

Company update

KALiNA Power Limited (ASX: KPO, “KALiNA” or the “Company”) is pleased to release a company update presentation, which is attached to this announcement. The presentation outlines KALiNA’s strategy and investment case.

Investment highlights

- KALiNA is **funded to positive cash flow** under current business plan, and well positioned to pursue rapid execution of KALiNA Cycle[®] projects
- Highly credentialed Board and management, with a **proven track record** of growing and running clean energy companies
- **Capital light business model** underpinned by multiple revenue streams
- **100% owned, validated and patented** waste heat to power technology
- Numerous potential projects in China, Japan, USA, Canada and Europe
- **Sinopec relationship** expected to drive establishment and growth profile in China
- Significant market opportunity estimated to be **US\$72bn in Asia alone**
- Forging strategic relationships with **world class manufacturing, engineering and design firms**

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KALiNA

Electricity from heat

Efficient, Safe, Reliable, Proven

Company update
November 2016

Corporate snapshot

KALiNA provides turnkey waste heat to power solutions for industrial applications

Trading information (as at 3-Nov-16)

Share price	A\$0.12
52 week low / high	A\$0.028 / A\$0.155
Shares outstanding ¹	305.2m
Market capitalisation	A\$36.6m
Cash (30-Sep-16)	A\$5.3m
Debt (30-Sep-16)	A\$0.2m
Enterprise value	A\$31.5m
Potential proceeds from exercise of currently in the money options²	A\$7.3m

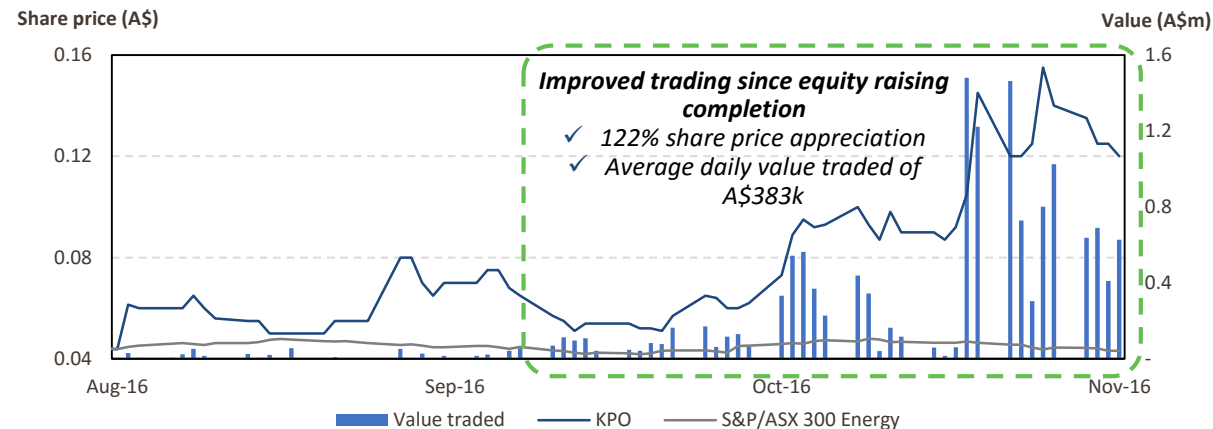
Top shareholders

Shareholder	%
Harrington Global Opportunities – <i>Global fund manager</i>	27.1%
Pan Andean Capital – <i>Australian high net worth investor</i>	7.4%
Board and management	9.7%
Top 20 shareholders	60.3%

Source: IRESS

- Excludes 97.4m listed options @ A\$0.05 to 30 Aug 2017, 21.6m unlisted options @ A\$0.11 to 30 June 2018, and 0.14m unlisted options @ A\$0.075 to 15 June 2017
- Assumes the exercise of all listed and unlisted options in the money as at close 3-Nov-16, with exercise prices and expiry dates as per Note 1

3 month share price performance



Board of Directors

Name	Position
John Byrne	Executive Chairman
Ross MacLachlan	Managing Director and CEO
Tim Horgan	Executive Director
Malcolm Jacques	Non-Executive Director
Jeffry Myers	Non-Executive Director

Track record of senior leadership

Recently appointed senior leadership includes highly credentialed industry professionals with proven ability to lead the founding, development, execution and financing of successful independent power projects

Ross MacLachlan

Managing Director and CEO

Appointed October 2016¹

- 35 years' experience in technology development, project funding and venture capital
- Former CEO and Executive Director of Lignol Energy
- **Early stage investor in and former Director of Pristine Power**
- **Raised over US\$100m** in both the conventional and alternative energy sectors and engaged in over **US\$400m worth of M&A and financing transactions**
- Appointment to MD and CEO in recognition of his leadership role in the reorganisation of KALiNA
- **Expertise: Leadership, technology development, project funding, IP management**

Jeffry Myers

Non-Executive Director

Appointed October 2016

- Over 30 years' experience in the downstream energy sector
- Led development, financing, execution and operation of **over 3GW of independent power projects**
- **Co-founder and former Chairman, President and CEO of Pristine Power**; oversaw the construction of **+600MW of energy projects** before the company was sold to Veresen for US\$300m
- Currently a **senior operating partner at Stonepeak Infrastructure Partners (US\$5.7bn infrastructure fund)**, responsible for investment in the power generation sector
- **Expertise: Project development, operations, investments, project funding**

