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CDIs on Issue: 129M



**EUROPEAN METALS**

**19 April 2017**

**PRELIMINARY FEASIBILITY STUDY CONFIRMS  
CINOVEC AS POTENTIALLY LOW COST LITHIUM  
CARBONATE PRODUCER**

European Metals Holdings Limited (“**European Metals**” or “**the Company**”) is pleased to announce the successful completion of the Preliminary Feasibility Study (“**PFS**”) for development of the Cinovec Lithium and Tin Project, which highlights that Cinovec could be a low cost lithium carbonate producer.

**Highlights** (all \$ figures in this release are US Dollars):

- **Net overall cost of production - \$3,483 /tonne Li<sub>2</sub>CO<sub>3</sub>**
- **Net Present Value (NPV) - \$540 M (post tax, 8%)**
- **Internal Rate of Return (IRR) - 21 % (post tax)**
- **Total Capital Cost - \$393 M**
- **Annual production of Battery Grade Lithium Carbonate - 20,800 tonnes**
- **Study based on only 9.9% of defined Indicated Mineral Resources**

The completion of the PFS follows a comprehensive metallurgical testwork campaign managed by European Metals. The PFS was undertaken by independent consultants who are specialists in the required areas of work. These included:

- Resource Estimation – Widenbar and Associates Pty Ltd;
- Mining – Bara Consulting Ltd;
- Front-End Comminution and Beneficiation (“**FECAB**”) – Ausenco Limited; and
- Lithium Carbonate Plant (“**LCP**”) – Hatch Pty Ltd.

The study is based upon a mine life of 21 years processing on average 1.7 Mtpa of ore, producing 20,800 tpa of battery grade lithium carbonate via a sodium sulphate roast.

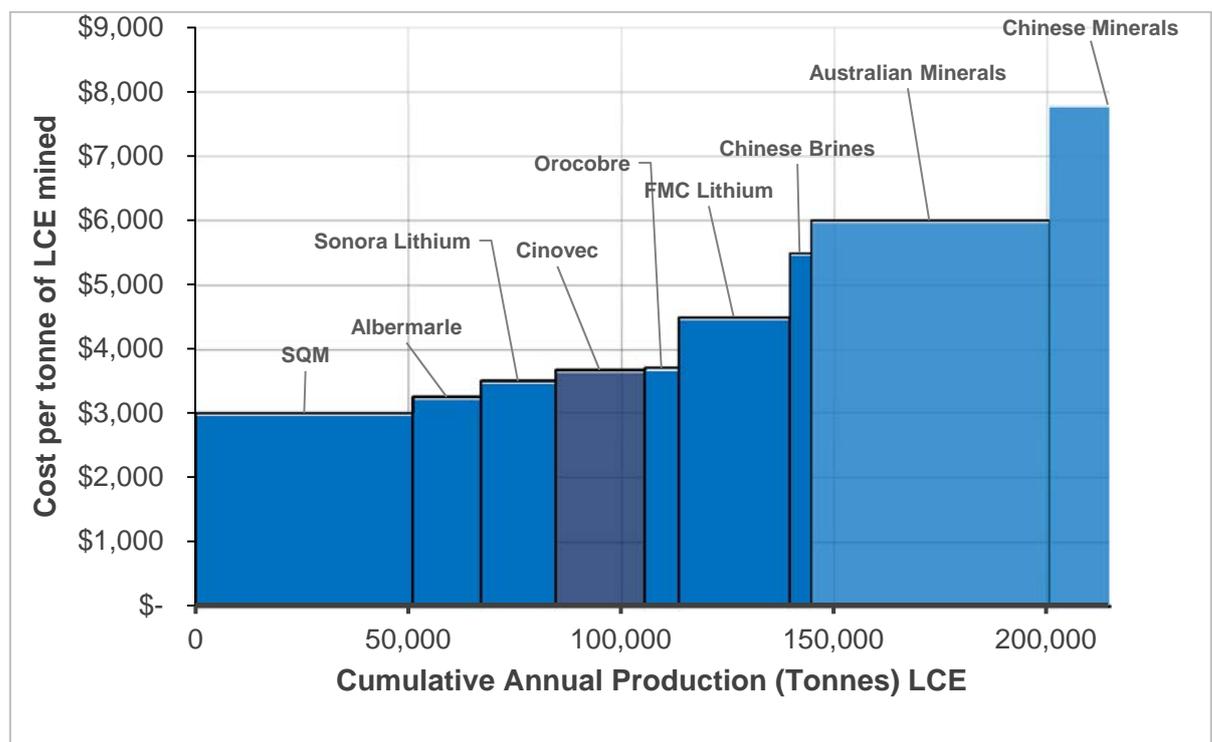
**European Metals Managing Director Keith Coughlan said**, “I am very pleased to report the headline numbers for the Cinovec Preliminary Feasibility Study. The study highlights the potential for Cinovec to be the world’s lowest cost hard rock producer of lithium carbonate due to its unique geological and metallurgical characteristics. These results, coupled with the macro outlook for the lithium industry, particularly in Europe, highlight the attractiveness of the project. As a result, we will move directly into a definitive feasibility study to accelerate the project towards development.

Cinovec is strategically located in central Europe in close proximity to the majority of the continent’s vehicle manufacturers. With increasing demand for Electric Vehicles, and Cinovec’s status as the largest and most advanced European lithium project, the project is very well placed to supply the European lithium market for many decades.”

The Cinovec Project is potentially the lowest operating cost, hard rock lithium producer globally, due to a number of unique advantages:

- By-product credits of tin, potash and tungsten;
- The ore is amenable to single-stage crushing and single-stage coarse SAG milling, reducing capital and operating costs, whilst reducing complexity;
- Paramagnetic properties of zinnwaldite allow the use of low cost wet magnetic processing to produce a lithium concentrate for further processing at relatively high recoveries;
- Low temperature roasting and reagent recycling;
- Low cost access to extensive existing infrastructure and grid power;
- Highly skilled workforce and comparatively low costs of employment;
- Historic mining and chemical plant region – strong support by the local community for job creation in areas that have both historic and current operations;
- The deposit lies in a stable jurisdiction, located centrally to the rapidly expanding electric vehicle industry, which is forecast to be the main driver behind increasing lithium consumption; and
- Established and transparent mining code.

**Figure 1: Operating Cost Comparison with Competing Projects**



**Source: Cadence Minerals Limited**

## Summary of PFS

The Cinovec Project hosts a JORC 2014-compliant global Resource of 656.5 Mt in the Indicated and Inferred categories as shown in Table 1 below (see announcement dated 20<sup>th</sup> February 2017).

**Table 1: JORC 2014 Cinovec Mineral Resource Estimate (19 February 2017)**

JORC CATEGORY	Cut-off	Tonnes	Li	Li <sub>2</sub> O	LCE	W		Sn	
	%	(Millions)	%	%	kt	%	t	%	t
INDICATED	0.1 % Li	347.7	0.2	0.5	3,890	0.015	52,160	0.04	139,080
INFERRED	0.1 % Li	308.8	0.2	0.4	2,960	0.014	43,230	0.04	123,520
TOTAL	0.1 % Li	656.5	0.2	0.4	6,990	0.014	91,910	0.04	262,600

**Notes:**

1. Mineral Resources are not reserves until they have demonstrated economic viability based on a feasibility study or pre-feasibility study.
2. Mineral Resources are reported inclusive of any reserves and are prepared by Widenbar in accordance with the guidelines of the JORC Code (2012).
3. The effective date of the Mineral Resource is February 2017.
4. All figures are rounded to reflect the relative accuracy of the estimate.
5. The operator of the project is Geomet s.r.o., a wholly-owned subsidiary of EMH. Gross and Net Attributable resources are the same. Any apparent inconsistencies are due to rounding errors. LCE is Lithium Carbonate Equivalent and is equivalent to Li<sub>2</sub>CO<sub>3</sub>.
6. There has been no change to this Mineral resource statement since publication.

The PFS is based on mining 34.5 Mt of material, 100% of which lies within the Indicated Mineral Resource category. The tonnage used in the PFS represents only 5.2% of the total Mineral Resource and 9.9% of the Indicated Mineral resource.

Around 1.7 million tonnes of ore per annum is mined and crushed in the underground mine prior to being conveyed 1,800 m to the mine portal and stacked on Comminution Plant stockpile (30 kt live capacity), providing a buffer and surge capacity between the underground activities and the processing plants.

The ore is reclaimed from the stockpile to be delivered to the start of the Front-End Comminution and Beneficiation (FECAB) circuit that comprises two sections of plant, geographically separated and connected by a slurry pipeline. The Comminution Plant featuring a single stage 4 MW SAG mill is located near the mining portal and delivers milled ore ( $P_{80} < 212 \mu\text{m}$ ) via 7 km slurry pipeline to the Beneficiation Plant, which is located adjacent to the Lithium Carbonate Plant (LCP).

The beneficiation plant uses Wet High Intensity Magnetic Separation (WHIMS) to separate out the lithium bearing micas (zinnwaldite) and produce a magnetic mica concentrate. The ability to use wet magnetic separation is unique to zinnwaldite ore because zinnwaldite contains iron in its lattice and is paramagnetic. Magnetic separation offers cost and recovery advantages over benefaction through froth flotation.

The LCP receives the mica concentrate from the Beneficiation plant and extracts the lithium through roasting, leaching and then purification to produce battery grade lithium carbonate. The plant also produces a potassium sulphate by-product that becomes an additional revenue source. The tailings produced by both processing plants are filtered to produce a filter cake which is dry stacked in a nearby Tailings Storage Facility (TSF). Although higher cost than alternative methods, dry stacking significantly reduces environmental impact.

