

“Green Lead” - oxymoron or sustainable development for the lead-acid battery industry?

Presented
by

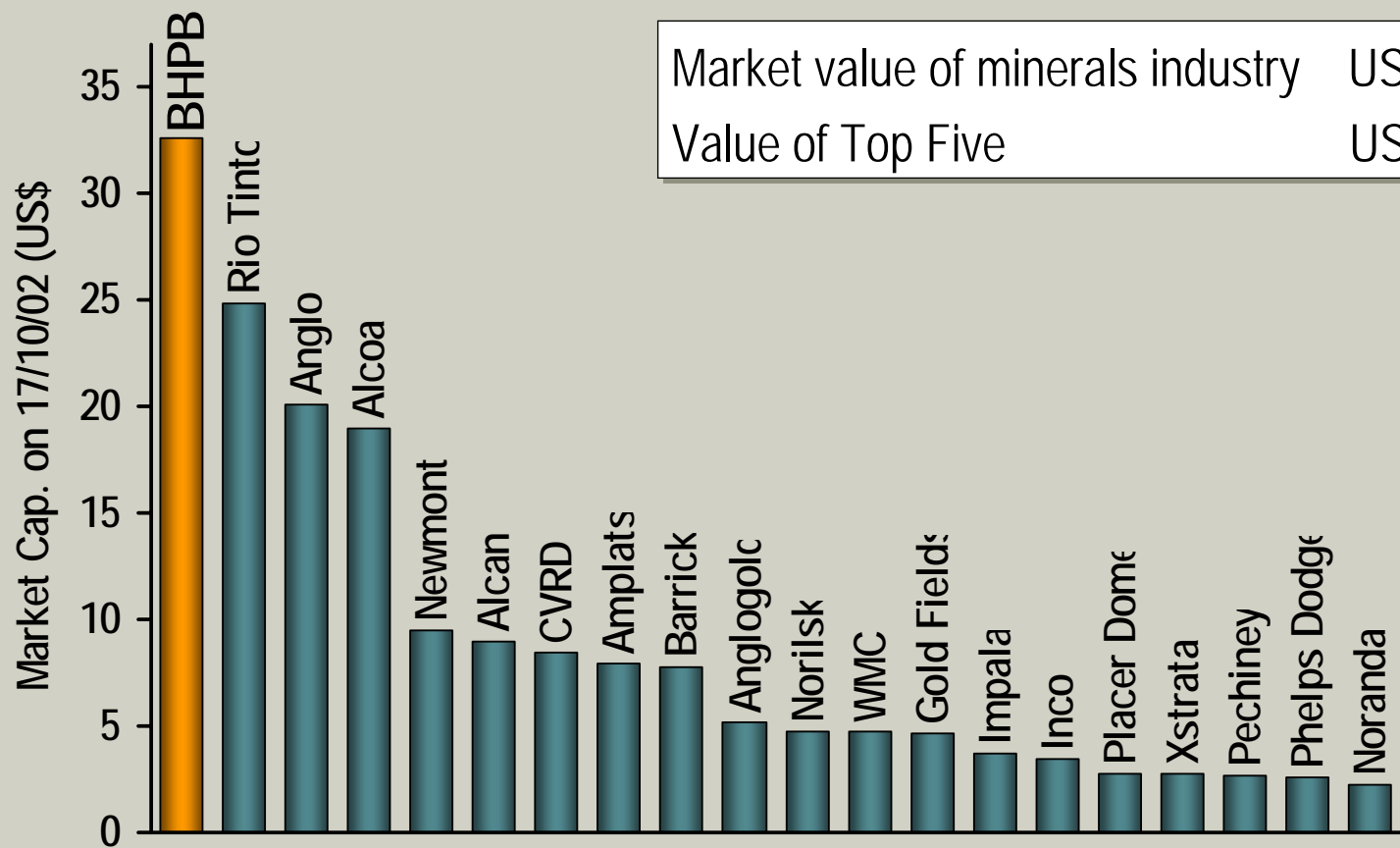
Mick Roche
BHP Billiton Cannington

10th Asian Battery Conference, Bangkok
3rd September 2003



BHP Billiton - the largest company in a consolidating sector

Top five companies account for almost 50% of resource equity market value – double their share of 10 years ago



