

CSRP'08 conference

18-19 November 2008

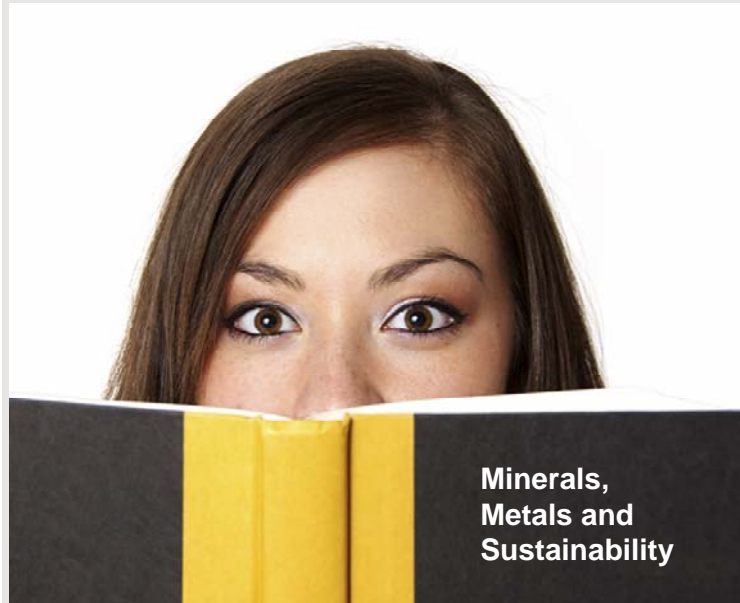
Customs House, Brisbane, Queensland

Minerals, Metals and
Sustainability
- a book for the future



John Rankin

Outline of presentation



- Background, need for a book
- Proposed scope of book
- Setting up the project
- Progress to date

Background/need for book



- Future minerals industry professionals will need to understand the concepts of Sustainable Development, how their role impacts on it, and how it impacts on their job.
- Applies not only to “traditional” professionals (geologists, metallurgists and mining engineers) but all professionals whatever their role: finance, procurement, senior management, planning, HSE, etc.
- There are many specialist books but few that cover the entire minerals value chain.
- There is no book that adopts a multi-disciplinary approach which integrates the physical and earth sciences with the social sciences, ecology and economics.

Is there a need for such as book?

Background

Who is the book aimed at?



1. U/G students of engineering and applied science (mining, metallurgical, civil, chemical, mechanical, environmental) and geology
 - as an integrated overview of the minerals industry and/or as an introduction to specific aspects of the industry
 - could be used in an introductory subject, throughout the course as appropriate, or in a “capstone” subject in final year.

Background

Who is the book aimed at?



2. Practising engineers, geologists and scientists
 - as a modern, and broad perspective of the minerals industry

3. Students of economics, social sciences and related disciplines (natural resource management)
 - as an overview of the minerals industry

Background

Who is the book aimed at?



4. Professionals in government service (policy, planning, regulation, monitoring, etc) in areas such as resources, environment and sustainability
 - as a modern, and broad perspective of the minerals industry and the implications of SD

5. Non-technical professionals (economists, MBAs, accountants, HR managers, etc) working in the minerals industry or in sectors servicing the minerals industry
 - as an overview of the minerals industry

Background

The wide-readership issue

- Spreads knowledge and understanding; wider distribution
- BUT: cannot assume a common level of knowledge of the reader
 - Engineers/science graduates will have the physical sciences but perhaps not life sciences and geology or economics
 - Economists may have little scientific knowledge
- Implies write the text from an assumed low specialist knowledge base but U/G level general knowledge base.

The proposed scope of the book

Chapter list:



- 1 Introduction
- 2 Mineral resources
- 3 Minerals and their role in society
- 4 The Sustainability challenge and opportunity
- 5 Why are metals special?
- 6 How metals are produced
- 7 Cement – glue of industrial society
- 8 Alternatives to metals and cement
- 9 Minerals and the environment
- 10 Natural limits - what are they?
- 11 Towards zero waste
- 12 What does the future hold?
- 13 A sustainability strategy for minerals and metals

The proposed scope of the book

Structure:



Chapters

- 1 Introduction
- 2 Mineral resources
- 3 Minerals and their role in society
- 4 The Sustainability challenge and opportunity

Introduces readers to:

- the concept of the crust as the source of all materials
- how materials are utilised in society (with particular focus on inorganic materials), and
- the issue of sustainability in relation to finite resources

The proposed scope of the book

Structure:



Chapters

- 5 Why are metals special?
- 6 How metals are produced
- 7 Cement – glue of industrial society
- 8 Alternatives to metals and cement

Examines two important classes of materials, metals and cement, in detail.

These are the “highest value-added” of the bulk commodities.

Their production is complex

The proposed scope of the book

Structure:

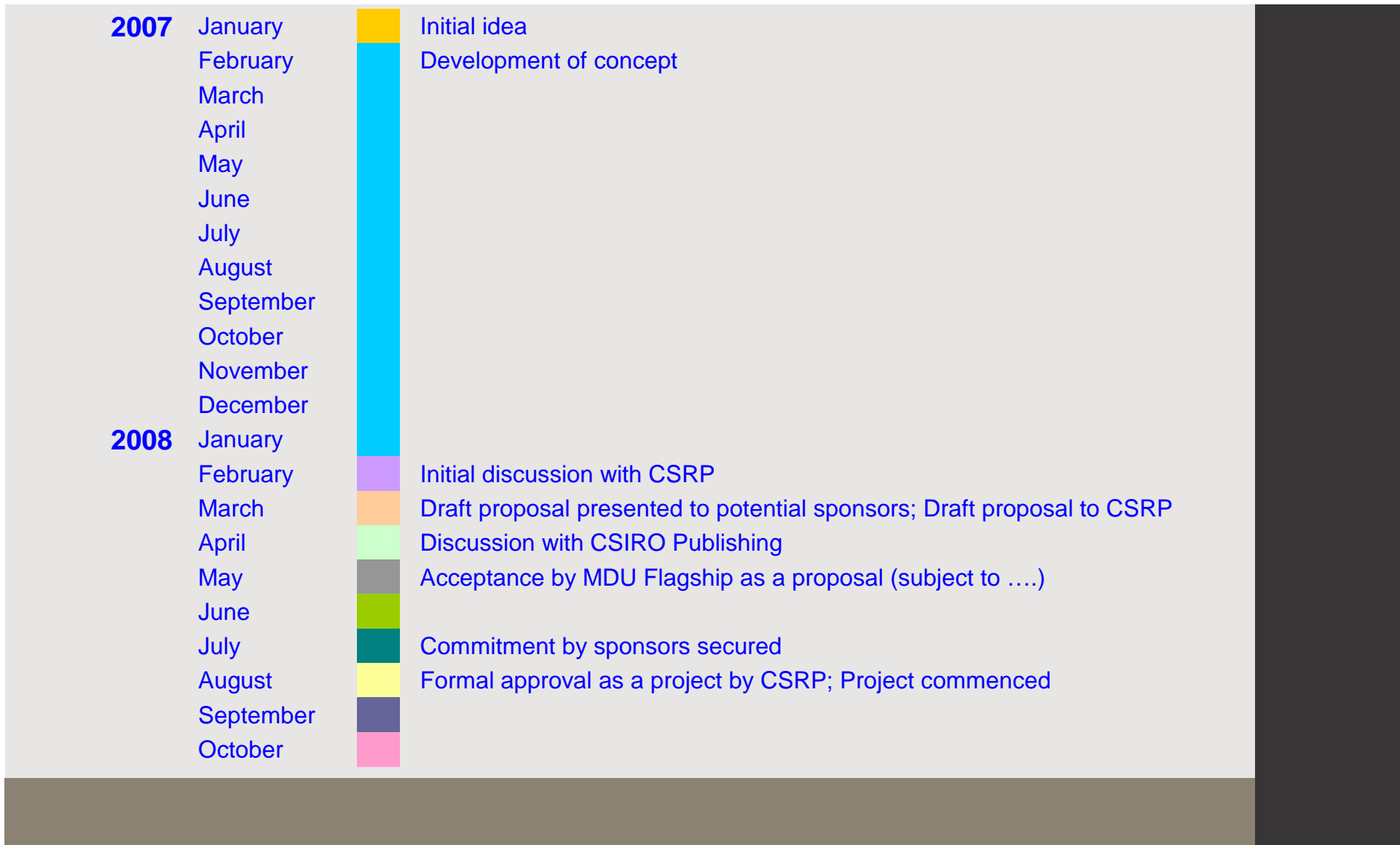


Chapters

- 9 Minerals and the environment
- 10 Natural limits - what are they?
- 11 Towards zero waste
- 12 What does the future hold?
- 13 A sustainability strategy for minerals and metals

Addresses the sustainability challenges and opportunities

Setting up the project



Setting up the project



- A two year project; started 14 Aug '08.
- 0.35 FTE

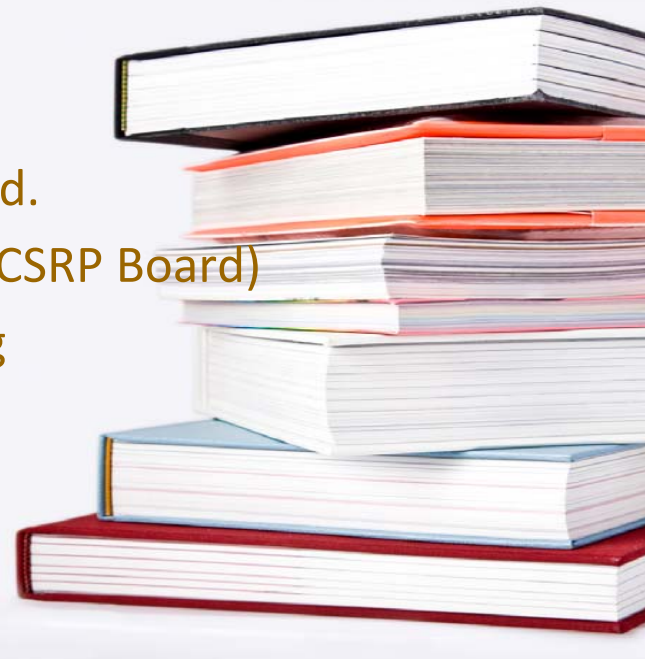
Sponsors:

- Alcoa of Australia Ltd
- BHP Billiton Ltd
- Hatch Associates Pty Ltd
- Rio Tinto Limited
- Xstrata
- BlueScope Steel Ltd
- OneSteel Ltd.

	<u>Year 1</u>	<u>Year 2</u>	<u>Total</u>
Sponsors	\$40K	\$40K	\$80K
CSRP	\$40 K	\$40 K	\$80 K
CSIRO (in-kind)	\$40 K	\$40 K	\$80 K
Total	\$120 K	\$120 K	\$240 K

Progress

- Chapter outlines have been developed
- Chapters 1 and 2 drafted.
- