



ASX:PMY

### ADVANCING A LARGE NEAR-SURFACE LEAD-SILVER-ZINC DEPOSIT IN WESTERN AUSTRALIA

INVESTOR PRESENTATION

JULY 2019

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#### **Competent Person Statements**

The Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the 'JORC Code') sets out minimum standards, recommendations and guidelines for Public Reporting in Australasia of Exploration Results, Mineral Resources and Ore Reserves.

The information in this report that relates to Mineral Resources is based on, and fairly reflects, information compiled by Mr David Williams, a Competent Person, who is an employee of CSA Global Pty Ltd and a Member of the Australian Institute of Geoscientists (#4176). Mr Williams has enough experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Williams consents to the disclosure of information in this report in the form and context in which it appears.

The information contained in this announcement that relates to geology and exploration results is based, and fairly reflects, information compiled by Mr David Pascoe, who is a Member of the Australian Institute of Geoscientists. Mr Pascoe is a consultant to Pacifico Minerals Limited. Mr Pascoe has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Pascoe consents to the inclusion in this announcement of the matters based on his information in the form and context in which it appears.

All parties have consented to the inclusion of their work for the purposes of this announcement. The interpretations and conclusions reached in this announcement are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for absolute certainty. Any economic decisions which might be taken on the basis of interpretations or conclusions contained in this announcement will therefore carry an element of risks.

# **CORPORATE SNAPSHOT**



### CAPITAL STRUCTURE (30 June 2019)

SHARES ON ISSUE (BN, UNDILUTED)	2.3
MARKET CAP (A\$M) @ A0.006	11.6
CASH (A\$M)	2.1
ENTERPRISE VALUE (A\$M)	9.5
OPTIONS (M)	<b>452</b> ^

Unlisted Options: 62.5M Expiring 6/5/20, Exercisable at \$0.015. 2M Expiring 23/4/20, Exercisable at \$0.020. 26.5M Expiring 21/11/20, Exercisable at \$0.015. 10M Expiring 16/10/21, Exercisable at \$0.020.
Listed Options: 351M Expiring 21/11/20, Exercisable at \$0.015.

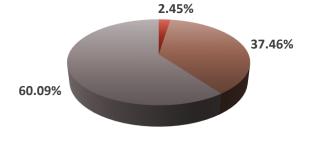


#### CURRENT TOP 5 SHAREHOLDERS

HOLDER	HELD	OWNERSHIP
1. VILLIERS QUEENSLAND PTY LTD*	296,585,874	12.82%
2. ZERO NOM PL	191,388,888	8.27%
3. CITICORP NOM PL	163,932,072	7.09%
4. MR CRAIG GRAEME CHAPMAN*	114,619,999	4.96%
5. AIGLE ROYAL SUPER FUND PTY LTD	100,000,000	4.32%

\* Denotes merged holders.





■ Directors & Management ■ Top 5 Strategic Investors ■ Other

#### 3

# **BOARD AND MANAGEMENT TEAM**





RICHARD MONTI CHAIRMAN

Geologist with over 30 years' experience in technical, commercial, marketing and finance within the exploration and mining industry.



SIMON NOON MANAGING DIRECTOR

Appointed Managing Director at Pacifico in 2013. Simon is an Experienced Mining Executive with substantial experience in marketing, management and finance as well as securing and operating Joint Ventures with mid and top tier miners.



PETER HAROLD NON-EXECUTIVE DIRECTOR

Process Engineer with over 30 years' experience in the minerals industry with extensive experience in development and operation of base and precious metal projects.



ANDREW PARKER NON-EXECUTIVE DIRECTOR

Lawyer with extensive experience in the exploration and mining industry. Wealth of expertise in corporate advisory, strategic consultancy and vast experience in raising capital.



AARON KING PROJECT MANAGER

Metallurgist with more than 25 years' experience in the mining and resources sector. Significant experience in study management, detailed engineering design and Project life cycle management.

# **INVESTMENT HIGHLIGHTS**



Pacifico is developing a large nearsurface and flat lying lead-silver-zinc deposit in WA.

Outstanding infrastructure – project located close to port and connected by existing roads.

Joint Venture with China's largest lead smelting and silver producer (Henan Yuguang 25% contributing interest).



