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Western Australia's Emerging Magnetite Iron Ore Industry

The Case for Exemption of Magnetite from the MRRT

Presentation to the Senate Select Committee 8 November 2010

Megan Anwyl, Director, Magnetite Network
megan@anwyl.com.au
Phone 08 9214 3836

Summary

- Magnetite has minimal value as raw ore – requires massive beneficiation before it is saleable to the steel industry;

- Similar beneficiation process to copper, gold, bauxite and nickel;

- Taxation of fledgling industry is contrary to policy intent;

- Hard to calculate value of raw ore;

- Huge public/private compliance burden; and

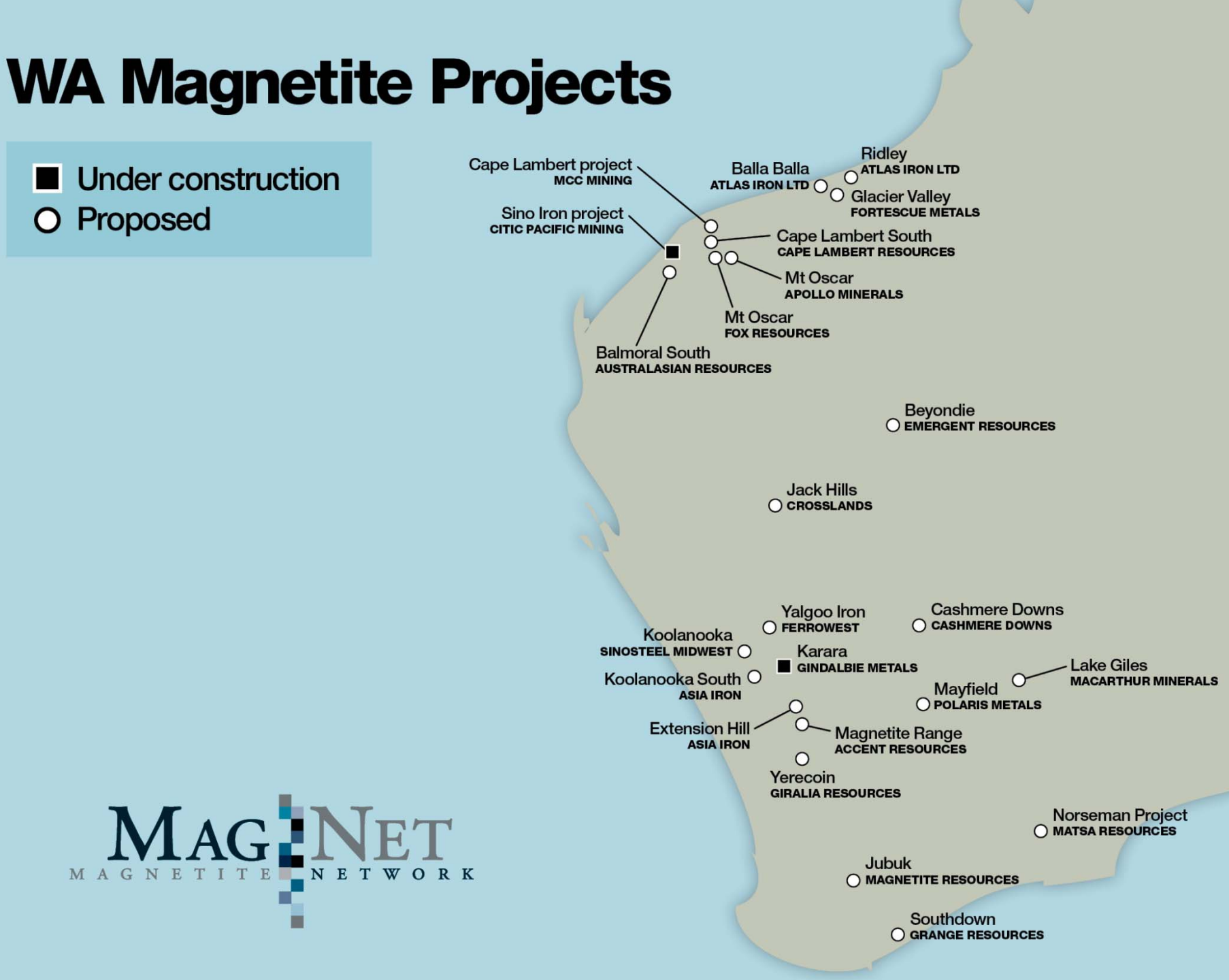
- Capital intensive downstream processing provides jobs, regional development and infrastructure.