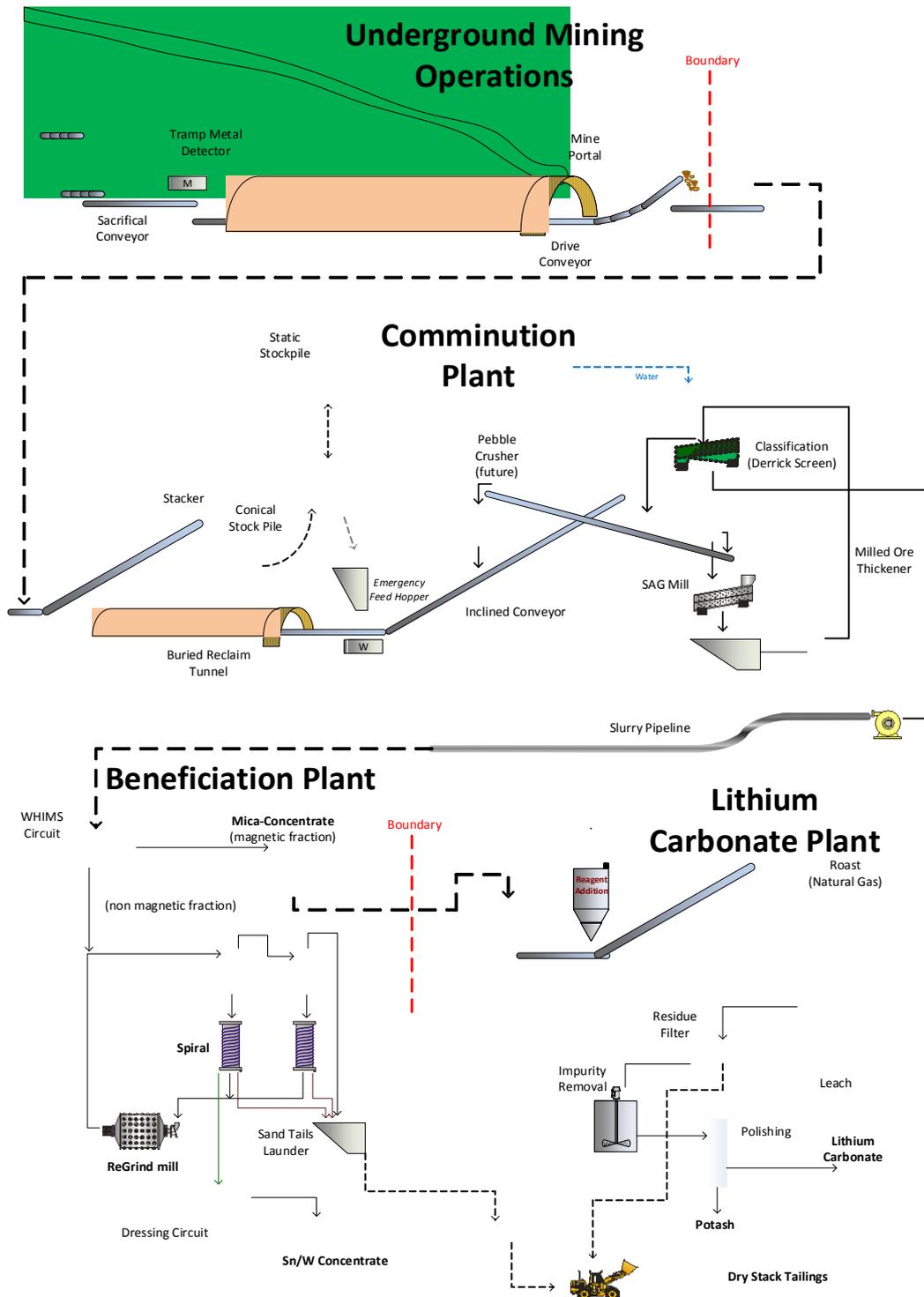
As confirmed by testwork conducted in both Anzaplan (Germany) and Nagrom (Perth), the quality of the lithium carbonate produced by the LCP will meet requirements for use in lithium battery manufacturing, for which there is a growing market, strong demand and supply shortages. Current market conditions support the lithium carbonate price of \$10,000/tonne used in the economic model.

The quality of the anticipated lithium carbonate product has been confirmed by ongoing testwork programs conducted at both Anzaplan GmbH (Germany) and Nagrom Metallurgical (Perth).

Natural gas is delivered to the project fence by pipeline, supplying low cost energy for roasting the mica concentrate and heating the underground mining operations. The electricity requirement of 22 MW can be obtained from the existing local grid by constructing 1,000 m overhead line to the nearby existing switchyard in Teplice.

Potable and industrial water for processing make-up requirements can be purchased from the local municipality, although dewatering will supply the bulk of process water requirements.

**Figure 2: Overview of flowsheet**



## Cinovec Project Background

The Cinovec Project is located in the Krusne Hore Mountains which straddle the border between the Czech Republic and the Saxony State of Germany. The project is within an historic mining region, with artisanal mining dating back to the 1300s.

In the 1940s a large underground mining operation was established primarily to produce tungsten for the war effort. Mining and processing activities continued under the Czechoslovakian Government with the mine continuing to expand and producing tin as well as tungsten. Due to the fall of communism and lower tin prices, the mine was closed in 1993. In 2011, the old processing plant was removed and the site rehabilitated.

In 2014, European Metals commenced a drilling campaign to validate the comprehensive data generated by the earlier exploration activities. The Company's on-going drilling programme has completed 26 diamond holes for a total of 9,477m drilled, successfully validating earlier drilling results, adding lithium grade data and providing metallurgical testwork samples

In 2015, European Metals completed a Scoping Study for redevelopment of the Cinovec Project ("**2015 Scoping Study**"). The 2015 Scoping Study highlighted that the size, grade and location of the deposit make it a very attractive development opportunity and recommended that the project proceed through to a Preliminary Feasibility Study. The flowsheet the 2015 Scoping Study was based on was the as yet un-commercialised L-Max process proprietary to Lepidico Ltd. Using forecast long term metal prices, the 2015 Scoping Study estimated a pre-tax Internal Rate of Return (IRR) of 24% and NPV of \$310 M.

A trade-off study was completed in November 2016 comparing the operating and capital costs of the conventional sodium-sulphate roast and the L-Max process. It was concluded that conventional roasting technology would deliver high lithium recoveries with a lower operating cost, lower technical risk, less impurity removal, and be less dependent on potassium by-product credits. The Company has selected the sodium-sulphate roasting option as the preferred method of lithium extraction for the PFS.

## Mining

The mine design and scheduling has been completed by Bara Consulting of Johannesburg (Bara).

### *Geotechnical Data Gathering and Rock Characterisation*

A site visit was carried out by Bara in October 2016, during which a quality assurance - quality control (QAQC) was undertaken on borehole logging data generated by EM. Bara also undertook geotechnical logging of core on site and selected rock samples for laboratory testing.

The data collected was transformed into rock mass quality by using classifications such as Rock mass rating (RMR89), Geological Strength Index (GSI) and Q-index (Q and Q'). Laboratory testing of core samples included uniaxial compressive strength with elastic moduli (UCM), triaxial compressive strength (TCS), indirect tensile strength (UTB) and base friction angle (direct shear) tests (BFA).

The output information from the geotechnical characterization phase was used to derive the underground mine design criteria. The derived mine design criteria for Cinovec are summarised in the table below:

**Table 2: Geotechnical Criteria**

<b>CINOVEC MINE DESIGN CRITERIA</b>			
<b>Aspect</b>	<b>Description</b>	<b>Value</b>	
Spans	Maximum stope spans	13.0m	
Potvin's Stability number	Crown (Rhyolite)	19.70	
	Hanging wall (Greisen + Granite orebody)	39.40	
	Footwall (Albite Granite)	52.70	
	Endwalls (Greisen + Granite orebody)	39.40	
Hydraulic radius	<i>Stability graph</i>	<i>Matthews-Potvin, 1992</i>	<i>Extended Matthews, 2002</i>
	Crown (Rhyolite)	7.20	9.2
	Hanging wall (Greisen + Granite orebody)	9.30	15
	Endwalls (Greisen + Granite orebody)	9.30	15
Critical strike span	Stope height (m)	Stope length (m)	
	25.0	80	
	20.0	90	
	15.0	90	
	10.0	90	
Rib pillar widths [m]	Stope height (m)	Pillar width(m)	
	25.0	7.0	
	20.0	6.0	
	15.0	5.0	
	10.0	4.0	
Sill pillar widths [m]	Stope height (m)	Pillar width (m)	
	>25.0	6.0	
	<25.0	No sill pillars for stope height less than 25.0m	
Crown pillar dimension	Crown pillar width (minimum)	40m	

## Support Strategy

Primary support design guidelines proposed by Barton et al., (1974) which are based on rock mass classification parameters were used for the derivation of systematic support strategy of excavations for Cinovec. The table below presents the derived tendon support spacings and sizes based on Barton's empirical formulas. Other support units offering areal coverage like wire mesh and shotcrete are to be used in areas where poor ground conditions persist.

**Table 3: Support Requirements**

TENDON SUPPORT SPECIFICATIONS FOR CINOVEC									
Excavation	Jr	Q	ESR	Span (m)	Support pressure (kPa)	Tendon length (m)		Tendon spacing (m)	
						Calculated	Recommended	Calculated	Recommended
Decline	1.5	1.9	2.0	6.0	108.25	1.45	2.20	1.3	1.0
Footwall drives	1.5	21.8	1.6	5.0	47.78	1.72	2.20	1.9	1.5
Ore drives	1.5	11.2	3.0	5.0	59.64	0.92	1.30	1.7	1.5
Passing bays	1.5	1.9	1.6	5.0	108.25	1.72	2.20	1.3	1.0
Cross cuts	1.5	21.8	1.6	5.0	47.78	1.72	2.20	1.9	1.5

## Mining Method

The geometry of the payable ore is largely flat or shallow dipping and massive enough to mechanise using long-hole open stope mining.

An evaluation was completed to establish the achievable extraction ratios with and without backfill, based on the geotechnical design criteria including pillar sizes and stope spans (see above). The preferred option was to mine with pillars support only, negating the requirement for a backfill plant.

The payable ore will be split into blocks approximately 90 m long in the strike direction and 25 m high. The bottom of each block will be accessed in the central position by an access crosscut and the block will be developed from the centre to the strike limit by drifting. The stope will then be mined on retreat from the block limit, retreating to the access cross cut position. The stopes will be a maximum of 13 m wide with rib pillars between stopes of 4 to 7 m wide depending on stope height.

Access to the stopes will be by footwall drives developed in the footwall at 25 m vertical intervals. All stope access crosscuts will be developed out of the footwall drives.

The mine will be accessed by a twin decline system. A conveyor will be installed from the underground primary crusher on 590m Elevation to surface in the conveyor decline. The second decline will be used as a service decline for men, material and as an intake airway.

The modifying factors used to generate the mining inventory used in the study from the Indicated Mineral resource are:

- Un-planned dilution 3%;
- Un-planned ore loss 3%; and
- Exclusion zones, any ore within 70 m vertical distance from surface was excluded from the mine plan. In the northern areas where mining occurs below the village the crown pillar exclusion was increased to 150 m.

