

# Fast-tracking Montepuez & Balama Projects



General Meeting 27<sup>th</sup> June 2018

1. Market
2. Company
3. Projects
4. Growth
5. Next Steps

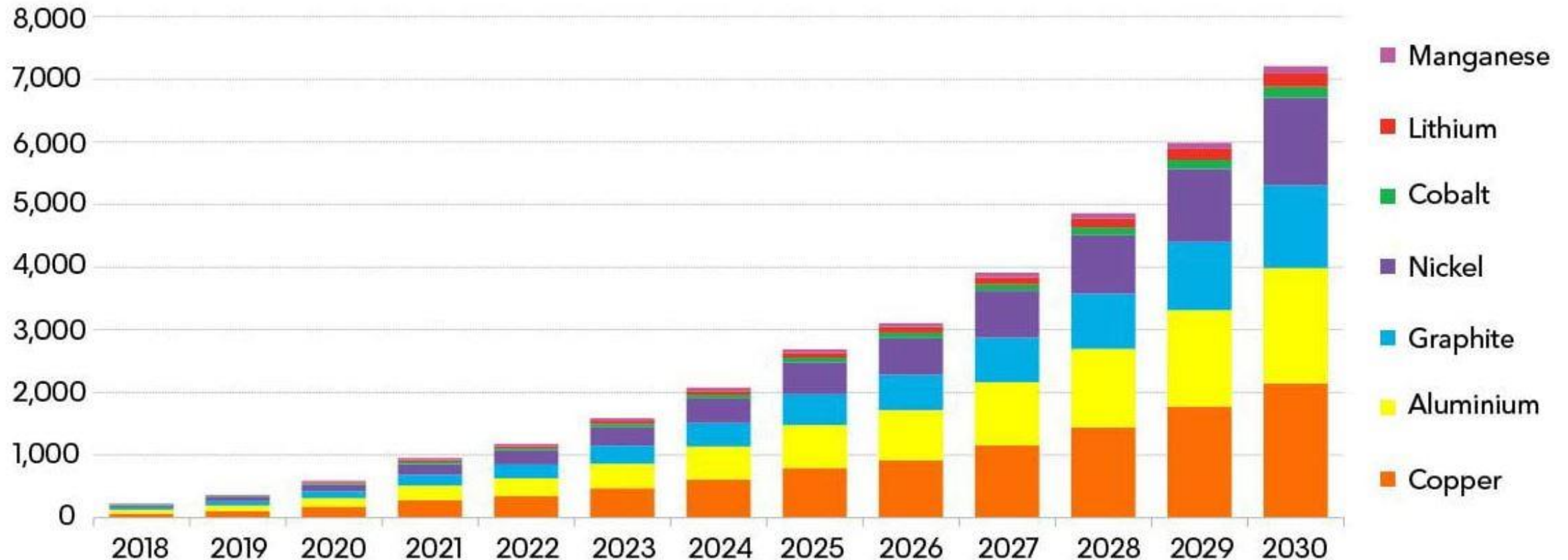
1. LiB Energy Density increase 1995(14% pa) 2017(>20%pa) 2013 US\$800 kwhr, 2018 US\$130/kwhr
2. Computing power increase @ 40% pa (\$600 in 2018 v >\$600M in ~1973)
3. LiDAR US\$150,000 (2012) US\$90 (2018)
4. PV US\$76/w (1977), US\$0.12/kw (2016), US\$0.02 per kilowatt (2018)
5. OEM warranty LiB 5,000 cycles, 8 yrs >80%, storage, Motor 1Mkm, chassis infinite, 20 v 2000 moving parts, 90% transport cost reduction
6. EV price \$250k to \$33k at >300km range
7. Ride sharing, UBER, WAYMO, Cloud, Google, Apple, Tesla 33 other OEMs
8. Norway, China, Elon, VW Diesel, climate policy, Emission reduction
9. USD\$1Tn x 2 in workforce/capital/new business/productivity in USA alone, stimulus, 4-100%
10. Clean water, food, electricity and opportunity for the developing world

1. Reference: Tony Seba –author of “Clean Disruption of Energy and Transportation”

# NEV sales driving all battery materials

## Metals and materials demand from lithium-ion battery packs in passenger EVs

Thousand metric tons



Source: Electric Vehicle Outlook 2018, Bloomberg New Energy Finance. Note: Copper includes copper current collectors and pack wiring. Aluminium includes aluminium current collectors, cell and pack materials and aluminium in cathode active materials.

