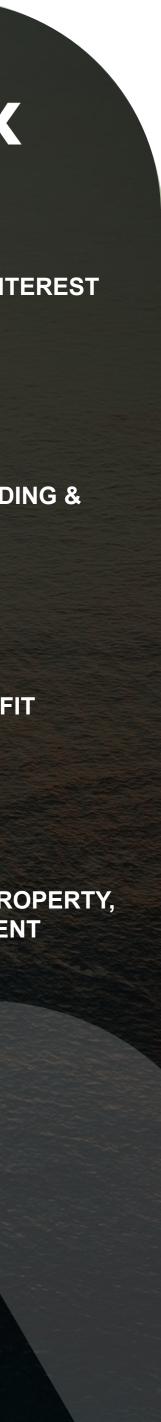
> **INVESTMENT IN PROPERTY, PLANT & EQUIPMENT**

\$15.1m

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# Statement of profit or loss

Revenue
Magnesia revenues
Leilac revenues
Grants, other income and interest income
Cost of sales
Gross profit and other income
Sales & marketing expenses
Research & development expenses
Administration & other expenses
Depreciation, amortisation & impairment expenses
Share based payments expense
Other expenses
Gain on investment in UJV

Share based payments expense	(5.1)
Other expenses	(0.6)
Gain on investment in UJV	12.2
Loss from ordinary activities	(26.3)
Income tax benefit	0.1
Loss for the year	(26.2)



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FY 23 (\$m's)
29.6
18.5
0.1
11.0
(12.4)
17.2
(9.5)
(14.5)
(7.7)
(5.9)
(2.7)
(0.4)
-
(23.5)
0.1
(23.4)

**FY 24** 

(\$m's)

30.5

21.0

3.2

6.3

(13.9)

16.6

(10.7)

(21.4)

(9.9)

(7.4)

### Key takeaways

- Growing & diversified revenue streams
  - Growing revenue through Leilac customer engineering studies
  - Continued revenue & margin growth in Magnesia business
  - Additional revenues from customer material testing
- Gain resulting from co-investment with Pilbara Minerals UJV
- Focused investment

- Investment in capability & capacity building for commercialisation
- Key projects were supported by grant funding & paid engineering
- Refer to slide 21 for indicative timelines for revenue generation by business line

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# Statement of financial position

	June 24 (\$m's)
Cash and cash equivalents	43.0
Trade, other receivables and other assets	4.3
Inventories	5.4
Current assets	52.7
Trade, other receivables, other assets & right of use asset	2.8
Intangible assets	12.6
Goodwill	3.6
Property, plant and equipment	40.6
Non-current assets	59.7
Trade & other payables	12.2
Borrowings	0.8
Current lease liabilities	0.8
Provisions	1.9
Deferred revenue	10.1
Current liabilities	25.8
Non-current lease liabilities	1.7
Provisions	0.5
Deferred tax	0.4
Non-current liabilities	2.6
Net Assets	84.0



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Key	<u>y ta</u>	kea	wa	ys:

- Balance sheet remains strong & essentially debt free
- Flexibility retained to pursue the right capital & commercialisation strategy at the subsidiary level.
- Cash position at 31 Dec 2023 was \$47.8m, therefore, cash decreased by 10% in the second half to \$43.0m



# Statement of cash flows

Receipts from customers         Receipts from government bodies         Payments to suppliers and employees         Interest received	22.7 10.8 (48.2) 1.1 (0.1)
Payments to suppliers and employees	(48.2) 1.1 (0.1)
	1.1 (0.1)
Interest received	(0.1)
	× ,
Interest paid	
Net cash used in operating activities	(13.7)
Receipts from government bodies	2.1
Purchases of property, plant & equipment	(15.1)
Purchase of intangible assets	(4.3)
Payments for loans to directors	(0.3)
Receipts of repayment of loans to directors	0.1
Net cash used in investing activities	(17.5)
Proceeds from issue of shares	-
Payment for transaction costs related to issue of shares	-
Payment for lease principal	(0.7)
Proceeds from borrowings	1.6
Repayment of borrowings	(1.2)
Net cash (used in) / provided from financing activities	(0.3)
Net movement in cash	(31.5)
Cash at the beginning of the year	74.5
Cash at the end of the year	43.0



# **O** calix

### Key takeaways:

- Healthy cash position to pursue our opportunities
- Net cash movement in 1H was (\$26.7m) and in 2H was (\$4.8m)
- Investment in property, plant & equipment to drive future growth:
- Two new US manufacturing plants
- Built and successfully commissioned a nextgen electric calciner at Bacchus Marsh
- Investment in Mid-Stream Demo Plant together with Pilbara Minerals

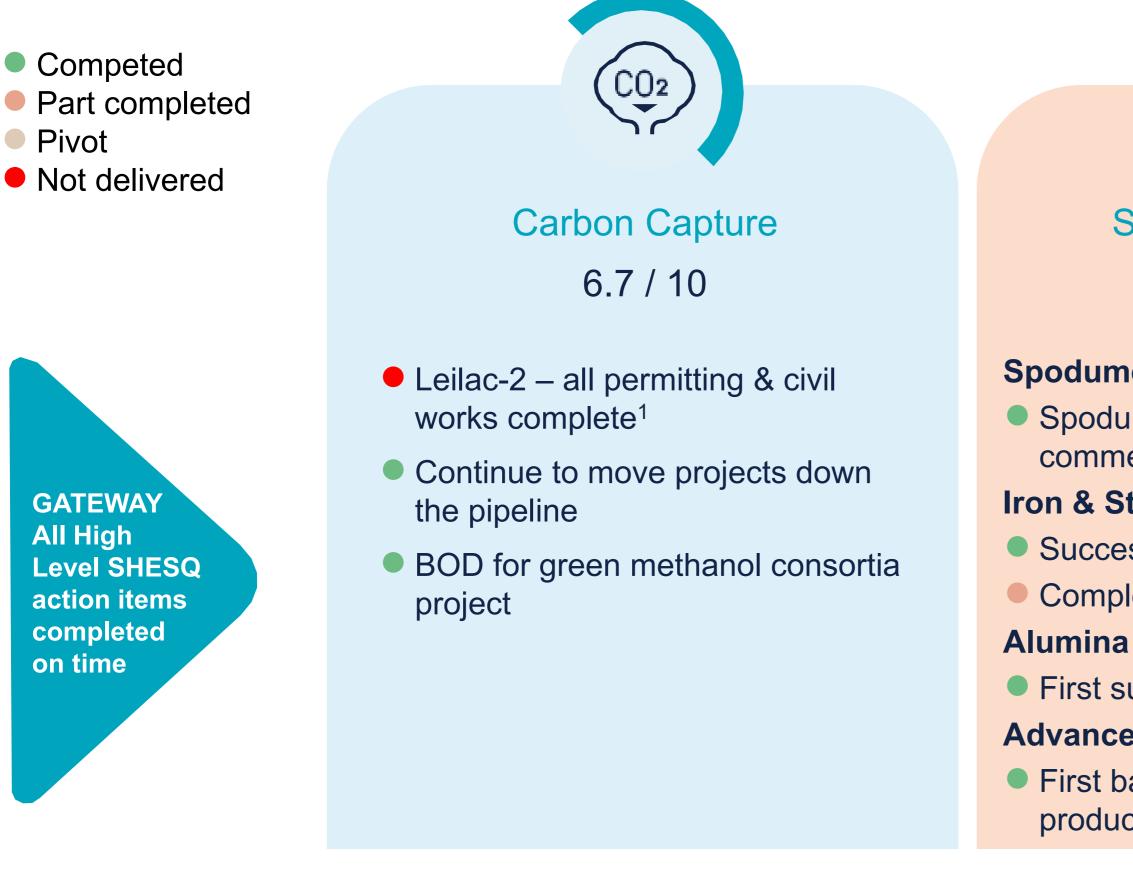
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June 23 (\$m's)
18.6
7.4
(43.2)
0.3
(0.3)
(17.2)
-
(9.9)
(3.2)
-
1.2
(11.9)
81.6
(2.0)
(0.4)
1.7
(2.3)
78.6
49.5
25.0
74.5