### *Underground Infrastructure*

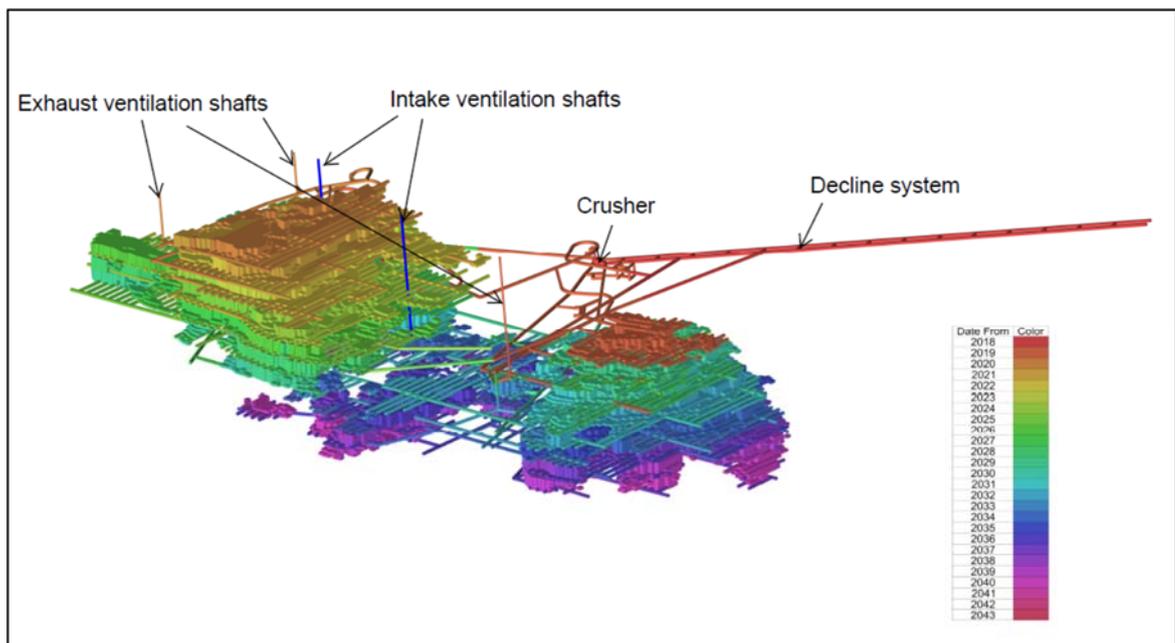
Underground infrastructure designs take into consideration the life of mine plan and aims to support the underground mining production and development activities. Underground infrastructure comprises:

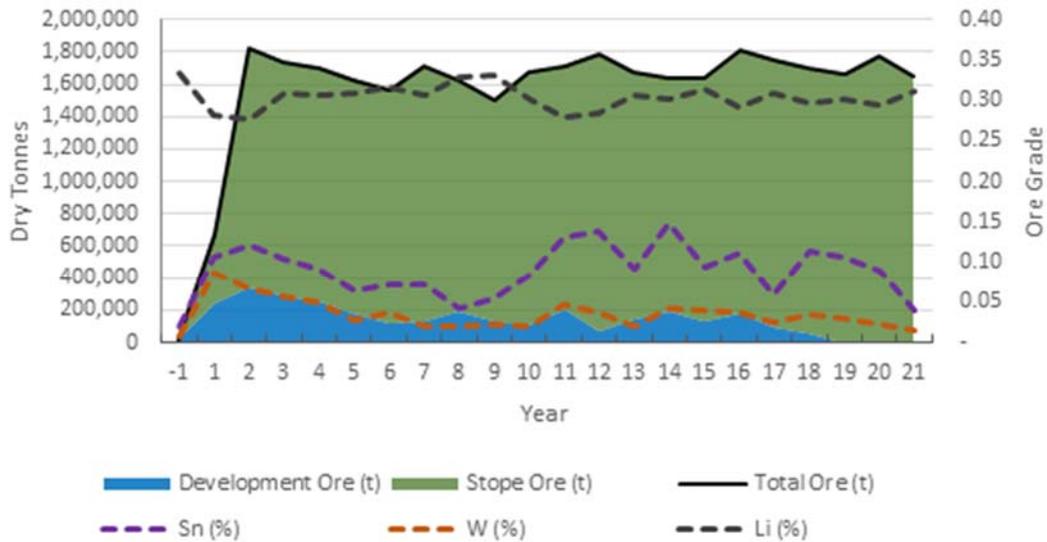
- Mine service water systems;
- Mine dewatering systems, including clear and dirty water pump stations;
- Mine electrical reticulation;
- Control systems and instrumentation;
- Trackless workshops;
- Refueling bays; and
- Underground crushers, tips, and conveyors.

### *Surface Infrastructure*

Surface infrastructure supports the mine plan with consideration of the labour and mechanised equipment requirements of the operation in addition to the movement of rock, men and materials. The infrastructure is divided into two distinct areas, with the area at the portal servicing the initial development requirements and the second servicing the production phase.

**Figure 3: Mine Design and Schedule**

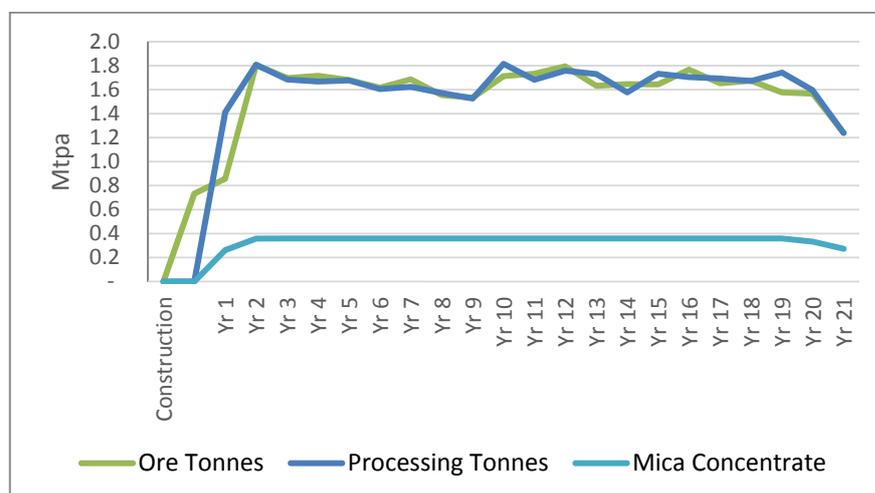


**Figure 4: Life of Mine Grade and Tonnages**

**Table 4: Mining Physicals**

PHYSICALS		(LOM)
Life of mine	years	22
ROM - ore mined	mt	34.46
<b>Tin</b>		
Grade	%	0.09
<b>Tungsten</b>		
Grade	%	0.03
<b>Lithium</b>		
Grade (Li <sub>2</sub> O)	%	0.65

## Processing

European Metal's approach for operation of the project as a whole is to provide a constant feed rate of 360,000 tonnes per year of mica concentrate to the LCP. The Comminution and Beneficiation plants will therefore vary operating hours to accommodate fluctuations in the mine feed grade, to produce the required level of mica production.

**Figure 5: Mining and Processing Throughput**


## Processing Testwork

### *Front End Comminution and Beneficiation Testwork*

This phase of testwork concerned the beneficiation of primary crushed ROM ore, by primary comminution followed by concentration of zinnwaldite by wet magnetic separation to produce a mica-concentrate, which is further treated by the downstream lithium carbonate plant.

**Liberation:** Across all lithologies the lithium bearing mica, zinnwaldite, is effectively liberated from the gang material with a top-end particle size of less than 300 µm. Initial liberation analysis was supported by Heavy-Liquid Separation (HLS) of minerals from each of the various lithologies. This was followed by detailed liberation, mineralogical and petrographic analysis using QEMSCAN of SAG milled composites with a P80 passing 212 µm. These results confirmed those from the HLS tests.

**Lithium Concentration:** Initial studies investigated both froth flotation and magnetic separation for concentration of zinnwaldite. Magnetic separation was proven to be far superior (91 % lithium metallurgical recovery versus 78 %) and was selected as the method to be optimized for the PFS.

To ascertain the performance of the chosen method and to allow finalization of the circuit, two composites were produced to reflect a high-grade and low-grade lithium ROM feed. A pseudo-lock-cycle flow sheet was implemented to test the effects of variability of grade and the effects of improving lithium recovery via scavenging.

The results showed that an additional Wet High Intensity Magnetic Separation (WHIMS) stage could be used to upgrade the para-magnetic material to produce a scavenger magnetic fraction, which is sent back to the start of the circuit. The testwork has resulted in an estimated lithium recovery of 91 % to the concentrate using a 3-stage magnetic separation flow sheet comprising a rougher, cleaner, and scavenger stage. The cleaner magnetic concentrate was reground and passed over a shaking table to recover liberated tin. The gravity concentrate and the scavenger concentrate are returned to the beginning of the circuit.

A lock-cycle gravity testwork program was conducted to simulate the gravity recovery circuit component of the FECAB plant. A pre-concentrate grade of 8 % Sn was produced with an Sn recovery of 80 -90 % to the magnetic fraction. A dressing circuit was approximated for the testwork by using a Mozley Super-Paner centrifugal separator.

SAGability testwork was conducted at ALS on the three primary lithologies. Cinovec's ore was determined to be amenable to single stage SAG milling, which forms part of the FECAB comminution design. Wardle Armstrong conducted a Starkey SAGability test along with standard bond ball and bond rod work indexes.

### *Lithium Carbonate Plant Testwork*

Testwork has been conducted at both Anzaplan, Germany and Nagrom, Western Australia.

Initial sodium sulphate testwork conducted at Anzaplan concluded that the optimal mass ratio of mica: sodium sulphate: lime is 6:3:1. This roast resulted in a leach lithium recovery of 82.8 % – 87.0 % lithium at a roast temperature of 850 °C for 1 hour.

Additional roast optimization testwork then focused on optimising:

- Sodium sulphate ratio;
- Lime ratio;
- Particle size distribution of feed; and
- Roasting residence time.

Based on the best lithium extraction achieved in the roast optimisation testwork, a bulk composite of mica concentrate, produced from representative Cinovec core samples, was roasted at Nagrom, and an initial lithium carbonate produced which had a purity of >99.5%.

To achieve the high purity Lithium Carbonate bicarbonation step was required.