Significantly de-risked with EPA approval for Open Pit operation on pre-native title mining licenses.

Simple metallurgy, low cost processing and high recoveries.

PFS delivered compelling economics including modest Capex and fast payback.

Low market cap and sufficiently funded for 2019 work programs.



# **LOCATION AND INFRASTRUCTURE**

- Located ~50km north-east from the regional centre of Kununurra.
- Existing sealed road to transport concentrate from site to the facilities at Wyndham Port, 150km away.
- Established infrastructure allows for fast tracked production.



Image: Port of Wyndham - Currently Shipping Mineral Concentrates.

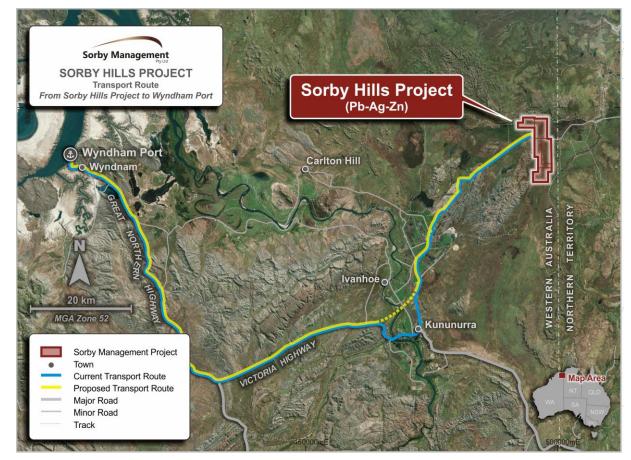


Image: Sorby Hills Regional Location.

# **KEY GOVERNMENT APPROVALS SECURED**



"The WA Environmental Protection Authority (EPA) considers that...the Project can be managed in a manner that...avoids significant or unacceptable environmental impacts and risks."



Assessment completed for the development of a lead-silver-zinc open pit mine with infrastructure and processing facilities at the Sorby Hills Joint Venture site.

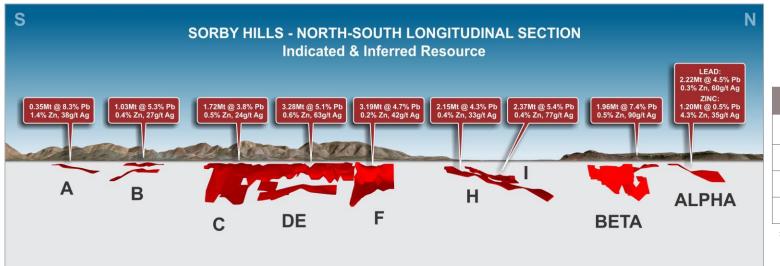
Source: PMY ASX Announcements 29 May 2019

## **MINERAL RESOURCE ESTIMATE**



Global Resource to 29.98Mt of 4.7%Pb equivalent including 10.85Mt of 5.0%Pb equivalent in Indicated Resources<sup>1</sup>

"From 20 metres below surface and open in all directions."



JORC MINERAL RESOURCE ESTIMATE AT A 1.0% LEAD CUT-OFF GRADE <sup>1</sup>				
RESOURCE CLASSIFICATION	TONNES (Kt)	Pb %	Ag g/t	Zn %
INDICATED	10,850	3.9	46	0.4
INFERRED	19,130	3.6	42	0.7
TOTAL	29,980	3.7	43	0.6

<sup>1</sup> See PMY ASX Announcement 7 March 2019 for further details including lead equivalent calculation.

#### x2 Vertical Exaggeration

Image: Sorby Hills Looking West Showing Mineralisation at a Slight Oblique View. Red Blocks Represent Mineralisation from the Block Model of the MRE.

Source: PMY ASX Announcements 7 March 2019

Pacifico confirms that all material assumptions referenced on 7 March 2019, continue to apply and have not materially changed.



### **PRE-FEASIBILITY STUDY HIGHLIGHTS**

"Project significantly de-risked with Pre-Feasibility Study confirming highly robust financials."