# **FY24 Operational Achievements**

#### Focused delivery across all lines of business





1. ASX Announcement. Leilac-2 to relocate as HM end clinker production at Hanover. 29 Jan 2024 2. From January 2024, Advanced Batteries will be developed as part of the sustainable processing line of business, given the key value proposition involves electrification, lower carbon and more efficient processing

GATEWAY **All High Level SHESQ** action items completed on time



#### KPI Dashboard for FY24



### Sustainable Processing 8.0 / 10

#### **Spodumene**

Spodumene Project construction commenced

#### **Iron & Steel**

Successful expanded ore program

Completed FEED study leading to FID

First successful pre-FEED

#### **Advanced Batteries**

First battery module in consumer product<sup>2</sup>



Magnesia 9.5 / 10

#### Water

Continued revenue growth US, Asia

#### Mg Metal

BOD for Mg metal plant

#### **Specialities**

Continued commercialisation of Agriculture, Marine Coatings and **Biotech applications** 





# **Direct Air Capture with Heirloom**

**Project** 

Partner

Heirloom – LA, USA

#### **Objectives**

- Build Leilac's electric calcination and carbon capture technology at Heirloom DAC facilities in Shreveport, Louisiana, USA.
- A first facility aims to enable CO<sub>2</sub> removal of ~17,000 tons per year
- A second, co-located facility aims to add an additional ~300,000 tons per year of CO<sub>2</sub> removal capacity as a part of Project Cypress<sup>2</sup>

#### **Partner funding** Industry Market size support Heirloom U.S. DEPARTMENT OF >1 BTpa $CO_2^1$ Direct Air Capture Targeted next steps FY24 achievements

- Signed a global & perpetual licence agreement for the exclusive use of Leilac's technology by Heirloom<sup>3</sup>, US\$3 / tonne CO<sub>2</sub> base royalty rate
- Commenced paid engineering for the design of electric single & multi-tube modules for Heirloom's DAC process
- Conducted a second successful R&D campaign with Heirloom using Calix's BATMn electric calciner



4 ASX Announcement. Calix announces update on DAC projects. 25 Jun 2024

# **O** Leilac **O** Calix

- Continue to deliver paid engineering services to complete detailed engineering & design work
- Construct a ~17,000 tons of CO<sub>2</sub> per annum facility, with operations targeted to commence in 2026
- Construct a ~300,000 tons of CO<sub>2</sub> per annum facility, with operations targeted to commence in 2027

\*\* 1 ton = 0.91 tonnes



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# Leilac-2

### **Project**



Heidelberg Materials

Leilac-2



- Demonstrate a replicable module that can efficiently capture up to 100ktpa of unavoidable process emissions
- Successfully retrofit the Leilac module to an operational cement plant with minimal downtime
- Demonstrate the ability to use low-cost and lowcarbon fuels

#### FY24 achievements

- closure of Hannover plant<sup>3</sup>
- depreciation



# **Deilac Ocalix**

### **Funding support**

Industry

Market size

European

European Union funding

#### Cement & lime

1.4 BTpa  $CO_2^1$ 

• Project successfully relocated to Heidelberg Materials' EnnigerIoh cement plant, following

• JV formed with Heidelberg Materials for the construction, operation & future ownership of the Leilac-2 plant, subject to performance testing

• Upon transfer of ownership, Heidelberg Materials would repay Leilac's capital contribution, less

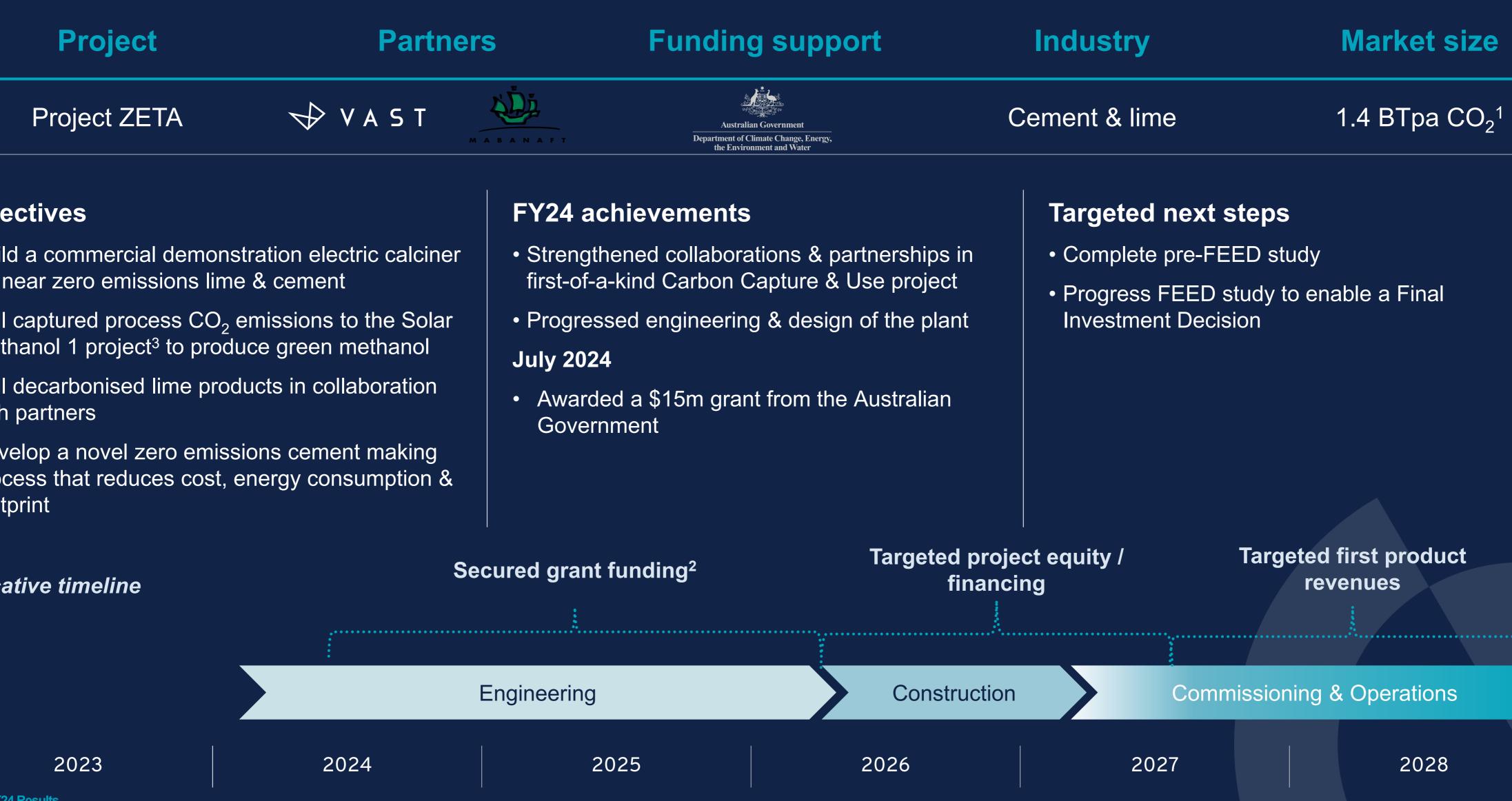
### **Targeted next steps**

- Complete permitting process
- Commence construction in 2025
- Begin commissioning & operations in 2026

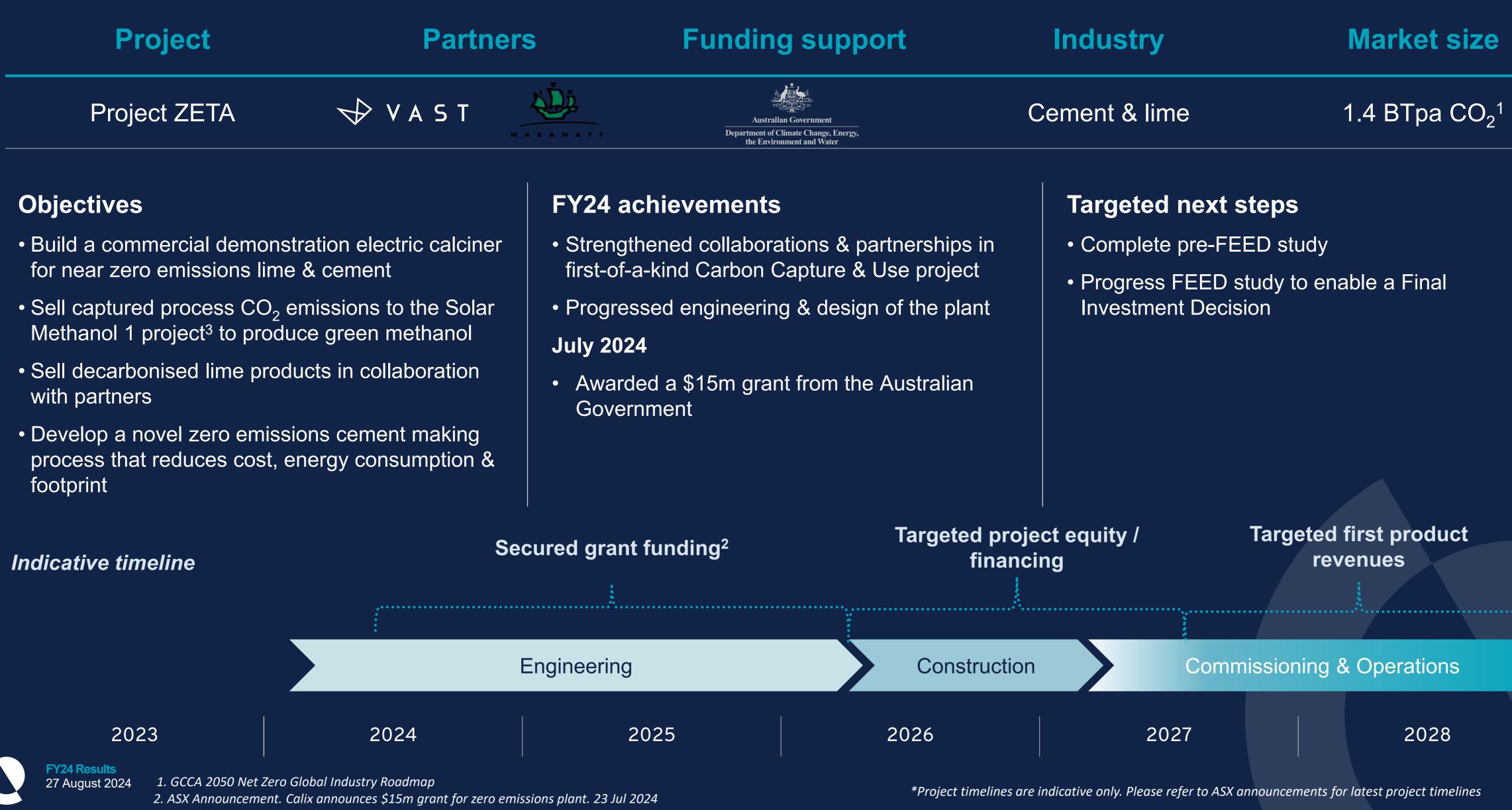




# **Project ZETA**



- for near zero emissions lime & cement
- Methanol 1 project<sup>3</sup> to produce green methanol
- with partners
- footprint



<sup>3.</sup> https://www.vast.energy/current-projects







# Leilac-3: Full-scale cement & lime deployment

### **Projects**

### **Partners**

Heidelberg Materials + others

Fun

onlv **OSD** Multiple in development B person

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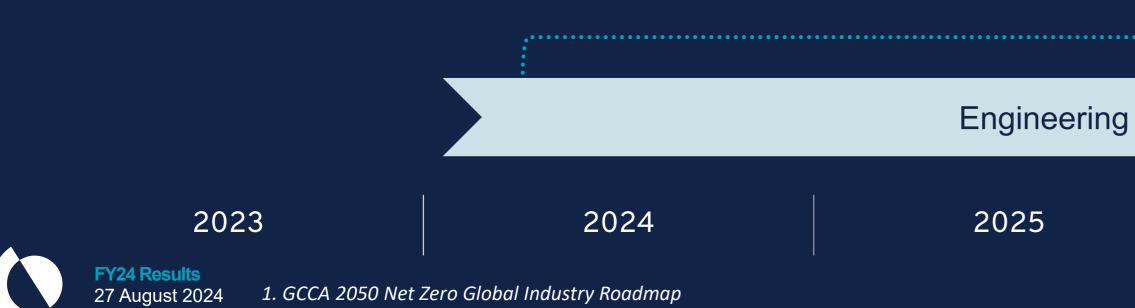
### **Objectives**

- Deploy Leilac's technology at full-scale with multiple partners in the cement & lime industry
- Commercial demonstration of Leilac's technology as the leading decarbonisation solution in key target markets

### FY24 achieveme

- Heidelberg Materia explore the develop commercial installa
- Progressed multiple
- Progressed technol engineering work

#### Indicative timeline



2. ASX Announcement. Calix announces Leilac and Heidelberg Materials JV for L-2. 11 Jun 2024



iding support	Industry	Market size	
TBC C	Cement & Lime	1.4 BTpa CO <sub>2</sub> <sup>1</sup>	
ents	Targeted next steps	;	
ials & Leilac committed to opment of a full-scale	<ul> <li>Continue to progress commercial partnerships for full-scale applications of the Leilac technology</li> </ul>		
lation <sup>2</sup>	<ul> <li>Pursue funding support in target markets</li> </ul>		
ole projects in the pipeline	Continue to progress technology develop		
ology development & for full-scale designs	engineering work for full-scale designs		
Multiple targeted paid engine	ering studies	Targeted licent revenues	

Towards full-scale deployment

2026

2027

2028

\*Project timelines are indicative only. Please refer to ASX announcements for latest project timelines

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# Mid-stream demonstration plant with Pilbara Minerals UJV

Project

### Partner

Pilbara

linerals

Fund

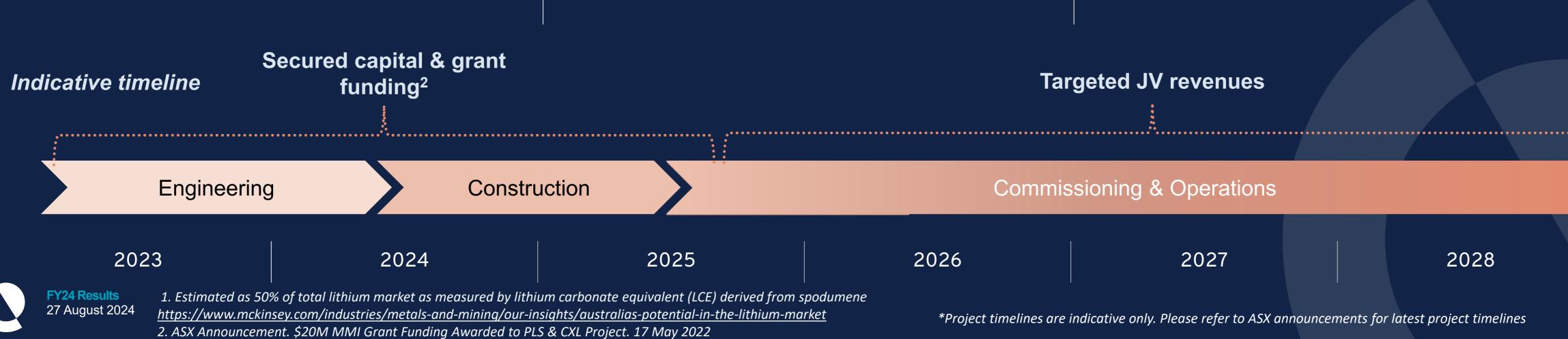
### PLS UJV Mid-Stream

#### **Objectives**

- Demonstrate lower CAPEX & OPEX for mineral processing with electric calcination
- Create a concentrated & low-carbon lithium product at the mine site
- Demonstrate the ability to simplify supply chains and unlock logistically challenging ore deposits

### FY24 achieveme

- Project remains on time & budget<sup>3</sup>
- Construction commenced bulk earthworks complete & preferred contractors selected
- Off-site fabrication of key equipment well progressed



3. ASX Announcement. Final Investment Decision for Mid-Stream Demonstration Plant. 2 Aug 2023



ding support	Industry	Market size
Australian Government Department of Industry, Science and Resources	Lithium	Royalty % of US\$7Bpa
ents	Targeted next	steps
ationa O budarat?		

- Commissioning due to commence in the March Quarter 2025
- First lithium salt production targeted for the June Quarter 2025





# Zero Emissions Steel TechnologY

Project

Partner

### Fun

ZESTY Green Iron Demo

### **Objectives**

- Develop industry leading H<sub>2</sub>-DRI technology
- Demonstrate green iron production from Australian ores & fines
- Minimise hydrogen use & green iron costs
- Enable multiple decarbonisation pathways for iron & steel

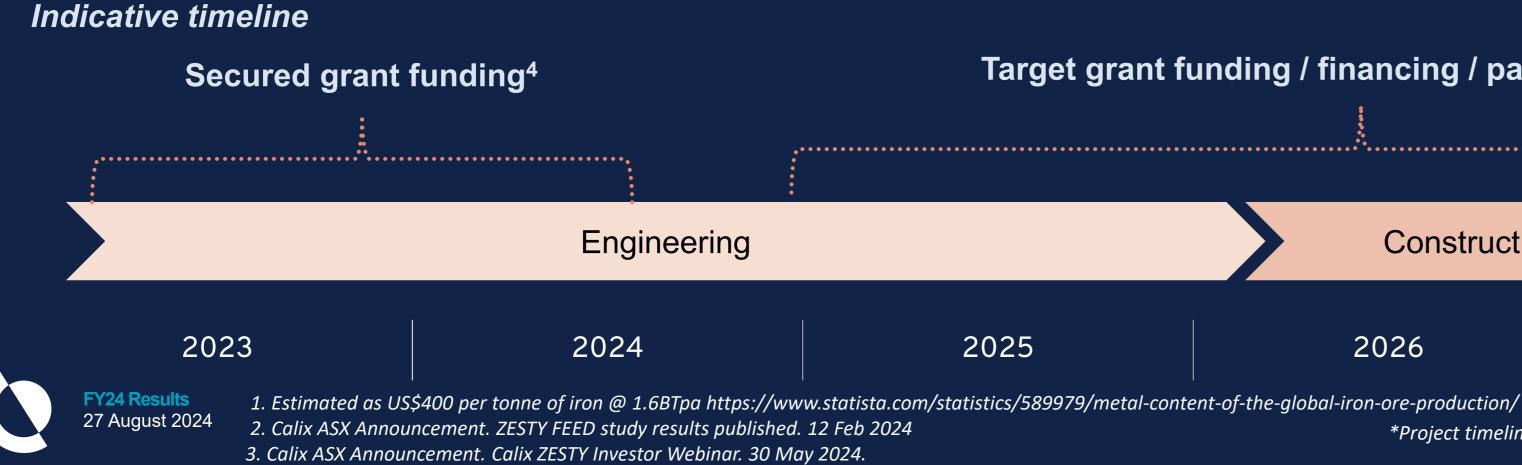
# HILTCRC



Energy

### FY24 achieveme

- ZESTY proven at rates up to 98% from hematite/goethite
- First green iron bri
- FEED Study comp
- Prospective technologie
- Progress towards







nding support	Industry	Market size
ian Government ian Renewable Agency	Iron & Steel	Royalty % of US\$640Bpa <sup>1</sup>
ents	Targeted next steps	
pilot scale, with metallisation rom Australian	Finalise commercial & final ZESTY Demo plant	ncing contracts for
ores <sup>2</sup>	Reach FID	
riquettes produced	<ul> <li>Continue to test &amp; develop the technology</li> </ul>	
pleted <sup>2</sup>		
no-economic findings <sup>2</sup>		
s FID <sup>3</sup>		
rant funding / financing / paid e	ngineering Target	first tolling revenue
· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·
Construction	Commissioning	g & Operations
2026	2027	2028
etal-content-of-the-alobal-iron-ore-production/		

\*Project timelines are indicative only. Please refer to ASX announcements for latest project timelines

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## Magnesia

### Product

Magnesium Hydroxide

Liquid



O Centre for Environmental and Agricultural Solutions to Antimicrobial Resistance

Partners

SAAFE Solving Antimicrobial Resistance in Agribusiness, Food & Environments

### **Objectives**

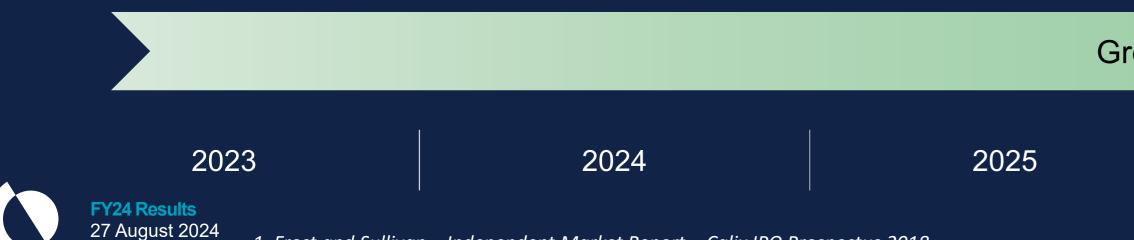
- Grow sales of MHL products for sustainable water & wastewater treatment
- Develop crop protection products using Calix's safe & sustainable bioactive materials
- Develop non-toxic marine coatings solutions
- Develop non-lethal control of pathogens to help prevent antimicrobial resistance

### FY24 achieveme

Fun

- \$21.0m revenue (↑
- \$7.0m gross profit
- Opened 2 new hyd U.S. production ca
- Excellent results for control of fungal di
- CRC SAAFE study resistant animal &
- Long-term testing successfully
- New Patent filed for

2026



1. Frost and Sullivan – Independent Market Report – Calix IPO Prospectus 2018



ding support	Industries	Market size
N/A V	Vater, Agriculture, Bio	Multi US\$Bpa¹
ents	Targeted next ste	ps
<ul> <li>↑14%)</li> <li>t (↑16%)</li> <li>dration facilities, increasing apacity by up to 50%</li> <li>for BOOSTER-Mag in the lisease in olive trees in Gree</li> <li>y confirmed control of drug- human bacteria</li> <li>of marine coatings continue</li> </ul>	business • Completing the pre-F metal plant • Continuing to develo platform technology marine coatings & bi d	e growth in Calix's Water FED study for a magnesium p and commercialise Calix's for applications in agriculture otech
or magnesium metal proces	S	
rowing direct sales		

\*Project timelines are indicative only. Please refer to ASX announcements for latest project timelines

2027



2028

# **Sustainability | FY24 Key Achievements**

AMBITION	FY24 KEY AG
Minimise impacts on the environment	
<b>Decarbonise operations</b> Reduce emissions in line with a 1.5-degree pathway	Completed a more robust gas emissions footprint, in
Address resource consumption Addressing the sustainability of the materials and resources we use in our business	Distributed 38 Intermediate for reuse and trialled cards
Protect and invest in people	
<b>Increase diverse representation</b> Achieve gender balance of 40:40 at all levels of the organisation by 2030	Launched our first Diversit (DE&I) series
Ensure zero harm	Enhanced company-wide

FY24 Results 27 August 2024

Realise zero harm through a safe workplace

#### CHIEVEMENT

and accurate greenhouse ncluding detailed Scope 3

te Bulk Containers (IBCs) board IBCs for recycling

ity, Equality and Inclusion

Health & Safety management system to improve usability &

effectiveness



**Sustainability** Report 2024





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Calix supports the Sustainable Development Goals

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# FY25 SUMMARY & OUTLOOK



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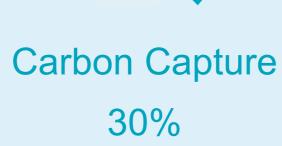
# **FY25 KPI Dashboard Targets**

### Key priorities – Initiatives driving revenue growth

#### Corporate 10%

• Corporate Affairs, Sustainability, People & Culture **KPIs** 

GATEWAY **All High** Level SHESQ action items completed on time



CO2

- Leilac-2 Ennigerloh site works commenced
- Pipeline at least 3 x Scoping / BOD complete leading to contracted pre-FEED studies
- Heirloom Project DOS construction commenced
- Pre-FEED complete for green methanol "HyGATE" project

- FID Demo Plant leading to **Detailed Engineering**
- 1 x FEED study commenced with 3<sup>rd</sup> party for Demo Plant





#### KPI Dashboard Targets for FY25



### **Sustainable Processing**

30%

#### **Spodumene**

- PLS UJV Project commissioned
- At least 1x 3<sup>rd</sup> party contracted ore study

#### **Iron & Steel**

#### Alumina



Magnesia 30%

#### Water

• Continued revenue growth US, Asia

#### Mg Metal

• Pre-FEED completed for Mg metal plant

#### **Specialities**

 Continued commercialisation of Agriculture, Marine Coatings & **Biotech applications** 



# **Indicative project & revenue timeline**

	Business	Project / Product	
		Leilac-2	U
		ZETA	$\bigtriangledown$
	🐼 Leilac	Leilac full scale	+ (
		Heirloom, LA, USA	
		Heirloom, Project Cypress LA, USA	
		PLS UJV	Q

	Pusinoss	Project /	oject / Partners Industry			
	Business	Product	Partners	Industry	2022	
		Leilac-2	Heidelberg Materials	Cement	Secured grant funding	
		ZETA	VAST	Lime & Cement		
		Leilac full scale	Heidelberg Materials + OTHERS TBA	Cement		
		Heirloom, LA, USA	Heirloom	Direct Air Capture		
		Heirloom, Project Cypress LA, USA	K Heirloom	Direct Air Capture		
	Sustainable Processing	PLS UJV	Pilbara Distribution of the second se	Lithium & Critical Minerals	L Secured cap	
)		<b>O zesty</b>		Iron & Steel	Se	
	Magnesia	Magnesium Hydroxide Liquid	SAAFE CRC Solving Antimicrobial Resistance in Agribusiness, Food & Environments	Water, Agriculture, Bio		

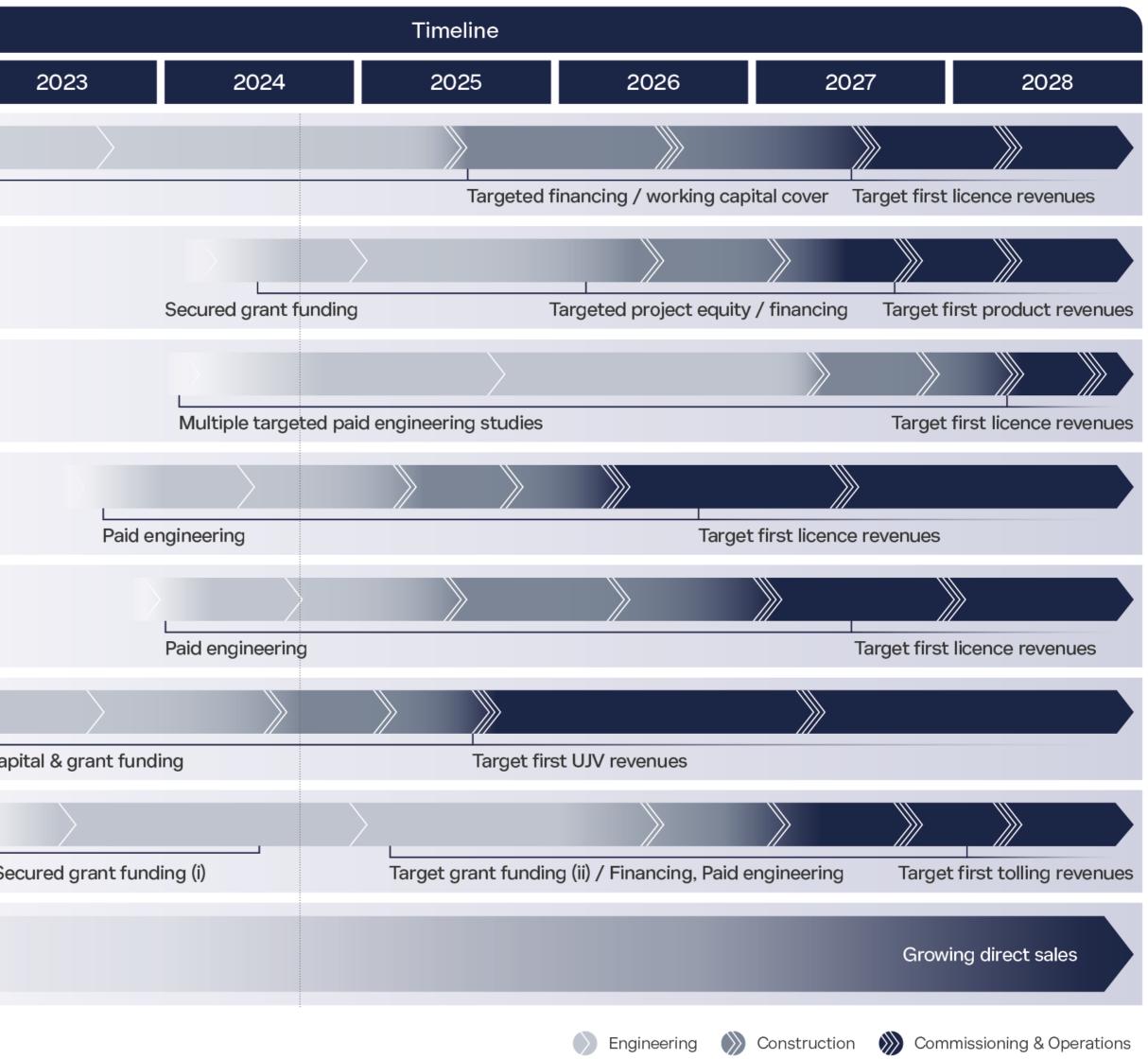


FY24 Results 27 August 2024

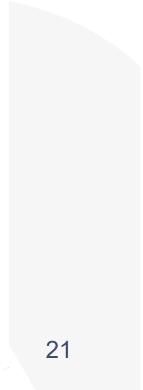
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\* Project timelines are indicative only. Please refer to ASX releases for latest project timelines

