



ASX Announcement

May 6, 2020

Calix Investor Presentation

Sydney, Australia | May 6, 2020 – Multi-award-winning Australian technology company Calix Limited (ASX: CXL) ("Calix" or "the Company"), is pleased to provide a copy of the latest Investor Presentation.

Calix Managing Director and CEO, Phil Hodgson said: "Our team have adapted well to the new operating conditions and we continue to service customers, deliver our products and work with our partners to develop our technology, and as such our guidance for the full year sales revenues of A\$12.5m to A\$14m remains unchanged."

Authorised for release to the ASX by:-

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About Calix

Calix is a team of dedicated people developing a unique, patented technology to provide industrial solutions that address global sustainability challenges.

The core technology is being used to develop more environmentally friendly solutions for advanced batteries, crop protection, aquaculture, wastewater and carbon reduction.

Calix develops its technology via a global network of research and development collaborations, including governments, research institutes and universities, some of world's largest companies, and a growing customer base and distributor network for its commercialised products and processes.

Because there's only one Earth – Mars is for Quitters.

Website: <https://www.calix.global/>

Twitter: @CalixLimited

Youtube: [CalixLimited](#)

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Investor Presentation

May 2020



Important Disclaimer



This presentation has been prepared by Calix Limited (ABN 36 117 372 540) ("Company").

SUMMARY INFORMATION

This presentation contains summary information about the Company and its subsidiaries ("Calix") and their activities current as at 4 May, 2020. The information in this presentation is a general background and does not purport to be complete.

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FINANCIAL DATA

All dollar values are in Australian dollars (\$) or A\$) and financial data is presented as at or for the half-year ended 31 December 2019, unless stated otherwise.

PAST PERFORMANCE

Past performance information given in this presentation is given for illustrative purposes only and should not be relied upon as (and is not) an indication of the Company's views on its future financial performance or condition. Investors should note that past performance, including past share price performance, of Calix cannot be relied upon as an indicator of (and provides no guidance as to) future Calix performance including future share price performance.

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This presentation contains certain "forward-looking statements". The words "expect", "anticipate", "estimate", "intend", "believe", "guidance", "should", "could", "may", "will", "predict", "plan" and other similar expressions are intended to identify forward-looking statements. Indications of, and guidance on, future earnings and financial position and performance are also forward-looking statements. Forward-looking statements, opinions and estimates provided in this presentation are based on assumptions and contingencies which are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward-looking statements, including projections, guidance on future earnings and estimates are provided as a general guide only and should not be relied upon as an indication or guarantee of future performance. Such forward-looking statements are by their nature subject to significant uncertainties and contingencies and are based on a number of estimates and assumptions that are subject to change (and in many cases are outside the control of Calix and its directors) which may cause the actual results or performance of Calix to be materially different from any future results or performance expressed or implied by such forward-looking statements. The forward-looking statements should not be relied on as an indication of future value or for any other purpose.. No representation, warranty or assurance (express or implied) is given or made in relation to any forward-looking statement by any person (including the Company). In particular, no representation, warranty or assurance (express or implied) is given that the occurrence of the events expressed or implied in any forward-looking statements in this presentation will actually occur. Actual results, performance or achievement may vary materially from any projections and forward-looking statements and the assumptions on which those statements are based. The forward-looking statements in this presentation speak only as of the date of this presentation. Subject to any continuing obligations under applicable law, the Company disclaims any obligation or undertaking to provide any updates or revisions to any forward-looking statements in this presentation to reflect any change in expectations in relation to any forward-looking statements or any change in events, conditions or circumstances on which any such statement is based. Nothing in this presentation will under any circumstances create an implication that there has been no change in the affairs of Calix since the date of this presentation.

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Calix Limited Business Overview



Growing Sales Revenues
generated from water treatment products, with growing exports and recent US acquisition



Control of Supply Chain
from mine, to manufacturing facility, to local mixing plants, to customer / distributor



Quickly scalable for minimal (organically funded) capex

Cash-positive and virtually no debt, with growing revenues, secure supply chain, quickly scalable and funded development pipeline.