Figure 8 Graphite demand by source, kt

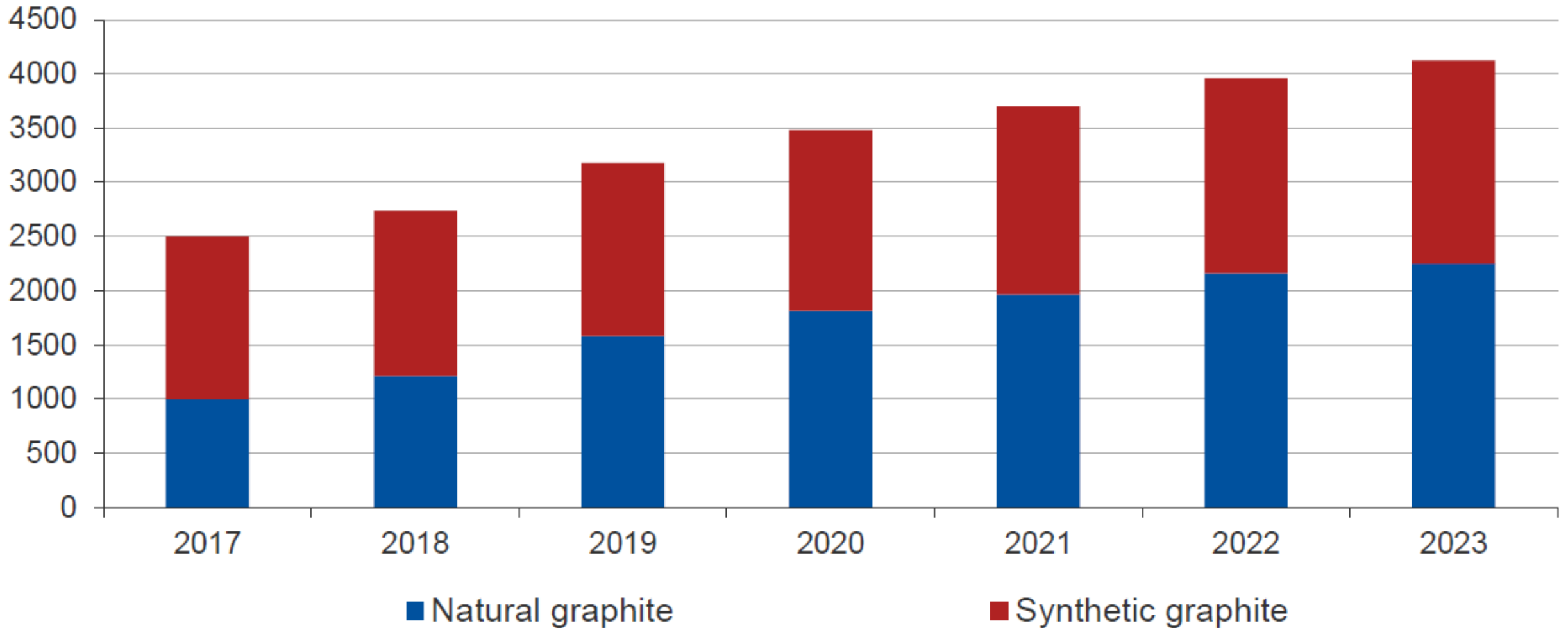
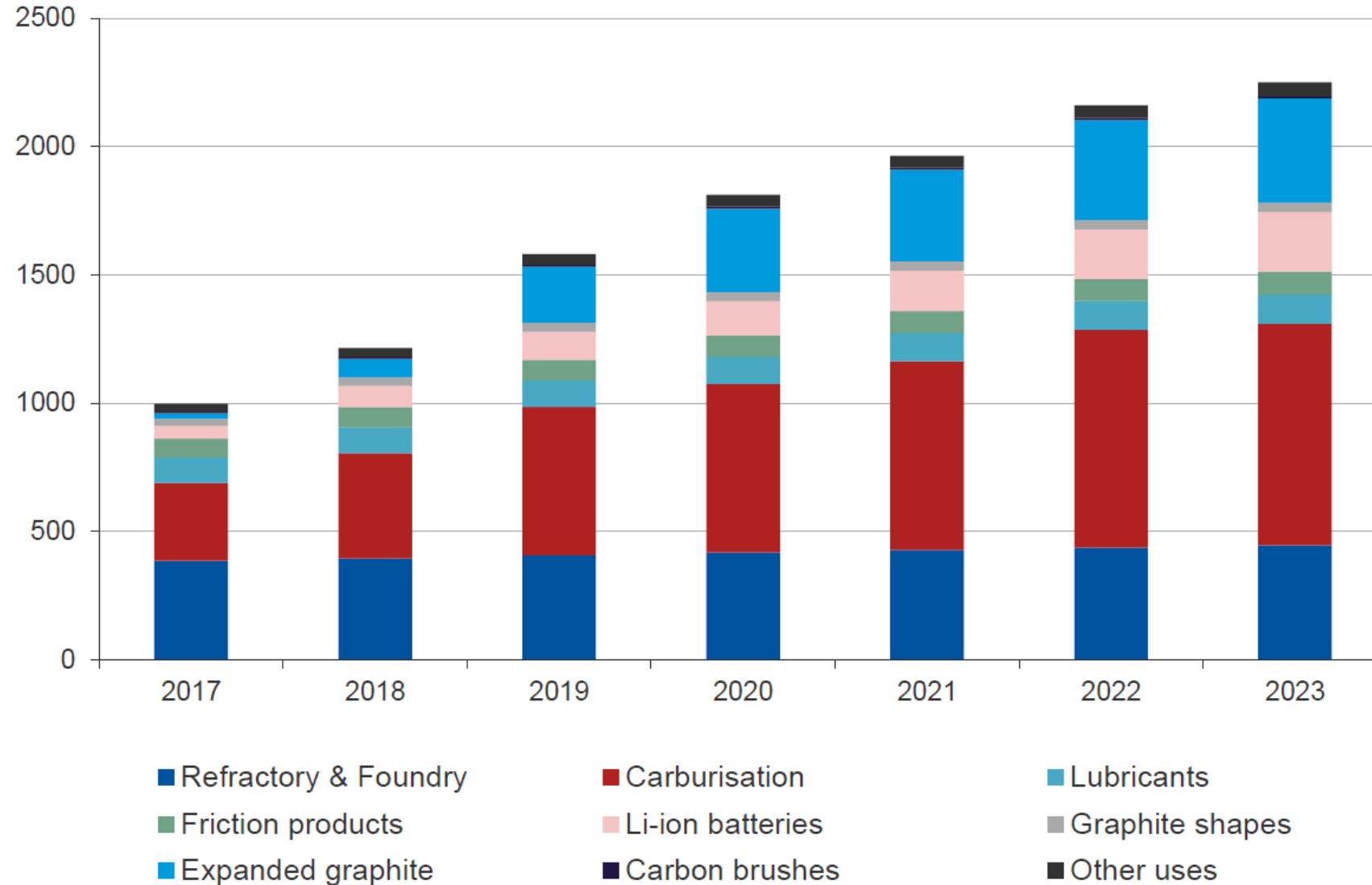


Figure 9 Natural graphite end use demand, kt



# Corporate Overview



**Jeff Dowling**  
Non-Exec Chairman



**Ben Van Rooy**  
Chief Operating Officer



**David Flanagan**  
Managing Director



**Tony Walsh**  
Company Secretary &  
GM Corporate



**Brett Smith**  
Non Exec Director



**Jeff Dawkins**  
Chief Financial Officer



**Gilbert George**  
Non Exec Director



**Naomi Scott**  
General Counsel



**Paul Glasson**  
Non Exec Director  
(based in China)



**Ivy Chen**  
Non Exec Director

*“More than 300 years industry experience across board and management”*

*“Proven performers. People that have developed a new mine every year for the last 10years”*

## Share Price



## Capital Structure

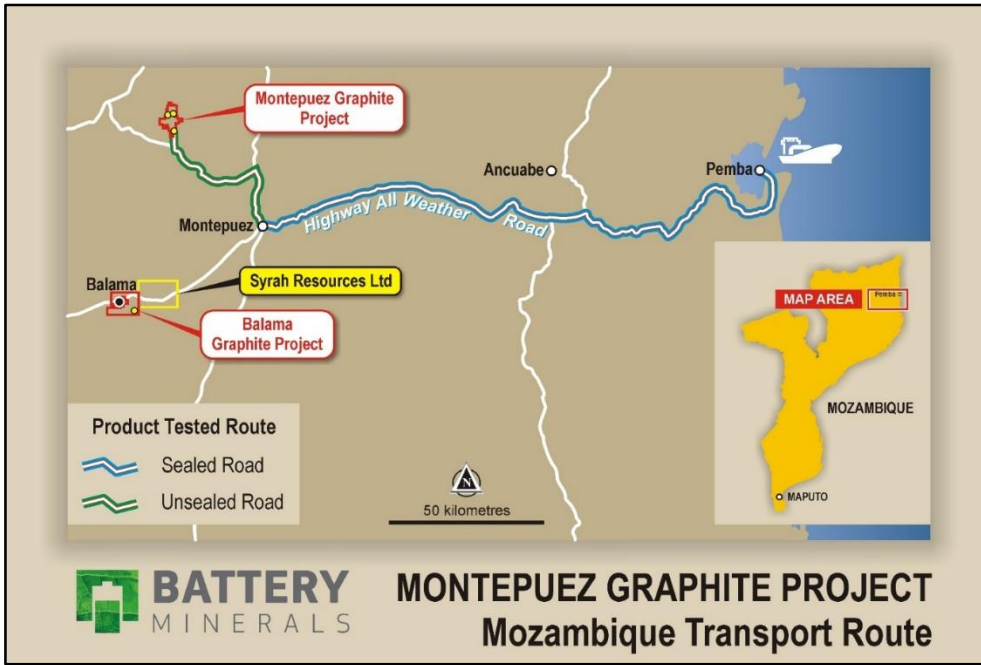
Shares on Issue	951.4M
Board and Management	>10% fully diluted
Share price (as at 13 <sup>th</sup> June 2018)	~3.2cps
Market Capitalisation (as at 7 <sup>th</sup> June 2018)	~\$30 million
Cash at bank (as at 12 <sup>th</sup> June)	~\$15 million
Enterprise Value	~\$15 million
Top 20 Shareholders	40%
Unlisted Options and performance rights	417M

1. Project Finance is next key milestone
2. First exports 12 months from project finance completion
3. Mining licence granted
4. 4 offtake agreements covering ~80% of Montepuez stage 1. 100% first year production
5. Our customers supply full range of industrial and battery products
6. Fast follower, skilled labour, government, community, market
7. Low technical risk, incremental growth, modular plant. Crawl-walk-run
8. Worlds largest high quality graphite endowed region.
9. Total group resources 139Mt at 8.23% TGC, Exploration potential 3-400Mt<sup>1</sup>
10. Group production rate target 200ktpa by 2023

