

## European Metals Holdings Limited

ARBN 154 618 989

Suite 12, Level 1  
11 Ventnor Avenue  
West Perth WA 6005  
PO Box 52  
West Perth WA 6872  
Phone + 61 8 6141 3500  
Fax + 61 6141 3599  
Website:  
www.europeanmet.com

### Directors

David Reeves  
**Non-Executive Chairman**

Keith Coughlan  
**Managing Director**

Dr Pavel Reichl  
**Non-Executive Director**

Kiran Morzaria  
**Non-Executive Director**

### Company Secretary

Ms Julia Beckett

### Corporate Information

ASX Code: EMH

CDIs on Issue: 121M



14 July 2016

## PRE-FEASIBILITY UPDATE

European Metals Holdings Limited ("**European Metals**" or "**the Company**") (ASX and AIM: **EMH**) is pleased to provide an update to the progress of the Company's current pre-feasibility study ("PFS") on the Cinovec Lithium-Tin Project ("the project" or "Cinovec").

The PFS is part of our ongoing progression of the Cinovic Lithium-Tin Project. The PFS is targeting an intital production rate of 20,000 tpa of Lithium Carbonate with associated tin, tungsten and suplhate of potash credits.

### Key Points:

- The PFS is well underway with the following milestones met:
  - Recruitment of key members of the team including the Project Manager, Andrew Smith and a selection of owner-consultants for the metallurgical studies.
  - Lead engineering, metallurgy, mining and geological consultants now short-listed or appointed.
  - Metallurgical testwork to support the PFS is well under-way at a number of leading technology centers across the globe. Inclusive of large scale (300kg) bench scale testwork.
  - Preliminary analysis regarding a re-design of the mining process to access the high grade areas of the deposit provide strong indications of a positive impact on the economics of the project.
  - Drilling – third rig on site which has commenced drilling as part of a 7,500m programme.

European Metals Managing Director Mr Keith Coughlan said "I am very pleased with the progress achieved on the PFS that we are currently undertaking. We are making good progress on all fronts and the re-design of the mining process in particular appears to show a significant positive impact on the financial model of the project. With three rigs now in operation we expect to have a regular flow of drill result data, along with further updates on all aspects of the study."

## **PRE-FEASIBILITY STUDY**

### **Mining trade-off Studies**

As part of the PFS, various trade-off studies have been completed on the underground mine design. The major focus has been on decreasing required capital and maximising cashflow in the first 5 years of the mine life. As a result, a revised mine plan has been designed to access the high grade lithium areas of the orebody that lie close to surface. In conjunction with this, mine schedules have been adopted to provide a steady-state flow to a lithium carbonate plant to maximize lithium output. When compared to the original scoping numbers, the re-design achieved the goals of lower capital and increased margins in the initial years. The plan is now assisting in directing the current drill programme that is targeting this high grade lithium area.

### **Metallurgical Testwork**

Metallurgical testwork to support the PFS is well underway at a number of leading technology centres across the globe.

European Metals is working alongside “FAME”, a European-funded research grant aimed at supporting the development of European mineral resources, of which Cinovec has been selected as one of key projects.

The Natural History Museum and University of Exeter has conducted detailed Optical microscopy, QEMscan, XRD and EPMA analytical testwork, to characterise the processing-mineralogical and physical parameters such as liberation size, interlocking and grade distribution of the relevant ore minerals within the Cinovec ore body.

Wardell Armstrong in Truro has conducted a range of comminution testwork including establishing ball and rod work indices, heavy liquid separation and magnetic separation in addition to commencing a SAGability™ test within the past week.

The results learnt from the FAME project are being applied to a larger 300kg composite sample being tested at UVR-FIA GmbH (UVR) laboratory in Freiberg, Germany. The UVR test programme seeks to replicate and upscale the successful results achieved at bench-scale on a much larger sample. The programme work includes spiral concentration and bulk mica flotation.

The testwork has confirmed that a relatively coarse primary grind is required to liberate the lithium bearing micas which can be cheaply and efficiently concentrated through flotation. Previous tests conducted at UVR and Strategic Engineering in Perth indicate that a lithium float recovery of above 95% is possible.

The mica concentrate generated at UVR is scheduled to be used by Anzaplan (Germany) for further lithium leaching and hydrometallurgical testwork.

### **Environmental Social Impact Assessment.**

European Metals is committed to undertaking an ‘Equator Principles’ Environmental Social Impact Assessment (ESIA) for the development of the Cinovec Project. The first phase baseline data collection is well underway and is being led by a Czech ESIA consultant.

## **Lead Engineer**

Over the past month European Metals conducted a competitive tender process to select the lead engineer for the Pre-Feasibility Study. With the current downturn in the industry, the engineering firms approached are providing very competitive bids with industry leading personnel being available for the study. It is the Company's intention to award this work within the next 2 weeks.

## **FURTHER DEVELOPMENTS**

Drilling continues at the project with 3 rigs now in operation. The programme is specifically targeting the areas of higher grade, shallow lithium mineralisation that is highlighted in the mine re-design completed as part of the PFS. The programme is designed to increase the category of Mineral resource in the area and convert some of the existing Exploration Target to Mineral Resource.

## **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 49.1Mt @ 0.43% Li<sub>2</sub>O and an Inferred Mineral Resource of 482Mt @ 0.43% Li<sub>2</sub>O containing a combined 5.7 million tonnes Lithium Carbonate Equivalent.

This makes Cinovec the largest lithium deposit in Europe and the fourth largest non-brine deposit in the world.

Within this resource lies one of the largest undeveloped tin deposits in the world, with total Indicated Mineral Resource of 15.7Mt @ 0.26% Sn and an Inferred Mineral Resources of 59.7 Mt grading 0.21% Sn for a combined total of 178kt of contained tin. The Mineral Resource Estimates have been previously released on 18 May 2016. The deposit has previously had over 400,000 tonnes of ore mined as a trial sub-level open stope underground mining operation.

A Scoping Study conducted by specialist independent consultants indicates the deposit could be amenable to bulk underground mining. Metallurgical test work has produced both battery grade lithium carbonate and high-grade tin concentrate at excellent recoveries with the Scoping Study. 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.

## **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.

#### **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.

To convert the Li Inferred Mineral Resource of 532Mt @ 0.20% Li grade (as per the Competent Persons Report dated May 2016) to  $\text{Li}_2\text{O}$ , the reported Li grade of 0.20% is multiplied by the standard conversion factor of 2.153 which results in an equivalent  $\text{Li}_2\text{O}$  grade of 0.43%.

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	5.323
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:

<b>"ball and rod indices"</b>	Indicies that provide an assessment of the energy required to grind one tonne of material in a ball or rod mill
<b>"carbonate"</b>	refers to a carbonate mineral such as calcite, $\text{CaCO}_3$
<b>"comminution"</b>	The crushing and/or grinding of material to a smaller scale
<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>"flotation"</b>	selectively separating hydrophobic materials from hydrophilic materials to upgrade the concentration of valuable minerals
<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>"heavy liquid separation"</b>	is based on the fact that different minerals have different densities. Thus, if a mixture of minerals with different densities can be placed in a liquid with an intermediate density, the grains with densities less than that of the liquid will float and grains with densities greater than the liquid will sink
<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 $\text{Li}_2\text{CO}_3$
<b>“magnetic separation”</b>	is a process in which magnetically susceptible material is extracted from a mixture using a magnetic force
<b>“metallurgical”</b>	describing the science concerned with the production, purification and properties of metals and their applications
<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>“optical microscopy”</b>	the determination of minerals by observation through a optical microscope
<b>“ppm”</b>	parts per million
<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>“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>"SAGability"</b>	testing material to investigate its performance in a semi-autonomous grinding mill
<b>"spiral concentration"</b>	a process that utilises the differential density of materials to concentrate valuable minerals
<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>"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

#### **ENQUIRIES:**

##### **European Metals Holdings Limited**

Keith Coughlan, Chief Executive Officer

Tel: +61 (0) 419 996 333

Email: keith@europeanmet.com

Kiran Morzaria, Non-Executive Director

Tel: +44 (0) 20 7440 0647

Julia Beckett, Company Secretary

Tel: +61 (0) 6141 3504

Email: julia@europeanmet.com

##### **Beaumont Cornish (Nomad & Broker)**

Tel: +44 (0) 20 7628 3396

Michael Cornish

Roland Cornish