Ongoing testwork is focused on fluoride and silica removal. Initial lime tests have indicated that silica can be removed as well as part of the fluoride content. Initial tests to remove the fluoride down to acceptable levels is encouraging and EMH is confident this can be successfully removed. The acceptable level of fluoride in battery grade lithium carbonate needs to be confirmed with potential offtakers.

### ***Tailings Testwork***

Rheology and geochemical work was conducted on various tailings streams. The tests concluded:

- Samples had a definite, but very low level of radioactivity. No U and Th were detected in the SPLP leach; and
- Samples were devoid of sulphides and have no potential to generate acid-mine drainage as confirmed through both the ABA and NAG test. However, the Neutralisation Potential of samples were also very low and samples also had a very low total C content.

No tailings testwork has yet been conducted on the lithium carbonate tailings streams however, the TSF has been designed to incorporate a worst-case scenario and to capture any residual leachate and return it to the plant for processing.

Based on detailed analysis of the testwork results, specific recovery algorithms were developed and entered directly into each block in the block model used for mine scheduling. The average metallurgical recoveries used in the project financial model are summarised below:

- Lithium recovery to concentrate – 90%;
- Lithium recovery in carbonate plant – 85%;
- Overall lithium recovery – 76.5%; and
- Tin recovery – 65%.

## **Front End Comminution and Beneficiation**

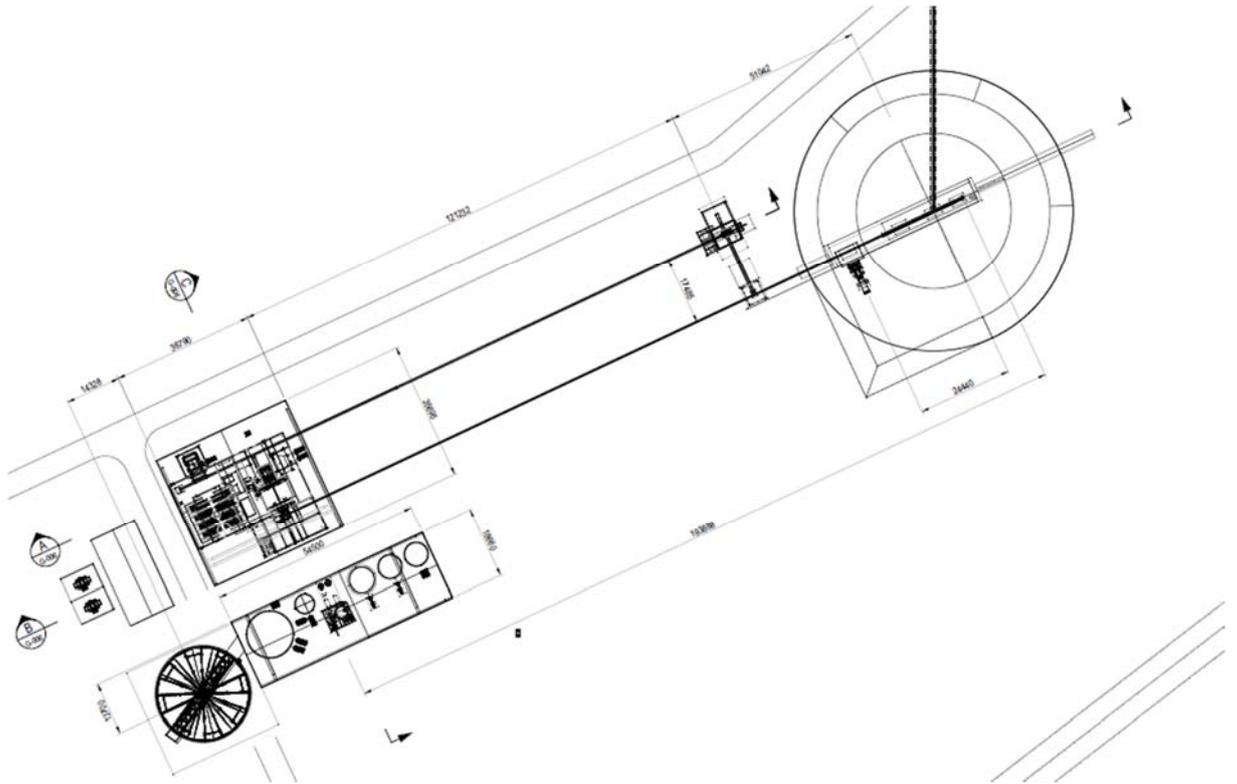
### ***Comminution Plant***

The purpose of the Comminution Plant (Figure 6) is to reduce the size of the ROM Ore to a particle size Distribution (PSD) that optimises lithium recovery, whilst allowing efficient pumping to the Beneficiation Plant.

Primary crushed Ore is delivered to Coarse Ore stockpile. The Ore is milled to 250 µm in a single stage SAG mill.

The Comminution Plant is run water neutral to remove the need for make-up water or disposal at the mine-site location. This is achieved by returning water from the Beneficiation Plant via a pipeline. Thus, the comminution plant has the advantage of operating at zero water discharge.

**Figure 6: Comminution Plant Layout**



The layout of The Comminution Plant maximises the use of the flat land available upon the top of the ridge, shortening the overall footprint. Room has been allowed for future pebble crushing in the SAG mill recirculating load, to allow for retrofitting if conditions warrant.

### **Beneficiation Plant**

The Beneficiation Plant has two functions:

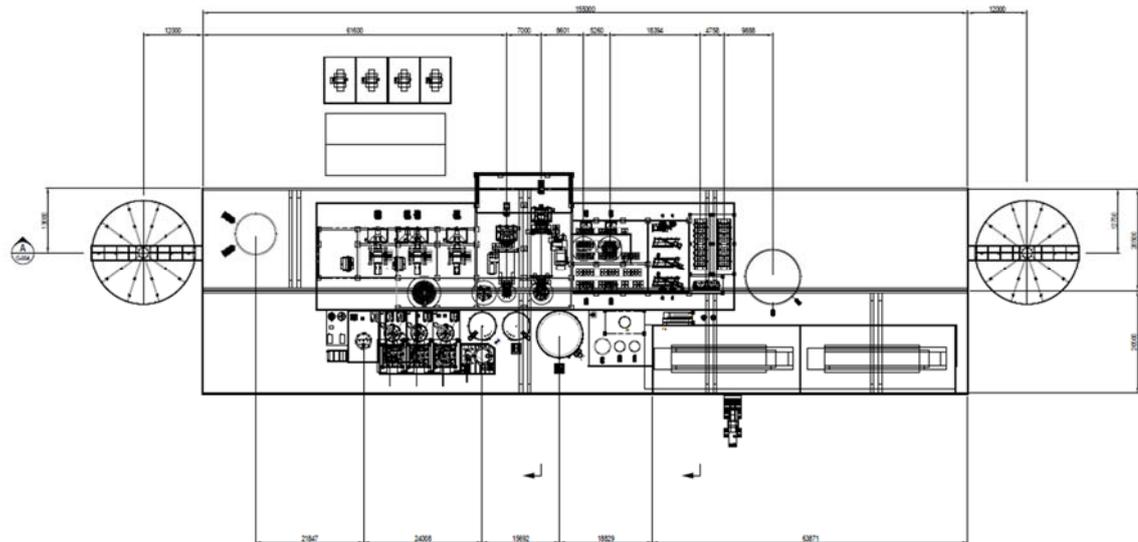
- (i) First, to magnetically separate the paramagnetic zinnwaldite to produce a lithium rich magnetic stream (mica-concentrate) to feed the downstream lithium carbonate plant; and
- (ii) Second, to then treat the non-magnetics stream with gravity, flotation, magnetic and electrostatic separation to produce tin and tungsten product. Filtered tailings are produced for storage in the TSF.

**Magnetic Circuit:** Milled product from the Comminution Plant received via the overland pipeline is stored in the Magnetic Circuit Feed Tank. The tank is agitated and acts as a buffer between the Beneficiation Plant and the overland pipeline. The pipeline slurry density is 56% to 58% solids, whilst the discharge density required by the Low Intensity Magnetic Separation ('LIMS') is 40% solids. The LIMS magnets reject ferromagnetic species from the slurry prior to the multi-stage Wet High Intensity Magnetic Separation (WHIMS) process.

The WHIMS circuit features a rougher, cleaner, scavenger arrangement. The scavenger retrieves the non-magnetic material from the rougher and cleaner units, and returns the 'scavenged' magnetic fraction back to the start of the circuit.

The cleaner magnetic fraction is reground enclose circuit with a spiral to remove reduce the PSD to required LCP feed size. Any tin which is liberated in the process is recovered from the mica-concentrate by the spirals.

**Figure 7: Beneficiation Plant Layout**



**Non-Magnetics Gravity Circuit:** The Non-Magnetics Gravity Circuit treats the Magnetic Separation Circuit's non-magnetics and concentrates the tin and tungsten minerals for feeding to the Tin Dressing Circuit, where the final product streams are produced. The circuit also has the ability to receive tin and tungsten gravity concentrate as slurry from the Lithium Carbonate Plant.

The circuit incorporates three stages of classification with:

- The coarse fraction is treated by two stages of spirals and two stages of wet tables and also incorporates a regrind mill which is used to achieve the liberation size of the tin and tungsten minerals;
- The medium fraction is treated by two stages of spirals and two stages of wet tables;
- The finer fraction is treated with a flotation and high gravity concentrator; and
- The finest fraction, slimes, is rejected to final tails.

The concentrate produced from the gravity circuit is sent for dressing whilst the tails are dewatered via a thickener and filter.

The dressing circuit upgrades the concentrates through sulphide flotation. Electrostatic precipitation is then used to separate wolframite and cassiterite from the scheelite. Dry magnetics separate the wolframite from the cassiterite to give the final saleable concentrates.

### ***Lithium Carbonate Plant***

The current flowsheet is shown in Figure 8. The Lithium Carbonate Plant receives a mica concentrate slurry from the FECAB plant, which is dewatered and stored in covered stockpiles to create a buffer between the FECAB and the LCP. The concentrate is mixed with sodium sulphate and lime before roasting to convert the lithium into a lithium potassium sulphate which dissolves in the leach as lithium sulphate.