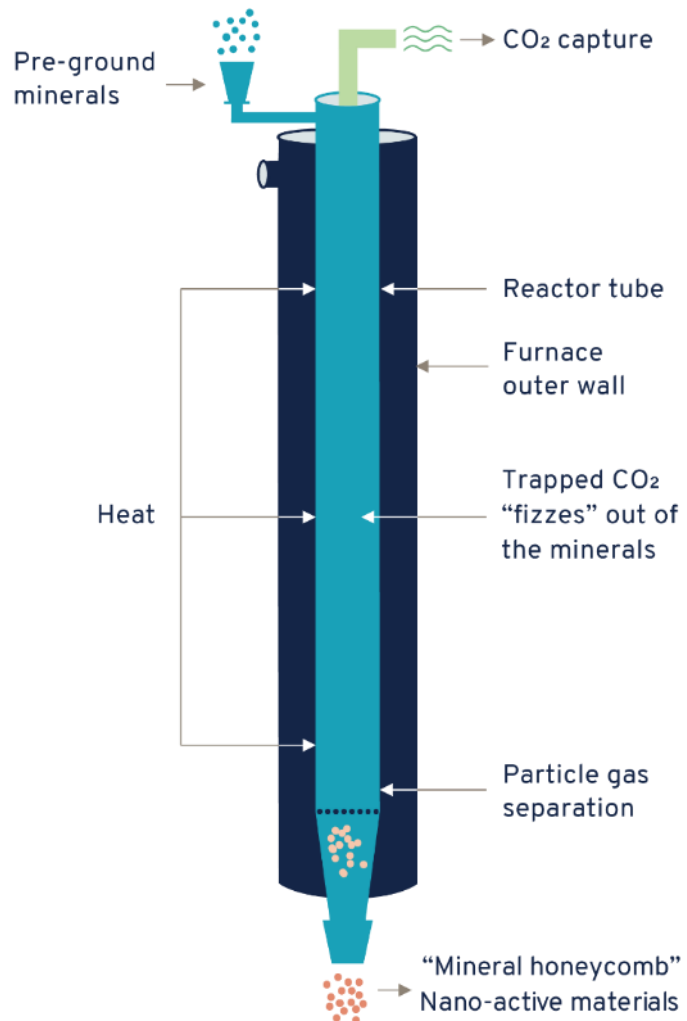
Robust business model
with existing commercialised markets in “essential services” waste water and food, largely unaffected by COVID-19



Funded Development in
Australia (\$5m for agriculture, advanced batteries) and Europe (€28m for CO2 capture for cement and lime)



Calix's Core Technology



CO₂ Capture

When processing limestone, cement meal, or magnesite, gas exhaust is pure CO₂

Low Cost + Very High Surface Area (Reactive) Products for:

- Wastewater
- Aquaculture
- Lake remediation
- Crop protection
- Advanced batteries

A New Type of Kiln



27 patent families covering core technology and applications



>\$60m has been invested to date in developing the technology.

Calix is vertically integrated – owning the complete supply chain and proprietary technology, and easily scalable

Calix Magnesite Mine, Australia

JORC proven and probable reserve 466kT + Indicated Resource 392kT

Located in one of the largest MgCO_3 deposits in the world



“Magnesite”

Calix Core Technology A New Type of Kiln

Patented

Can process multiple minerals + capture CO_2

Currently ~15% utilised, processing mainly magnesite

Replacement cost and capex for additional CFC is ~ A\$20m



“Magnesium Oxide”

“Just add water” satellite facilities (close to customer)

Patented

7 established
(2 AUS, 1 SE Asia, 4 US)

2 more planned for US

1 planned for market entry EU








“Magnesium Hydroxide Liquid (MHL)”

“The information in this Presentation that refers to a JORC-compliant resource estimate is based on information prepared by Ric Horn of Hornet Resource Assessment Services Pty Ltd. Ric is a Fellow of the Australasian Institute of Mining and Metallurgy and a Chartered Professional and is bound by and complies strictly with the Institutes codes and recommended practices. Mr Horn has 47 years' experience in the resources industry both in exploration and mining and has sufficient experience relevant to the style of mineralisation under consideration. He has 14 years' experience involved with the deposit under consideration and activities being undertaken to qualify as a competent person as defined in the 2012 Edition of the JORC Code of the “Australasian Code for Reporting of Exploration Results, Mineral Resource and Ore Reserves”. Mr Horn consents to the inclusion in this Presentation of the matters based on his information in the form and context in which it appears.”