Ross' and Jeffry's demonstrated success with Pristine Power, and Jeffry's association with Stonepeak Infrastructure Partners, gives the two a unique ability to lead a **well balanced team of industry professionals with experience across the energy value chain**

1. Ross was initially appointed to the KALiNA Board as an Executive Director in May 2015

Recent corporate developments

Recent corporate developments have provided a platform for operational success and valuation upside

Corporate Milestones



New Board and management appointments are positioning KALiNA for global deployment

- ✓ Eliminated over A\$12.5m of external debt and simplified KALiNA's corporate structure
- ✓ Ongoing restructuring of existing license agreements to control compliance and project execution
- ✓ New senior management and strengthened technical team
- ✓ Capital efficient, corporate partnering business strategy to meet international demand
- ✓ Several transformative projects underway; each to potentially create significant value to shareholders
- ✓ Post equity raising completion, and taking into account in the money options, KALiNA is funded to execute the existing business plan to positive cash flow

Source: IRESS

Market opportunity for waste heat to power

Evolution in international government policy with respect to power generation and emissions targets supports the market opportunity for KALiNA Cycle® technology; a 4MW KALiNA Cycle® power plant can offset 19kt of CO₂ p.a.

Climate change context

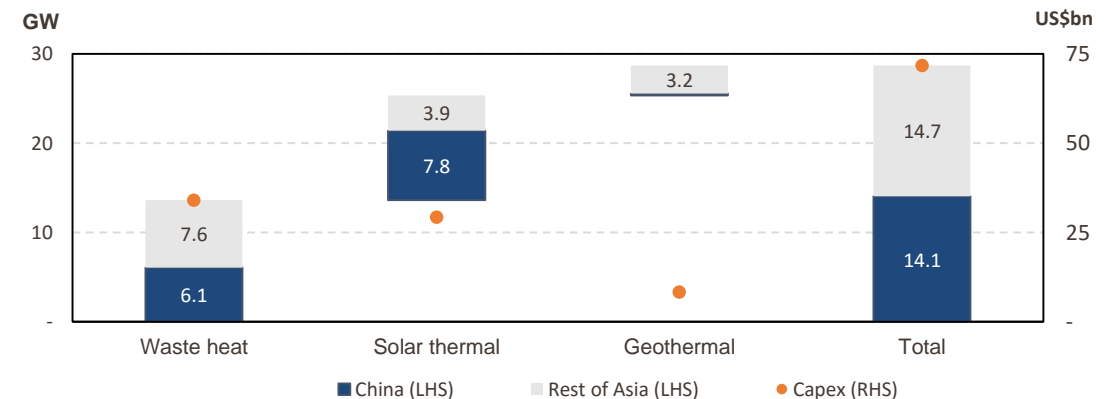
- Dramatic global step change in climate change prevention through reduction of green house gas emissions, with further acceleration expected
- At Paris Climate Change Conference, 195 countries agreed to hold increases in global average temperatures to well below 2°C above pre-industrial levels
 - Agreement reached to mobilise ~US\$100bn annually by 2020 through public and private sources, primarily to assist developing countries in minimising emissions
 - Provision of financing should encourage new project development
- Significant investment in clean energy required given expected growth of ~40% in global energy demand out to 2040, largely driven by economic expansion in developing countries
- **Industrial users are responsible for ~40% of energy related CO₂ emissions**
 - ~33% of energy consumed is being discharged as thermal losses

KALiNA Cycle® technology market opportunity – the China example

- The Chinese government has mandated a 16% reduction in energy consumption, requiring large industrial enterprises to seek operational energy efficiencies
- Waste heat to power has been identified by the Chinese government as an effective solution
 - Aiming to reduce green house gas emissions by 40%-45% by 2020



Additional energy capacity and capex¹ in Asia: 2014-21



Source: Frost & Sullivan estimates, Centre for Clean Air Policy

1. Based on average capital cost of US\$2.5m per MW

Generating electricity from waste heat is a well established, multi-billion dollar international market currently addressed by only a handful of companies using the Organic Rankine Cycle (ORC)

The KALiNA Cycle[®] technology

- When temperatures from waste heat are not high enough to boil water sufficiently to make steam, the conventional Steam Rankine Cycle cannot work efficiently
- Both the KALiNA Cycle[®] and ORC use waste heat to boil a working fluid (rather than water) into a vapour that is used to drive a turbine in order to generate electricity, similar to a conventional steam cycle
- **KALiNA Cycle[®] has been extensively validated in existing market applications**, confirming safety, reliability, affordability and potential for global deployment
- **KALiNA Cycle[®] can be utilised in both industrial energy efficiency applications** (utilising waste heat) and **renewable energy generation** (utilising renewable heat sources)
- IP portfolio includes 120 patents across 7 patent families, substantial volumes of proprietary knowledge, technical know-how and trade secrets

Market applications where KALiNA[®] Cycle has been deployed

Oil and petrochemical refineries

Glass manufacturing

Diesel engines

Cement plants

Steel, ferro alloy and metal processing

Geothermal

Market Applications for KALiNA Cycle[®] in development

Power generation bottoming cycle

Solar thermal

Other industrial applications

Biomass

Technip has confirmed that “KALiNA Cycle[®] technology is robust, its advantages substantial and given the extent of technology validation, there is potential for the KALiNA Cycle[®] to be adopted on an industrial scale worldwide”