1. TGC of 5-10%. Note the potential quantity and grade is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.



# Montepuez an Exceptional first Project



Montepuez Graphite Project <sup>2</sup>	VES (First Module)
Annual graphite production	45,000 - 50,000tpa
Capex (pre-production)	US\$42.3 M
Opex (concentrate/t) <sup>7</sup>	US\$337/t
Grade processed	12% TGC
Plant Type and Scale	Modular, ~500ktpa
Projected Payback	<2 years <sup>5</sup>
Net Operating Cash Flow	>US\$20 Mpa <sup>5</sup>
Metallurgical Recovery	>80%
Capital Intensity (US\$/tpa con)	US\$900/t
Mine Life <sup>3</sup>	+10 years <sup>4</sup>
Graphite Concentrate purity	96.7% TGC



- **Timing:** Mining Licence granted, First Exports 12 months from finance completion
- **Proven Logistics:** bulk sample delivered to port in 2017, 260km logistics chain tested and proven
- **Port Allocation approved:** at Pemba Port for 100,000tpa of graphite concentrate
- **Expansion to 100ktpa:** USD 25-29M for additional 45-50,000tpa
- **Indicated & Inferred Resource:** 105.9Mt @ 7.74% TGC @ 2.5% cut-off<sup>1</sup>, Target for additional 3-400Mt at 5-10% TGC<sup>6</sup>
- **Proven and Probable Reserve:** 41.4Mt @ 8.8% TGC @ 4% TGC cut-off<sup>1</sup>

1. See ASX announcement on 15 February 2017 for DFS outcomes. See ASX announcement dated 18 October 2017 for VES outcomes.  
 2. Excludes National Ownership (anticipated to be ~5%) and 32% tax rate  
 3. Based on Ore Reserves (see ASX released dated 15 February 2017) prepared by a competent person in accordance with the JORC Code. All material assumptions underpinning the production target in that announcement continue to apply and have not materially changed  
 4. Mine life of +10 years at 12% TGC plus 10+ years at 7-8% TGC  
 5. BAT has used US \$798/t FOB Pemba as a long term basket price for its concentrate in the Feb 2017 DFS. Current Independent market commentators supported by our detailed market analysis indicates long term pricing in a range US \$847-950/t FOB Pemba.  
 6. The potential quantity and grade is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.  
 7. Operating costs are sensitive to movements in diesel price. A 30% increase in diesel price would deliver an increase in operating costs of approximately 10%