MINING AND PROCESSING			
Initial Mine Life (Years)		8	
Mining Rate (Mtpa)		1	
PRODUCTION			
LOM Lead Metal Production (kt)		249	
LOM Silver Metal Production (Moz)	9.35		
FINANCIAL			
Pre-Production Capital (A\$M)		95.4	
Steady-State Average Cash Flows (A\$M)			
KPI ANALYSIS	A\$		
Operating Cost \$/Ib Lead with Silver Credits	0.06	0.09	
NPV <sub>8</sub> Pre-Tax (A\$M)		243	
IRR Pre-Tax (%)		62	
Payback from Commercial Production (mc	16		



Source: PMY ASX announcements 26 March 2019

Pacifico confirms that all material assumptions underpinning the production target or the forecast financial information referenced on 26 March 2019, continue to apply and have not materially changed.



## **OPEN PIT MINING**

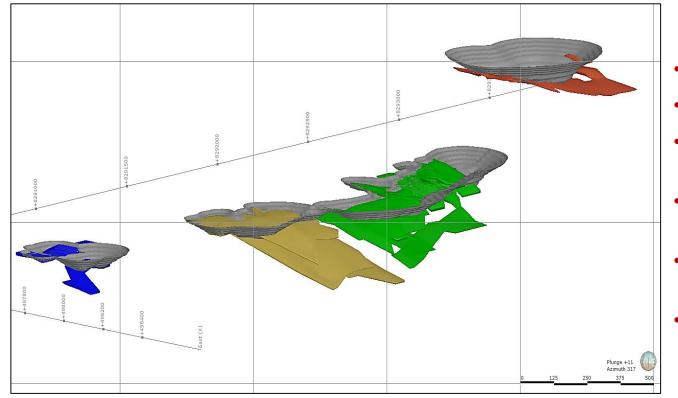


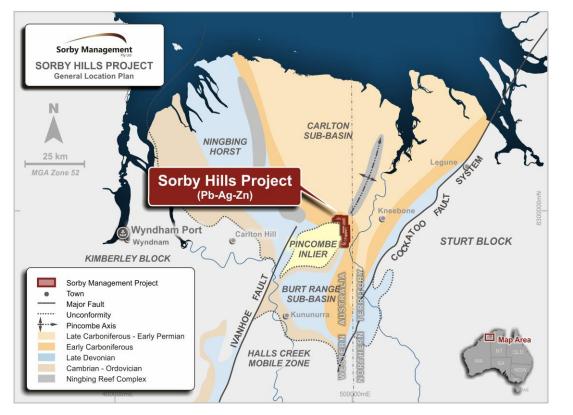
Image: B, CDE and I Deposits Mineralisation and Pit Optimisation.

- Initial production from 3 open pits over initial 8 year mine life.
- Only Indicated Resources used in current mining schedule.
- Mine life expected to increase as Inferred converted to Indicated Resources through infill drilling.
- Flat topography and easy free dig in first 30m enables low cost pre-strip and access to ore.
- Flat to gently dipping, shallow MVT-style lead-silver-zinc deposits minable 5 metre benches.
- Waste rock to be returned to exhausted pits to reduce rehabilitation.

Source: PMY ASX Announcement 26 March 2019.

## GEOLOGY





#### Image: Regional Geological Map

- MVT style deposits formed in lower Carboniferous (Tournaisian) carbonates within the Burt Range Formation on the eastern flank of the Pincombe Range.
- Mineralisation occurs as a sediment replacement style deposit at the contact between an upper siltstone (Knox Sediments) and a lower dolomite (Sorby Dolomite).
- Mostly lead dominant system with high silver tenor within the galena.
- Deposit open in all directions.
- Exciting down dip potential for SEDEX zinc mineralisation.



## **METALLURGY AND PROCESSING**

*"Excellent recoveries and high quality concentrate with simple processing."* 

- Metallurgical testing confirms high recoveries for both lead (91%) and silver (87%) into high-value, high-grade concentrate (55-69% Pb).
- Simple lead sulphide mineralogy allows low cost beneficiation before grind and flotation.
- Preliminary Dense Media Separation (DMS) testwork confirms ore grades can be upgraded by two to three times prior to flotation with minimal (<15%) metal loss.</li>
- Soft ore: Work index (WI) of just 9.7kWh/t.
- Coarse galena with optimal grind size at 75mm.

