

24 August 2023

FY23 results: Calix accelerates commercialisation of industrial decarbonisation and sustainability solutions

Sydney, Australia | 24 August 2023 – Australian environmental technology company, Calix Limited (ASX: CXL) (“Calix” or “the Company”) is pleased to report its financial performance for the 12 months ended 30 June 2023 (“FY23”).

Financial highlights

- Total revenue and other income increased by 42% to \$29.6m (FY22: \$20.8m), including a sales gross margin of 33% (FY22: 28%), with continuing revenue and margin contribution in the United States of America (“US”) and Asia Pacific from Calix’s Water business.
- A strong balance sheet and cash position of \$74.5m (FY22: \$25.0m) continues to support acceleration of the Company’s commercialisation strategy. The Company’s cash position is underpinned by a \$60.0m institutional placement in October 2022 and a \$21.6m Share Purchase Plan completed in November 2022.
- Calix’s strong balance sheet, including its cash position and minimal debt, provides the capacity to simultaneously pursue commercialisation opportunities in large addressable markets across the Company’s multiple lines of business.
- The Company undertook investment of \$31.7m (FY22: \$19.7m) in capability and capacity building to commercialise Calix’s technology, particularly in its CO₂ Mitigation business, Leilac, and its Sustainable Processing business. This includes investment in additional research, development and engineering, which accounted for 77% of the total increase in operational expenditure.
- Calix concluded FY23 with 129 full-time employees (FY22: 72 full-time employees), which includes 37 new engineers and scientists to support research and development, as well as new employees to support customer projects.

Operational updates

Leilac

Operational highlights:

- First licence agreement signed for cement: Leilac, Calix’s 93% owned subsidiary focused on the decarbonisation of cement and lime, signed a first-of-a-kind perpetual global licence agreement with Heidelberg Materials (FWB: HEI). The agreement applies to any Heidelberg Materials facility where the Leilac technology is installed.

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- The Leilac-2 project progressed: the Leilac-2 project located at Heidelberg Materials' Hanover site commenced procurement of long-lead items and site works (demolition of old existing infrastructure) following some permitting delays. This will likely push commissioning into 2025. Leilac-2 is targeting 100,000 tonnes per annum of CO₂ separation and aims to establish a modular, retrofittable format of the Leilac technology for cement applications.
- Leilac executed a non-binding Memorandum of Understanding ("MOU") with Direct Air Capture ("DAC") company, Heirloom: Leilac announced a new application of its core kiln technology for DAC of atmospheric CO₂, and a non-binding MOU for a global licence and collaboration agreement with Heirloom.
- Leilac's pipeline of projects continued to grow: new projects announced included three projects with CEMEX S.A.B. de C.V. (NYSE: CX) in Germany, Poland and the US, and a zero-emissions lime project with Tarmac. The project with Tarmac passed the due diligence phase of the United Kingdom ("UK") Government's Industrial Carbon Capture funding scheme. Progress was also made towards a global licence agreement with CEMEX.
- Calix was announced as a partner in a methanol project for sustainable fuels from CO₂: with funding from the German-Australian Hydrogen Innovation and Technology Incubator ("HyGATE") initiative, the Solar Methanol Project aims to use renewable energy, green hydrogen and CO₂ captured by the Leilac technology to produce sustainable fuels.

Market trends

Government policies and industry commitments continue to drive industrial decarbonisation across the globe. In Europe, the emissions trading scheme reached over €100 per tonne of CO₂, up from less than €20 only three years ago. A Carbon Border Adjustment Mechanism was introduced, placing a carbon tariff on imported carbon-intensive products, such as cement. As part of the Green Deal Industrial Plan, the European Union ("EU") also introduced the Net-Zero Industry Act. This Act identifies carbon capture and storage as one of eight strategic net-zero technologies and includes a target to develop 50 million tonnes of annual CO₂ storage capacity in the EU by 2030. In the US, the Inflation Reduction Act was passed. It included an increased incentive of US\$85 per tonne to capture and permanently store industrial CO₂.