Source: Technip Stone and Webster Technical Report

Revolutionary waste heat to power technology

KALiNA Cycle® is a proven, green technology that is up to 40% more efficient relative to ORC in industrial applications with lower operating temperatures

Comparison of KALiNA Cycle® and ORC

- ✓ Comparative performance relative to ORC strengthens when using heat sources with lower temperatures
- ✓ Low temperature market is far larger and less developed than higher temperatures applications serviced by ORC
- ✓ Relatively inexpensive, safe and easy to locate KALiNA Cycle® near volatile plants and equipment (e.g. petrochemical plants) vs. explosive ORC working fluids

ORMAT, a NYSE-listed company with a US\$2.3bn market capitalisation, is the market leader in ORC, exhibiting the scale that waste/geothermal heat to power companies can achieve

	KALiNA Cycle®	ORC	
Working fluid	Variable mixture of water and ammonia	Pentane, butane, refrigerant chemicals	KALiNA Cycle® advantages
Composition of working fluid is adjustable	✓	✗	Adjustable concentrations allow for a broad range of boiling temperatures
Operational flexibility	✓	✗	Improved thermal efficiency as boiling temperatures optimised for variations in the temperature of waste heat source
Incombustible, non-toxic working fluid	✓	✗	The KALiNA Cycle® is not toxic or explosive, therefore can be installed on sensitive industrial sites, rather than operating offsite via an oil loop with significant losses in efficiency
Working fluid is not ozone depleting	✓	✗	Ammonia is not a green house gas
Can utilise a wide range of turbine sizes	✓	✗	Due to the fact that ammonia and water have a similar molecular weight
Uses standard power plant components	✓	✓	Process technology – no new technology or components required
Competitive capital and operating costs	✓	✓	No oil loop required and superior heat transfer allows for smaller heat exchangers and lower demand for cooling water/infrastructure
Closed loop process	✓	✓	Sustainable, renewable process with zero emissions

Successful global deployment of KALiNA Cycle®

Sumitomo Metals and Fuji Oil in Japan, and Unterhaching in Germany, are showcase examples of successful KALiNA Cycle® projects

Attributes of successful projects

- ✓ Compliance with KALiNA's engineering design and equipment specification
- ✓ Projects that utilised KALiNA engineering team and world class EPC firms

Key focus for future projects

- ✓ Strict compliance with KALiNA's Engineering design and equipment specifications
- ✓ Project delivery through world class EPC firms
- ✓ Select major equipment vendors to provide high quality, standardised equipment for high performance, shorter lead times and better inventory management

Sumitomo Metals



- Location: Japan
- EPC partner: Chiyoda Engineering
- Commissioned: 1999
- Capacity: 3.5MW
- Steel mill: 98°C water
- Operated trouble-free with an **operating rate above 96%**
- Performance tests conducted by the Japanese MITI¹ confirm that the **performance exceeds the design specifications**
- Legal requirements require turbines to be inspected every 4 years; **all inspections confirmed that no defects were present**

Fuji Oil



- Location: Japan
- EPC partner: Chiyoda Engineering
- Commissioned: 2005
- Capacity: 4.0MW
- Petrochemical plant: 116°C condensing overhead vapours
- Annual **operating rate of 97%**
- Able to **perform continuously, safely and reliably, despite fluctuating conditions**
- Achieved 3.3MW of power generation and 8.0% gross thermal efficiency in the first full year of average operation (with low grade heat)

Unterhaching



- Location: Germany
- EPC partner: Siemens
- Commissioned: 2009
- Capacity: 3.4MW
- Geothermal power plant: 120°C thermal water
- Dynamic system that responds to changing heating requirements and environmental conditions
- System allows for **100% constant use** of thermal water
- **Exceptional solution for utilising low temperature geothermal resource** to deliver heating and power

