Latrobe Magnesium

ABN 52 009 173 611

QUARTERLY ACTIVITIES REPORT

31 March 2018

LATROBE MAGNESIUM PROJECT

1. Fast Cycle Retorts

Latrobe Magnesium Limited (ASX: LMG) and its engineers have designed a new vertical retort and furnace system to improve the capital and operating cost of the magnesium reduction step.

A prototype retort, furnace and all necessary ancillary equipment has been designed, built and installed at a CSIRO facility in Melbourne. Commissioning of the FCR commenced in December last year. Early problems included a leak in the vacuum system and some damage (cracking) to the internal silicon carbide lining of the retort. This was repaired in January and February.

During March, cold and hot commissioning of the FCR has been progressing. A number of equipment improvements have been identified and implemented. At this time, hot commissioning is close to being completed on all elements of the FCR except for the retort.

The retort design and its internal lining still need to be finalised. At present, the retort life is unsatisfactory and a review is being conducted of the design and of the materials of construction. This work is estimated to take between two to three months.

A large sample of dolomite and RWE Power's fly ash has been prepared and are ready to be processed through the FCR to produce magnesium and supplementary cementitious material.

It is believed that this FCR will be superior to existing horizontal retorts in the following areas:

- The retort charge will be larger
- The reduction time will be greatly reduced
- The energy usage will be less due to more efficient heat transfer within the retort
- The use of better quality material in the retort should greatly increase the retorts life
- The FCR offers a competitive advantage over other vertical retort designs.

These benefits should produce reduced capital and operating costs for the project.

2. Hambach Project

On 18 December 2017, LMG announced that they had signed a term sheet with RWE Power AG that details how both parties will proceed with the development of a new Germany-based magnesium plant.

Suite 307, 20 Barrack Street, Sydney, NSW 2000
Postal Address: GPO Box 4729, Sydney, NSW 2001
Phone: +61 (0)2 8097 0250
Fax: +61 (0)2 9279 3854

The up to 30,000 tonnes per annum plant is unique as the magnesium will come from the brown coal fly ash from coal mined at RWE's Hambach mine and processed through their supercritical brown coal power station near Cologne, Germany.

The project involves four stages of development:

- Conduct the vertical retort test work using the RWE fly ash
- Completion of a feasibility study
- Completion of engineering, procurement and permitting
- Construction and commissioning.

In the last quarter, LMG conducted a further series of small scale tests using its unique hydromet process to optimise the samples to be processed through the FCR. This work validated the previous test results conducted on RWE fly ash.

3. Latrobe Valley Project

The next stage of the Latrobe Valley Project is to complete the FCR test work, discussed in point 1, and then process the Yallourn fly ash through the FCR.

On 16 January 2018**,** LMG and EnergyAustralia Yallourn Pty Ltd signed a Memorandum of Understanding (MoU) for Yallourn power station to supply its fly ash to LMG's proposed 3,000 tonnes per annum magnesium plant in the Latrobe Valley. The MoU allows for the expansion of the plant to 40,000 tonnes per annum.

The project involves four stages of development:

- Conduct testing of Yallourn fly ash using LMG hydromet process and Monash University's ash leaching and precipitation process
- Complete a feasibility study
- Construct a 3,000tpa magnesium plant
- Expand to a 40,000tpa magnesium plant.

Each stage of this project is conditional on the successful completion of the previous stage and the signing of formal agreements between the parties.

In the March quarter, LMG conducted laboratory scale tests on Yallourn fly ash to determine whether its hydromet process or Monash University's process was best suited to produce magnesium, saleable iron product and supplementary cementitious material. LMG owns the developed IP on the Monash process.

Whilst LMG's hydromet process was unsuitable, the first stage of the Monash process achieved very satisfactory results in breaking down the mineralogy of the Yallourn fly ash. The second stage of this process is now underway and should be finalised in May 2018.

Upon the successful completion of this work, LMG will produce a large scale beneficiated sample of Yallourn fly ash to process through its FCR. Upon completion of the FCR test work LMG will then be in a position to complete a feasibility study using Yallourn fly ash.

4. EU Patent

On 26 March 2018, LMG was granted a patent for all countries in the European Union for its unique hydromet process.

The Australian, USA, China and Indonesian patents have already been granted for 20 years starting from August 2011.

The process involves the treatment of the spent fly ash from brown coal-powered electricity generation using chemicals to reduce sulphur, iron and silicon to acceptable levels so that the beneficiated material can be used as a feedstock in the thermal reduction process.

The result is an efficient and novel means of producing magnesium and supplementary cementitious material production extracted from voluminous tailings of industrial fly ash from some of the world's brown coal electricity generators.

The process is 100% owned by LMG.

Patent application was lodged in March 2013 for India. The patent is expected to be granted later this year.

All the above countries are known to have large lignite / brown coal deposits.

5. Funding

In March 2018, LMG's Directors and its Project Director decided to provide loans to the Company to cover the costs of their monthly fees. These loans will be converted into equity in the Company upon the approval of shareholders at this year's annual AGM.

In addition, two Directors of the Company have provided an unsecured lending facility to the Company of up to $200,000.

RnD Funding have also increased their loan facility by an additional $200,000. The Directors believe that with the current funds available and these additional loans, the Company will have the necessary funds to complete the FCR test work.

D. Paterson

David Paterson
Chief Executive Officer

18 April 2018

About Latrobe Magnesium

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

LMG has completed a preliminary feasibility study validating its combined hydromet / thermal reduction process that extracts the metal. Construction is estimated to start on its initial 3,000 tonne per annum magnesium plant in the third or fourth quarter of 2018 year with production commencing 12 months later. The plant will then be expanded to 40,000 tonne per annum magnesium 18 months later. The plant will be in the heart of Victoria's coal power generation precinct, providing immediate access to feedstock, infrastructure and labour.

LMG plans to sell the refined magnesium under long-term contracts to Australian and overseas customers. 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_2 emitter. LMG adopts the principles of an industrial ecology system.