Market value of minerals industry	US\$235 bn
Value of Top Five	US\$106 bn

Source: Datastream

With outstanding assets in each CSG

Energy Coal
Operations in Sth
Africa, Australia,
US, Colombia

Petroleum
Oil
Gas
LNG

CSM
Iron Ore, Coking
Coal, Manganese,
Boodarie Iron

Base Metals
Copper
Lead
Silver


bhpbilliton
Operating Excellence
and Technical
Capability

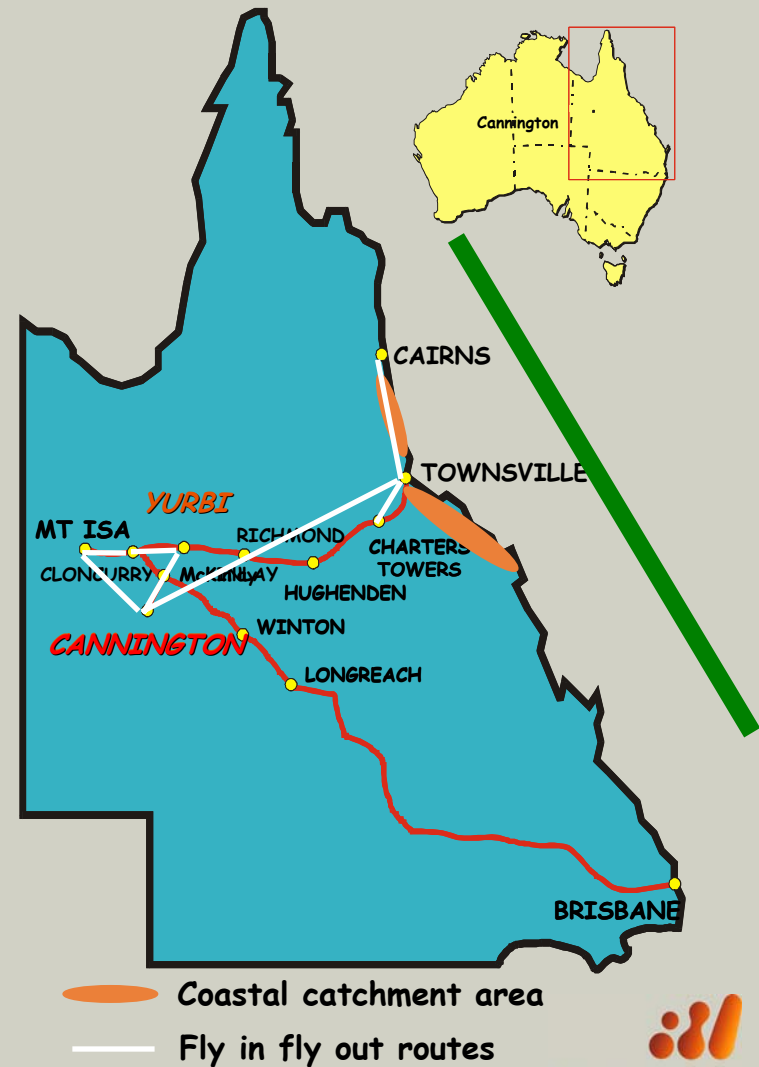
Aluminium
Alumina
Aluminium

SSM
Nickel
Chrome

D&SP
Diamonds
RBM
Integris

Cannington

- ✦ Underground silver lead and zinc mine (with associated processing plant and infrastructure) – mined 2.4 million tonnes of ore in FY03;
- ✦ Yurbi & Townsville are concentrate handling facilities
- ✦ World's largest tonnage and lowest cost single mine producer of silver and lead (35 million ounces of silver, 237 kt contained lead metal, 64kt contained Zn metal in 12 months ending 30 June '03)
- ✦ Great Barrier Reef







Stewardship at Cannington

Stewardship - taking (and maintaining) a proactive role in identifying, understanding, and communicating with all the issues, people and organisations (ie stakeholders) that have a potential to impact on Cannington, or that Cannington has a potential to impact on

- Be in rather than buy in

Stewardship Goal

- ✿ That the last tonne available to be mined in the Cannington deposit can be won, processed, and consumed without concern from any community and stakeholders - by promoting and achieving zero harm to people and the environment
- ✿ Cannington as the largest lead miner will leave a positive legacy to the communities in which we operate
- ✿ The communities within which we operate will value our citizenship

Broadening Our Horizons

- ✿ Australian Minerals Industry *Code for Environmental Management*
- ✿ WWF report
- ✿ Cannington invitation to NQCC to conduct environmental assessment
- ✿ Report titled "Broadening Our Horizons"

“Broadening our horizons” outcomes

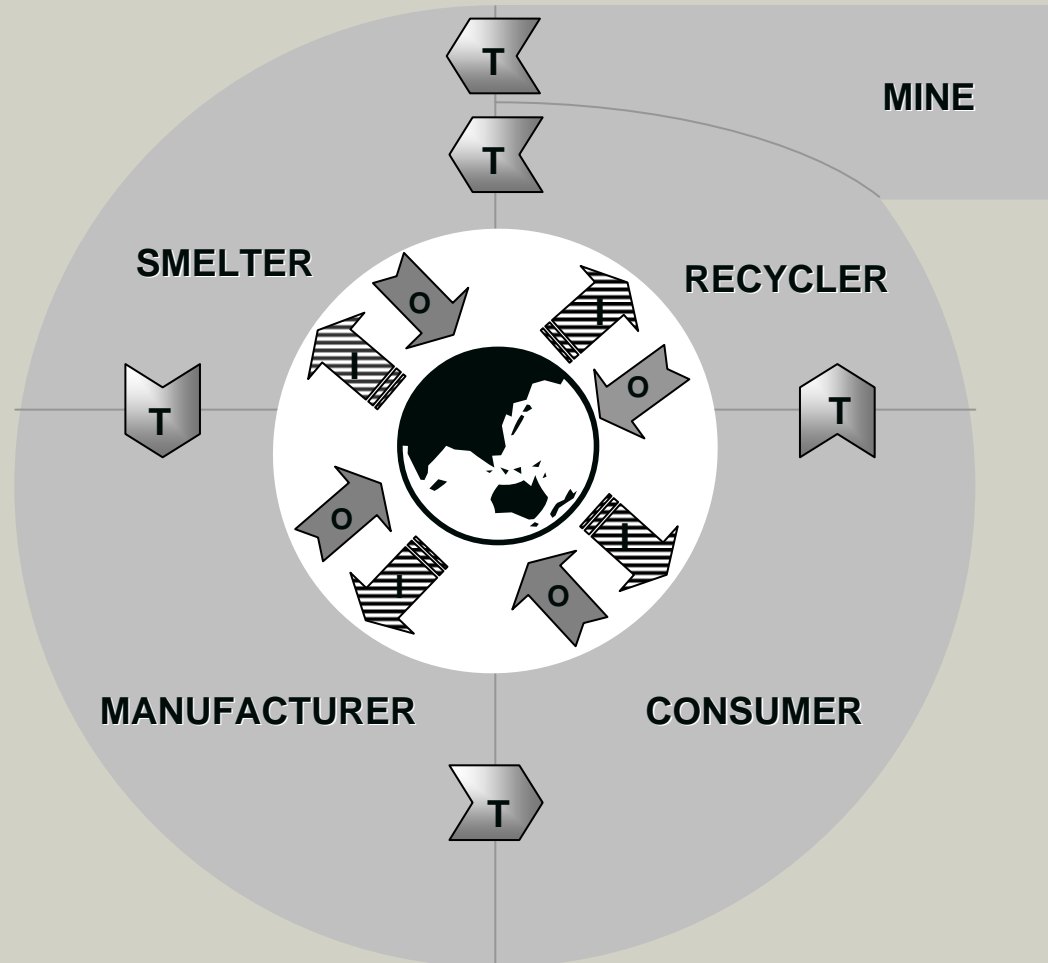
The key issues, identified by NQCC , that need to be addressed by Cannington include:

- community input to risk analyses,
- a separate indigenous social impact assessment
- peer review system of community reporting,
- specific research of the operating environments , and
- **conduct detailed life-cycle analyses and develop stewardship protocols for products and waste.**

Green Lead vision (2003)

Green Lead™ is the vision of mining, processing, transporting, treating, manufacturing, storing, using and recycling lead – with zero harm from lead exposure to people and the environment.