1. MITI: Ministry of International Trade & Industry

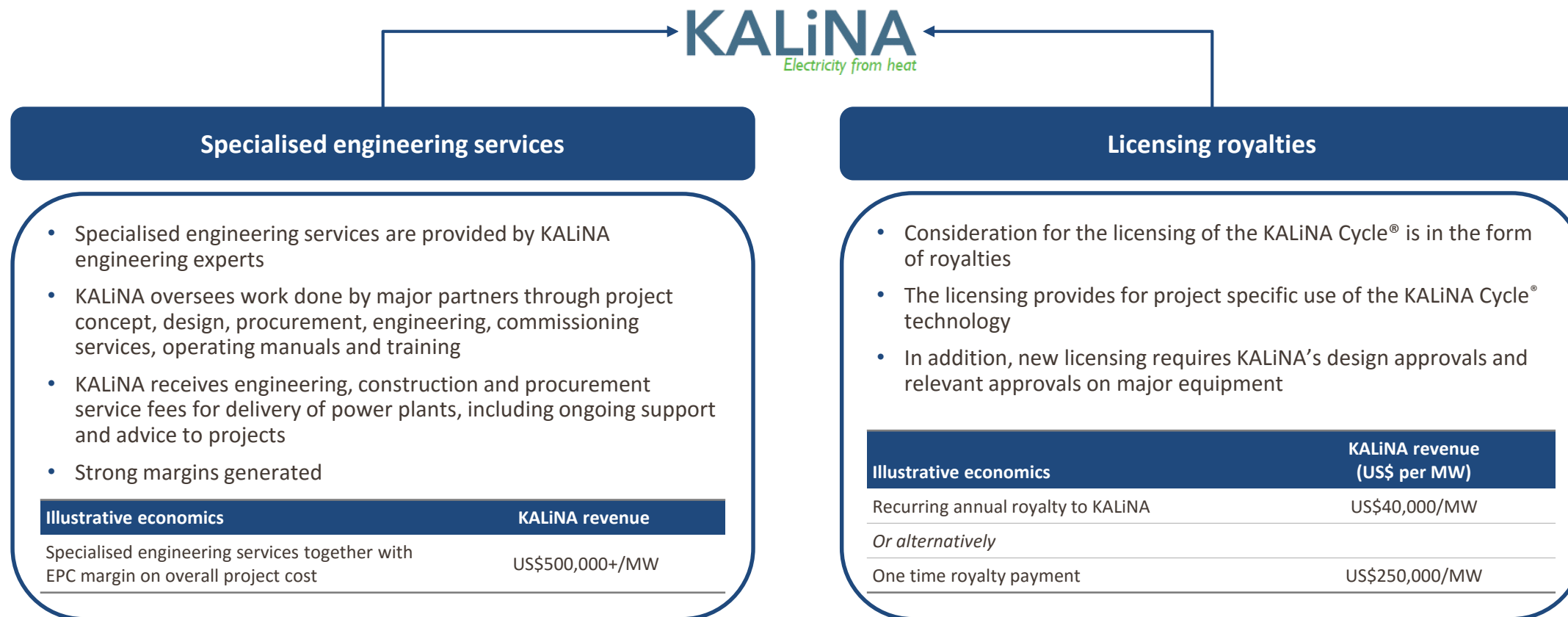
KALiNA's focused strategy for global deployment is designed to maximise returns for shareholders

- KALiNA's specialised engineering services provide effective oversight and control to ensure quality and compliance for project execution
- Experienced team capable of working with major partners in taking international projects from concept through design, engineering, commissioning services and operations



Capital light revenue model

KALiNA generates revenues from engineering services and licensing of the KALiNA Cycle® technology

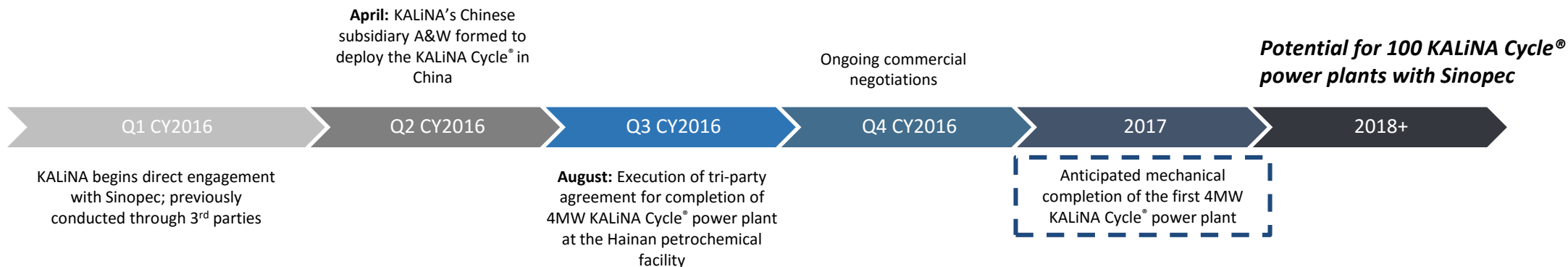


Future opportunity for KALiNA to move into full power plant construction and management provision once appropriately capitalised

Overview of the Sinopec opportunity

The Chinese government has mandated a 16% reduction in industrial enterprise energy consumption and Sinopec have confirmed that the KALiNA Cycle® is an 'important technology in meeting its energy efficiency targets'

Recent and expected Sinopec partnership milestones



Hainan Island petrochemical facility agreement

- Tri-party agreement between **A&W (KALiNA subsidiary)**, Sinopec and Shanghai Shenghe New Energy (SSNE)
- **A&W to have oversight and management of the project**
- **Project completion to be financed by Sinopec**
- Sinopec have confirmed that **upon satisfactory completion the parties shall 'conduct good faith discussions regarding agreements for future projects'**

Potential medium to long term opportunity in China with Sinopec

Completion of 1st Hainan Island facility to form blueprint for significant project opportunities

Sinopec have identified **100 potential KALiNA Cycle® power plant opportunities across 22 sites in China**

Rapid deployment strategy

Strategic agreements with preferred vendors, engineers and fulfilment partners allows for rapid deployment of KALiNA Cycle[®] technology, best power plant design and improved delivery capabilities

Agreements with preferred equipment vendors

- Developing arrangements with selected world leaders in the manufacture of power plant components
- Signed a MoU with Cryostar to develop international joint marketing of KALiNA Cycle[®] utilising Cryostar's advanced turbo-expander turbine designs
 - Cryostar is a wholly owned subsidiary of the Linde Group