Calix's Existing & Target Markets – with Global Appeal



	IN-MARKET	PRE-COMMERCIAL		R&D	
	 WATER AND WASTE WATER	 AQUACULTURE & FRESH WATER REMEDIATION	 AGRICULTURE CROP PROTECTION	 CO ₂ MITIGATION LIME & CEMENT	 ADVANCED BATTERIES
Revenue model	Direct sales model Australia / NZ / US	SE Asia Distributors	Supply under margin-share	License technology to industry / royalty basis	
Markets	Australia, NZ and US Target: EU, Global	South East Asia Target: Global	EU Target: Global	EU Target: Global	Target: Global
Strategic play			✓	✓	✓
TAM ¹ \$A billion	36.7	1.5	9.8	10.8	10.7
All based upon Calix's highly active magnesium hydroxide (MHL) technology				Pilot plant in Belgium	Pilot plant at Bacchus Marsh

¹ Frost & Sullivan: Market Opportunity for Calix Flash Calcination, dated 17 April 2018. Refer to Section 4 of the Calix Prospectus for risks associated with the competitive environment, retaining and winning customers and market development.

A Track Record of Funded Development to Commercialisation



Water and waste water

2014: Commercialisation
Australia Grant A\$2m

CO₂ mitigation lime & cement

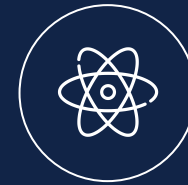
2012: UK DECC Grant \$A2.32m
2014: EU ASCENT Program \$A0.91m
2016: EU LEILAC-1 Grant \$A21.8m
2018: EU SOCRATCES Grant \$A1.6m
2019: LEILAC-2 Grant \$A29.1m