Green Lead sigma cycle



The original plan

Establish a pilot involving:

- Australian Mine (BHPB Cannington)
- Transporter (Queensland Rail)
- European Smelter
- American battery manufacturers
- International Consumers (ILZSG, UNEP, GLAS)
- Asian lead recycling company

Focus of the pilot study is on batteries - over 75% of lead use

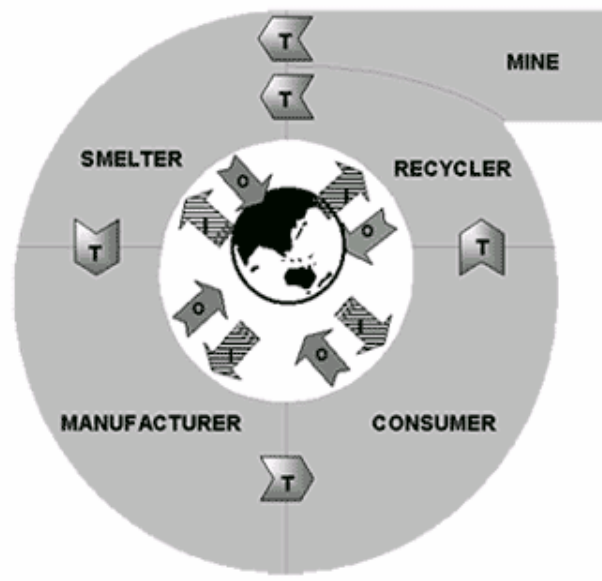
See www.greenlead.com

Green Lead™

Green Lead™ is the use of best practice to all aspects of mining, transport, manufacture, use and reuse of Lead in order to minimise people and planet exposure to Lead.

The concept is simple, but complex in its application. It is proposed to take a 'whole of lifecycle' approach to lead and its impacts on people and the environment and to analyse all of them.

The process will commence with a [Lifecycle Analysis Framework](#), which will then be used to develop a series of [Product Stewardship Protocols](#). These protocols will then be used to develop [Accreditation](#) for all aspects of the Lead lifecycle



Green Lead™

Home > Lifecycle Analysis Framework

Search: GO!

- Chapter 2 - Proposed General Methodology
- Chapter 3 - Goal and Scope Definition
- Chapter 4 - Inventory
- Chapter 5 - Impact Assessment
- Chapter 6 - Conclusion
- Chapter 7 - Glossary
- Chapter 8 - References
- Chapter 9 - Appendices

Lifecycle Analysis Framework

Introduction

The purpose of this document is to discuss the issues associated with undertaking a Life Cycle Analysis as part of the proposed Mother Earth to Rebirth (MER) Product Stewardship Protocol under Green Lead. It also discusses issues regarding a product-system wide LCA, and makes recommendations regarding the standardisation of LCA within the MER framework. The discussion is largely based on experience from the recent first-pass of an LCA conducted at BHP Billiton's Cannington Mine and also borrows heavily from Wenzel et al. (1997), Weidema (1997), and Barnhouse (1998).

It is hoped that this paper will provide a starting point for the discussion and development of a Green Lead LCA Standardised Methodology. Comments and input would be greatly appreciated (refer to the [contacts](#) page for details).

The PDF version of this paper (4Mb)

Steps to success

- Step 1 - Impact Identification
- Step 2 - Develop Green Lead Standards/Criteria
- Step 3 - Green Lead Process Certification
- Step 4 - Product Stewardship and Sustainable Development

What's next ?

- Finalise all sector involvement
- Agree on protocols
- Agree on certification program (do not reinvent the wheel !!)
- Commence certification
- And then we will achieve
- A GREENLEAD WORLD
- In which the practices will all be best practice
-and the image will then look after its self

Battery sector can contribute by:

- openly supporting and endorsing the green lead project;
- suggesting improved assessment methodologies to 'measure' green lead practices;
- participating in the development of the green lead project ;
- being creative in the promotion of green lead in the battery sector;
- contributing to the pilot assessment phase of green lead in the battery sector;
- helping to design systems that will facilitate the identification and recovery of green batteries.

A green lead world

The ongoing success of the Green Lead project is dependent on the support of all sectors in the life cycle of lead to improve the practices within the lead life cycle



Thank you – any questions ?