Agreements with preferred EPC partners

- Building strategic relationships with selected world class engineering partners
- Established framework agreement with Sinopec Engineering Nanjing for China
- Recently entered into a teaming agreement with a major international global engineering consulting firm
- Currently in discussions with other major international EPC firms globally



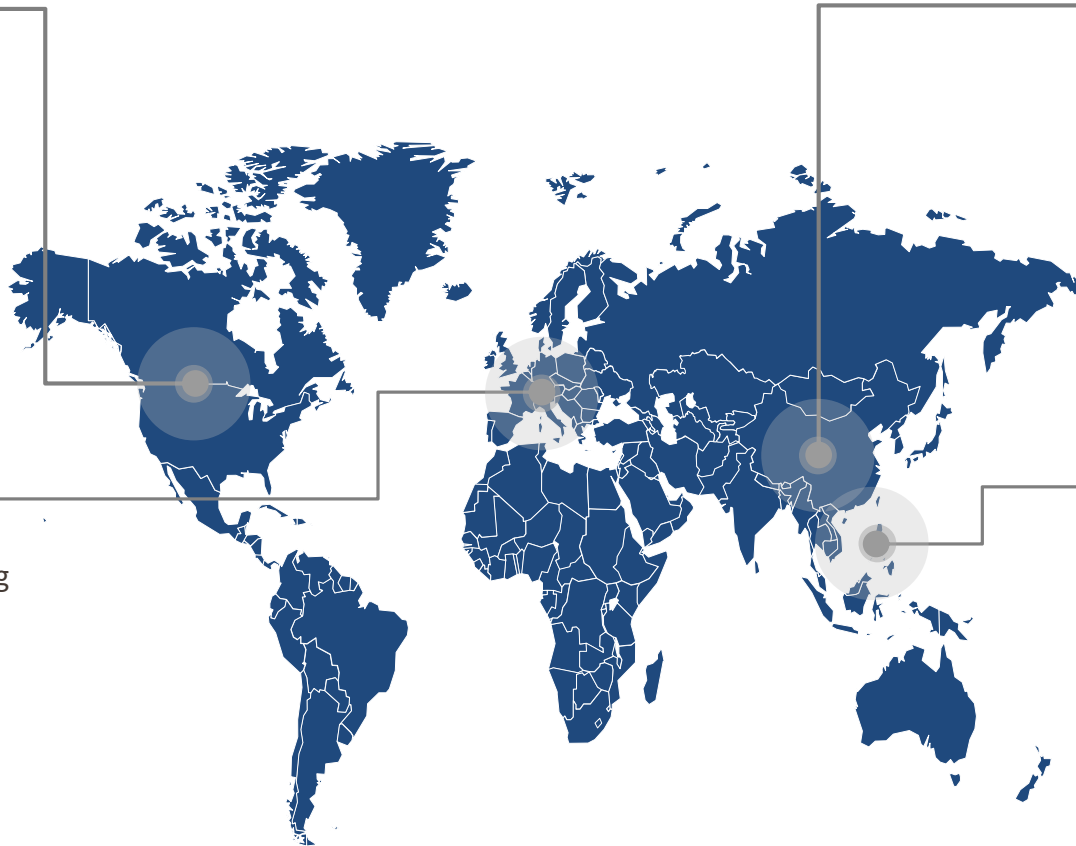
Strategic rationale

- ✓ Allows for best in class plant design and project execution, and ongoing reliability of KALiNA Cycle[®] power plants
- ✓ Leading industry firms and preferred equipment vendors with a record of successful project delivery within geothermal and industrial heat to power projects
- ✓ Facilitates KALiNA's capital light business model and scalable operations
- ✓ Shorter lead times and better inventory management to deliver significant cost benefits, improved margins and project delivery

Partnerships with only a small selection of preferred vendors will allow for scalable deployment of KALiNA Cycle[®] on a global scale

North America

- KALiNA engaged in technical discussions with several international EPC firms for development of KALiNA Cycle[®] projects
- Former Pristine Power independent power developers in discussions on Canadian project development



China

- Significant project development opportunity with Sinopec well advanced for Hainan Island build
- The first project with Sinopec will provide the blueprint for an expected broader petrochemical facility roll-out

Europe

- Project opportunities in France following introductions from Cryostar pursuant to recently announced joint marketing initiatives