# **O** calix







# **Summary and FY25 Outlook**

### Growth focused strategy

- Demand for Calix's technology continues to grow, driven by government policy & the need for cost-effective & low-carbon mineral processing solutions
- Industry demand is being translated into new revenues through paid engineering & customer material testing
- Core focus is on progressing priority projects to commercially demonstrate core technology in cement & lime, iron & steel, lithium & Direct Air Capture industries
- Magnesia business is targeting continued growth in revenue & margins with the expanded production platform
- Growing & diversified revenues, coupled with secured grant funding & a strong balance sheet, provide the cash support required to fund current operations & technology development
- Diligent cost management will continue to be focused on key project delivery
- Capital management & funding strategy continues to focus on opportunities to secure capital in the form of equity, debt or grants at the subsidiary & project level to fund projects & accelerate industry application











# **Board of Directors**

Board further strengthened with appointments of Dr Sarah Ryan and Peter Dixon Alison Deans to become Chair following Peter Turnbull's retirement on 30 Sept 2024



Peter Turnbull, AM **Non-Executive Chair** (Retiring 2024)

- Experienced Chair and Non-**Executive Director**
- Significant board and senior executive experience in the Australian and global resource, energy and technology sectors
- Non-Executive Director of Karoon Energy Ltd. (ASX: KAR), Chair of Canadian medtech Auxita Pty Ltd, and Immediate Past President of the **Chartered Governance Institute** (London).
- Member of People, Culture and Nomination Committee, and Member . of Audit and Risk Management Committee



**Alison Deans Non-Executive Director** (Chair-Elect)

- Experienced Chair and Non-**Executive Director**
- Significant board and senior executive experience in technologyenabled growth companies.
- Chair of Cochlear Limited (ASX: COH), Non-Executive Director at Ramsay Health Care Limited (ASX: RHC), & Non-Executive Director at Deputy Group Pty Ltd & Fitness Passport Pty Ltd.
- Investment Committee member at Main Sequence Ventures
- Previously CEO at eBay Australia and New Zealand,
- MBA from the Stanford Graduate School of Business and a MA from Cambridge University.



**Helen Fisher Non-Executive Director** 

- CEO and Managing Director of Bio Capital Impact Fund (BCIF)
- Chair of Victorian branch of **AusBiotech**
- Previously a partner of Deloitte for 11 years
- Led Deloitte's life sciences practice in Australia for 5 years, specialising in the financial services sector, with significant M&A transactions and strategic tax advice to publicly listed and large multinational companies.
- Chair of Audit and Risk Management Committee and Sustainability Committee
- Forum BSc from the University of Melbourne, BSc from the University of Adelaide, PhD from the University of Adelaide



FY24 Results 27 August 2024 Chair of Technology committee

- Non-executive director of Viva Energy Group Limited (ASX:VEA), Aurizon Holdings Limited (ASX:AZJ), Transurban Group (ASX:TCL) & the **Future Battery Industries CRC**
- Previously a non-executive director of Oz Minerals Limited (ASX:OZL) and Woodside Energy Group Limited (ASX:WDS)
- Strategic Advisory Panel Member of the ARC Centre of Excellence for Green Electrochemical Transformation of Carbon Dioxide
- Fellow of the Australian Academy of **Technological Sciences and** Engineering Chair of the Energy





**Dr Sarah Ryan** Non-Executive Director



**Peter Dixon** Non-Executive Director

- Over 25 years of diverse corporate experience across the legal, investment banking, strategy & funds management sectors
- Deep expertise in corporate strategy, investment management, corporate advisory & legal governance
- Chief Strategy Officer for HPX Group Pty Ltd
- Non-executive director at Johns Lyng Group Limited (ASX:JLG).
- Formerly at Mallesons Stephen Jacques (Sydney), Linklaters (London), MA Financial Group (ASX:MAF) & Macquarie Group Limited (ASX:MQG).
- Bachelor of Commerce (Finance) and a Bachelor of Laws from the University of New South Wales.
- Chair of People, Culture & Nomination Committee



#### **Dr Phil Hodgson** Managing Director & Chief **Executive Officer**

- 14 years of multidisciplinary experience with Shell, including as the General Manager and Alternate Director of its subsidiary Fuelink Pty Ltd, a \$700m revenue, 300employee distribution and sales subsidiary.
- 7 years running a private consultancy providing strategy and M&A services across energy, food, infrastructure and water sectors.
- Joined Calix in 2013 as CEO, became a Director in 2014.
- Member of Calix's Technology Committee.



**Dr Mark Sceats Executive Director & Chief** Scientist

- Co-founder of Calix
- Physical chemist with numerous academic roles, fellowships & recognitions
- CEO of the Australian Photonics CRC for 14 years
- Fellow of the Australian Academy of Technological Sciences and Engineering (ATSE)
- Author of more than 165 academic papers in physical chemistry and inventor of 55 patented inventions
- Member of Calix's Technology Committee





# **Calix Limited FY24 Results** 27 August 2024

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### Acknowledgement of country

Calix acknowledges the First Nations people and traditional custodians of the lands upon which we live and work, and recognise their deep, ongoing connection to the land, waters and community. We pay respect to their Elders and leaders, past, present and emerging, and extend that respect to all First Nations people.

### Social inclusion statement

Calix embraces diversity and inclusion. It is one of our core values. We promote an inclusive and safe space for all and proudly welcome and support people of any race, ability, gender and identity.



# Thank you

### Sustainability statement

At Calix, sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. It is deeply embedded in our purpose: solving global challenges. Because Mars is for quitters.