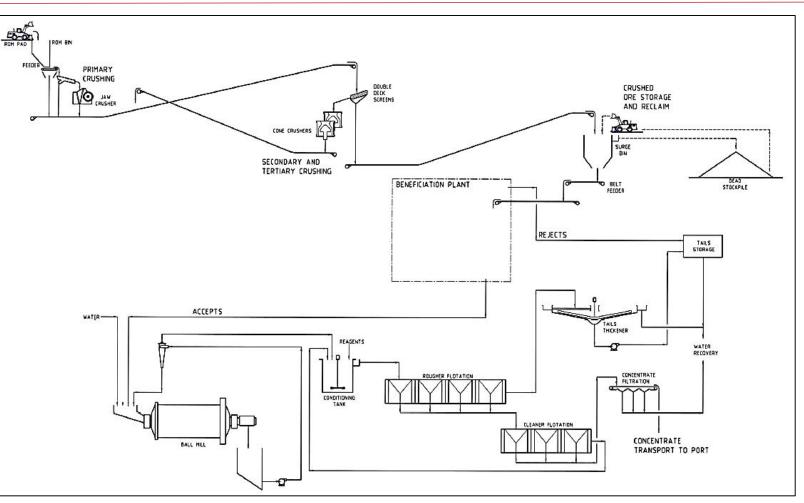


Image: Treatment Plant – Lycopodium Designed Conceptual Flow Sheet.



# PHASE I INFILL DRILLING CAMPAIGN – DEC. 2018

• Results have confirmed that **C**, **DE**, and **F** deposits are linked and can be referred to as a single deposit at a strike length of 1.7km and may be minable with a single open cut.

- Significant drill intercepts from each deposit drilled include<sup>4</sup>:
  - **B Deposit: 9.0m at 8.3% Pb equivalent** (7.6% Pb, 32 g/t Ag) and 1.1% Zn from 37m in drill hole AB033.
  - CD Link: 9.7m at 9.1% Pb equivalent (7.5% Pb, 68 g/t Ag) and 1.1% Zn from 76m in drill hole ACD019.
  - DE Deposit: 20.0m at 8.6% Pb equivalent (7.3% Pb, 56 g/t Ag) and 0.4% Zn from 11m in drill hole ACD046.
  - F Deposit:
    - **2.6m at 19.5% Pb equivalent** (15.3% Pb, 175g/t Ag) and 0.65% Zn from 108.5m in drill hole AF047.
    - **7.3m at 5.8% Pb equivalent** (4.1% Pb, 70g/t Ag) and 0.02% Zn from 110.7m in drill hole AF048.
    - 14.4m at 4.1% Pb equivalent (3.6% Pb, 20g/t Ag) and 0.24% Zn from 57.6m in drill hole AF018.
    - **11.7m at 13.2% Pb equivalent** (10.8% Pb, 105 g/t Ag) and 0.4% Zn from 75.7m in drill hole AF005.
  - I Deposit: 12.3m at 6.5% Pb equivalent (5.5% Pb, 42g/t Ag) and 0.23% Zn from 90m in drill hole AI011 and 10.0m at 7.8% Pb equivalent (6.6% Pb, 53 g/t Ag) and 0.9% Zn from 82m in drill hole AI010.

<sup>^</sup>*Zn has not been included in Pb equivalent calculation at this time, however, work currently being completed by PMY may provide the supporting data to include in future calculations.* 



Image: Diamond Core From AF013, 124.0m. Example of Abundant Sphalerite (Pale Brown) in Matrix of Dolomite Breccia Occurs Over 4m<sup>1</sup>.