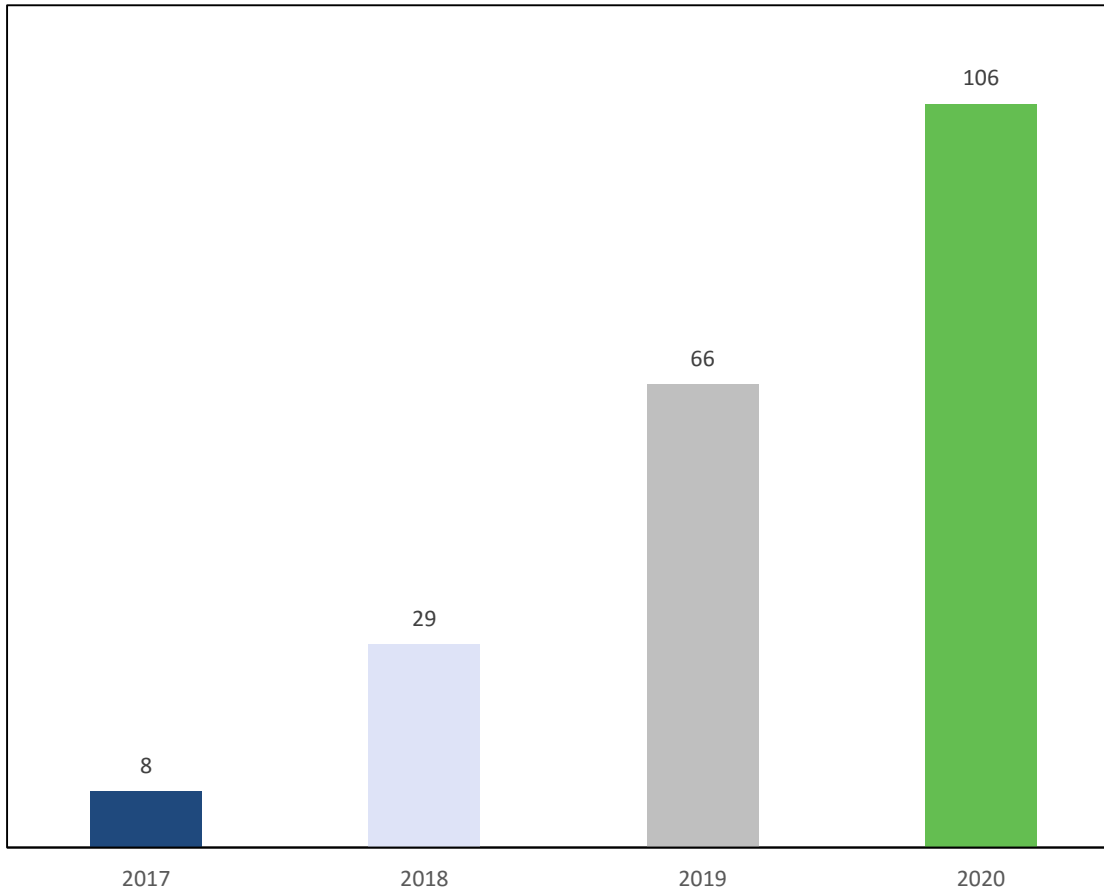
Rest of Asia

- Discussions underway with Chiyoda Engineering regarding a closer working relationship across Asia
- Relationship with Chiyoda could include the roll out of geothermal projects in Japan, Indonesia and the Philippines

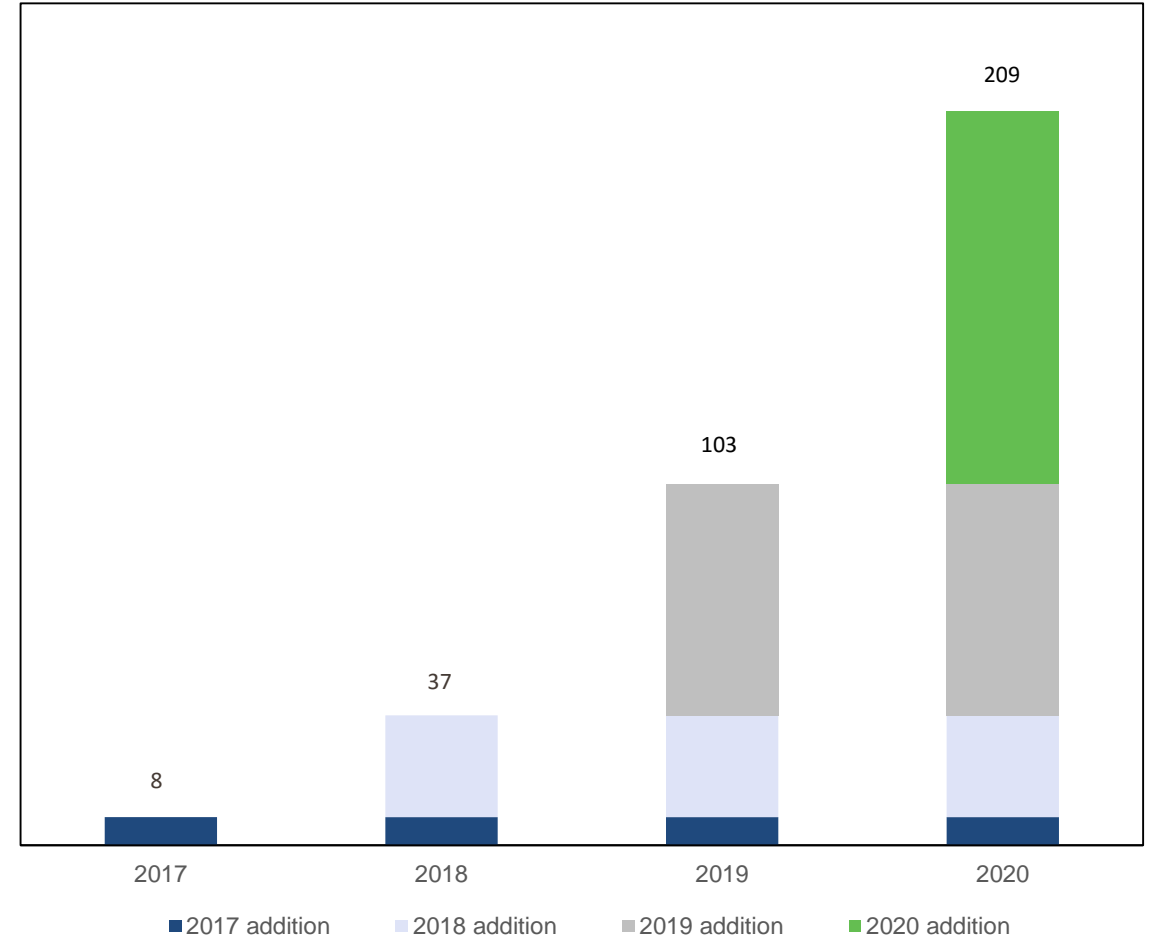
Illustrative KALiNA operational information