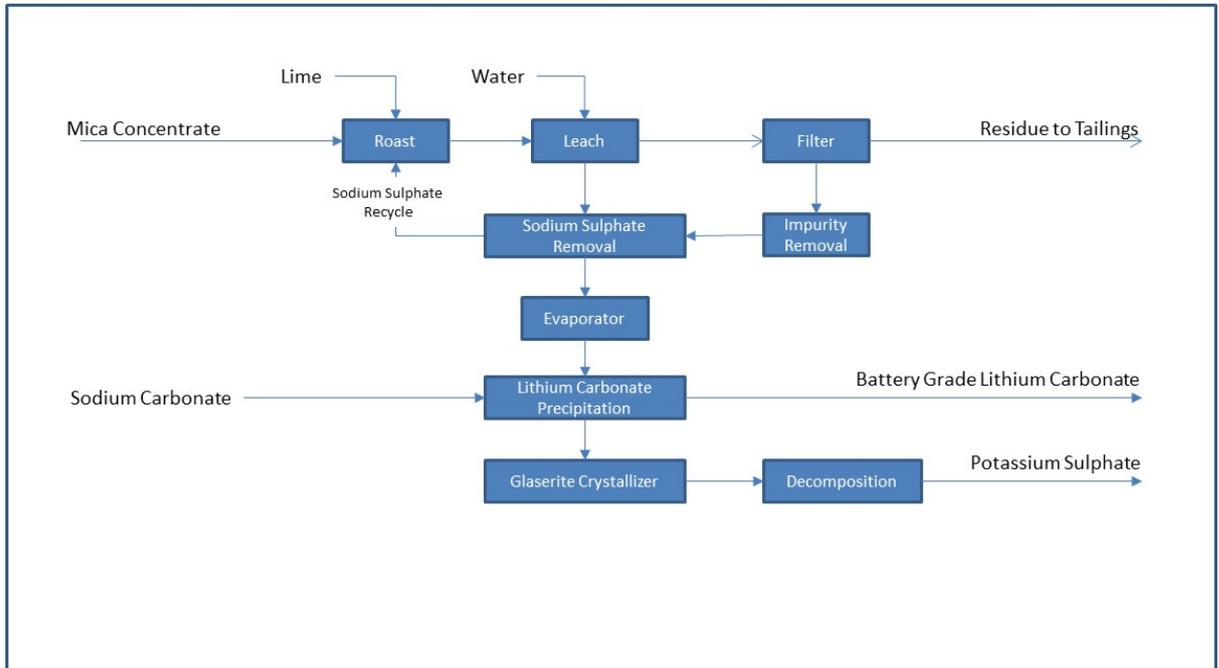
The leached slurry is filtered to separate the PLS (pregnant leach solution) from the residue. The leach solution undergoes impurity removal steps to remove calcium, magnesium, fluoride and silica by precipitation and adsorption. Sodium sulphate is then recovered from the leach solution (as Glauber's Salt) by cooling. The Glauber's salt is melted and then crystallised as anhydrous sodium sulphate for recycle back to the roaster feed.

Crude lithium carbonate is then precipitated from the PLS by further evaporation and addition of sodium carbonate. The crude lithium carbonate is re-dissolved to form bi-carbonate. The lithium bicarbonate solution is filtered and purified by ion exchange before pure lithium carbonate is re-

crystallised by heating the solution causing the bicarbonate to decompose. The battery grade lithium carbonate is then dried, micronised and packaged for sale.

A fertiliser grade potash (potassium sulphate) by-product is also recovered from the depleted lithium carbonate solution (spent liquor). In this circuit, Glaserite double salt ( $\text{Na}_3\text{K}(\text{SO}_4)_2$  sulphate) is precipitated by evaporative crystallisation. Potassium sulphate is then recovered by decomposing Glaserite in water to form soluble sodium sulphate and solid potassium sulphate. The potassium sulphate product is then dewatered, dried and packaged for sale.

**Figure 8: LCP Process Flowsheet**



### Tailings

All the processing tailings produced by the Beneficiation and Lithium Carbonate Plants pressed into filter cakes to allow dry stack impoundment a close distance from the processing plants. Tailings consists of approximately 1.5 Mtpa of FECAB material and 500 ktpa of LCP material (mostly leach residue).

Although dry stacking is the more expensive compared to traditional wet deposition, it was chosen due to the following advantages:

- The higher safety factors associated with the design versus conventional storage facilities. The region has historic high levels of rainfall thus dry stacking reduces the amount of water to treat by reducing the TSF footprint;
- Progressive rehabilitation is possible, spreading the cost of closure over a longer time when compared to conventional storage facilities; and
- Filtered tailings allow better recovery of lithium by recovering more liquor.

During operations tailings, a dried on a filtered press and dumped on a pad. Wheel loaders and articulated trucks transport the tailings approximately 600 m to the TSF for compaction and impoundment.

An initial TSF cell was designed to accommodate the first two years of combined tailings, with the associated capital cost included in the capital estimate. The TSF is lined and features water collection

and diesel powered decant pumps for returning any run off water to the processing plant. 3D model was created to facilitate the capital cost estimate.

A contractor will be engaged for tailings disposal, an operating cost of \$1.50/tonne for LCP tails and \$1.0/tonne for FECAB tails is incorporated in the operating cost model.

## Environmental

The Project is governed by Act No.100/2001 Coll., on Environment Impact Assessment (hereinafter referred to as the “EIA Act”). The competent authority is the Ministry of the Environment (Environment Impact Assessment Department). An integrated permit is issued upon completion of the EIA process.

The EIA documentation is required to be structured as follows:

- details concerning the notifier;
- details concerning the development project;
- details concerning the status of the environment in the region concerned;
- comprehensive characteristics and assessment of the project impacts on public health and the environment;
- a comparison of project versions (if any);
- a conclusion; and
- a commonly understood summary and annexes (opinion of the Building Authority, opinion of the Nature Protection Authority, expert studies and assessments).

The following expert studies and assessments must be compiled during the EIA Documentation preparation stage:

- noise impact study;
- air quality impact study;
- biological survey;
- human health impact study;
- transport impact study;
- landscape impact study; and
- water quality and hydrology impact study.

In this case, with respect to the location of the project at the border with Germany, an “international assessment” provision applies (Section 13, Act No. 100).

The Company commenced the EIA process with a baseline study, prepared by GET s.r.o an independent Czech based environmental consultancy, which identified the environmental areas to be assessed and determined preliminary outcomes. The underground mine and surface portal is located on the border of or immediately adjacent to environmentally sensitive area. From that perspective, the EIA will focus particularly on project impacts on European protected areas Natura 2000 (protected birds) and mine water discharge into surface streams. The Company has re-positioned key infrastructure to minimise impacts to both the environment and the community and has placed crushing facilities underground to minimise noise as well as enclosing the mill to further reduce noise and visual impacts. Considering the long-term mining history in region and at the deposit itself, the project will not significantly impact the environment.

## Operating Cost

The average operating cost for the Cinovec Project is \$3,483 per tonne of lithium carbonate, after by-product credits.

**Table 5: Average Project Operating Cost**

Average Operating Cost (yr. 3-20)	\$M pa	\$t / ROM	\$t / LCE	% Op Cost
Mining	40.7	24.3	1,960	38%
FECAB	19.4	11.6	935	18%
LCP	47.3	28.2	2,274	44%
Overall Project Admin	0.9	0.5	42	1%
<b>Total Operating Cost</b>	<b>108.3</b>	<b>64.6</b>	<b>5,211</b>	

By-product Revenue Credits	\$M pa	\$t / ROM	\$t / LCE
Sn/W (yr3-20)	29.2	17.4	1,404
Potash	6.7	4.0	324
<i>Excluding Sn/W Royalties &amp; Transportation Cost</i>			
<b>Total Opex (Net of By-product Credits)</b>	<b>72.4</b>	<b>43.2</b>	<b>3,483</b>

Overhead corporate office costs are excluded. The maintenance costs used in the operating cost modelling includes requirements for sustaining capex. The cost of tailings impounded is included in the above numbers.

An estimated 58% of the project's operating cost is variable (i.e. changes with the production rate). This high variable percentage improves economic robustness, by giving the operating team the flexibility to easily scale down operating costs if market conditions dictate.

## Capital Cost

The estimated capital cost of the Cinovec Project is \$393 M based on Q1 CY2017 pricing. The accuracy of the estimate is considered +/-25%. The estimate breakdown is summarised in Table 6 below.

The capital includes all costs for design and construction of the plant and infrastructure on the site for the mine, FECB and LCP, Allowances are also made for connection to off-site services such as gas, electricity and water, construction of a tailings storage facility, project contingency and owners costs including project management team, project approvals, establishment of the operating team and commissioning.

The capital estimate is based on detailed engineering designs produced by the independent consultants. Each consultant provided a capital estimate for their respective scope of works. Based on process modelling and mass flow calculations, detailed mechanical equipment lists were compiled, with quotes for all items costing over \$100 k. The mechanical equipment list was then used as a base for factoring other project commodities. Material take-offs from the 3D modelling were then used as an integrity check.

As the Project lies on the border of Germany and the Czech Republic it is exceptionally well serviced by supporting infrastructure including access to rail, national highways, power, water, gas, skilled workforce, engineering companies and chemical companies.

**Table 6: Overall Project Development Capital**

	<b>TOTAL US\$ M</b>
<b>Underground Mining Development</b>	
Mining Directs	67.3
Mining In directs	3.0
<b>Total Mining Cost</b>	<b>70.3</b>
<b>Front End Comminution &amp; Beneficiation Plant (FECAB)</b>	
Comminution - Direct	25.2
Beneficiation - Direct	40.5
Infrastructure -Direct	20.8
FECAB In directs	18.4
<b>Total FECAB</b>	<b>104.9</b>
<b>Lithium Carbonate Plant (LCP)</b>	
LCP Directs	141.9
LCP In directs	38.0
<b>Total LCP Capital</b>	<b>179.9</b>
<b>Total Tailings</b>	<b>2.6</b>
<b>Overall Project Contingency @10%</b>	<b>35.8</b>
<b>TOTAL CAPITAL COST</b>	<b>393.4</b>

In addition, a total of \$40m is required in working capital.

