

# Manganese Industry Outlook and Opportunities

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# Manganese market: review and outlook

Improving industry productivity

# Ongoing demand growth for the next 10 years





### Global manganese ore demand in alloys

(million tonnes, contained Mn)



Source: BHP Billiton, IMnI, CRU

Source: BHP Billiton, World Steel Association

# Manganese intensity use to stabilise





#### Historical rise in manganese intensity use

- Changing steel specifications and enduse patterns over past decade.
- A shift to long/construction steel products in developing countries.
- Intensity view largely aligned amongst industry analysts until recent years.

#### Outlook

- Global average intensity use continues to be driven by China and India.
- Intensity use has stabilised and is expected to decline gradually.
- Manganese demand growth expected to be more in proportion to steel production growth in the long term.

Source: IMnI, CRU, Metal Expert

# Manganese ore import dependency to grow



#### China ore supply and demand

(kt, contained Mn)



#### India ore supply and demand (kt, contained Mn)



Source: IMnI Annual Report 2012

## Manganese reserve base and product qualities





1. Defined by the US Geological Survey (USGS) as that part of an identified resource that meets specified minimum physical and chemical criteria related to current mining and production practices. The reserve base includes those resources that are currently economic (reserves), marginally economic (marginal reserves), and some of those that are currently subeconomic (subeconomic resources).

Source: BHP Billiton analysis, Roskill 2012, USGS

# South African export capacity is a key driver in the industry





Rail Corridor
 Road Corridor

#### **Current export capacity**

- Strong capacity growth in recent years driven by innovative export options including interim bridging capacity provided by Transnet.
- Challenges of long distances and increasing costs and complexity.
- Recent export growth has outpaced incremental demand growth.

#### Outlook

- The industry welcomes progress on longterm, structural solutions.
- Growth opportunities for all participants.
- Evolving trends of global ore product mix with the introduction of growing South African ore supply.

Source: BHP Billiton, Transnet Company Reports

# Growth of South African export capacity will increase the share of medium-grade ore supply



#### Proportion of supply by grade type

(% of economical supply, tons of ore)



# South Africa rapidly expanding market share

- Recent growth has increased Mamatwantype ore supply.
- Anticipated growth mostly from mines in the Kalahari producing Mamatwan-type ore.
- Recent export growth has outpaced incremental demand growth.

#### **Price relativity**

- Strong growth of a single ore type may put additional pressure on competitiveness as price relativities decline.
- Growth opportunities for all participants.
- Evolving trends of global ore product mix with the introduction of growing South African ore supply.

Source: BHP Billiton, IMnI, CRU





## Manganese market: review and outlook

# Improving industry productivity

# Working together to add value





# **Evolution of commodity markets**





# Ore selection is critical to competitive alloy production





#### Elsabe Muller, General Manager Manganese Marketing, May 2014

# E-documentation platforms improve efficiency, security and working capital management



**Benefits:** 

External platforms

Carriers & shipowners

Banks

Smelters/ Steel mills

Mn ore/alloy suppliers

Improved productivity and efficiency:
<ul> <li>Transmit and track documents in real time</li> </ul>
Minimise human error
<ul> <li>Minimise administrative delays</li> </ul>
<ul> <li>Reduce repetitive communications</li> </ul>
<ul> <li>Decrease requirement for letters of indemnity</li> </ul>
Enhanced security:
<ul> <li>Improve authentication: e-signatures</li> </ul>
<ul> <li>Retain control of transaction documents</li> </ul>
Optimised working capital management:
<ul> <li>Better management of credit facilities</li> </ul>

Improve predictability of cash flow

# BHP Billiton E-doc transaction volume for manganese

(number of transactions)



Source: BHP Billiton





- Long term drivers of steel demand remain intact with continued urbanisation in developing countries, although China production poised to peak and decline after 2025.
- Manganese demand growth remains robust, albeit at a slower pace, and will be increasingly satisfied by imports.
- Growth of South African export capacity key to meeting demand growth, and will increase the share of medium-grade ore supply in the long term.
- The manganese industry continues to face challenges that will drive us to find ways together to improve competitiveness.
- This will impact market-based pricing, raw material preferences and transaction channels and methods.
- BHP Billiton is well-placed to provide an optimal blend of medium- and high-grade ores.
- Through technical support, BHP Billiton can support our customers to improve their longterm competitiveness.

# bhpbilliton resourcing the future