ATLAS IRON LIMITED

CITIC PACIFIC MINING

Extension Hill Pty Ltd

WA Magnetite Projects



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Definition of Ore and Beneficiation

- Main ores of iron - hematite (Fe_2O_3) and magnetite (Fe_3O_4)
- Most magnetic of all naturally occurring minerals
- Requires much more sophisticated and extensive processing – exported as concentrate or pellets
- Magnetite is produced extensively in China, Canada, Brazil and the United States of America and has been for decades
- Magnetite is an attractive blast furnace feedstock for many reasons including lower greenhouse gas emissions
- Currently only Grange Resources at Savage River and OneSteel at Whyalla

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Direct Shipping Ores cf Concentrates

- Most of the world's large "direct shipping" iron ore deposits derive from the natural enrichment of banded iron formations
  - BIF comprises sediment bands rich in iron oxides (usually magnetite) alternating with bands high in silicates.
- Natural enrichment processes remove silica and replace with iron oxides
  - supergene enrichment
  - burial metamorphism
  - hypogene enrichment
  - channel iron deposits
- As mined "direct shipping ore" is high in iron and low in silica
  - Large DSO deposits are rare and uniquely valuable (e.g. Pilbara)
- Magnetite concentrate producers process unenriched low iron/high silica BIF ore by removing silica to produce a high iron/low silica concentrate and a high silica/low iron waste product
  - Value derived by processing rather than nature!

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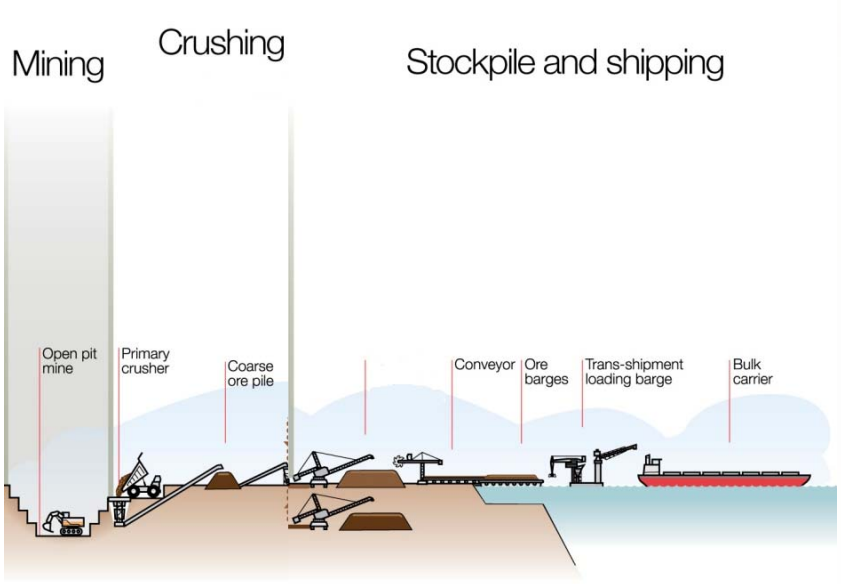
Magnetite Concentrate vs DSO Production Process