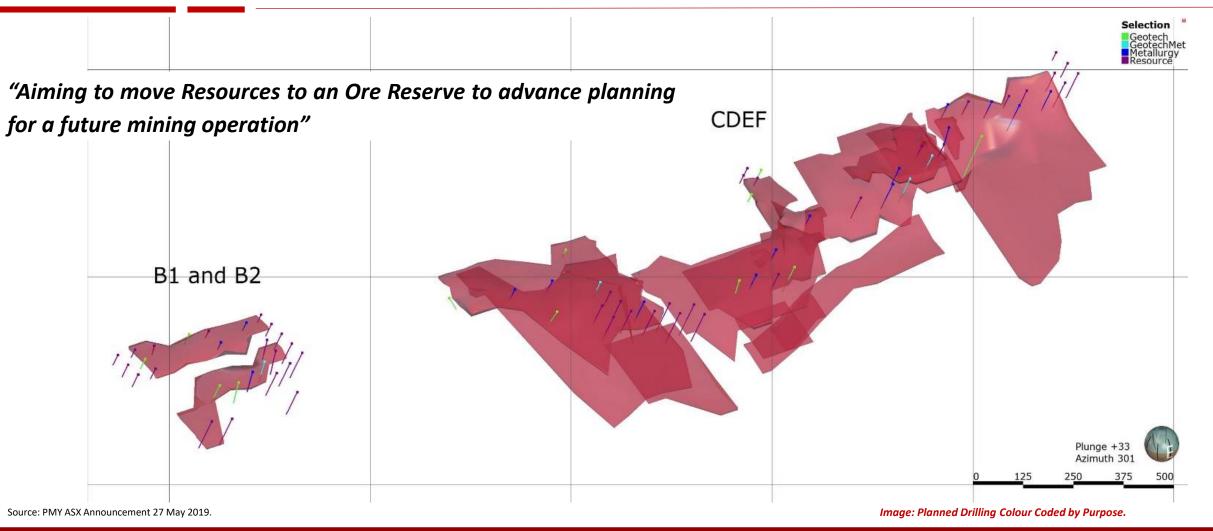
Image: Massive Sulphides – Typical Galena (Grey-Blue) With Pyrite (Bronze Colour), Diamond Core from AF005, 82.1m. Strong Lead Mineralisation is Intersected over 9.4m Length in this Particular Hole<sup>1</sup>.

<sup>1</sup> PMY ASX Announcement 3 December 2018. Source: PMY ASX Announcement 14 February 2019.

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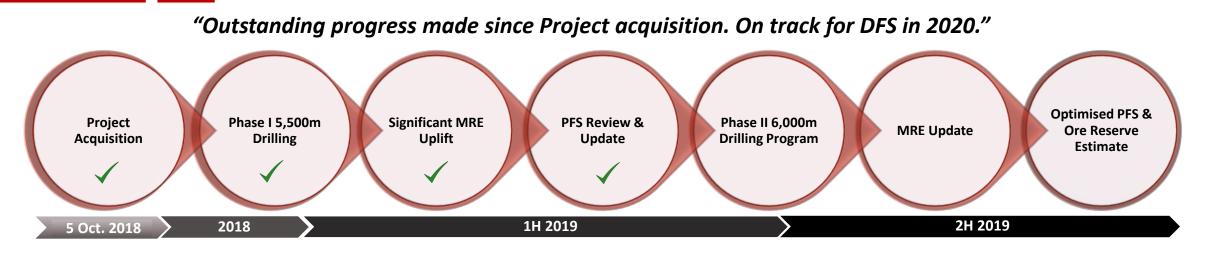
# PHASE II INFILL AND EXPANSION DRILLING UNDERWAY



PACIFICO MINERALS LIMITED ASX:PMY



# **KEY MILESTONES AND NEWSFLOW**



### 2019 ACTIVITIES GENERATING STRONG NEWSFLOW

- 6,000m infill and expansion drilling program underway with market updates (July September).
- Metallurgy and processing optimisation testwork results (July).
- Offtake and strategic investment discussions underway.
- Mineral Resources Estimate update (October/November).
- Optimised Pre-Feasibility Study and Ore Reserve Estimate (November/December).



**CONTACT US** 

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# **APPENDICES**





# **CAPITAL INVESTMENT AND OPERATING COSTS**

PRE-PRODUCTION CAPITAL EXPENDITUR	RE (A\$M)
TREATMENT PLANT	40
INFRASTRUCTURE	6
TAILINGS STORAGE FACILITIES	2
CONTRACTORS AND CONSTRUCTION COSTS	4
MANAGEMENT COSTS	8
OWNER'S PROJECT COSTS	10
MINING (INC. DE-WATERING, PRE-STRIP)	14.9
CONTINGENCY	10.5
TOTAL PRE-PRODUCTION CAPEX	95.4

OPERATING COST ESTIMATES				
	A\$/lb	US\$/lb		
MINING	0.26	0.18		
PROCESSING	0.18	0.13		
TCRCs AND OUTBOUND LOGISTICS	0.19	0.13		
BY-PRODUCT DEDUCTION FOR NET SILVER REVENUE	0.34	0.24		
LEAD C1 DIRECT CASH COST OF PRODUCTION (EXCLUDING SILVER CREDIT)	0.42	0.29		
ROYALTIES PAYABLE	0.09	0.06		

Source: PMY ASX Announcement 26 March 2019.