# *Crushing Material for Road Construction*



# Haul Road Earthworks Underway



# Permanent Camp Construction



# Community Advisory Committee Project Update



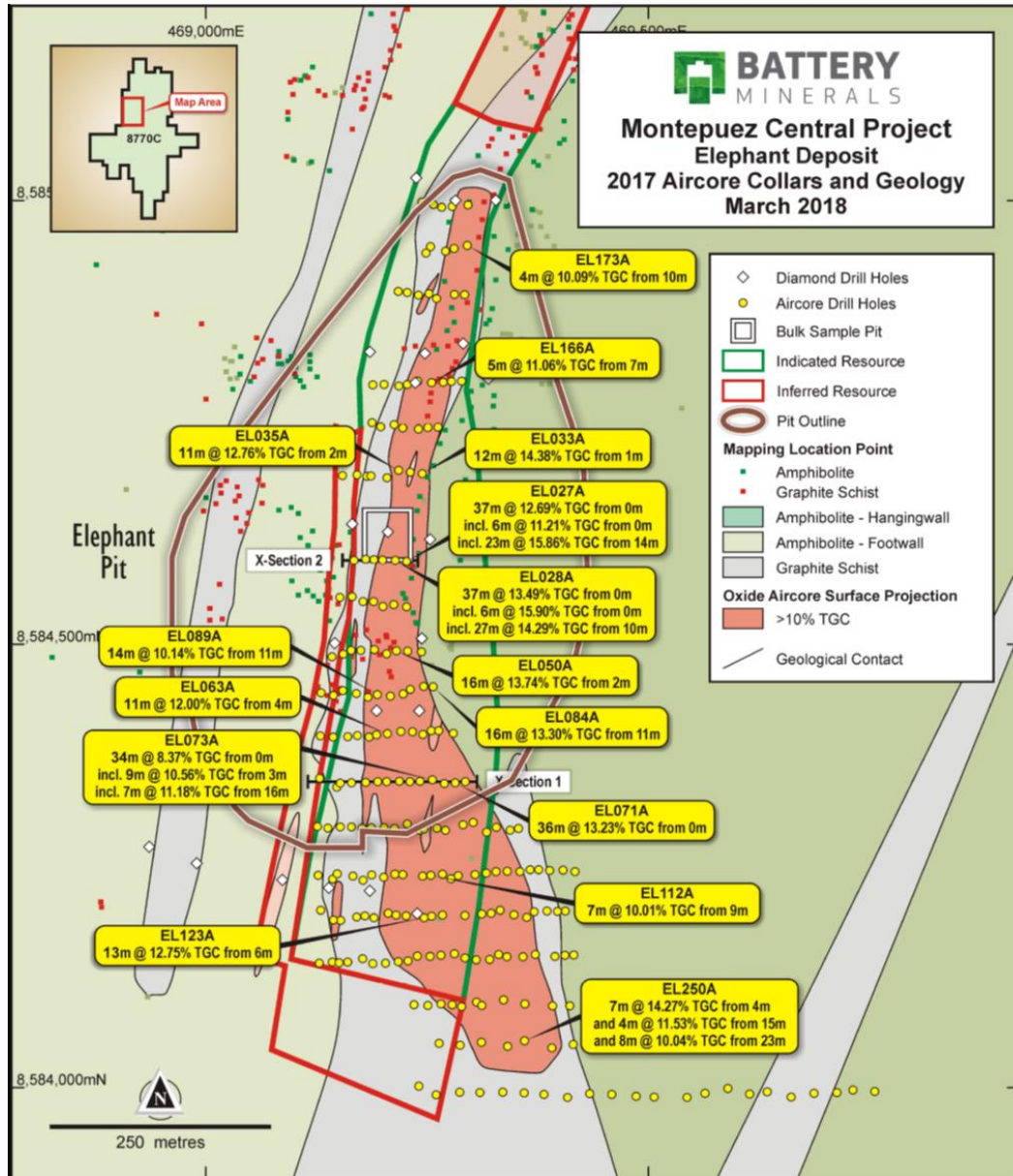
# *Plant Site Ground Preparation*



# Montepuez Local Market Garden

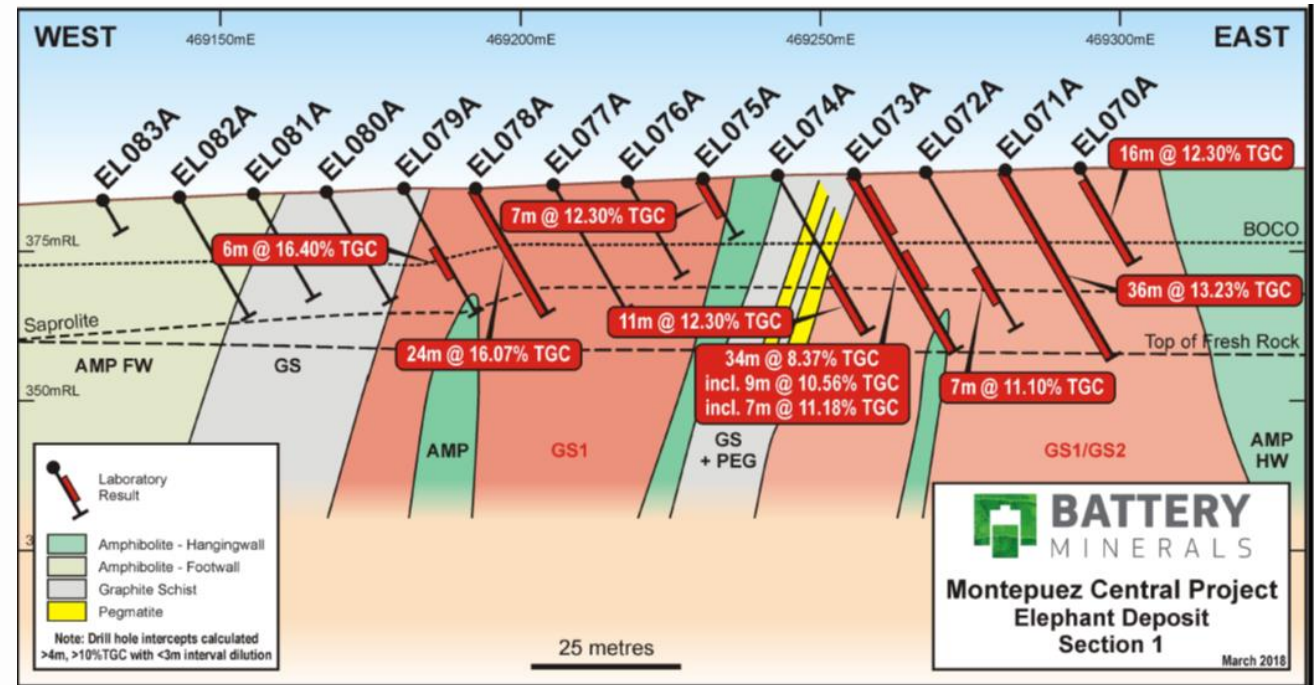


# Montepuez Detailed Drilling Confirms Potential



Elephant deposit, comprised 240 holes for 4,968 metres drilled to refusal using blade RC aircore technique. The results include:

- EL028A, 37 metres at 13.49% TGC from surface,
- EL058A, 20 metres at 15.61%TGC from 2 metres,
- EL078A, 24 metres at 16.07% TGC from surface,
- EL137A, 21 metres at 16.7%TGC from 3 metres, and
- EL140A, 27 metres at 15.03% TGC from 3 metres



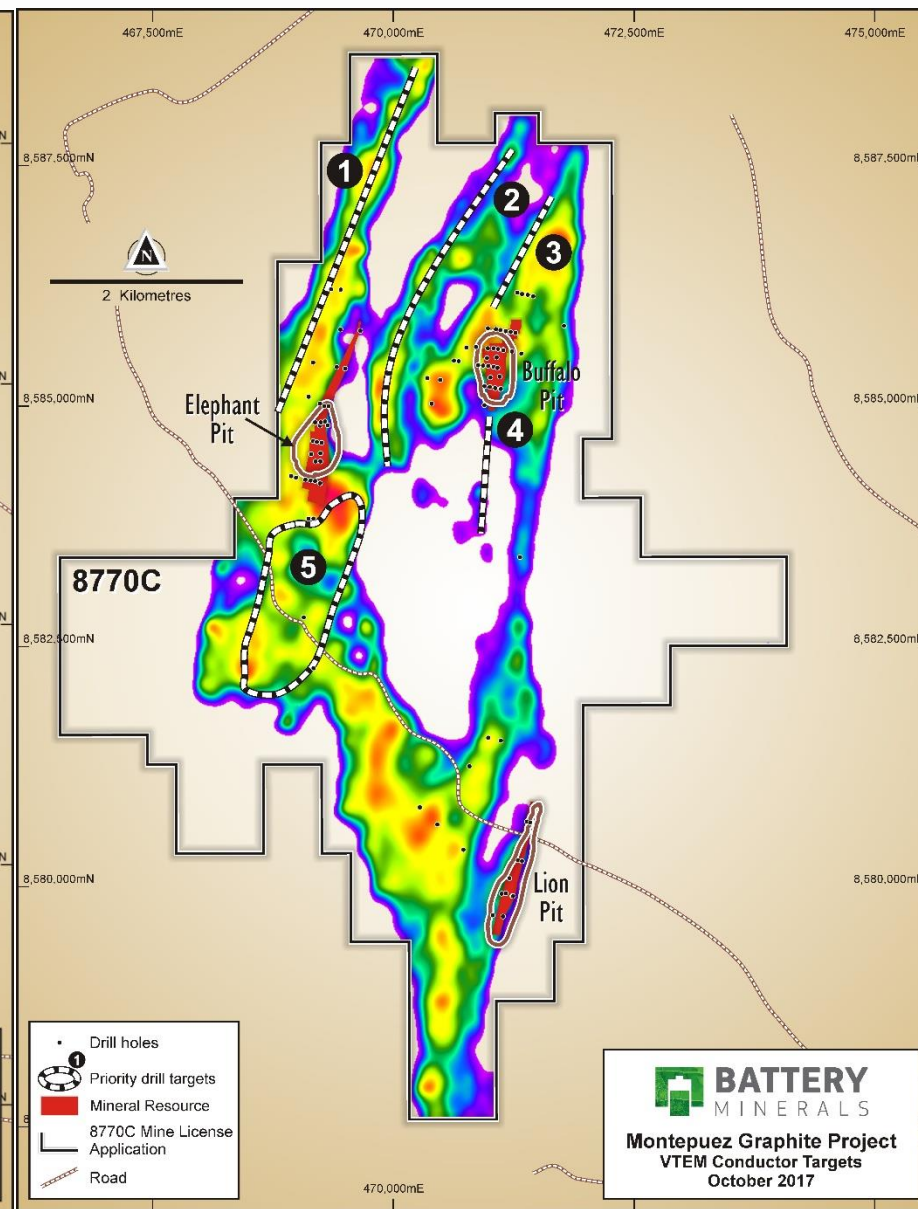
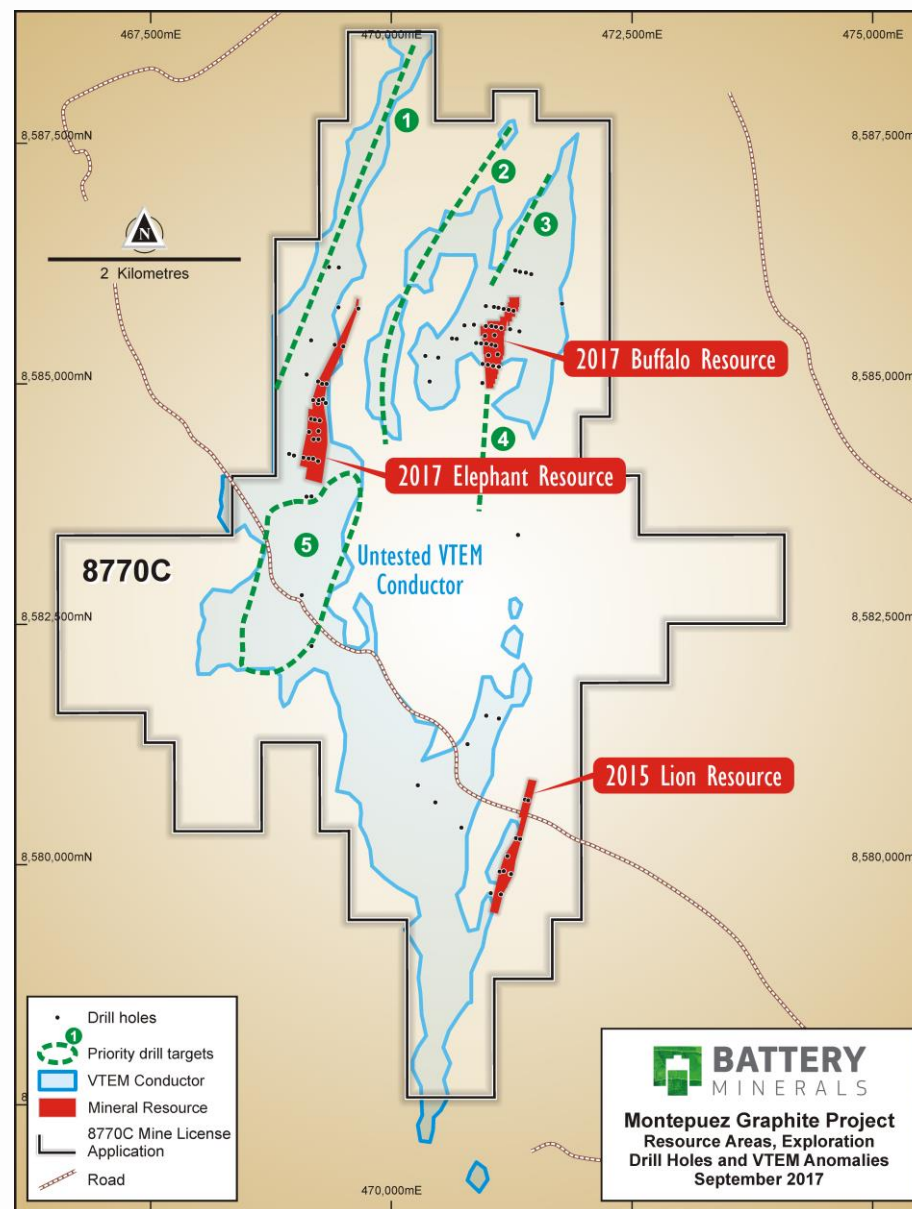
**Note:** See "Outstanding drilling results further strengthen economic outlook for Montepuez graphite project" to ASX dated 4 April 2018 for further details and CP statement