Roll out of KALiNA Cycle[®] globally is expected to deliver rapid revenue and earnings growth

Illustrative additional capacity commenced per year (MW)¹



Illustrative cumulative capacity commenced/installed (MW)¹



1. Based on estimates only – actual results will vary as formal contracts have not been entered into for future contracts

Illustrative KALiNA Cycle[®] power plant economics

Attractive power plant economics with fully burdened operating costs estimated to be less than 8c per kWh

- The table on the right provides the illustrative economics for a vendor that finances the construction of a 5MW KALiNA Cycle power

Advantages of the KALiNA Cycle[®] and KALiNA's place in the market

- ✓ The KALiNA Cycle[®] is cheaper than, or at least very competitive with, all other renewable and sustainable energy generation sources currently in use
- ✓ The KALiNA Cycle[®] is competitive with traditional fossil fuel energy generation sources; and clearly dominates from an environmental perspective
- ✓ KALiNA's capital light engineering services and licencing revenue make up only a small proportion of power generation costs at around 1c per kWh
- ✓ Opportunity to provide full power plant construction and management once appropriately capitalised

Illustrative example: estimated vendor economics (USc/kWh) for 5MW power plant

Power generation costs (USc/kWh)	
Operating and maintenance expenses	1.1
Selling, administrative and general expenses	0.7
20 year nominal capital cost ¹	2.1
20 year nominal cost of turnkey fee and licence	1.0
Principal and interest cost	2.7
Total fully burdened operating costs	7.6
Illustrative revenues	15.0
Pre-tax margin	7.4

Fees to KALiNA make up a small proportion of an already low all-in power generation cost

Financial metrics for a 5MW power plant (US\$m p.a.) ²	
Revenues (@ US\$0.15/kWh)	~6
Annual fully burdened operating costs	~3
Net pre tax income	~3

Opportunity for KALiNA to capture these economics once appropriately capitalised

1. Based on estimated capital costs of US\$16.6m for a 5MW power plant – equivalent to US\$3.325m/MW (KALiNA Cycle[®] Power Island only)
 2. Assumes operating capacity of 95%

Investment highlights

KALiNA is well positioned in the growing global clean energy technology sector

KALiNA is **funded to positive cash flow** under current business plan, and well positioned to pursue rapid execution of KALiNA Cycle[®] projects

Capital light business model underpinned by multiple revenue streams

Numerous potential projects under discussion in China, Japan, USA, Canada and Europe

Significant market opportunity estimated to be **US\$72bn in Asia alone**

Highly credentialed Board and management, with a **proven track record of running and growing clean energy companies**

100% owned, validated and patented waste heat to power technology

Sinopec relationship expected to **drive establishment and growth profile in China**

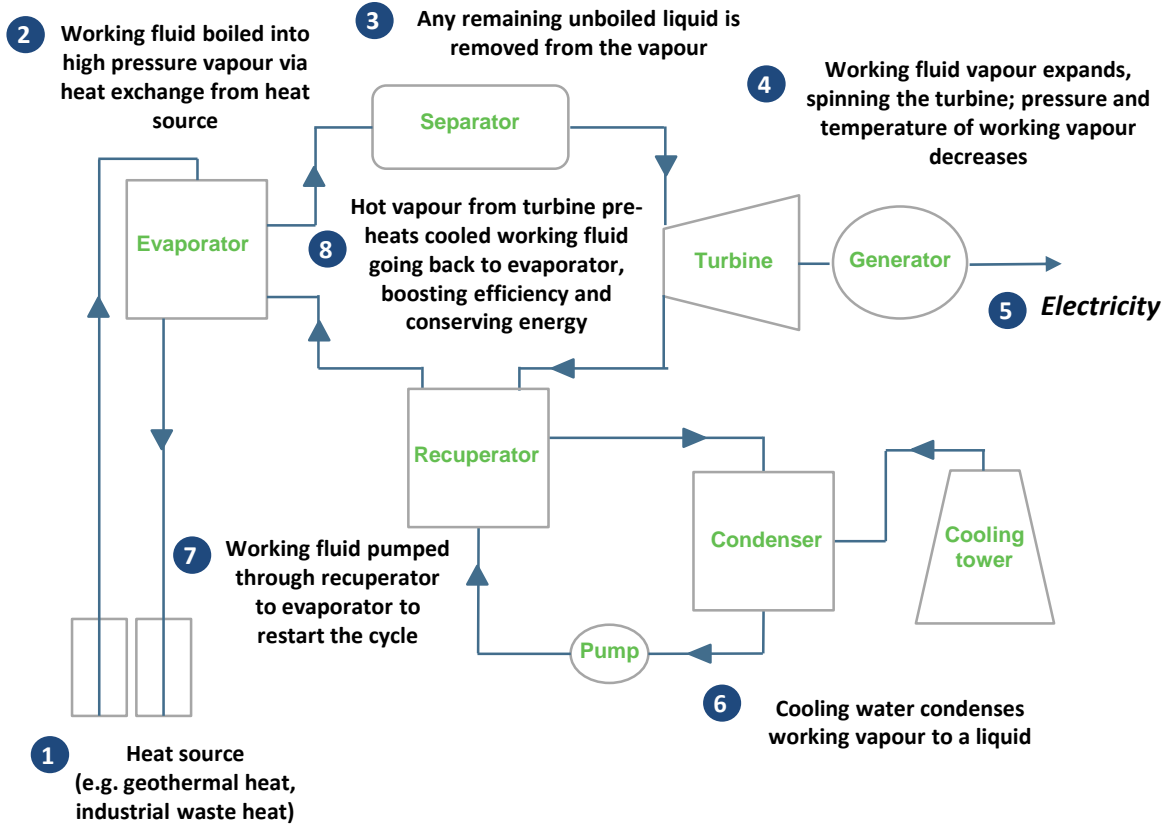
Forging strategic relationships with **world class manufacturing, engineering and design firms**

Appendix

KALiNA Cycle[®] technology and KALiNA Board and management

Proven technology that has been deployed in various market applications and is up to 40% more efficient relative to the competing ORC in low operating temperature industrial uses

Simplified KALiNA Cycle[®] flow sheet



KALiNA Cycle[®] geothermal power plant in Unterhaching, Germany



For a seven minute video tour of the KALiNA Cycle[®] geothermal power plant in Unterhaching, Germany, please visit: www.KALiNApower.com

Highly credentialed and well balanced team with a proven track record of building, running and growing successful energy businesses

**John Byrne
Chairman**

Appointed May 2009

- +35 years experience in industrial project development and capital markets
- Oversaw the construction of resources developments, totalling +\$500m of expenditure in the roles of CEO and Chairman
- Founded and built a number of successful international companies from the ground up, including from development through to production

Project development and operations, capital markets

**Ross MacLachlan
Managing Director and CEO**

Appointed October 2016¹

- +35 years' experience of technology development and project funding as CEO and Executive Director
- Early stage investor and former Director of Pristine Power
- Raised over US\$100m in both the conventional energy and alternative energy sectors

Leadership, technology development, project funding

**Jeffrey Myers
Non-Executive Director**

Appointed October 2016

- Led development, execution and operation of +3GW of independent power projects
- Co-founder, former Chairman, President & CEO of Pristine Power, having overseen the construction of +600MW of projects and sale to Veresen for US\$300m
- Current senior operating partner at Stonepeak Infrastructure Partners

Project development, operations, investments

**Tim Horgan
Executive Director**

Appointed May 2015

- 20 years legal experience, including former counsel for Gillette on the AMEE Operating Committee overseeing sales of +US1.2bn
- Oversaw acquisition and licensing of the 2002 and 2006 FIFA World Cups for +US\$1bn in revenues

International licensing, contracting and compliance

**Dr. Malcolm Jacques Ph.D
Non-Executive Director**

Appointed March 2010

- International career across research, development and implementation of numerous energy technologies
- Previous roles at BP Ventures, MIT, Energy Laboratory and Strategic Research Foundation

Relationships with policy makers, regulators, financial organisations and consultants in Europe and USA

1. Ross was initially appointed to the KALiNA Board as an Executive Director in May 2015

KALiNA's management and operational team

Top-tier industry professionals with strong technical backgrounds to facilitate global deployment of KALiNA Cycle® technology

Mark Mirolli
CTO

Appointed May 2009

- Founder and co-inventor of the KALiNA Cycle®
- +25 years experience in thermal power generation, design and construction
- Former director of technology development for ABB Combustion Engineering

R&D, construction, engineering technology, IP

George Yan
COO, China

Appointed April 2016

- Extensive senior project management experience in China and North America
- Founded EPC firm in China with +400 employees
- Managed several major industrial projects with Jacobs and Worley Parsons in China and Canada

International project management, Chinese deployment, EPC expertise

Geoff Scott
Project Development

Appointed October 2016

- 25 years experience in the energy sector, with extensive experience across techno-economic analysis, project finance, development and execution
- Previously worked as a techno-economic expert with West Coast Energy and Pristine Power

Techno-economic analysis, specialised engineering, project financing

Management and Board supported by strong operational team which includes **7 engineers**, with plans to hire an additional **4 engineers over the coming 12 months**

Important Information

- This presentation may contain certain forward-looking statements that have been based on current expectations about future acts, events and circumstances
- These forward looking statements are, however, subject to risks, uncertainties and assumptions that could cause those acts, events and circumstances to differ materially from the expectations described in such forward-looking statements
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