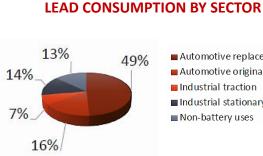
## SORBY HILLS MRE AT SELECTED CUT OFF GRADES

JORC Category	Cut off Pb %	Tonnes	Grade Pb %	Grade Ag g/t	Contained Pb (Kt)	Contained Ag (Moz)
- Indicated	0.75	11,396,044	3.76	45	429.0	16.39
	1.0	10,848,898	3.91	46	424.3	16.10
	1.5	9,771,410	4.20	49	410.8	15.35
	2.5	6,948,729	5.11	58	354.8	13.03
-	3.0	5,463,716	5.75	66	314.2	11.53
- Inferred -	0.75	19,389,025	3.54	42	687.1	25.9
	1.0	19,125,576	3.58	42	684.9	25.58
	1.5	17,463,733	3.82	44	667.1	24.45
	2.5	12,517,111	4.65	49	582.4	19.90
	3.0	10,333,822	5.11	54	528.1	17.79
	0.75	30,785,070	3.63	43	1,116.2	42.29
Total	1.0	29,974,475	3.70	43	1,109.2	41.68
	1.5	27,235,143	3.96	45	1,077.9	39.80
	2.5	19,465,840	4.81	53	937.2	32.93
	3.0	15,797,538	5.33	58	842.2	29.32

For further information on the Mineral Resource Estimate refer to PMY ASX announcement 7 March 2019

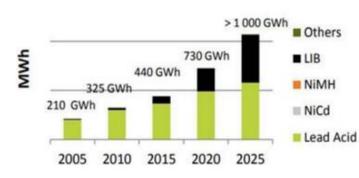
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# **LEAD MARKET OPPORTUNITY – DEMAND BY APPLICATION**



Automotive replacement Automotive original equipment Industrial traction Industrial stationary Non-battery uses

#### RECHARGEABLE BATTERY GLOBAL MARKET 2000-2025



- Largest sector of lead demand is automotive (AV) batteries, accounting for more than 86% of refined lead (of which 64% is used in replacement batteries)<sup>1</sup>.
- Wood Mackenzie therefore expects automotive demand to boost lead battery production across 2019<sup>2</sup>. Car ownership in China reached 240M units by the end of 2018 – up 10.5% from 2017.
- EVs require a separate energy storage system to power the lithium-ion propulsion batteries that run their battery management computers and safety systems (i.e. electric braking). Lead is significantly cheaper per unit of storage so it remains the core technology for this application.
- Start-stop automotive technology is becoming more common and places greater power demands on lead batteries these vehicles will therefore contain 25% more lead per battery<sup>3</sup>. It is forecast that globally approximately 50% of all new vehicles will be SSVs by 2020.
- Rollout of 5G networks will also support demand for lead in 2019 as base stations currently use lead batteries<sup>1</sup>. In China alone, base station production rose by 134% in 2018<sup>4</sup>.
- Lead-acid has a role in the electrification of bikes. There are roughly 15M e-bikes are sold in China alone each year.
- There is growing use of lead in industry for energy storage systems in 2019. Australia alone is tipped to add more than 70,000 home batteries in 2019 due to government subsidies and incentives<sup>3</sup>.

<sup>1</sup>SMM Information & Technology Co Ltd 2018 (https://news.metal.com/newscontent/100847146/smm-price-forecast-conference-2019:-slowing-demand-new-capacity-to-grow-lead-supply-surplus/)

<sup>2</sup>Wood Mackenzie January 2019 Report 'Lead: 5 things to look for in 2019.'