DSO Production Process

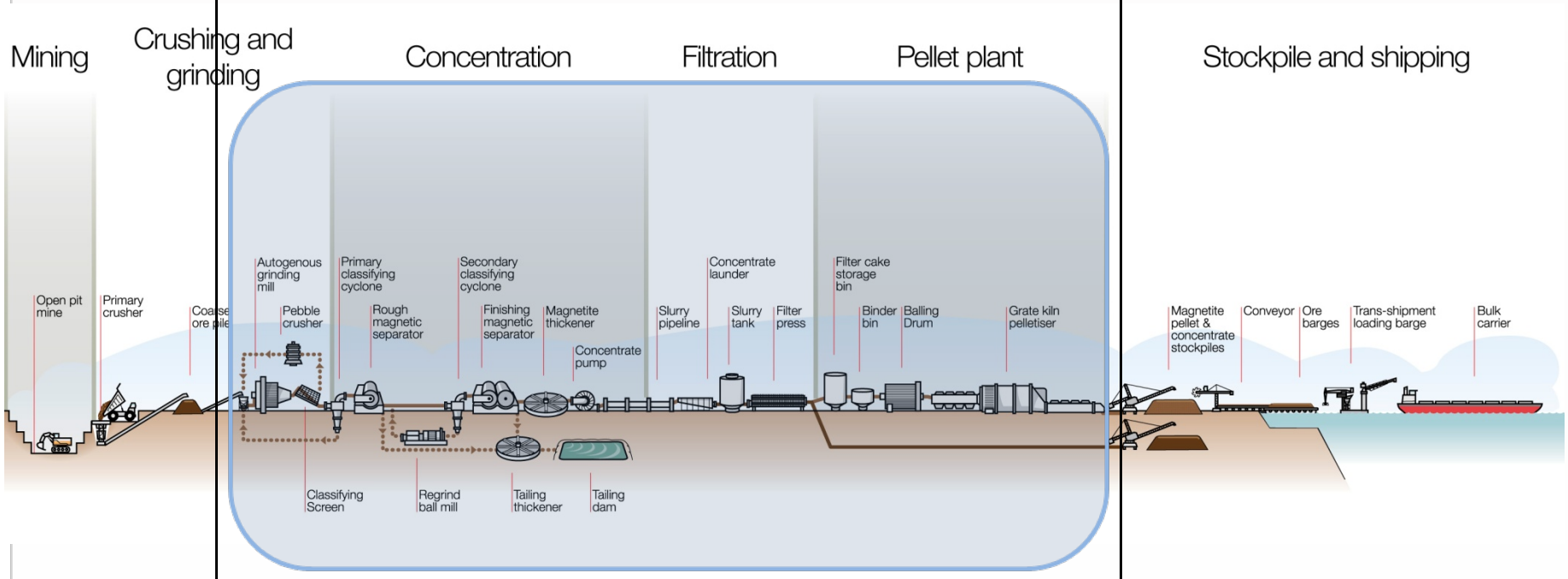
Mine → Crush → Stockpile → Ship



Magnetite Concentrate vs DSO Production Process

Magnetite Concentrate Production Process

Mine → Crush → Grind → Separate → Concentrate → Stockpile → Ship



Value-adding in Australia ✓

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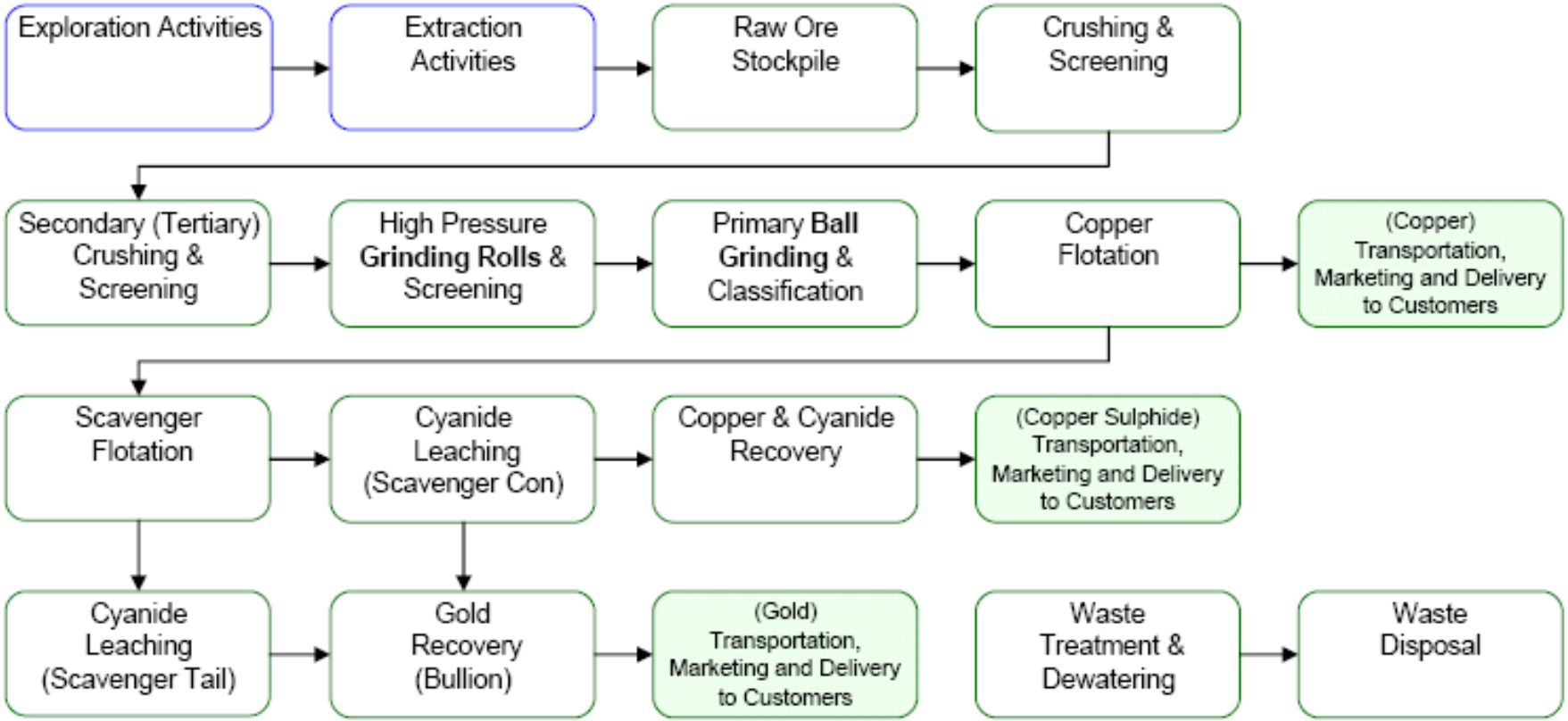
Copper - Gold