## Financial Summary

The Cinovec Project yields a post-tax NPV (discounted at 8%) of \$540 M and a post-tax Internal Rate of Return of 21%. When operating in steady state the Project achieves an operating cash margin of 59% and has an operating cost of \$3,483 per tonne LCE. The key findings of the PFS are set out in Table 7: below:

**Table 7: Key PFS Findings**

<b>Metric</b>	<b>Value</b>	<b>Metric</b>	<b>Value</b>
NPV @8% Discount	\$540 M	Project Breakeven (IRR=0% ) \$/t Li <sub>2</sub> CO <sub>3</sub>	\$5,200 /t
NPV @ 10% Discount	\$392 M	Avg Li <sub>2</sub> CO <sub>3</sub> Production (yr. 3-20)	20,800 tpa
IRR (Pre-tax)	21.6 %	Avg Potash Production (yr. 3-20)	12,954 tpa
IRR (Post Tax)	20.9 %	Avg Production Cost (without credits)	\$ 5,211 /t
Capital Expenditure	\$393 M	Avg Production Cost (with credits)	\$3,483/t
Total Mined Ore	34.4 Mt	Life of Mine	21 Years
Peak Mill Feed	1.8 Mtpa	Avg Mill Rate (yr. 3-20)	1.68 Mtpa

## Metal Pricing

Metal pricing used for the PFS was as follows:

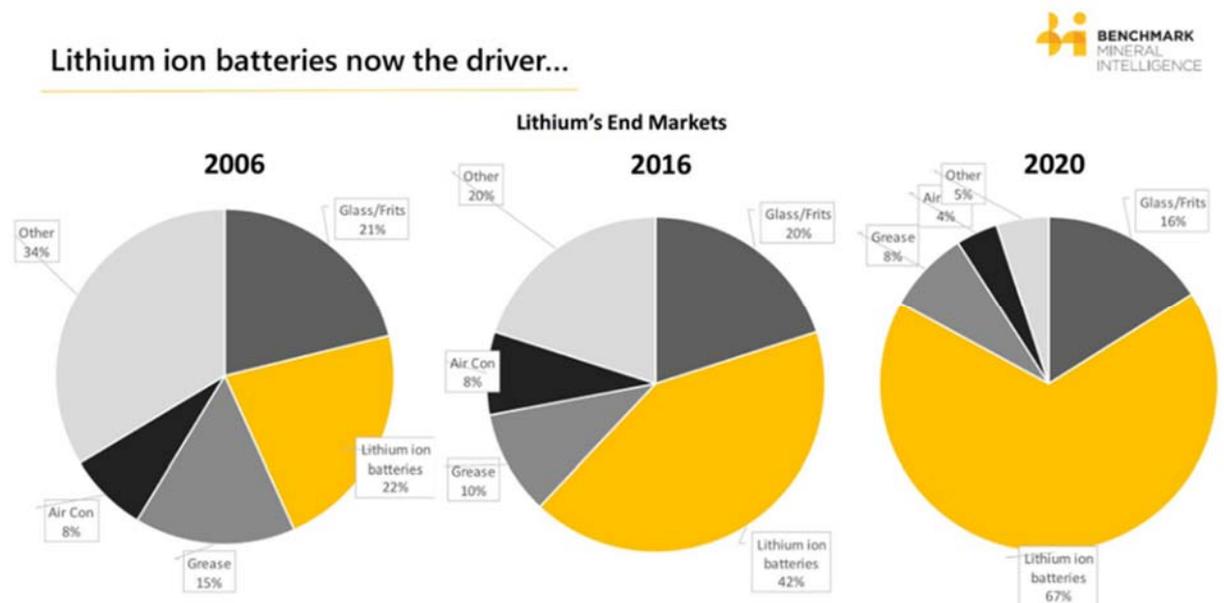
- Lithium carbonate - \$10,000/t;
- Tin - \$22,500/t;
- Tungsten – \$330/MTU; and
- Sulphate of potash - \$520/t.

Lithium is the key driver of the Project. According to Deutsche Bank, global lithium demand increased 15% year on year to 212 kt LCE in 2016, slightly ahead of estimates. Deutsche Bank forecast lithium pricing to remain elevated relative to historical averages, but retrace 15% over 2016 pricing levels. Further, the medium-term outlook is improving and Deutsche Bank have recently lifted their 2019 demand forecast to 380 kt.

The ramp up of new EV model sales from major auto companies is generally considered to be the key driver of lithium demand in the short to medium term. Other factors include the increased production from battery manufacturing facilities and the continued inventory build within the supply chain.

The Cinovec Project is located centrally and within close proximity to a number of major European car manufacturers.

**Figure 9: Lithium End Use**



Benchmark expects the average forecasted price range for lithium carbonate 99.95% to be \$ 9,500 to \$ 13,000/tonne (USD) between 2017 and 2020.

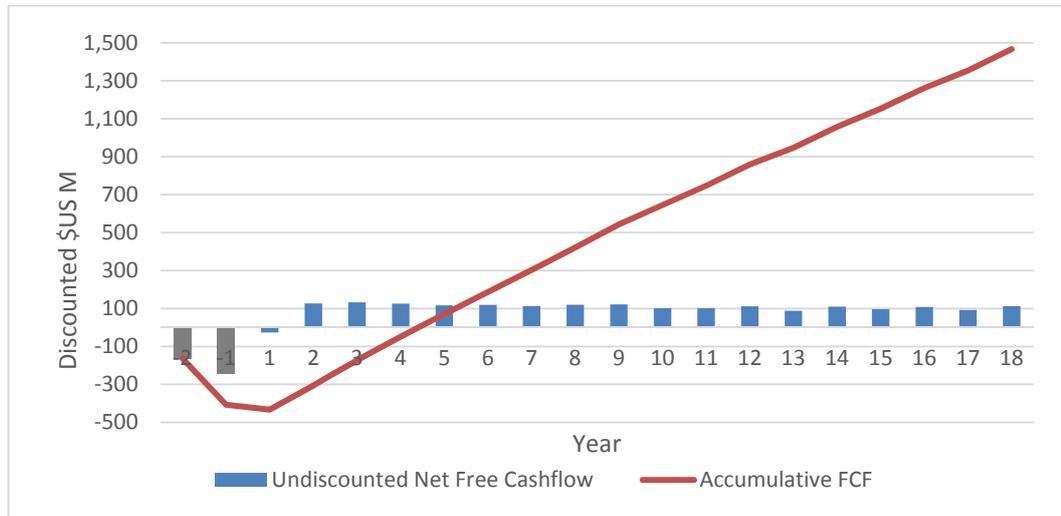
European Metals has considered this forecast in light of other independent forecasts such as Deutsche Bank, and on generally available lithium market commentary.

For the purposes of the PFS with regards to financial modelling, a long-term average price of \$ 10,000/t lithium carbonate FOB has been used.

### Tax

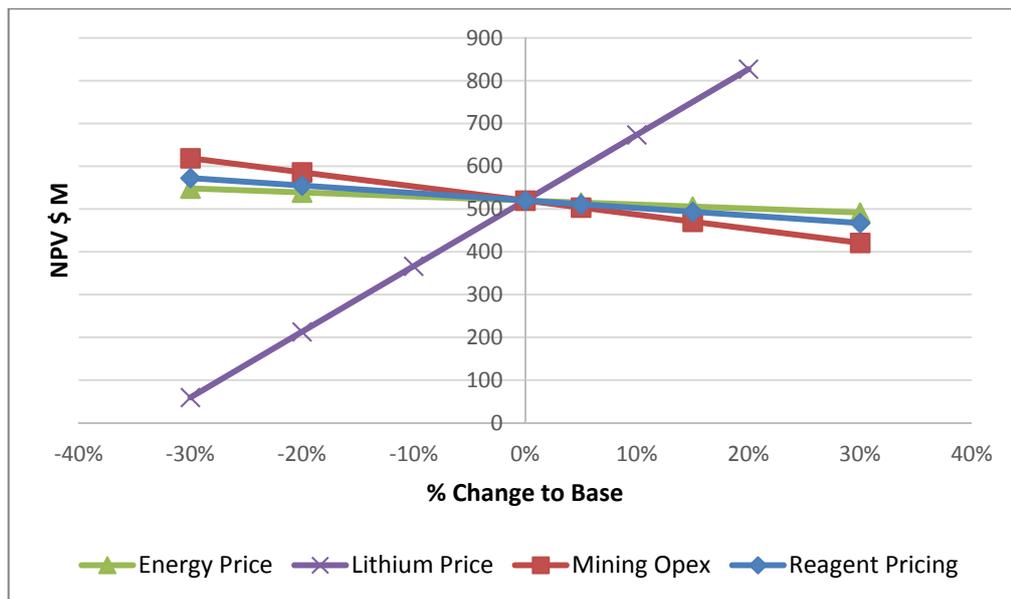
Tax is calculated at 19% and a 10-year tax free window has been applied as provided for by Czech investment legislation for projects of this scope.

**Figure 10: LOM Cashflow Projections**



Key sensitivities of capital cost, key operating costs and revenue are shown in the Figure 11 below.

**Figure 11: Sensitivity Graph**



## Cost Comparative

The PFS highlights the advantages of the extraction of lithium from Cinovec Ore when compared with spodumene hosted hard rock deposits. The comparison shown in Table 7 assumes a conversion price of \$365/t for a Chinese based conversion plant and compares costs for a captured mine, in this case using Pilbara Minerals Limited (ASX:PLS) published DFS numbers, current spot prices (latest Galaxy Resources Limited (ASX:GSY) quoted prices for 6% concentrate) and long term prices as defined in the Pilbara Minerals DFS.

**Table 8: Comparison to Spodumene**

	<b>Cinovec</b>	<b>Spodumene Owner Mine</b>	<b>Spodumene Current Pricing</b>	<b>Spodumene Long Term Pricing</b>
<b>Concentrate Production</b>				
Mining Rate (tpa)	1,680,000	2,000,000		
Mining (\$/t ROM)	24.3	13.66		
Beneficiation (\$/t ROM)	11.6	18.06		
Administration (\$/t ROM)	0.5	4.08		
Recovery	90%	77.50%		
Con Produced pa	360,000	314,000		
Haulage and Shipping (\$/t con)	0	54		
Royalties (\$/t con)	4.6	51		
Cost/t Con (\$)	174	333		
By Product Credits (pa)				
Tin (\$)	21,000,000			
Tungsten (\$)	9,100,000			
Tantalum (\$)		23,550,000		
Cost/t con incl By product (\$)	90.86	258.00		
<b>Cost/t LCE contained (\$)</b>	<b>1,355.94</b>	<b>1,740.89</b>		
<b>Carbonate Production</b>				
Purchase Price Con (\$/t)	90.86	258.00	905	537
Inland Transport China (\$/t)		40	40	40
VAT 17% (\$/t)		43.86	153.85	91.29
Total Cost (\$/t con)	90.86	341.86	1,098.85	668.29
Li Content	2.7%	6%	6%	6%
Li Recovery	85%	88%	88%	88%
Li Recovered (LCE) /t con	56.88	130.24	130.24	130.24
Conversion Cost (\$/t con)	131.39	365.00	365.00	365.00
Cost/LCE (\$)	3,907.39	5,427.36	11,239.63	7,933.74
By Product Credit				
Potash (\$ pa)	6,700,000			
Potash (\$/LCE)	324			
<b>Total Cost/\$ LCE (incl Royalties)</b>	<b>3,583</b>	<b>5,427</b>	<b>11,240</b>	<b>7,934</b>

*\*Source numbers used for owner mine and LT concentrate price from Pilbara Minerals DFS release to the ASX dated 20 September 2016 and Orocobre Presentation 19 April 2016.*

## BACKGROUND INFORMATION ON CINOVEC

### PROJECT OVERVIEW

#### **Cinovec Lithium/Tin Project**

European Metals owns 100% of the Cinovec lithium-tin deposit in the Czech Republic. Cinovec is an historic mine incorporating a significant undeveloped lithium-tin resource with by-product potential including tungsten, rubidium, scandium, niobium and tantalum and potash. Cinovec hosts a globally significant hard rock lithium deposit with a total Indicated Mineral Resource of 348Mt @ 0.45% Li<sub>2</sub>O and 0.04% Sn and an Inferred Mineral Resource of 309Mt @ 0.39% Li<sub>2</sub>O and 0.04% Sn containing a combined 7.0 million tonnes Lithium Carbonate Equivalent and 263kt of tin.

