**China Magnesium Corporation Limited** 

Aiming to become the world's leading low cost, vertically-integrated magnesium producer

> Market Update December 2011

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#### Mission



China Magnesium Corporation Limited (ASX: CMC) intends to become one of the largest producers of pure magnesium and magnesium alloy in the world through vertically integrating its low cost operations within the world's fastest growing economy - China.

#### Building a world-leading magnesium business

- Significant progress over 2011, meeting key objectives set out in IPO prospectus First-phase 20,000tpa expansion to be completed **on time and on budget**
- Vertical integration strategy progressing well, with agreements to acquire :
  - ✓ dolomite quarry secure raw magnesium ore supply
  - ✓ ferrosilicon business secure supply of main cost input at exceptional value
- Magnesium production plant awarded ISO GB/T 19001-2008 quality certification Ferrosilicon business expected to contribute circa A\$3.3m to FY2013 NPAT Rapidly growing magnesium market
- Change in Chinese government policy for magnesium producers to benefit CMC
- ✓ Approvals in place for expansion to 105,000 tpa of magnesium alloy production



- $\square$
- Completed earn-in of minimum 75% interest in Pingyao magnesium project
- Subsequently increased interest in joint venture company to beyond 90%
- Land rights secured for first phase expansion
- Change in Chinese government policy to rationalise Mg industry
- Partial upgrade and small-scale production of pure magnesium from existing plant (temporarily suspended - pending connection to expanded facilities)
- On track to deliver a 20,000 tpa plant *on time and on budget* by 2011 calendar year-end
- Exercise of option to acquire dolomite quarry
- Agreement to acquire established, profitable ferrosilicon producer



#### Stronger and lighter structural metal

- 33% lighter than aluminium and 75% lighter than steel
- Used in Mg alloy die casting (auto/aircraft & electronics) for its light weight
  - Also used for producing aluminium alloys, steel and titanium
- Global production growing strongly, totalling circa 809,000 tonnes in 2010
- Production and demand have nearly doubled in the past 10 years
- Roskill (Aug 2010) forecast consumption to grow at ~6%pa, particularly in the automotive sector (~10%pa)



- In 2011, despite the economic gloom, worldwide car sales increased 5% in the first half of the year
  While sales have slowed in the developed world, emerging markets
  - continue to grow rapidly China established itself as the world's biggest car market in 2009 after
  - China established itself as the world's biggest car market in 2009 after vehicle sales jumped 46% over the previous year (spurred by government incentives). Sales leaped another 32% in 2010 and were up about 6% for the first seven months of 2011

- Source: www.cnbc.com, "World's 10 Largest Auto Markets", 12 Sep 2011

#### Expected increase in Mg content per vehicle

- New US/European laws to improve fuel efficiency and reduce emissions
- Pending, massive increases to US fuel economy requirements essentially doubling the light-vehicle average to 4.3L/km by 2025 (6.6L/km by 2016)

In Nov 2006, a consortium of the United States Council for Automotive Research\* ("USCAR") set a strategic goal to bring the total average vehicle magnesium content to 350 lbs compared to a 2005 average of 10-12 lbs

*"Magnesium automotive components are robust and extremely light. When used in a car or truck, they can significantly reduce a vehicle's weight and fuel consumption"* – USCAR news release, 16 April 2007

<sup>\*</sup> USCAR is an umbrella organization for collaborative research among DaimlerChrysler, Ford and General Motors



China accounts for:

- 80% of global primary supply
- around 30% of global consumption (and growing consumption)
- Dominated world production using the pidgeon process a simple, cheap thermal process at the expense of capital intensive electrolytic processes used in the West
- The Chinese government is rationalising the Mg industry:
  - 15,000 tpa minimum capacity for existing plants
  - 50,000 minimum tpa capacity for new permits (not applicable to CMC)
  - CMC set to benefit because it already has a permit to 105,000tpa



Pingyao magnesium project (90.7% CMC)

- Located in Shanxi Province of Northern China
- One of the largest Mg producing regions in the world with access to highly skilled labour, low-cost feedstock and infrastructure
- CMC already has key permits to expand to 105,000 tpa, and intends to do so in three phases by December 2013
- On track to complete first-phase 20,000 tpa plant **on time and on budget** by 2011 calendar year-end
- Competitive advantages expected to enable low marginal costs

### Vertical integration strategy progressing well

#### Downstream ...

Additional capacity to produce higher-value magnesium alloys at negligible additional marginal cost by avoiding the need to remelt pure magnesium

Upstream ...

- Agreements to acquire two of the three primary upstream components:
  - □ dolomite quarry to secure raw magnesium ore supply
  - ferrosilicon business to secure supply of main cost input

CMC will also consider acquisition of suitable coal suppliers should the opportunity arise

#### **Plant locations**





Location of magnesium plant in Pingyao (B) (dolomite quarry located 30km from Pinyao operations) and ferrosilicon plant in Zhongwei (C) northern China - all accessible via sealed road and/or rail



#### Securing magnesium ore supply



- Acquisition of dolomite quarry located ~30km from the plant
- Dolomite is the magnesium bearing ore, which is largest raw input by volume
- Current and previous dolomite requirements were supplied by the quarry
- Net acquisition price of CNY5,000,000 (A\$770,000) to be fully funded through existing funds and a Chinese bank debt facility
- Awaiting receipt of final permitting document (expected around calendar year-end) to proceed to completion

### Acquiring a profitable ferrosilicon business\*



- Large regional power utility companies in China are being encouraged to divest their non-core assets
- CMC has agreed to acquire the Ningxia Tianjing Tianda Metallurgical Smelting Co Ltd ("NTTMS"), which is a profitable, operating FeSi producer
- Supplies FeSi to end users (including CMC) and currently exports 70% of its production to the steel industry in Japan
- Certified to ISO GB/T2272-2009 quality management standards
- Production capacity of 55,000 tpa of FeSi will be sufficient to meet CMC's FeSi needs through to completion of phase two
- Completion expected in first quarter calendar year 2012