About Leilac

Leilac's purpose is to accelerate the transition to net zero by providing a compelling decarbonisation solution for global cement and lime. Cement and lime provide the foundations of our societies and economies. They are also amongst the largest industrial contributors to climate change, accounting for approximately 8% of global CO₂ emissions.¹ Leilac's technology enables the capture of unavoidable process CO₂ emissions from cement and lime production, without additional chemicals or processes. It is being designed to be scalable, retrofittable, energy agnostic and electrification ready to provide flexible and economical pathways to carbon neutral cement and lime. Leilac's technology is also being developed to deliver zero emissions lime for capture of emissions from other hard-to-abate sectors, as well as Direct Air Capture of CO₂ from the atmosphere.

¹ Trends in global CO₂ emissions; 2016 Report, The Hague: PBL Netherlands Environmental Assessment Agency

Sustainable Processing

Operational highlights:

- Joint venture executed with Pilbara Minerals (ASX: PLS): supported by a grant of \$20m under the Australian Government's Modern Manufacturing Initiative, Calix's joint venture with Pilbara Minerals aims to develop novel mid-stream lithium processing to produce low carbon, low waste, and high value concentrated lithium salt.
- Sustainable lithium demonstration plant progressed towards construction: detailed Front-End Engineering and Design ("FEED") of a mid-stream spodumene processing demonstration plant, developed in a joint venture with Pilbara Minerals. The Financial Investment Decision ("FID") for the project was approved by the boards of Calix and Pilbara Minerals on 2 August 2023.
- Calix was awarded funding for its Zero Emissions Steel Technology ("ZESTY"): a \$0.947m Australian Renewable Energy Agency ("ARENA") grant was awarded to Calix to help fund a Basis of Design ("BOD") and FEED study for a renewably powered 30,000 tonnes per annum demonstration plant.
- First stage ZESTY pilot-scale tests were progressed: pilot-scale metallisation results show ZESTY can produce hydrogen reduced iron ("H-DRI") products from multiple ore samples. The results will inform and progress design of a ZESTY demonstration plant.
- Continued exploration of further applications: throughout FY23, Calix continued to explore further applications of its sustainable processing technology, including to alumina and other critical minerals.

Market trends

Critical minerals were the source of significant geopolitical interest in FY23, as governments sought to develop reliable supply chains for minerals of strategic importance in a decarbonising global economy. The US-Australia Climate, Critical Minerals and Clean Energy Transformation Compact was announced. It aims to fast-track critical mineral supply chains and provide access to US capital for Australian companies. In Europe, the Critical Raw Materials Act also aims to diversify and enhance the resilience of EU critical raw material supply chains. In Australia, the \$15 billion National Reconstruction Fund includes up to \$3 billion for renewables and low emission technologies and \$1 billion for value-adding in resources. An additional \$400m was announced for Critical Inputs for Clean Energy Industries, such as steel, cement and lime, and alumina.

About Sustainable Processing

Calix's patented core platform technology aims to help mineral and chemical processing enter the electric age. An indirect radiative heating approach separates the heat source from the chemical reaction and removes the need for combustion. Designed to be compatible with renewable sources of energy and grid-load balancing applications, Calix's technology is also being developed to enable efficient use of green hydrogen in place of conventional, carbon-intensive reductants, enhance recovery of ore, and create near zero-waste products. At-mine processing has the potential to rationalise supply chains, reduce the total CO₂ footprint of minerals, and add value to mineral exports.

Advanced Batteries

Operational highlights

- Commercial-prototype Lithium Manganese Oxide (“LMO”) battery cells were produced: Calix produced 4Ah commercial-prototype battery cells using Calix LMO cathode powder, in collaboration with UK production partner, AMTE Power, and prototype single layer pouch cells.
- Expanded to new battery chemistries: Calix expanded its battery materials capability to new chemistries, including those favoured by the electric vehicle segment of the battery market. The production of new battery chemistries aims to demonstrate the potential of Calix’s production methods as a chemistry-agnostic platform technology.

Market trends

Demand for lithium-ion battery materials is growing, driven by a transition towards electric vehicles and renewably powered energy grids supported by battery storage. By 2030, global battery capacity is expected to grow more than five-fold to 5,500 GWh, reaching an estimated total addressable market of over US\$400b.² Government policies, such as the US Government’s Inflation Reduction Act and the European Critical Minerals Act, are driving efforts to build sovereign capabilities and supply chains.

About Advanced Batteries

Calix is developing a renewably powered, energy efficient and low-cost chemistry-agnostic platform technology that is targeting sustainable production of high-performance nanostructured battery materials.

Biotech

Operational highlights

- Further field trials commenced for agriculture products: in collaboration with an EU agricultural cooperative, a second season of extended field trials commenced in the Netherlands, following the banning of the fungicide Mancozeb in the EU. Additional field trials also commenced to extend the label of Calix’s current BOOSTER-Mag registration.
- Coatings tests completed and progressed: Calix completed phase two static tests with leading global coatings firms. Dynamic tests and coatings formulation work commenced in different marine antifouling sites across North America, Australia, New Zealand and Asia.
- Calix was appointed as a Tier 1 partner in Australia’s Cooperative Research Centre Solving Antimicrobial Resistance in Agribusiness, Food, and Environments (“CRC SAAFE”): as a Tier-1 partner in the CRC SAAFE, Calix’s materials will be used to investigate antimicrobial resistance (“AMR”) solutions. The first project, focused on AMR in intensive livestock, commenced.

² [Global lithium-ion battery capacity to rise five-fold by 2030](#)

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Market trends

- Agriculture: reducing dependence on lethal chemical pesticides is an important challenge for the agriculture industry. Non-conventional pesticides are predicted to grow at 15% per annum for the next 10 years³, driven in part by the prohibition of many conventional pesticides.
- Marine: in FY23, the International Maritime Organisation adopted a new emissions reduction strategy⁴ and indicated it will strengthen biofouling measures⁵.
- AMR: following many years of overuse of conventional pesticides, biocides and antibiotics, AMR is projected to cost the global economy US\$100 trillion and cause 10 million deaths per year by 2050.⁶

About Biotech

Calix's Biotech business continued to develop magnesium oxide materials with high bioactivity for three target applications:

- Agriculture: Calix BOOSTER-Mag is a safe, low-cost, and environmentally sustainable alternative insecticide now registered in Australia. BOOSTER-Mag provides non-lethal pest suppression that aims to enable reduced use of conventional insecticide without compromising yield or yield quality.
- Marine: Calix is developing non-toxic bioactive additives that aim to deliver more sustainable marine-fouling and corrosion control through a material reduction in the use of toxic biocides.
- AMR: the antimicrobial properties of Calix's bioactive materials, with low resistance development potential, may offer a sustainable alternative to conventional actives.

Water

Operational highlights

- Revenue and margin growth: the US Water business recorded revenue growth for the full year of 14.2%, while strong margins led to a gross profit increase of 28.6%. Revenue growth accelerated during the year, with growth in the second half of FY23 up 28% compared with the same period in the 2022 financial year.
- Continued product development: the development of a new product, ALKA-Mag+ helped to secure new business and grow revenue within existing hydration plant regions in the Pacific Northwest and Upper Midwest of the US.
- New hydration plants were progressed: new hydration plants in Ripon, Wisconsin, and Lufkin, Texas, were advanced. The Lufkin plant is undergoing commissioning, and the Ripon plant is under construction.

Market trends

In North America, regulatory tailwinds continued to drive growth in the magnesium hydroxide market. For wastewater, increased regulation regarding nitrogen removal created demand for solutions that boost alkalinity and maintain effective microorganism activity. For the potable water market, strengthened regulation on residual lead and copper required alternative pH control solutions to

³ Insightace analytic

⁴ 2023 IMO Strategy on Reduction of GHG Emissions from Ships

⁵ Draft revised Biofouling Guidelines approved at PPR 10th session

⁶ United Nations Environment Programme (2022). Environmental Dimensions of Antimicrobial Resistance: Summary for Policymakers.

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minimise the corrosivity of water within the distribution system.