Agriculture crop protection

2016: Accelerating
Commercialisation Grant
A\$1m

Advanced batteries

2016: AMGF Grant A\$0.9m
2019: CRC-P Program Grant A\$3m



2011 to 2019 - R&D
Rebate associated with
the core technology:
A\$27.1m



Total R&D and
grant funding of
>A\$90m since 2011



Patented
Platform
Technology



Funded
Development
Pipeline

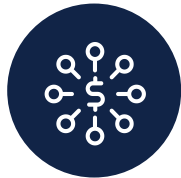
Key Financial Metrics H1 FY20



~A\$30m in new grant funding secured for further R&D



Cash flow positive from operations



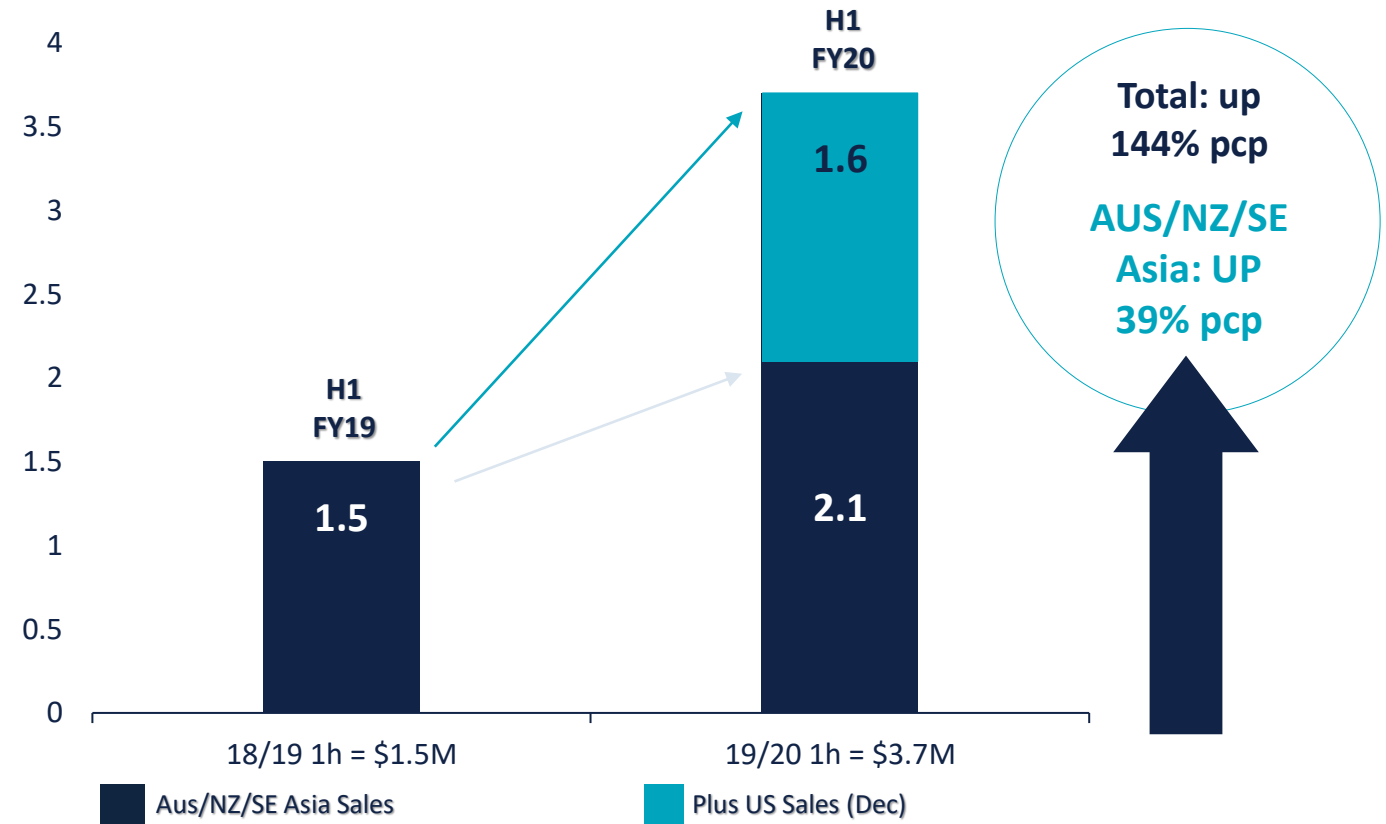
FY20 Sales Revenue Guidance A\$12.5m to A\$14m Net Assets A\$28.6m* Zero Debt



December: Successful completion of US acquisition set to deliver 5-fold sales revenue uplift***

A\$M

Sales Revenue Growth



*As at end-Dec 2019

** as at Feb 20, 2020

***FY19 Basis

Growing Sales Revenues

Business Model / Strategy

- Direct sales model Aus / NZ / US
- Exploit ACTI-Mag advantages – US
- US: Currently only about 6-8% of >US\$100m (est) market = opportunity

Acquired US Business, IER, in December 2019

- Update on our Sales and US Acquisition

- First US plant upgrade completed and more stable product achieved
- Second US plant upgrade underway
- First new US plant under construction for market expansion

*As at end-Dec 2019

** as at Feb 20, 2020

***FY19 Basis



 ACTI-Mag™	COMPETITOR MHL	CALIX "ACTI-Mag"
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Safe / Env. Friendly	✓	✓
Reduces Rotten Egg Gas	✓	✓
Breaks Up Sewer Fatbergs	✓	✓
Produces more biogas	✗	✓
Reduce Phosphates, Nitrates and Heavy Metals	✗	✓
Travel long distances	✗	✓



US Acquisition Strategic Rationale

Calix will be looking to drive top line revenue growth in the US through expansion in existing geographies.

More than a thousand municipal wastewater authorities across the nine US states where IER operates, introducing Calix's odour control, phosphate removal, and fat/oil/grease (FOG) control solutions

Expanding into new geographies and markets through the benefits offered by Calix's ability to stabilise MHL and improve its performance.