This makes Cinovec the largest lithium deposit in Europe, the fourth largest non-brine deposit in the world and a globally significant tin resource.

The deposit has previously had over 400,000 tonnes of ore mined as a trial sub-level open stope underground mining operation.

The recently completed Preliminary Feasibility Study, conducted by specialist independent consultants, returned a post tax NPV of USD540m and an IRR of 21%. It confirmed the deposit is be amenable to bulk underground mining. Metallurgical test work has produced both battery grade lithium carbonate and high-grade tin concentrate at excellent recoveries. Cinovec is centrally located for European end-users and is well serviced by infrastructure, with a sealed road adjacent to the deposit, rail lines located 5 km north and 8 km south of the deposit and an active 22 kV transmission line running to the historic mine. As the deposit lies in an active mining region, it has strong community support.

The economic viability of Cinovec has been enhanced by the recent strong increase in demand for lithium globally, and within Europe specifically.

### CONTACT

For further information on this update or the Company generally, please visit our website at [www.europeanmet.com](http://www.europeanmet.com) or contact:

**Mr. Keith Coughlan**  
**Managing Director**

### COMPETENT PERSON

Information in this release that relates to exploration results is based on information compiled by European Metals Director Dr Pavel Reichl. Dr Reichl is a Certified Professional Geologist (certified by the American Institute of Professional Geologists), a member of the American Institute of Professional Geologists, a Fellow of the Society of Economic Geologists and is a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves and a Qualified Person for the purposes of the AIM Guidance Note on Mining and Oil & Gas Companies dated June 2009. Dr Reichl consents to the inclusion in the release of the matters based on his information in the form and context in which it appears. Dr Reichl holds CDIs in European Metals.

The information in this release that relates to Mineral Resources and Exploration Targets has been compiled by Mr Lynn Widenbar. Mr Widenbar, who is a Member of the Australasian Institute of Mining and Metallurgy, is a full time employee of Widenbar and Associates and produced the estimate based on data and geological information supplied by European Metals. Mr Widenbar has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity that he is undertaking to qualify as a Competent Person as defined in the JORC Code 2012 Edition of the Australasian Code for Reporting of Exploration Results, Minerals Resources and

Ore Reserves. Mr Widenbar consents to the inclusion in this report of the matters based on his information in the form and context that the information appears.

### **CAUTION REGARDING FORWARD LOOKING STATEMENTS**

Information included in this release constitutes forward-looking statements. Often, but not always, forward looking statements can generally be identified by the use of forward looking words such as “may”, “will”, “expect”, “intend”, “plan”, “estimate”, “anticipate”, “continue”, and “guidance”, or other similar words and may include, without limitation, statements regarding plans, strategies and objectives of management, anticipated production or construction commencement dates and expected costs or production outputs.

Forward looking statements inherently involve known and unknown risks, uncertainties and other factors that may cause the company’s actual results, performance and achievements to differ materially from any future results, performance or achievements. Relevant factors may include, but are not limited to, changes in commodity prices, foreign exchange fluctuations and general economic conditions, increased costs and demand for production inputs, the speculative nature of exploration and project development, including the risks of obtaining necessary licences and permits and diminishing quantities or grades of reserves, political and social risks, changes to the regulatory framework within which the company operates or may in the future operate, environmental conditions including extreme weather conditions, recruitment and retention of personnel, industrial relations issues and litigation.

Forward looking statements are based on the company and its management’s good faith assumptions relating to the financial, market, regulatory and other relevant environments that will exist and affect the company’s business and operations in the future. The company does not give any assurance that the assumptions on which forward looking statements are based will prove to be correct, or that the company’s business or operations will not be affected in any material manner by these or other factors not foreseen or foreseeable by the company or management or beyond the company’s control.

Although the company attempts and has attempted to identify factors that would cause actual actions, events or results to differ materially from those disclosed in forward looking statements, there may be other factors that could cause actual results, performance, achievements or events not to be as anticipated, estimated or intended, and many events are beyond the reasonable control of the company. Accordingly, readers are cautioned not to place undue reliance on forward looking statements. Forward looking statements in these materials speak only at the date of issue. Subject to any continuing obligations under applicable law or any relevant stock exchange listing rules, in providing this information the company does not undertake any obligation to publicly update or revise any of the forward looking statements or to advise of any change in events, conditions or circumstances on which any such statement is based.

Statements regarding plans with respect to the Company’s mineral properties may contain forward-looking statements in relation to future matters that can only be made where the Company has a reasonable basis for making those statements.

This announcement has been prepared in compliance with the JORC Code 2012 Edition and the current ASX Listing Rules.

The Company believes that it has a reasonable basis for making the forward-looking statements in this announcement, including with respect to any mining of mineralised material, modifying factors and production targets and financial forecasts. The following information is specifically provided in support of this belief:

The PFS was completed by independent specialist firms with oversight provided by the Company’s Owner’s Team under the direction of Andrew Smith (B.Eng., B.Com from University of Sydney).

As is normal for this type of study, the PFS has been prepared to an overall level of accuracy of approximately  $\pm 25\%$  for capital and operating costs.

- a) Production targets and financial forecasts disclosed in this announcement are based exclusively on Indicated Resource categories as defined under the JORC Code 2012.
- b) European Metals will both commence infill drilling and will re-access the old exploration drives as part of its next programme to convert Indicated Resources into the Measured category. Given the vast quantity of data associated with the previous mine combined with the size, continuity of mineralisation, geometry of the deposit, the Company and its Resource Consultants Widenbar and Associates are confident of achieving this further mineral resource classification conversion.
- c) The PFS metallurgical testwork programme was developed and supervised by industry leaders in Western Australia and Germany and was performed by specialist labs in the areas of expertise that included Anzaplan, Nagrom and ALS.
- d) Mr Harman (B.Sc Chem Eng, B.Com) is an independent consultant with in excess of 7 years of lithium chemicals experience. Mr Harman supervised and reviewed the metallurgical test work and the process design criteria and flow sheets in relation to the LCP.
- e) The independent consultants prepared the process design criteria and flowsheet based on metallurgical test work and typical industry design parameters.
- f) The mine planning and scheduling for the 1.7Mtpa Base Case were undertaken by independent mining firm Bara Consultants, consisting of Mr Andrew Pooley and Mr Clive Brown (both mining professionals with a combined 50 years of mine planning and operations experience and both fellows of the SAIMM) utilising the DeswikCAD suite of mining software for UG mine planning.
- g) Mining operating costs were based on estimates derived from equipment and mechanical quotes, first principle manpower buildups and an extensive industry database.
- h) Processing operating costs were estimated based on the mechanical equipment list developed for the PFS design, metallurgical testwork and the process design criteria, typical local labour rates, quoted energy costs and typical consumables supply costs. The information in this announcement that relates to Process Plant capital and operating cost estimates is based on reports compiled by the independent consultants.
- i) Capital estimates are based on preliminary engineering designs produced by the independent consultants. Each consultant provided a capital estimate for their respective scope of works. Based on process modelling and mass flow calculations, detailed mechanical equipment lists were compiled, with quotes for all items costing over \$100 k. The mechanical equipment list was then used as a base for factoring other project commodities. Material take-offs from the 3D modelling were then used as an integrity check.
- j) Mining related geotechnical engineering was undertaken by independent mining firm Bara Consulting and included extensive geotechnical logging and laboratory testing.
- k) The Project will potentially be the first large-scale hard rock mine to be developed in the Czech Republic in many decades. As such, stakeholder engagement with the Government of Czech, both locally and regionally and in particular with the Ministry of Industry has been very positive. We therefore anticipate that given the potential size, scale and significance of the Project to Czech and the potential downstream use of the lithium product and assuming any

development complies with all relevant mining and environmental legislation, all necessary approval processes will be able to be secured for the Project.

- l) The Company has engaged a specialist environmental consulting firm in Czech, GET s.r.o Ltd, to advise it on all aspects of the ESIA process. This includes all environmental baseline studies.
- m) The Company believes that the amount and detail of work and studies carried out for this Study in many areas exceeds what would normally be expected at a PFS level.
- n) The Company's Board and management have had a very successful track record of developing and financing mineral resource development globally. The Company is confident there is a good possibility that it will continue to increase the mineral resources at the Project through exploration. The Company is confident that this exploration combined with the use of only 5% of the Resource base in the PFS, will extend the mine life greatly from that which is currently modelled.
- o) The Project's positive technical and economic fundamentals provide a platform for the Company to advance discussions with traditional debt and equity financiers and forward sales arrangements. The size and location of the deposit in the middle of large end users associated with European electric vehicles that is driving lithium demand will make the project a strategic asset as evidenced by the large interest shown in the Project by end users and large lithium specialist companies to-date. An improvement in market conditions during 2015 and 2016 and a perceived high growth outlook for the global lithium market enhance the Company's view of the fundability of the Project.

Based on the above, the Board is confident the Company will be able to finance the Project through a combination of debt and equity, or forward sales. In addition, the Company's aim will be to avoid dilution to existing shareholders, to the greatest extent possible.