Term	Meaning
Aluminium (Al)	Chemical element with the symbol Al
Antimicrobial	Antimicrobial products kill or slow the spread of micr
AMR	Antimicrobial resistance – the development of resista
ARENA	The Australian Renewable Energy Agency
ASX	The Australian Securities Exchange
APVMA	Australian Pesticides and Veterinary Medicines Auth
ASRS	Australian Sustainability Reporting Standards
BATMn	Calix's core kiln technology – electrified – for battery
BOD	Basis of Design
BOS	Basic Oxygen Steelmaking
CAGR	Compound Average Growth Rate (%)
Calcium (Ca)	Chemical element with the symbol Ca
Carbonation	The capture of carbon dioxide by contacting with lime
Cathode	The positive electrode of a battery
СВАМ	Carbon Border Adjustment Mechanism
СВР	Community Benefits Plan
CCS	Carbon Capture and Storage
CCU	Carbon Capture and Use
CCUS	Carbon Capture, Utilisation and/or Storage
CEA StAR	Centre for Environmental and Agricultural Solutions
CO <sub>2</sub>	Carbon Dioxide
Copper (Cu)	Chemical element with the symbol Cu

FY24 Results 27 August 2024 croorganisms, including bacteria, viruses and fungi.

tance in bacteria, viruses, fungi and parasites to antimicrobials

hority

ry and catalyst materials production and other applications testing

me (calcium oxide), to form limestone (calcium carbonate)

to Antimicrobial Resistance



# Glossary

Term	Meaning
CRC	Cooperative Research Centre – Australian Governme
CRC SAAFE	Cooperative Research Centre Solving Antimicrobial F
DAC	Direct Air Capture – the extraction of carbon dioxide
DE&I	Diversity, Equality and Inclusion
EAF	Electric arc furnace – a furnace that heats material b
EAP	Employee Assistance Program
EBITDA	Earnings Before Interest, Tax, Depreciation and Amo
EIS	Employee Incentive Scheme
ESF	Electric Smelting Furnace – Used to convert Direct R
ESG	Environment, Social and Governance considerations
EU	European Union
ETS	Emissions Trading Scheme
FEED	Front-End Engineering Design
FID	Final Investment Decision
Fines	Small particles, which are usually very difficult to har
FY	Financial Year
GHG	Greenhouse gas, often measured in tonnes of CO <sub>2</sub> eq
Green Hydrogen	Hydrogen that is produced from an electrolyser using
Goethite	A mineral that is an ore of iron
HBI	Hot Briquetted Iron – "bricks" of relatively high purity
H <sub>2</sub> -DRI	The process of directly reducing iron ore to metallic i



nent supported industry-led collaborative research centres

Resistance in Agribusiness, Food, and Environments

le directly from the atmosphere

by means of an electric arc between two electrodes

ortisation

Reduced Iron (DRI) to iron suitable for a Basic Oxygen Steelmaking (BOS) process.

andle in mineral processing and are often discarded as waste

equivalent (tCO<sub>2</sub>e)

ng renewable energy

ity iron ready for steel-making

; iron with hydrogen as the reductant



# Glossary

Term	Meaning
Hematite	A mineral that is an ore of iron
HILT CRC	Heavy Industry Low-carbon Transition Cooperative R
Hydrometallurgy	A metal recovery method used to obtain metals from
HyGATE	German-Australian Hydrogen Innovation and Techno
IBCs	Intermediate Bulk Containers
IFRS	International Financial Reporting Standards
Iron (Fe)	The chemical element, represented by "Fe" on the pe
Iron Ore	Iron oxide mixed with various other minerals, as mine
JV	Joint venture
LCA	Lifecycle Assessment or Lifecycle Analysis, is a meth
Leilac	Calix's core calciner technology for Low Emissions In
LFP	Lithium Iron Phosphate – a battery cathode material
Lithium (Li)	Chemical element with the symbol Li
Lithium-phosphate / Lithium Salt / "Mid-Stream' Lithium	, A form of lithium that is high in lithium content, to be
Lithium ion	The ionic form of lithium (Li+) – a positively charged
Manganese Carbonate (MnCO3)	Form of manganese used mainly in agriculture as a fe
Magnesium (Mg)	Chemical element with the symbol Mg
Manganese (Mn)	Chemical element with the symbol Mn
Magnetite	A mineral that is an ore of iron
Metallurgical Coal	Very high carbon coal
MgO	Magnesium Oxide



Resea	rch	Centre
	-	

m ores and waste materials

nology Incubator

periodic table

ned and "pre-processed" (purified) as best as possible

thodology for assessing environmental impacts associated with all the stages of a product or process

Intensity Lime and Cement production with CO<sub>2</sub> capture of process emissions

be shipped and utilised by battery producers

l atom of lithium

fertiliser supplement



# Glossary

Term	Meaning
MHL	Magnesium Hydroxide Liquid
MOU	Memorandum of Understanding
Nanoporous	A material with a regular, porous structure, with a po
Pelletisation	The formation of pellets from finer materials to aid ir
PLS	Pilbara Minerals, an Australian lithium mining compa
Potassium (K)	Chemical element with the symbol K
Process emissions	Process emissions are inherent to the chemical react
SDGs	The UN's Sustainable Development Goals designed t
Siderite	A mineral that is an ore of iron
Spodumene	A high lithium-containing ore, and the source of the i
α-Spodumene	A tight Li-crystal formation, from which extraction of
β-Spodumene	A loose Li-crystal formation, from which extraction o
Reduce / Reduction	The process by which oxygen is removed
Reductant	A material that, through its chemical properties, carr
RDF	Refuse-derived fuel – a fuel produced from various ty
Sponge Iron	Iron Ore that has been reduced (had the oxygen rem
Steel	Mainly iron, with some carbon and other trace metals
ТАМ	Total Addressable Market
Тра	Tonnes per annum
TRL	Technology Readiness Level, as measured on the NA
UJV	Unincorporated Joint Venture
UNGC	The United Nations Global Compact, the world's large
Wh / kWh	Watt-hours / kilowatt-hours – a measure of energy
ZEAL	Calix's Zero Emissions ALumina technology
ZESTY	Calix's Zero Emissions Steel TechnologY
ZETA	Calix's 'Zero Emissions Technology Made in Australia



pore size generally less than 100 nanometres.

in handling

bany

ction and are released directly and unavoidably from the chemical processing of raw material.

to serve as a "shared blueprint for peace and prosperity for people and the planet, now and into the future."

e majority of the world's lithium supply

of Li is difficult

of Li is much easier than the alpha-form

rries out reduction

types of waste

moved) to form metallic iron

als such as nickel, manganese etc depending upon the grade of steel being made

IASA scale

gest corporate sustainability initiative

lia' CCU project for zero emissions lime and cement in South Australia





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### Mars is for quitters

