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## Latrobe Magnesium Provides Additional Information on its Feasibility Study

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**23 September 2019, Sydney Australia:** Latrobe Magnesium Limited (ASX:LMG) is supplying additional information on how the feasibility study, released 2 September 2019, was completed and on the included financial projections.

### Capital Expenditure

LMG has advised that the capital expenditure for its 3,000 tpa magnesium plant is in the order of \$54 million. The feasibility study was completed to an accuracy level of +20%/-10%. The breakdown of the capital expenditure is as follows:

	\$M's
Hydromet	10.8
Spray Roaster	19.0
Briquetting	2.3
SCM equipment	1.0
Furnace, Retort, Smelter	15.2
Refining Equipment	4.2
Laboratory and Administrative activities	1.5
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Total Capex	54.0
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Mincore Pty Ltd (Mincore), our third party consulting engineers, have received quotes from third party suppliers for the Spray Roaster, Furnace, Retorts and Smelter, and Refining equipment, being a large part of the overall capex. Mincore has also allowed for design growth and a contingency of 14% or \$6.1 million, included in the \$54 million above.

The capital equipment required has been derived from the Metsim model which was produced by Mincore's process engineer. The Metsim model produces the production flowsheet which provides the mass balance and the equipment list. The steps in the production flow sheet are then tested by LMG's third party laboratory, Bureau Veritas Laboratories Ltd in Perth.

All LMG's smelter work is conducted by CSIRO Laboratories.

**EBITDA estimate**

The financial summary of the operating revenues and operating costs is determined below.

	<b>\$M's</b>
Revenue	30.9
less - Production expenses	(22.4)
Selling & transport costs	(2.4)
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Total production & selling costs	(24.8)
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Gross profit from operations	6.1
less - Operating costs	(0.5)
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<b>EBITDA</b>	<b>5.6</b>
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**Components of EBITDA**

Some 70% of the revenue figure is calculated using the current magnesium price from the US Geological Survey quarterly report by the Department of Interior, of US\$2,650 fob China and US\$2.30 per lb in the USA. The exchange rate used is A\$1.00:US\$0.67.

The balance of the revenue forecast is derived for the other five by products produced by LMG in its process. The product quantities are estimated via the Metsim model in its mass balance. The selling prices used are based upon the assessment of the value of these products by third party experts in the cement and steel industries.

The largest contributor to this additional revenue is LMG's Supplementary Cementitious Material (SCM). This material has been analysed and tested for its strength and set times by BG&E Technologies Pty Ltd, an independent third party expert in the cement industry. BG&E Technologies Pty Ltd has also provided a market analysis which predicts the range of selling prices for this SCM product.

The costs used in the production expenses are also based upon the inputs detailed in the Metsim model produced by Mincore and the costings are estimated using current cost estimates which are supplied from third party suppliers and have been audited by LMG's auditors.

LMG has conducted sensitivity analyses on the financial summary included in the feasibility study. The effect of this sensitivity analyses on EBITDA of \$5.6 million has been summarized below:

<b>EBITDA amount</b>	<b>\$M's</b>	<b>\$M's</b>
Sensitivity	-10%	+10%
Magnesium price	3.5	7.8
Exchange rate	7.4	4.1

The above sensitivity analyses shows that a 10% rise in the magnesium price will increase the EBITDA by \$2.2 million to \$7.8 million while a 10% reduction in price would reduce the EBITDA by \$2.2 million to \$3.5 million. If the magnesium price stays the same, but there is a 10% rise in the US exchange rate to 74 cents then the EBITDA will be reduced by \$1.5 million to \$4.1 million while a 10% reduction in US exchange rate to 60 cents will increase the EBITDA by \$1.8 million to \$7.4 million

LMG has previously announced that it will be making its final investment decision in December 2019 once, it has:

- finalised its ash supply agreement;
- secured funding from its project funders, equity providers, cement partners and the state and federal grant.

After completion of these funding arrangements, LMG expects to commence construction work on site in December 2019 and it should start production in the middle of 2021.



**David Paterson**  
**Chief Executive Officer**

### **About Latrobe Magnesium**

Latrobe Magnesium is developing a magnesium production plant in Victoria's Latrobe Valley using its world-first patented extraction process. LMG intends to extract and sell magnesium metal and cementitious material from industrial ash, which is currently a waste stream from brown coal power generation.

LMG has completed a feasibility study validating its combined hydromet / thermal reduction process that extracts the metal. Production from its initial 3,000 tonne per annum magnesium plant is due to start in 2021. The plant will be in the heart of Victoria's coal power generation precinct, providing immediate access to feedstock.

LMG plans to sell the refined magnesium under long-term contracts to Australian and overseas users. Currently, Australia imports 100% of the 8,000 tonnes annually consumed.

Magnesium has the best strength-to-weight ratio of all common structural metals and is increasingly used in the manufacture of car parts, laptop computers, mobile phones and power tools.

The LMG project is at the forefront of environmental benefit – by recycling power plant waste, avoiding landfill and is a low CO<sub>2</sub> emitter.