The Company has been well supported by its largest shareholder, Cadence Minerals Plc which is listed on AIM in London. Cadence has a total of GBP38m in cash and investments. It has expressed interest in providing funding to maintain its existing shareholding. This based with the large interest being shown out of large institutional broking houses in London provides further comfort to the Board that funding for the development of the Project will be secured.

Initial discussions with potential lenders for development finance have commenced with positive responses to date. In addition, various confidentiality agreements have been executed with potential strategic investors and discussions are on-going.

- p) The Study is based on the assumption that all metal produced will be sold via long term contracts to end users. It is assumed the lithium carbonate will be sold electric vehicle end users in both Czech and surrounding countries and that tin and tungsten concentrates will be sold to Asian smelters for further processing.
- q) Board and Management has been responsible for the study, financing and/or development of several large and diverse mining and exploration projects globally. These include the development of the Ngezi Platinum Mine, Zimbabwe (Zimplats); Cominco Phosphate (Republic of Congo), Leeuwkop Project, South Africa (Afplats), Ncondezi Coal (Mozambique) and Talga Resources projects in Sweden. Based on this experience the board believes that a traditional debt: equity ratio of 70:30 is potentially achievable for the Project based on the PFS results. This would result in a capital and working capital contribution of approximately A\$175m which is in-line with the Company's current market capitalisation.
- r) For the reasons outlined above, the Board believes that there is a "reasonable basis" to assume that future funding will be available and securable.

- s) All material assumptions on which the forecast financial information is based have been included in the announcement.

### Key Risks

Key risks identified during the Study include:

- Adverse movements in lithium pricing;
- Adverse movements in key operating cost inputs;
- Timely project approvals by the authorities;
- Conversion of existing Resources to Reserves;
- Results of future feasibility studies are uncertain; and
- Project funding.

### LITHIUM CLASSIFICATION AND CONVERSION FACTORS

Lithium grades are normally presented in percentages or parts per million (ppm). Grades of deposits are also expressed as lithium compounds in percentages, for example as a percent lithium oxide ( $\text{Li}_2\text{O}$ ) content or percent lithium carbonate ( $\text{Li}_2\text{CO}_3$ ) content.

Lithium carbonate equivalent (“LCE”) is the industry standard terminology for, and is equivalent to,  $\text{Li}_2\text{CO}_3$ . Use of LCE is to provide data comparable with industry reports and is the total equivalent amount of lithium carbonate, assuming the lithium content in the deposit is converted to lithium carbonate, using the conversion rates in the table included below to get an equivalent  $\text{Li}_2\text{CO}_3$  value in percent. Use of LCE assumes 100% recovery and no process losses in the extraction of  $\text{Li}_2\text{CO}_3$  from the deposit.

Lithium resources and reserves are usually presented in tonnes of LCE or Li.

The standard conversion factors are set out in the table below:

**Table: Conversion Factors for Lithium Compounds and Minerals**

Convert from		Convert to Li	Convert to $\text{Li}_2\text{O}$	Convert to $\text{Li}_2\text{CO}_3$
Lithium	Li	<b>1.000</b>	2.153	5.324
Lithium Oxide	$\text{Li}_2\text{O}$	0.464	<b>1.000</b>	2.473
Lithium Carbonate	$\text{Li}_2\text{CO}_3$	0.188	0.404	<b>1.000</b>

### WEBSITE

A copy of this announcement is available from the Company’s website at [www.europeanmet.com](http://www.europeanmet.com).

### TECHNICAL GLOSSARY

The following is a summary of technical terms:

“beneficiation” or “benefication”	in extractive metallurgy, is any process that improves (benefits) the economic value of the ore by removing the gangue minerals, which results in a higher grade product (concentrate) and a waste stream (tailings)
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<b>“carbonate”</b>	refers to a carbonate mineral such as calcite, CaCO <sub>3</sub>
<b>“cut-off grade”</b>	lowest grade of mineralised material considered economic, used in the calculation of Mineral Resources
<b>“deposit”</b>	coherent geological body such as a mineralised body
<b>“exploration”</b>	method by which ore deposits are evaluated
<b>“g/t”</b>	gram per metric tonne
<b>“grade”</b>	relative quantity or the percentage of ore mineral or metal content in an ore body
<b>“Indicated” or “Indicated Mineral Resource”</b>	as defined in the JORC and SAMREC Codes, is that part of a Mineral Resource which has been sampled by drill holes, underground openings or other sampling procedures at locations that are too widely spaced to ensure continuity but close enough to give a reasonable indication of continuity and where geoscientific data are known with a reasonable degree of reliability. An Indicated Mineral Resource will be based on more data and therefore will be more reliable than an Inferred Mineral Resource estimate
<b>“Inferred” or “Inferred Mineral Resource”</b>	as defined in the JORC and SAMREC Codes, is that part of a Mineral Resource for which the tonnage and grade and mineral content can be estimated with a low level of confidence. It is inferred from the geological evidence and has assumed but not verified geological and/or grade continuity. It is based on information gathered through the appropriate techniques from locations such as outcrops, trenches, pits, working and drill holes which may be limited or of uncertain quality and reliability
<b>“JORC Code”</b>	Joint Ore Reserve Committee Code; the Committee is convened under the auspices of the Australasian Institute of Mining and Metallurgy
<b>“kt”</b>	thousand tonnes
<b>“LCE”</b>	the total equivalent amount of lithium carbonate (see explanation above entitled Explanation of Lithium Classification and Conversion Factors)
<b>“lithium”</b>	a soft, silvery-white metallic element of the alkali group, the lightest of all metals
<b>“lithium carbonate”</b>	the lithium salt of carbonate with the formula Li <sub>2</sub> CO <sub>3</sub>
<b>“Measured” or Measured Mineral Resources”</b>	Measured: a mineral resource intersected and tested by drill holes, underground openings or other sampling procedures at locations which are spaced closely enough to confirm continuity and where geoscientific data are reliably known; a measured mineral resource estimate will be based on a substantial amount of reliable data, interpretation and evaluation which allows a clear determination to be made of shapes, sizes, densities and grades. Indicated: a mineral resource sampled by drill holes, underground openings or other sampling procedures at locations too widely spaced to ensure continuity but close enough to give a reasonable indication of continuity and where geoscientific data are known with a reasonable degree of reliability; an indicated resource will be based on more data, and therefore will be more reliable than an inferred resource estimate. Inferred: a mineral resource inferred from geoscientific evidence, underground openings or other sampling procedures where the lack of data is such that continuity cannot be predicted with confidence and where geoscientific data may not be known with a reasonable level of reliability
<b>“metallurgical”</b>	describing the science concerned with the production, purification and properties of metals and their applications
<b>“micrometer”</b>	(symbol μm) is an SI unit of length equal to one millionth of a metre
<b>“Mineral Resource”</b>	a concentration or occurrence of material of intrinsic economic interest in or on the Earth’s crust in such a form that there are reasonable prospects for the eventual economic extraction; the location, quantity, grade geological characteristics and continuity of a mineral resource are known, estimated or interpreted from specific geological evidence and knowledge;

	mineral resources are sub-divided into Inferred, Indicated and Measured categories
<b>“mineralisation”</b>	process of formation and concentration of elements and their chemical compounds within a mass or body of rock
<b>“Mt”</b>	million tonnes
<b>“P80”</b>	the mill circuit product size in micrometers
<b>“ppm”</b>	parts per million
<b>“PSD”</b>	particle size distribution
<b>“recovery”</b>	proportion of valuable material obtained in the processing of an ore, stated as a percentage of the material recovered compared with the total material present
<b>“run-of-mine”</b>	mined ore of a size that can be processed without further crushing
<b>“semi-autogenous grinding”</b> or <b>“SAG”</b>	a method of grinding rock into fine powder whereby the grinding media consist of larger chunks of rocks and steel balls
<b>“stope”</b>	underground excavation within the orebody where the main production takes place
<b>“t”</b>	a metric tonne
<b>“tin”</b>	A tetragonal mineral, rare; soft; malleable: bluish white, found chiefly in cassiterite, SnO <sub>2</sub>
<b>“treatment”</b>	Physical or chemical treatment to extract the valuable metals/minerals
<b>“tungsten”</b>	hard, brittle, white or grey metallic element. Chemical symbol, W; also known as wolfram
<b>“W”</b>	chemical symbol for tungsten

#### ADDITIONAL GEOLOGICAL TERMS

<b>“apical”</b>	relating to, or denoting an apex
<b>“cassiterite”</b>	a mineral, tin dioxide, SnO <sub>2</sub> . Ore of tin with specific gravity 7
<b>“cupola”</b>	a dome-shaped projection at the top of an igneous intrusion
<b>“dip”</b>	the true dip of a plane is the angle it makes with the horizontal plane
<b>“glaserite”</b>	A colourless or white crystalline compound, K <sub>2</sub> SO <sub>4</sub> , used in glassmaking and fertilisers and as a reagent in analytical chemistry
<b>“granite”</b>	coarse-grained intrusive igneous rock dominated by light-coloured minerals, consisting of about 50% orthoclase, 25% quartz and balance of plagioclase feldspars and ferromagnesian silicates
<b>“greisen”</b>	a pneumatolitically altered granitic rock composed largely of quartz, mica, and topaz. The mica is usually muscovite or lepidolite. Tourmaline, fluorite, rutile, cassiterite, and wolframite are common accessory minerals
<b>“igneous”</b>	said of a rock or mineral that solidified from molten or partly molten material, i.e., from a magma
<b>“muscovite”</b>	also known as potash mica; formula: KAl <sub>2</sub> (AlSi <sub>3</sub> O <sub>10</sub> )(F,OH) <sub>2</sub> .
<b>“quartz”</b>	a mineral composed of silicon dioxide, SiO <sub>2</sub>
<b>“rhyolite”</b>	an igneous, volcanic rock of felsic (silica rich) composition. Typically >69% SiO <sub>2</sub>
<b>“vein”</b>	a tabular deposit of minerals occupying a fracture, in which particles may grow away from the walls towards the middle
<b>“wolframite”</b>	a mineral, (Fe,Mn)WO <sub>4</sub> ; within the huebnerite-ferberite series
<b>“zinnwaldite”</b>	a mineral, KLiFeAl(AlSi <sub>3</sub> O <sub>10</sub> (F,OH) <sub>2</sub> ); mica group; basal cleavage; pale violet, yellowish or greyish brown; in granites, pegmatites, and greisens

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The information contained within this announcement is considered to be inside information, for the purposes of Article 7 of EU Regulation 596/2014, prior to its release.