\* Refer to CMC announcement dated 8 Nov 2011 for further details



### Ferrosilicon acquisition is compelling value\*



- Purchase price around A\$6m (depending on prevailing exchange rates)
- Intended to be funded using debt and existing cash
- A recent share placement raised A\$1.4m and was completed at \$0.35 per share a 6% premium to the market price at that time
- Expected to contribute over A\$3m to CMC's net profit over a full year
- Replacement cost of the ferrosilicon production facility has been estimated at approximately CNY100m (A\$15m)
- Opportunity brought to the attention of CMC's executive director as a result of long-term relationships and contacts within China

\* Refer to CMC announcement dated 8 Nov 2011 for further details



# Summary: Building a major Mg supply chain

- Significant progress since listing; in accordance with IPO prospectus
  Positioned to exploit growing demand for a light weight, 21<sup>st</sup> century structural metal magnesium
  Completion of first-phase expansion by year end *on time and on budget* Upstream and downstream vertical integration strategy progressing well and expected to deliver:
  - ✓ increased security of raw material supply
  - ✓ revenue and profit growth



# APPENDICES

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- CMC was incorporated in May 2007 and agreed to earn an interest (currently 90.7%) in a magnesium plant in Pingyao (Shanxi Province), northern China ~500km west of Beijing
- Constructed by the current JV partner in 2004 and commenced operating in 2005 as a side operation to use waste gas from the JV partner's coking plant
- In Nov 2007 Chinese authorities granted CMC a rare licence to produce 105,000tpa at a time when most smaller operators were being forced to close down
- The JV commenced in June 2008, but production was suspended in October 2008 (during GFC)
- A\$12m IPO and ASX listing in November 2010 to fund an upgrade and expansion to 20,000tpa capacity On track to complete on time and on budget by 2011 calendar year-end
- Agreements to acquire a magnesium ore (dolomite) quarry and a ferrosilicon producer
- Plans to expand production to 105,000 tpa of Mg alloy over three phases by December 2013, with the key permits already in place

#### A2 - Corporate Summary



131,017,142

\$0.285

\$37.3 million

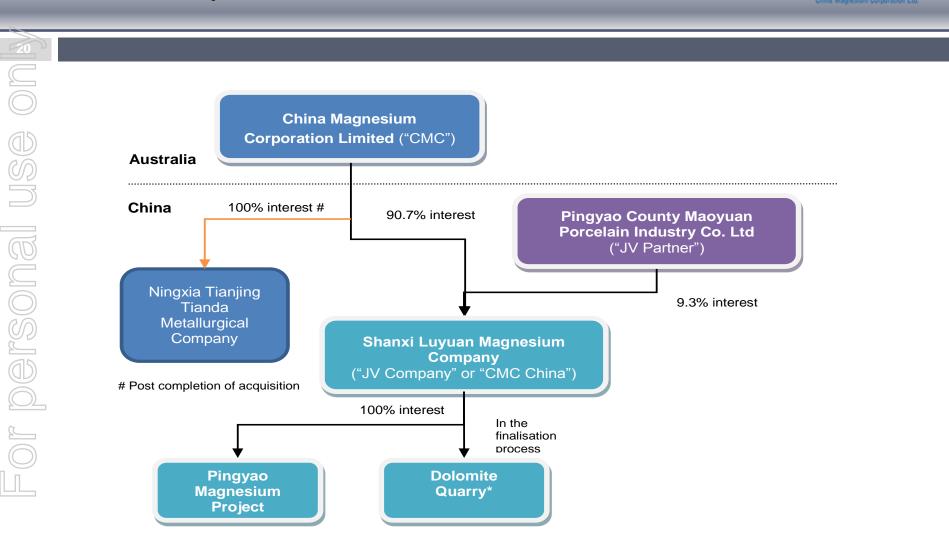
12,000,000

Shares on Issue Share Price (as at 7 December 2011) Market Capitalisation
Market Capitalisation
Options (ex @\$0.25 each; expected to lapse by 30 Dec 2011, prior to vesting

#### **Board & Management**

Mr William Bass	Non Executive Chairman
Mr Tom Blackhurst	Chief Executive Officer
Mr Xinping Liang	Chief Operating Officer
Mr Peter Robertson	Non Executive Director
Mr Ming Li	Non Executive Chairman of the JV company
Mr Guicheng Jia	Director of the JV company

#### A3 – Corporate and Asset Structure





# A4 – Strong China Credentials



- Or personal use
  - Managing director and co-founder Tom Blackhurst (18.5% of CMC) has been active in China for 7 years
  - Executive director and co-founder Xinping Liang (9.2% of CMC) graduated as an engineer in China and has held senior positions with the Singapore Wealth Fund
  - Chinese joint venture partner owns 9.3% of the magnesium JV company and 9.2% of the shares in CMC
  - Guicheng Jia, director of the JV company and holds 9.2% of the shares in CMC
  - The current opportunity to acquire a stand-alone FeSi producer has arisen through established contacts and networks in China



### A5 - Pidgeon process for Mg production



- Dolomite (similar to limestone) is heated to remove carbon and leave magnesium and calcium oxides
- Ferrosilicon is added and, under high temperature, reduces magnesium oxide to pure magnesium vapour, which is condensed to solid magnesium "crown".
- The crown is melted and cast into pure magnesium ingots. Small amounts of other metals (mainly aluminium and zinc) can be added to the molten magnesium to form Mg alloys



Existing furnace in production