About Water

Water and wastewater management is a challenge that can threaten vital waterways, impacting health and the environment. Effective management of water and wastewater helps to protect freshwater systems, oceans and human health by preventing detrimental pathogens, nutrients and other types of pollution from entering the environment. Calix's products aim to provide safe, effective, economical and sustainable solutions for the treatment of water and wastewater.

More information on the Company's operational and financial performance is available in the FY23 Annual Report.

Calix's Managing Director and CEO, Phil Hodgson said:

"Calix's strong balance sheet continues to provide the capacity to pursue commercialisation opportunities across the breadth of the Company's business. It is the result of solid revenue and margin growth in our Water business in the US, grants and tax rebates from government, and ongoing fiscal prudence. It was further bolstered by the capital raised through a private placement and share purchase plan in late 2022. By design, we retain flexibility to pursue the right capital strategy for each investment opportunity across the business.

"In FY23 an unprecedented array of government policies and programs were announced across the planet to support governments, industries and communities to decarbonise and meet net-zero commitments. For Calix, these policies and programs were complemented by demand from industry and investors, despite the turbulent global economic environment. The favourable tailwinds generated by the pursuit of environment, social and governance goals, combined with Calix's business strategy, talented people and solid balance sheet see Calix well positioned for another landmark year in FY24.

"I would like to thank the Calix board for its strategic guidance throughout FY23, our customers and partners for their ongoing collaboration, and our shareholders for their continued support and belief in the Company. I would especially like to recognise and thank our people for their unrelenting commitment and drive towards realising our purpose. I'm excited by the prospect of what such a remarkably talented team, determined to fully realise the potential impact of our core platform technology, will achieve in the year ahead."

2024 Financial Year outlook

In the 2024 Financial Year ("FY24"), Calix will continue to focus on accelerating the development and commercialisation of its technologies for industrial decarbonisation, including electrification of industrial processing and capture of process CO₂ emissions. Priorities include the progression of projects through engineering milestones, including the commencement of civil works for Leilac-2 and construction of the mid-stream lithium-phosphate demonstration plant at Pilbara Minerals' Pilgangoora project. Calix will also continue to develop its core platform technology for application to alumina refining and the production of cathode active materials for lithium-ion batteries.

In FY24, Calix plans to combine its Water and Biotech businesses into a new Magnesia line of business. This change is designed to increase the scale and reach of Calix's magnesium-based

products. The Magnesia business will focus on delivering revenue growth for the Company through increased sales of water treatment products in the US and Asia. In addition, it will focus on the development and commercialisation of applications for agriculture, marine and antimicrobial resistance, and sustainable processing of magnesium metal.

Calix continues its strategy to leverage the Company's core platform technology for applications it believes can create shared value and economic growth, and can support sustainable competitive advantages. Calix will pursue low touch business models, including the conversion of existing relationships to licence agreements to assist the Company achieve its objectives.

FY24 KPIs



Investor webinar

Calix will host an investor webinar with Managing Director and CEO, Phil Hodgson, and Chief Financial Officer, Darren Charles, at 10:30am AEST today, 24 August 2023 to discuss its FY23 results.

Register for the investor webinar at the link:

https://us02web.zoom.us/webinar/register/WN_C8O3rucIR-G8JnMIQ1nguw.

After registering, you will receive a confirmation email containing information about joining the webinar. Investors can submit live questions during the webinar and are also invited to send questions prior to the webinar to simon@nwrcommunications.com.au.

-ENDS-

This announcement has been authorised for release to the ASX by:

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About Calix

Calix Limited (ASX: CXL) is an environmental technology company solving global challenges in industrial decarbonisation and sustainability, including CO₂ mitigation, sustainable processing, advanced batteries, biotechnology and water treatment.

Calix's patented core platform technology delivers efficient indirect heating of raw materials to enable electrification of industries, efficient capture of unavoidable emissions, and green industrial processing solutions. Its flash heating approach can also produce unique nanoporous materials with enhanced chemical and/or bioactivity.

Leveraging its core platform technology and a global network of research and development collaborations, Calix is urgently developing multiple environmental businesses that deliver positive global impact. Because there's only one Earth, and it's already ours.

Mars is for quitters.

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