First US plant upgrade completed and more stable product achieved



Second US plant upgrade underway



First new US plant under construction for market expansion

Calix's Technology is Attracting Global Players



Calix's technology is being piloted with the world's largest cement and lime companies to mitigate their carbon dioxide (CO₂) emissions dramatically without significant energy or capital penalty.



CO₂ Mitigation Drivers

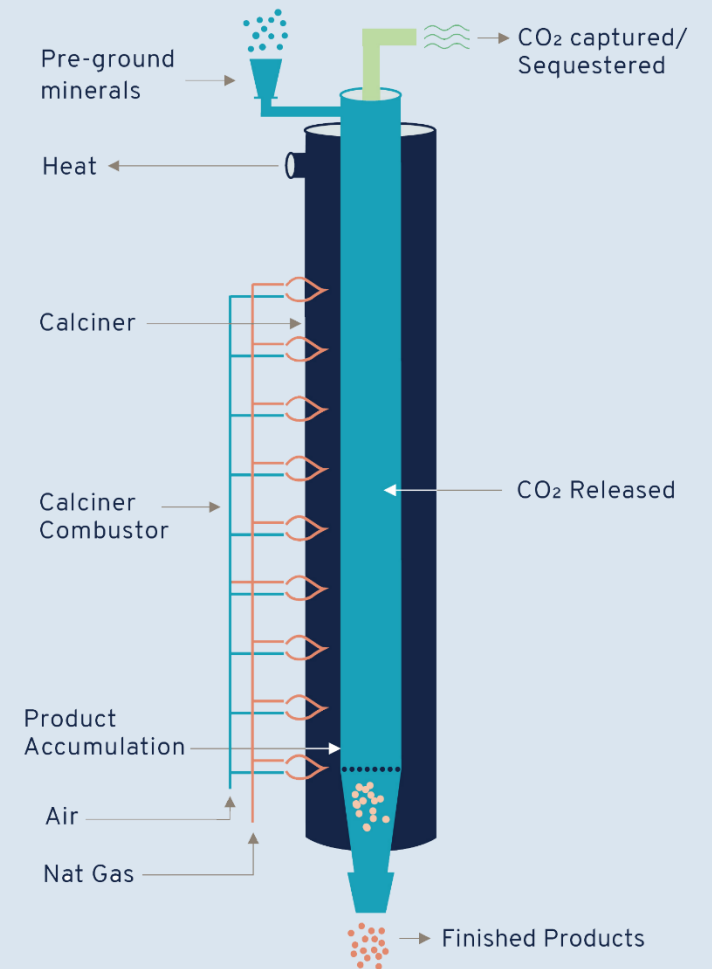
- EU Emissions Trading Scheme (“ETS”) CO₂ permit price jumps from €5/T to over €20/T in 2018
- European Governments commence legislating Net-Zero CO₂, in most cases by 2050, but by some (Norway) as early as 2030

Business model

- Prove technology at scale by ~ 2025
- License technology to industry / royalty basis
- Pursue other verticals (lime, refractories, soda-ash industries)
- All IP developed associated with core technology is 100% owned by Calix Limited

Technology Development

- LEILAC-1 Project runs to end 2020
- LEILAC-2 Consortium formed and €16m in grant funding announced from H2020 in December 2019
- LEILAC-1 Operational testing continues to gradually expand temperatures and throughputs



LEILAC – the Size of the Opportunity...

If...

...LEILAC was proven the “best available technology” by 2025...

...and it was possible to construct 100 LEILACs of 1 million tonne CO₂ capacity each year...

...this would still not meet the global CO₂ capture capacity required* assuming full de-carbonisation of the industry by 2050

*Assuming 12 to 23 % growth in the cement market to 2050 (IEA 2019)

Developing our Asian Business

Water conditioner traps Nitrogen and Phosphorous.

Aqua Culture & Freshwater lakes

Nitrogen, Phosphorous



Disease



Blue Green Algae



Fish Kills

Business Model

- SE Asia Distributors – 3 established covering 7 countries
- Technical support of paid trials – new markets
- Expand and Exploit value-in-use – unique mode of action

Freshwater lake remediation

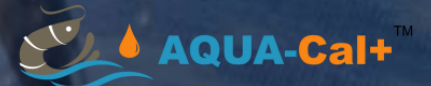
- Seeking first commercial use

Aquaculture

- First post-Coronavirus Chinese order received !
 - remains a watch point



SALES
REVENUE
GROWTH
110% H1
FY20 PCP



Developing License Incomes



Safe, environmentally friendly crop protection at a fraction of the cost

New Product

- Safe, environmentally friendly
- 1/5th the price point of average pesticide / fungicide
- Enables >50% reduction in standard fungicide / pesticide use
- Existing chemicals under increasing pressure associated with toxicity

Business model

- Supply under margin-share
- Materials testing with top crop protection companies (4 started, 1 complete)
- Establish licensed sales / marketing agreements with crop protection majors covering Asia, Americas, Oceania

Technology Development

- Awaiting first EU summer trials – watch point – Impact of EU Corona Virus lock-down on season 1 sales
- First orders received and 14 tonnes shipped for EU 2020 summer
- Australian Pesticides and Veterinary Medicines Authority (APVMA) dossier submitted for approval for the Australian market

BOOSTER-Mag 



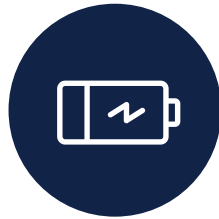
Funded Innovation

Cheaper, more recyclable and better performing batteries

Why better batteries?



Rapid growth in electric vehicles and renewable energy



Need for advanced materials for lithium-ion batteries with reduced environmental impact








Issues of cost, capacity, safety and sustainability of current solutions

Calix 'BATMn' technology

- Controlled porosity targeting better anode and cathode performance and/or cheaper and more recyclable chemistries
- BATMn reactor built with funding from Federal Govt. - \$0.9m
- BATMn is already at commercial scale for battery materials.

Priorities for Next 24 Months



	IN-MARKET	PRE-COMMERCIAL		R&D	
	 WATER AND WASTE WATER	 AQUACULTURE & FRESH WATER REMEDIATION	 AGRICULTURE CROP PROTECTION	 CO ₂ MITIGATION LIME & CEMENT	 ADVANCED BATTERIES
Success in 24 months looks like?	US: 4 site upgrades, 2 new manufacturing sites supporting new market growth European market entry and growth	Continued Asian growth esp. China Successful market entries – Indonesia, Vietnam, India	Two European summer sales exceeds 150kL APVMA Approval – Australia Another commercial license	Successful completion – LEILAC-1 Successful Front End Engineering Design - – LEILAC-2	Pouch cell prototypes tested – high prospective performance and/or economics
Strategic Options	Partnering / portfolio potential		License and possible spin-out play to crop majors	License and possible spin-out play to cement / lime Eng. Tech companies	License and possible spin-out play to battery / EV companies
Priorities	Equal highest priority – grow revenues and leverage technology into new market opportunities	Medium priority – huge potential and high growth but off small base via distributors	High priority – good European and global tailwinds	Equal highest priority – grow value through de-risking – look for early value inflexion points	High priority – good global tailwinds, will take time
Focus remains on growing organic revenue base whilst strategically realising value in other R&D verticals					

(1) Frost & Sullivan: Market Opportunity for Calix Flash Calcination, dated 17 April 2018. Refer to Section 4 of the Calix Prospectus for risks associated with the competitive environment, retaining and winning customers and market development.

SALES REVENUE GUIDANCE FOR FY 20 (\$A12.5 TO \$14M) REMAINS UNCHANGED

	Threats	Opportunities
Operations / Supply Chain	<ul style="list-style-type: none">Employee isolations impacting operations (if >30% loss of operational staff)	Australia: Unbroken supply chain – mine to customer – only supplier of MHL to have this – competitive advantage. Can also help support US
Customer Base – Utilities (Water and Sewer)	<ul style="list-style-type: none">Current volumes largely unaffected – essential service.New business / growth may be hampered by ability to prospect	
Customer Base – Food / Other Industrial	<ul style="list-style-type: none">Some processed foods for restaurants down, others (home – packaged etc) are up – overall volumes largely unaffectedRecent outbreaks of COVID-19 at food manufacturers in the US creating short-term (days / weeks) demand interruptions	Fast-to-pivot to on-line / webinar style marketing and sales follow up – 2 successful test webinars in Australia already generating multiple new leads

Calix in Summary



Partnerships

- Partnering with Global Majors

Technology

- Patented Platform Technology
- Funded Development Pipeline

Team

- Highly Experienced Team, 56 employees
- Personally Invested – owning 17.5% of equity

Finances

- Cash flow positive
- Growing revenues
- Exporting to 8 countries
- Operations in Aus/US/Eur/Asia
- Strong balance sheet
- Highly scalable
- Recent acquisition secured 5-fold sales revenue increase*

Total Addressable Market

WATER AND
WASTE WATER



A\$36.7b

AQUACULTURE
& FRESH WATER
REMEDIATION



A\$1.5b

AGRICULTURE
CROP PROTECTION



A\$9.8b

CO2 MITIGATION
LIME & CEMENT



A\$10.8b

ADVANCED
BATTERIES



A\$10.7b

In-Market

Pre-Commercial

R&D

Board of Directors



**Peter
Turnbull**
Non-Executive
Chair

- Experienced chairman and non-executive director with significant board and senior executive experience in the resource, energy and technology commercialisation sectors
- Current Chairman of Auxita Pty Ltd, non-executive director of Karoon Energy Ltd. (ASX: KAR), the Governance Institute of Australia and the Chartered Governance Institute
- Adjunct-Professor at the University of Queensland (2010 – 2016)
- Chair of Calix Rem and Nom Committee, and member of Calix Audit and Risk Committee



**Jack
Hamilton**
Non-Executive
Director

- 30 years multidisciplinary experience in local and overseas energy industries, including as a Director of NWS Ventures (Woodside North-West Shelf project)
- Currently the Chairman of AnteoTech Ltd (ASX:ADO). Previous Non-Executive Director positions include Renu Energy (ASX:RNE), and DUET Group (ASX:DUE)
- Chair of Calix Audit and Risk and Technology Committees, and member of Rem and Nom Committee



**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, 300-employee distribution and sales subsidiary
- 7 years running a private consultancy providing strategy and M&A services
- Joined Calix in 2013 as CEO, became a Director in 2014 and is a member of Calix's Technology Committee



**Lance
O'Neill**
Non-Executive
Director

- London-based director of DFB Australia, with 36 years of experience in international securities and investments in the UK, Australia, USA and Far East
- Chair of MediaZest Plc and EP&F Capital Plc



**Dr Mark
Sceats**
Director And
Chief Scientist

- Co-founder of Calix
- Qualified physical chemist with over 46 years' experience, previous roles academic roles, and numerous fellowships and recognitions
- Author of more than 140 academic papers in physical chemistry and inventor of 36 patented inventions

Listed on the ASX in July, 2018

Share Price Performance Since Listing



Further Equity Detail

As at 4 May 2020

Free Float	126.8m shares
Escrowed Shares (Directors / Promoters) to July 2020	20.6m shares
Warrants Escrowed to July 2022 (\$0.66 Strike Price)	2.4m warrants
Employee Incentive Scheme Rights	7.8m rights

As at 4 May 2020, 2:30pm

Shares on issue	~147.4m
Share price for IPO Capital Raise	\$0.53 per share
Share price on IPO	\$0.62 per share
Share price	\$0.665 per share
Market capitalisation	~\$98m
Cash (company is debt free)	\$12.4m

Major shareholders

As at 4 May 2020

Board & Management	17.5%
Perennial Value Management	14.1%
Sculptor Capital Management	11.5%
Nicholas Merriman and associates	8.9%
Paul Crowther	5.7%
Thorney Investments	5.6%
Acorn Capital	5.4%
AustralianSuper Pty Ltd	5.1%

Because there's only one Earth...



...Mars is for quitters

Phil Hodgson

Managing Director & CEO

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