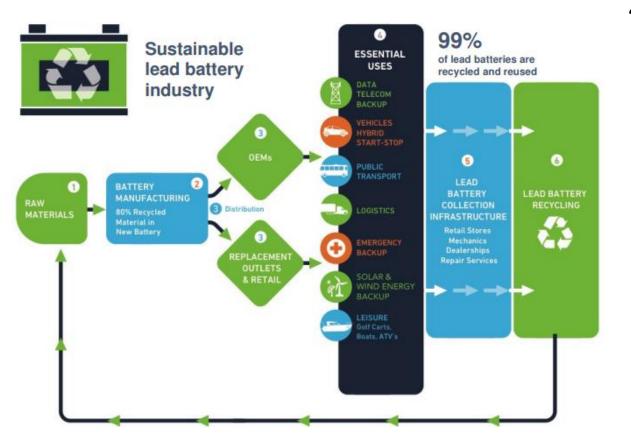
<sup>3</sup> The Assay Group Mining Magazine (https://www.theassay.com/articles/lead-5-things-to-look-for-in-2019/)

<sup>4</sup> RenewEconomy (<u>https://reneweconomy.com.au/australia-tipped-to-add-70000-home-batteries-in-2</u>019-lead-global-demand-64414/)

#### PACIFICO MINERALS LIMITED ASX:PMY

## LEAD AND CLEAN ENERGY





Source: ILSZG May 2019 Presentation 'Importance of Zinc to the Circular Economy.'

#### "Advanced lead batteries support the clean energy transition."

- Lead batteries currently provide 75% of worldwide rechargeable energy storage and start-stop functionality for all passenger cars, including EV's.
- Lead batteries are a key element in the transition to a low carbon economy, with unrivalled sustainability credentials:
  - 99% of lead batteries are recycled and reused; and
  - New batteries contain up to 85% recycled content.
- Lead's carrier properties make it an efficient and effective enabler for recycling a broad range of non-ferrous metals (i.e. Gallium which is used in solar panels).

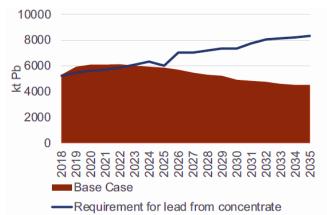
# LEAD SUPPLY AND DEMAND BALANCE

- Short-term refined lead stocks are close to record lows.
- Global lead demand is forecast to rise by 1.2% to 11.87 million tonnes in 2019<sup>1</sup> due to increased usage in India, Japan, and the Republic of Korea.
- Analysts predict the global lead market demand will grow at a CAGR of 6.74% between 2018 and 2022<sup>2</sup>.
- Base case shows 'deficit' for mined lead from 2023 without new mine supply.
- China remains the dominate player in 2019 for both lead production (>54% of 5.2Mt global production in 2018) and consumption (45% of 12.8Mt global consumption in 2018).

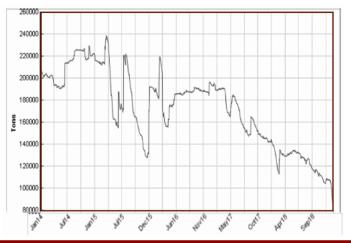
<sup>1</sup> International Lead and Zinc Study Group Press Release 9 May 2019.

<sup>2</sup> Business Wire <u>https://www.businesswire.com/news/home/20180803005303/en/Global-Lead-Market-Analysis-Trends-Forecasts-2018-2022</u>
<sup>3</sup> Wood Mackenzie
<sup>4</sup> www.kitco.com

#### BASE CASE MINED LEAD PRODUCTION VS. DEMAND<sup>3</sup>



#### LME LEAD INVENTORY (LAST 5 YEARS)<sup>4</sup>







### **NON-CORE ASSETS**

### "Exploring opportunities to sell or establish Joint Ventures for our non-core assets to realise shareholder value."

#### **BORROLOOLA WEST JOINT VENTURE (NORTHERN TERRITORY)**

- Joint Venture Project in the McArthur Basin with Sandfire Resources NL (PMY 51%, SFR 49%).
- Potential for Mt Isa style copper-cobalt-zinc.

#### SOUTH AUSTRALIA TENEMENTS

• Prospective for battery minerals (Co, Cu, Mn).

### **COLOMBIAN PROJECTS**

• Berrio, Urrao and Natagaima Projects are highly prospective for the discovery of economic copper-gold deposits.