Gold Process Block Flow - HPGR Comminution Path



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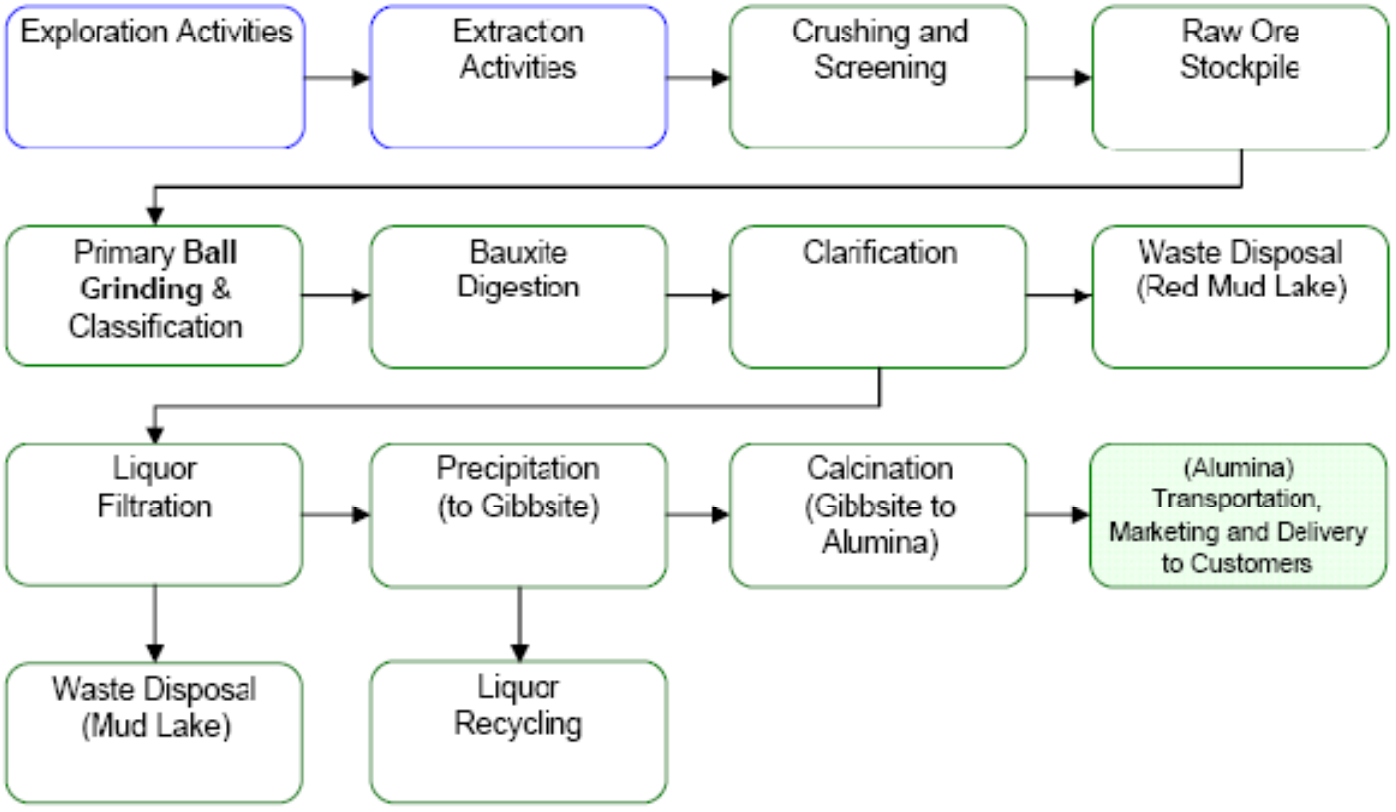
Alumina