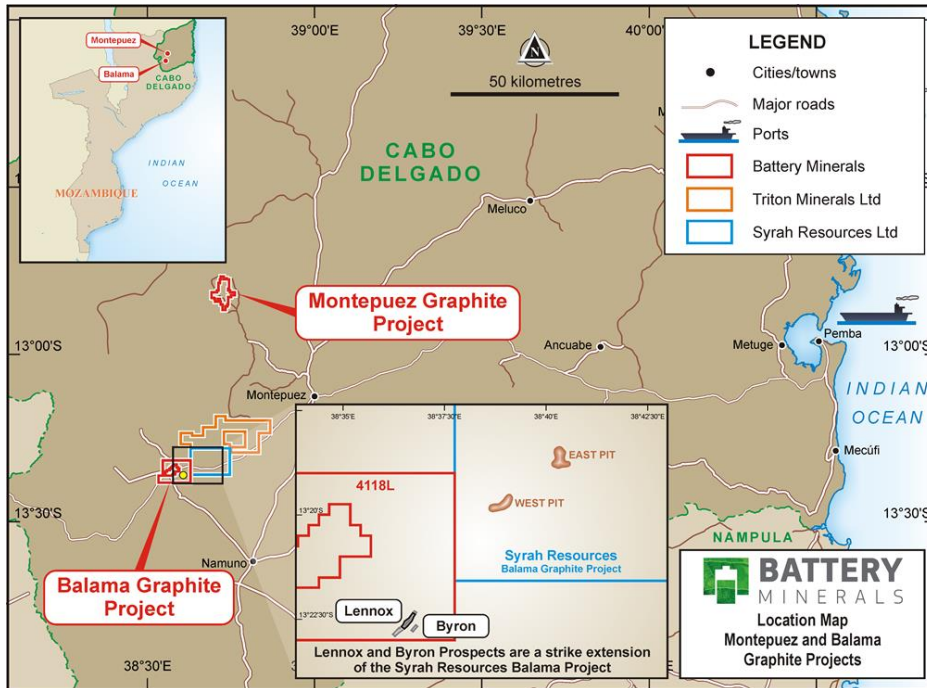
# Montepuez Exploration Target - Additional Growth 300-400MT @ 5-10 % TGC<sup>1</sup>

- 5 VTEM target areas
- Only 15-20% of targets have been drilled
- VTEM conductors remain largely untested
- All deposits remain open at depth and along strike
- Potential for 300-400Mt @ 5-10% TGC<sup>1</sup>
- Buffalo deposit drilling assays pending

<sup>1</sup> The potential quantity and grade is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and that it is uncertain if further exploration will result in the estimation of a Mineral Resource.



# Balama Scoping Study Outcomes



Balama Graphite Project <sup>2</sup>	Scoping Study
Annual graphite production	50,000 - 55,000tpa
Capex (pre-production)	US\$50 M
Opex (concentrate/t) <sup>6</sup>	US\$372/t
Grade Processed	10.6% TGC
Plant Type and Scale	Modular, ~550ktpa
Projected Payback	<1.5 years <sup>5</sup>
Net Operating Cash Flow	>US\$30 Mpa <sup>5</sup>
Metallurgical Recovery	>93%
Capital Intensity (US\$/tpa con)	US\$1221/t
Mine Life <sup>3</sup>	+10 years <sup>4</sup>
Graphite Concentrate purity	96-97% TGC



- **Timing:** Feasibility Study conclude H2 2018
- **Logistics:** Bulk sample delivered to port in 2017, 260km logistics chain tested & proven by Montepuez bulk sample
- **Port Allocation:** Discussions on allocation ongoing, capacity is available to cater for Battery Minerals exports of 200ktpa
- **Expansion to 100ktpa:** USD 30-35M for additional 50-55,000tpa
- **Resource <sup>3</sup>:** Total Mineral Resources of 32.9Mt at 10.2% TGC (6% TGC cut off), Indicated Mineral Resources 26.6Mt at 10.3% TGC, includes indicated resources of 11.8Mt at 14.8%TGC (8% TGC cut off)
- **Feasibility Study** to consider processing grade parameters of 10.26% - 15.95% TGC (see Appendix for grade tonnage curve)

1. See ASX announcement dated 1 March 2018 for Balama Central Scoping Study outcomes. All material assumptions underpinning the production target in that announcement continue to apply and have not materially changed  
 2. Excludes National Ownership (anticipated to be ~5%) and 32% tax rate  
 3. See ASX announcement dated 29 March 2018 entitled "Resources double at Balama Central graphite project in Mozambique" for full details. Please refer to additional details on slide entitled Disclaimer & Competent Persons Statement.  
 4. Mine life of +10 years based on 2016 Indicated Resources only  
 5. BAT has used US \$1,100/t as basket price FOB Pemba for its Balama Central concentrate. The current market basket price for its Balama Central concentrate is greater than US \$1,100/t FOB Pemba.  
 6. Operating costs are sensitive to movements in diesel price. A 30% increase in diesel price would deliver an increase in operating costs of approximately 10%

# Next 20 months targets

- Finalise debt and equity funding for Montepuez Stage 1
- Complete early stage site works, camp, roads and civils
- Delivery of long lead items to site
- Balama Feasibility Study
- Resource Updates
- Complete construction and complete commissioning
- First Exports
- Complete ramp-up
- Nameplate capacity for Montepuez Stage 1



# Disclaimer & Competent Persons Statement

## Forward Looking Statements

- Statements and material contained in this Presentation, particularly those regarding possible or assumed future performance, resources or potential growth of Battery Minerals Limited, industry growth or other trend projections are, or may be, forward looking statements. Such statements relate to future events and expectations and, as such, involve known and unknown risks and uncertainties. Such forecasts and information are not a guarantee of future performance and involve unknown risk and uncertainties, as well as other factors, many of which are beyond the control of Battery Minerals Limited. Information in this presentation has already been reported to the ASX.

## Competent Persons Statement

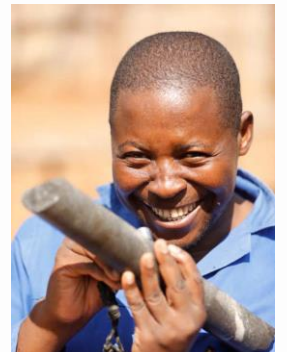
- Battery Minerals Limited released the results of a DFS on its Montepuez Project on 15 February 2017 & its Value Engineering Study (VES) results for Montepuez on 18 October 2017. These releases are available on Battery Minerals' website & ASX.
- All references to future production and production & shipping targets and port access made in relation to Battery Minerals are subject to the completion of all necessary feasibility studies, permit applications, construction, financing arrangements, port access and execution of infrastructure-related agreements. Where such a reference is made, it should be read subject to this paragraph and in conjunction with further information about the Mineral Resources and Ore Reserves, as well as the relevant competent persons' statements.
- Any references to Exploration Results, Ore Reserve and Mineral Resource estimations should be read in conjunction with the competent person statements included in the ASX announcements referenced in this presentation as well as Battery Minerals' other periodic and continuous disclosure announcements lodged with the ASX, which are available on the Battery Minerals' website.
- The information in this report that relates to Battery Minerals' Mineral Resources or Ore Reserves is a compilation of previously

published data for which Competent Persons consents were obtained. Their consents remain in place for subsequent releases by Battery Minerals of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.

- The information in this Presentation that relates to Montepuez Mineral Resources and Ore Reserves is extracted from the ASX Announcement titled 'Montepuez Graphite Project Mineral Resource and Ore Reserve Estimate' dated 15 February 2017 and DFS and VES information is extracted from the ASX announcement entitled 'Lithium Ion Battery anode PFS and Montepuez Graphite DFS confirm robust economics' dated 15 February 2017 and VES results of 18 October 2017, both of which are available at Battery Minerals website in the ASX announcement page.
- See ASX announcements on the Balama Central Scoping Study dated 1 March 2018 and the Concept Study dated 26 October 2017 for details, Table 1 and Competent Person Statement
- Balama Central Preliminary metallurgical testwork: The information in this Presentation that relates to Metallurgy is based on and fairly represent information reviewed by Mr. Sean Richardson, who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr. Richardson is an independent consultant. Mr. Richardson has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activities undertaken. Mr. Richardson consents to the inclusion in the Announcement of the matters based on his information in the form and context in which it appears.
- Any references to Mineral Resource estimates on the Balama Central Project should be read in conjunction with the competent person statements included in the ASX announcements referenced in this report (See ASX announcement dated 29 March 2018 entitled "Resources double at Balama Central graphite project in Mozambique " for full details and Competent Persons Statement) as well as Battery Minerals' other

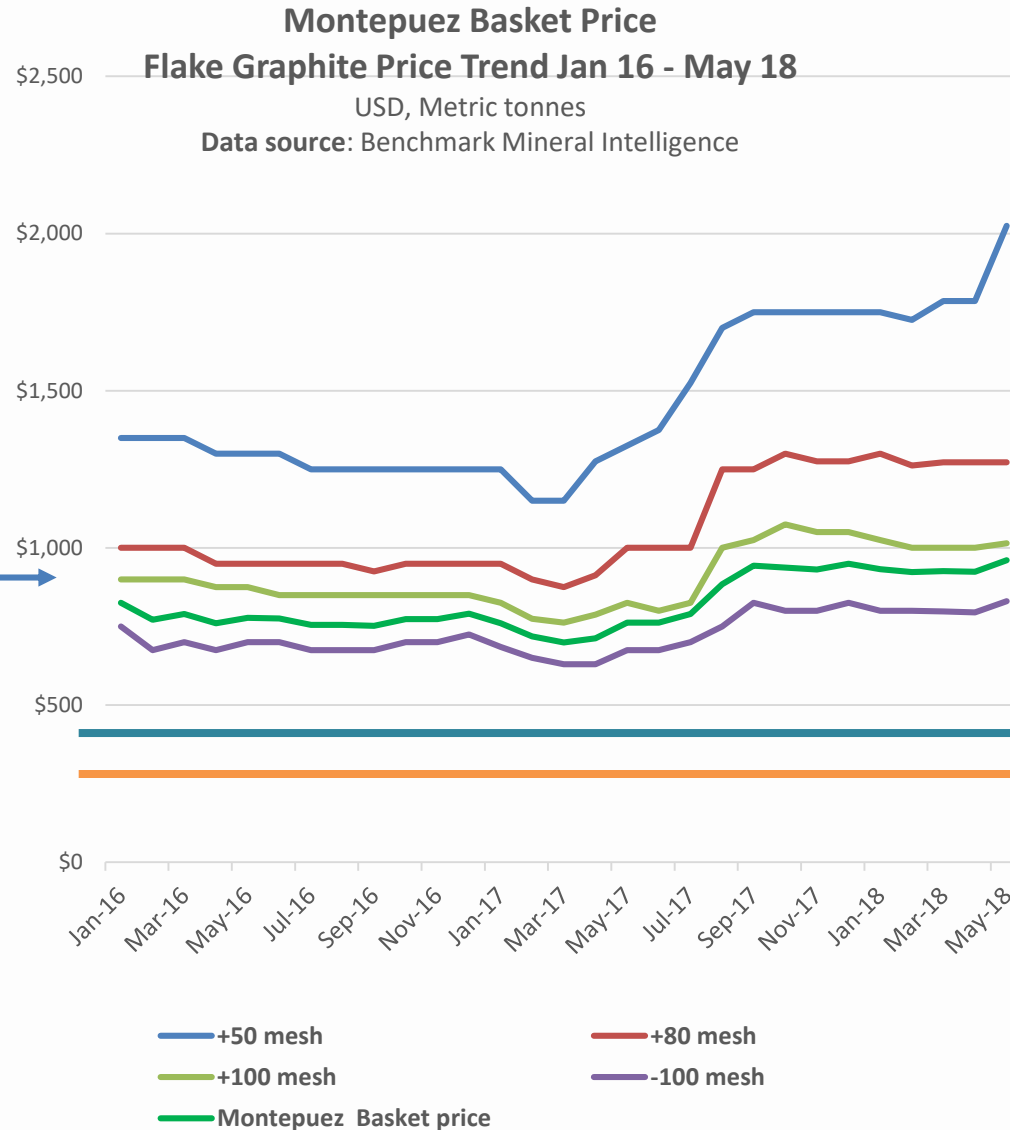
periodic and continuous disclosure announcements lodged with the ASX, which are available on the Battery Minerals' website.

- The information in this presentation that relates to Battery Minerals' Balama Central Mineral Resources is a compilation of previously published data for which Competent Persons consents were obtained. Their consents remain in place for subsequent releases by Battery Minerals of the same information in the same form and context, until the consent is withdrawn or replaced by a subsequent report and accompanying consent.
- The information in this presentation that relates to Mineral Resources in the ASX announcement dated 29 March 2018 and entitled "Resources double at Balama Central graphite project in Mozambique " which is available at Battery Minerals website at <http://www.batteryminerals.com.au> in the ASX announcements page.
- Battery Minerals confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and that all material assumptions and technical parameters underpinning the estimates in the market announcements continue to apply and have not materially changed. Battery Minerals confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.



