# **KALiNA Power Limited (ASX: KPO)**

# September 19, 2019



(All currency is in CA\$, unless otherwise noted)

#### **Company Overview**

- KALiNA Power Limited, is an ASX listed company ("KPO"), focused on delivering value to its stakeholders through ownership of the KALiNA Cycle® Technology
- The KALiNA Cycle® Technology utilizes waste heat generated from gas turbines and industrial processes to produce electricity
- The leadership team of industry veterans have successfully deployed over 50 GW of power projects in North America and Asia. They include former board members and executives from China Light and Power, Pristine Power, and Meiya Power
- KPO has established a subsidiary, "KDP" as an independent power producer to build a portfolio of ten 21MW power plants for distributed power generation in Alberta
- Each plant configured as a 15 MW gas turbine and a 6 MW KALiNA Cycle® plant
- Success in Alberta will represent a transformative breakthrough and serve as a platform for KALiNA to become a global waste heat to power business
- To fund the deployment of its initial 5 projects, KDP is now seeking \$300M in project financing

## Proven Technology Being Commercially Deployed Globally

Providing a superior alternative to the incumbent Organic Rankine Cycle (ORC) technology in the waste heat to power market (WHP) estimated to be US\$38bn in the US alone

KALiNA Cycle<sup>®</sup> Technology has been commercialized with a total investment of over US\$130M and deployed globally at 16 sites in various industries. Each of the projects below have operated at or above design basis for over 10 years



and reliably, despite fluctuating

conditions

 Exceptional solution for utilizing low temperature geothermal resource to deliver heating and power

## KDP's Mission – Initial portfolio of ten projects to establish a meaningful presence in Alberta

performance exceeds the design

specifications

- Immediately capitalize on the opportunities in Alberta by securing funding for deployment of five 21MW projects to lay the foundation to build an initial portfolio of ten replicable, distributed generation power projects
- Alberta power market is characterized by low cost natural gas inputs together with rising power prices, growing, high levels of industrial demand for power, carbon regulations and scarcity of supply due to legislated shut down of coal fired power plants
- KDP's projects will be engineered with a standardized package design, such that ongoing replication and deployment will deliver lower CAPEX, reduced construction costs, improved operational efficiencies and reduced risk
- Attractive, double digit gross unlevered IRR's<sup>1</sup> with the expectation of higher returns and reduced risk from ongoing replication

1. Cash Flows are Gross and represent pre-split amounts, before KALiNA's carry is taken out

Projected Average All-Hours Collective Pool Price **Energy Demand Forecasts in Alberta** (in \$/MWh) \$113 16,000 \$108 \$111 \$102 \$101 14,000 TIFR -\$95 12.000 \$86 \$81 Energy (In GWh) \$67 \$64 \$68 10,000 \$59 \$58 \$60 \$84 \$81 \$82 \$61 \$62 \$67 \$69 \$72 \$77 8,000 °1.8% increase per annum expected from 2019 to 2033 \$57 \$58 6.000 \$51 4.000 2.000 \$18 AB Internal Peak Demand AIES Peak Demand AB = Alberta AIES = Alberta Integrated Electric System Source: EDC Associates Ltd. Q3 2019 Quarterly Forecast Update Source: EDC Associates Ltd. Q3 2019 Quarterly Forecast Update

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#### **Opportunity in the Alberta Market**

- 5.7 GW of coal-fired power generation to be retired between 2019 and 2029
- Alberta has the highest industrial capacity factor for electricity on any North American grid with strong demand growth driven by petrochemical and oil sand sectors including new oil pipelines and new LNG plants
- Alberta has an available abundance of the lowest cost natural gas in North America
- Strong user demand growth and legislative uncertainty in Alberta has contributed to higher energy prices with prices tripling from \$22 to \$60 per MWh since 2017
- Carbon costs are increasing the minimum cost of power generation; The federal gov. announced a legislative push for carbon tax increases on larger than 50MW projects, which could increase Alberta power prices by \$25 per MWh
- Distribution tariff incentives have been in place for 15 years for small and local electricity generation
- Eligible for regional transmission incentives of up to a 12% premium above prevailing energy prices

## Ideal Project Site Attributes



# Increasing Demand and Retirement of Coal Generating Capacity Requires a Major Investment in a Range of Power Generating Alternatives



Source: EDC Associates Ltd. Q3 2019 Quarterly Forecast Update

#### **Individual Plant Metrics**

- CapEx: Approx. \$62 million per 21 MW plant
- Double digit gross<sup>1</sup> unlevered rates of return, after payment of Kalina's royalties and KDP development fees
- Returns sufficient to provide KDP a free carried interest<sup>1</sup>
- Hedging and bilateral gas supply opportunities
- Additional reductions to capital costs expected by bidding process as well as through repeated plant and equipment deployments
- KALiNA Cycle<sup>®</sup> performance underpinned by guarantee backed by insurance product
- Duration from "Full Notice to Proceed" to "Substantial Completion" expected to be 18 months

1. Cash Flows are Gross and represent pre-split amounts, before KALiNA's carry is taken out



KPO AU Equity Stock Price and Trading Volume 0.040 7.000.000 6,000,000 stock Price in AUS 0.030 5,000,000 4,000,000 0.020 3,000,000 2.000.000 0.010 1,000,000 ان ا الحديد ես ես են հետ հետ հ 0.000 1.11 a colt a tha d Sep-18 Oct-18 Nov-18 Dec-18 Jan-19 Feb-19 Mar-19 Apr-19 May-19 lun-19 Jul-19 Aug-19 X VOLUME PX\_LAST

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#### **Director Biographies**

#### **Ross MacLachlan - Managing Director and CEO**

- Former Director and early investor with Pristine Power (Canada's fastest growing Independent Power Producer prior to its sale to Veresun in 2010)
- 40 years of experience in technology development and project funding
- Raised over US\$100M in both the conventional and alternative energy sectors and engaged in over US\$400M worth of M&A and financings

#### Jeffry Myers - Director

- Currently a Senior Operating Partner at Stonepeak Infrastructure Partners (US\$15Bn infrastructure fund)
- Co-founder and former Chairman, President and CEO of Pristine Power
- · Over 30 years of experience in the development, financing, execution and operation of over 3 GW of independent power projects

#### Peter Littlewood - Director

- Former Group Director of Operations at China Light and Power Group (CLP) Asia-Pacific region (market capitalization: AU\$34Bn)
- Development and implementation of projects across Asia-Pacific using coal, natural gas, nuclear and several renewable energy technologies
- Advisory Board for Bloomberg New Energy Finance

#### Malcolm Jacques - Director

- · Independent energy consultant on technical and regulatory issues associated with grid integration of distributed and renewable energy.
- International career in commercializing numerous energy technologies and working with organizations such as BP Ventures (UK), MIT (USA), and Strategic Research Foundation (Australia)

#### Timothy Horgan – Executive Director – International Licensing

- Lawyer and business executive / 20+ years of international experience, including the US\$1B broadcast rights of '02 & '06 FIFA World Cup
- Former Counsel for The Gillette Company / Operational Committee for Africa, Middle East and Europe with sales in excess of US1.2B
- Experience in China with South China Resources and Kalahari Minerals on a GBP£651M takeover by China Guangdong Nuclear Power Corp (CGNPC)

# **Management Biographies**

#### Mark Mirolli - Chief Technology Officer

- The leading international expert on the KALiNA Cycle<sup>®</sup> system with over 35 years of experience in thermal power generation system design and construction
- Former Director of Technology Development for ABB Combustion Engineering, responsible for R&D engineering functions relating to utility steam generation technology
- Over 35 major published papers on power plant design
- Peter Myers Director of Project Management
- Professional Mechanical Engineer
- Managed projects up to \$65m including for Suncor and ATCO Power
- Significant project management and consulting services to organizations such as Amazon, Schneider Electric, TC Energy and Alliance Pipelines

#### Ken Spinner - EPC and Project Management

- Co-founder of Pristine Power and Vice President of Engineering & Construction at Pristine Power and its acquiring company Veresen
- Over 28 years of experience managing EPC Power projects
- Instrumental in the delivery of numerous power projects including the York Energy Centre, Island Cogeneration and East and West Windsor Cogen
  developments and two Waste Heat Projects on the Westcoast Natural Gas Pipeline in British Columbia

#### Nigel Chea President Greater China

- Former Chief Operating Officer and President Greater China of Meiya Power overseeing 17 GW portfolio
- Extensive senior management experience across corporate strategy, operations development, as well as China State Owned Enterprises in the Asian power and energy sector
- Formerly the Vice Chairman of the China Investment Association

# **Contact Information**



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