Alumina Process Block Flow - Typical



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Economic benefits of magnetite

Company	Mine Life	CAPEX ($A)	Employment (construction)	Employment (ongoing)	Royalties p.a. (A$)	Annual Export Revenue (A$)
CITIC Pacific Mining	+25 years	$6.4b	4,500	+850	125m	3.0b
Atlas Iron Ridley project	+30 years	$2.8b	2,000	+700	75m	1.25b
Balla Balla project	+26 years	$1.9b Phase 1&2	1,650	+ 530	95m	1.1b
Extension Hill	+50 years	$2.0b Stage 1	2,000	+500	+40m stage 1	950m
TOTAL *		**$13.1b**	**10,150 jobs**	**2,580 jobs**	**+$335m**	**$6.3b**

CITIC Pacific Mining Sino Iron project

- Mine pit (25 years+):
  - 5.5km long and 3km wide
  - 600m below sea level
- Concentrator:
  - 6 AG mills (28MW each)
  - 6 ball mills (16MW each)
- Power station:
  - 450MW, low emission
  - Combined-cycle gas fired
- 25km slurry pipeline
- New port and trans-shipment facilities
- 51GL pa desalination plant
- 4,500 Construction jobs

Framing the MRRT

"The new resource tax arrangement will apply to the value of the resource, rather than the value added by the miner. It will do this by setting the taxing point at the mine gate where possible, and using appropriate pricing arrangements to ensure only the value of the resource is taxed."

Joint media statement PM Gillard , Deputy PM Swan and Minister for Resources Ferguson - 2 July 2010
Agreed Principles attachment

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MagNet Position

Magnetite concentrate production

- adds value to low grade, low quality, low value iron ore; and
- is fundamentally different to “direct shipping ore” production

Stated policy objectives include:

- “to ensure only the value of the resource is taxed”
- to tax the “value of the resource, rather than the value added by the miner”

Policy objective best met by excluding magnetite production from MRRT

- Consistent with policy
- Consistent with exclusion of other concentrate producers
- Eliminates unnecessary compliance costs

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PTG Submission

1.Magnetite concentrate can be readily distinguished from other iron ore products and this provides a simple method by which magnetite concentrate may be excluded from the MRRT;

2. Excluding magnetite concentrate from the MRRT regime is consistent with the Government's stated policy intent to tax the value of the resource, rather than the value added by the miner and to attribute a value to ore at the mine gate or point of extraction where possible;

3. To include magnetite concentrate in the MRRT regime, while excluding all other mineral concentrate from the MRRT regime, is inequitable and inconsistent as it is discriminatory against one mineral processing sector as against others;

4. The emerging magnetite concentrate industry is unlikely to generate significant if any new taxation revenue under reasonable assumptions surrounding the design features of the proposed MRRT regime;

5. Including magnetite concentrate in the MRRT regime will impose a significant compliance burden on magnetite concentrate producers and the public sector for a minimal if any net gain; and

6. Including magnetite concentrate in the MRRT regime will have an adverse impact on this fledgling industry by deterring investment and jeopardising the significant regional development, economic and social benefits that might otherwise occur.

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PTG Submission

- Exclusion achieved by definition of “iron ore”

an ‘iron ore commodity’ means any ore from which Iron (Fe) is extracted; not being:

(a) a product produced from a iron ore commodity; or

(b) magnetite which has been concentrated or upgraded by processing ore, otherwise than by washing, drying, crushing or screening or a combination thereof.

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The Future

With a collaborative approach , the Magnetite Network and its member companies have the potential to generate massive infrastructure, employment and regional development opportunities, while delivering a net global carbon reduction per tonne of steel produced

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