- Graphite Price Trend Jan 2016 to May 2018 - Montepuez
- Graphite Price Trend Jan 2016 to May 2018 - Balama Central
- Key Milestones for BAT
- Mineral Resources and Ore Reserves (slides 28 to 31)

# Graphite Price Trend Jan 2016 to May 2018

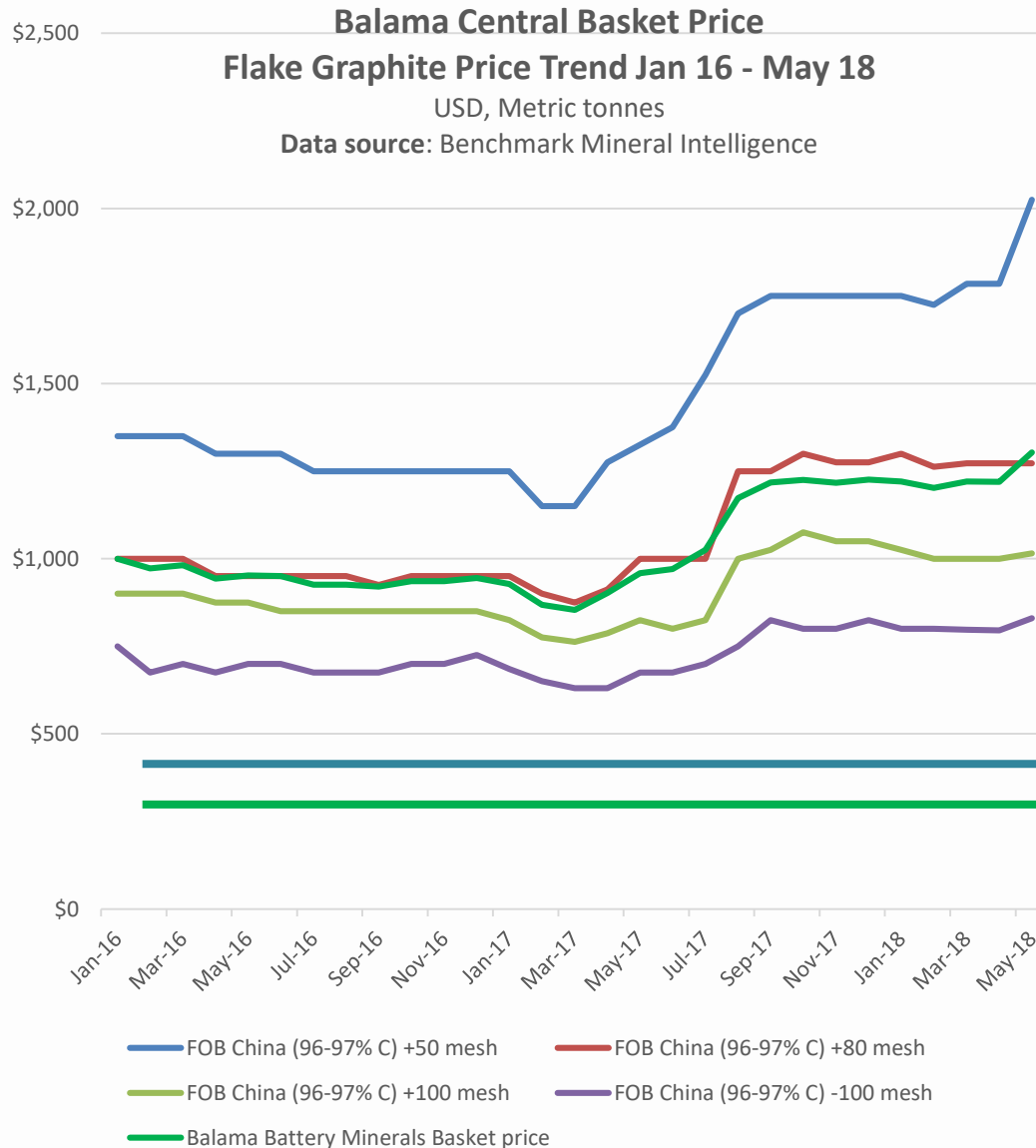


*Graphite commodity prices have steadily improved since March/April 2017*

**Montepuez: Battery Minerals - Flake Graphite Concentrate Sizing**

Flake size	Flake size (mesh)	Flake size (micron)	% of concentrate	TGC grade
Fine	-100 Mesh	0 - 150	71.9%	97.0%
Medium	+100 Mesh	+150 -180	10.2%	96.0%
Large	+80 Mesh	+180 -300	13.5%	96.0%
Jumbo	+50 Mesh	+300	4.4%	96.0%

# Graphite Price Trend Jan 2016 to May 2018(cont)



## Balama Central Graphite Project

- Higher Jumbo and Large flake product
- Higher basket price of circa US\$1,220/t

### Balama Central Battery Minerals - Flake Graphite Concentrate Sizing

Flake size	Flake size (mesh)	Flake size (micron)	% of concentrate	TGC grade
Fine	-100 Mesh	0 - 150	37.0%	97.0%
Medium	+100 Mesh	+150 -180	9.0%	96.0%
Large	+80 Mesh	+180 -300	25.0%	96.0%
Jumbo	+50 Mesh	+300	29.0%	96.0%

Battery Minerals (Balama Central) delivered US\$470 cost per tonne cif China

Battery Minerals (Balama Central) Opex US\$370 OPEX cost per tonne FOB Pemba

Milestone	Status
<ul style="list-style-type: none"><li>• Environmental Impact Assessment</li></ul>	✓ Completed and Approved, 2017
<ul style="list-style-type: none"><li>• PFS,DFS and Value Engineering Studies</li></ul>	✓ Completed, 2017
<ul style="list-style-type: none"><li>• Detailed engineering, early works &amp; procurement</li></ul>	✓ Completed
<ul style="list-style-type: none"><li>• Port Allocation from government for Pemba port</li></ul>	✓ 100,000tpa export capacity Govt approved
<ul style="list-style-type: none"><li>• Targeted exploration activity</li></ul>	✓ Drilling completed, reported, more pending
<ul style="list-style-type: none"><li>• Offtake Agreements</li></ul>	✓ Four offtake agreements in place
<ul style="list-style-type: none"><li>• Mozambique mining licence granted</li></ul>	✓ Completed, mining agreement process underway
<ul style="list-style-type: none"><li>• Balama Central Scoping Study</li></ul>	✓ Completed
<ul style="list-style-type: none"><li>• Project Finance</li></ul>	• Ongoing
<ul style="list-style-type: none"><li>• Long Lead Item procurement</li></ul>	• Pending project finance
<ul style="list-style-type: none"><li>• Mine Plan and Commence construction</li></ul>	• Planning completed, early earthworks underway



# Montepuez Ore Reserves and Mineral Resources



- Ore Reserve Estimate January 2017 for Buffalo and Elephant deposits is **41.4Mt @ 8.80% TGC** for **3.64Mt** of graphite reported at a cut-off grade of 4% TGC
- Total Mineral Resource January 2017 for Buffalo and Elephant deposits is **105.9Mt @ 7.74% TGC** for **8.2Mt** of graphite reported at a 2.5% TGC cut-off
- Two world class deposits provide optionality of product, blending opportunities and development options
- Flake size, creates opportunity for price premium Natural Flake products
- Chemical structure and easy liberation attributes (low impurities) offers unique opportunities
- The graphite resources remain open in every direction ensuring mine life opportunity beyond the currently scheduled 30 years

MONTEPUEZ GRAPHITE PROJECT - ORE RESERVE STATEMENT @ 4% TGC cut-off - January 2017				
Ore Type	Classification	Ore Reserve	TGC	Contained Graphite
		Mt	%	Mt
Weathered	Proved	-	-	-
	Probable	8	8.5	0.68
Fresh	Proved	-	-	-
	Probable	33.5	8.8	2.96
Total	Proved	-	-	-
	Probable	41.4	8.8	3.64

**Note:** See ASX Announcement dated entitled 'Montepuez Graphite Project Mineral Resource and Ore Reserve Estimate' dated 15 February 2017 for full details.<sup>1</sup>

1. See ASX announcement dated 15 February 2017 – Montepuez Ore Reserves & Mineral Resources. Please refer to additional details on slide entitled Disclaimer & Competent Persons Statement

# Montepuez Mineral Resource Statement



Total Mineral Resource January 2017 for Buffalo and Elephant deposits is **105.9Mt @ 7.74% TGC for 8.2Mt** of graphite reported at a 2.5% TGC cut-off

ELEPHANT RESOURCE @ 2.5% TGC cut-off - January 2017						
Classification	Type	Tonnes	TGC	V205	Contained Graphite	Contained V205
		Mt	%	%	Mt	Kt
Indicated and Inferred	Weathered	7.80	7.70	0.19	0.60	15.00
	Unweathered	59.40	7.50	0.19	4.50	114.00
	<b>Total</b>	<b>67.20</b>	<b>7.50</b>	<b>0.19</b>	<b>5.10</b>	<b>129.00</b>

BUFFALO RESOURCE @ 2.5% TGC cut-off - December 2016						
Classification	Type	Tonnes	TGC	V205	Contained Graphite	Contained V205
		Mt	%	%	Mt	Kt
Indicated and Inferred	Weathered	5.20	8.14	0.22	0.40	11.30
	Unweathered	33.50	7.90	0.21	2.60	70.90
	<b>Total</b>	<b>38.70</b>	<b>7.93</b>	<b>0.21</b>	<b>3.00</b>	<b>82.20</b>

Note: See ASX Announcement dated entitled 'Montepuez Graphite Project Mineral Resource and Ore Reserve Estimate' dated 15 February 2017 for full details.<sup>1</sup>

1. See ASX announcement dated 15 February 2017 – Montepuez Ore Reserves & Mineral Resources. Please refer to additional details on slide entitled Disclaimer & Competent Persons Statement

# Balama Central Mineral Resource (1)



Total Mineral Resource for Balama Central is **32.9 million tonnes at 10.2 per cent TGC for 3.36Mt** of graphite reported at a 6.0% TGC cut-off and includes Indicated Resources of 26Mt @ 10.3% TGC for 2,733Kt of graphite reported at a 6.0% TGC cut-off

BALAMA CENTRAL GRAPHITE PROJECT <sup>1</sup>					
March 2018 Mineral Resource Estimate (6% TGC Cut-off)					
Class	Tonnage	TGC	V205	Cont. Graphite	Cont. V205
	Mt	%	%	Kt	Kt
Indicated	26.6	10.3	0.22	2,733	58.5
Inferred	6.3	9.9	0.19	630	11.9
<b>Total</b>	<b>32.9</b>	<b>10.2</b>	<b>0.21</b>	<b>3,363</b>	<b>70.4</b>

Note: See ASX Announcement on 29 March 2018 entitled “Resources double at Balama Central graphite project in Mozambique ” for full details.

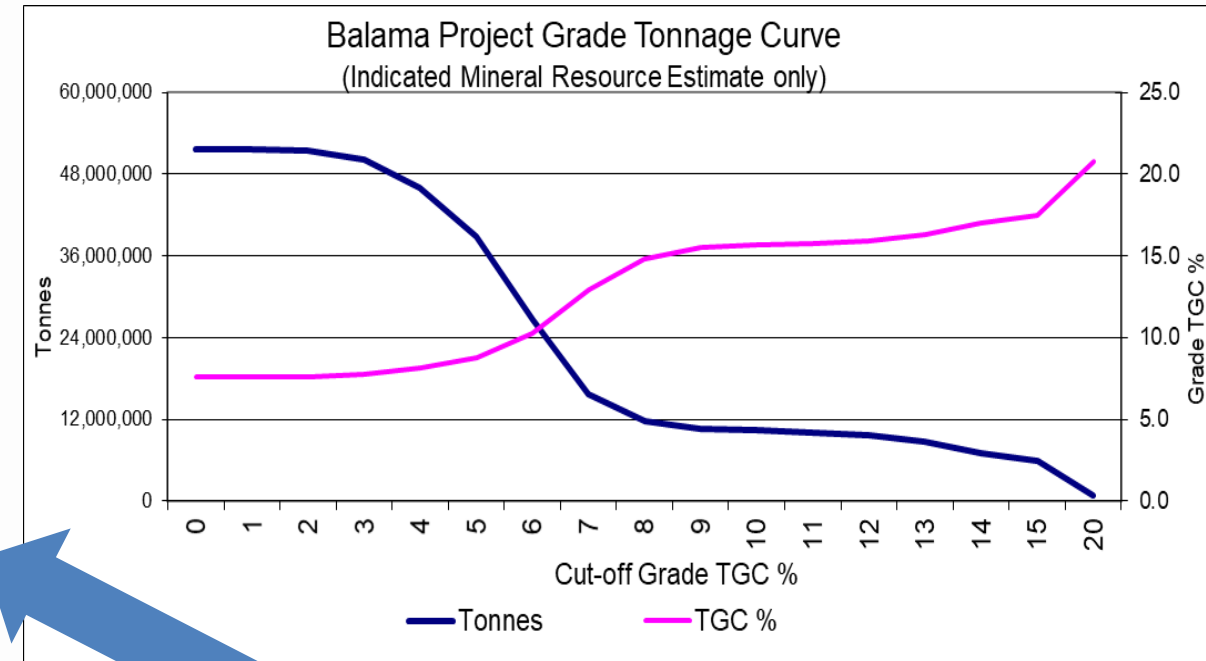
1. See ASX announcement dated 29 March 2018 entitled “Resources double at Balama Central graphite project in Mozambique ” for full details. Please refer to additional details on slide entitled Disclaimer & Competent Persons Statement

# Balama Central Mineral Resource (2)

Total Mineral Resource for Balama Central is 32.9 million tonnes at 10.2 per cent TGC for 3.36Mt of graphite reported at a 6.0% TGC cut-off and includes Indicated Resources of 26Mt @ 10.3% TGC<sup>1</sup> for 2,733Kt of graphite reported at a 6.0% TGC cut-off

**Balama Central Project Indicated Tonnage and Grade Table**

Grade		Cut-off		Cumulative Resource		
Range	Tonnes	Contained	Grade	Tonnes	TGC	Contained
TGC%	t	Graphite (t)	TGC%	t	%	Graphite (t)
0.0 - 1.0	45,651	393	0	51,722,059	7.58	3,920,170
1.0 - 2.0	149,862	2,300	1	51,676,408	7.59	3,919,777
2.0 - 3.0	1,390,455	36,972	2	51,526,546	7.60	3,917,477
3.0 - 4.0	4,093,504	145,431	3	50,136,091	7.74	3,880,505
4.0 - 5.0	7,126,728	324,398	4	46,042,587	8.11	3,735,074
5.0 - 6.0	12,271,246	677,758	5	38,915,859	8.76	3,410,675
6.0 - 7.0	10,968,770	705,260	6	26,644,813	10.26	2,732,917
7.0 - 8.0	3,911,872	289,443	7	15,675,843	12.93	2,027,657
8.0 - 9.0	1,261,026	105,869	8	11,763,971	14.78	1,738,214
9.0 - 10.0	188,025	17,615	9	10,502,945	15.54	1,632,345
10.0 - 11.0	275,751	28,991	10	10,314,920	15.65	1,614,730
11.0 - 12.0	343,914	39,545	11	10,039,169	15.80	1,585,739
12.0 - 13.0	1,019,344	128,979	12	9,695,255	15.95	1,546,194
13.0 - 14.0	1,668,200	225,684	13	8,675,911	16.34	1,417,215
14.0 - 15.0	1,130,136	163,410	14	7,007,711	17.00	1,191,531
15.0 - 20.0	5,070,153	860,649	15	5,877,575	17.49	1,028,121
> 20.0	807,422	167,472	20	807,422	20.74	167,472
<b>Total</b>	<b>51,722,059</b>	<b>3,920,170</b>				



Balama Central feasibility study processing grade parameters of 10.26% to 15.95% TGC

1. See ASX announcement dated 29 March 2018 entitled "Resources double at Balama Central graphite project in Mozambique" for full details. Please refer to additional details on slide entitled Disclaimer & Competent Persons Statement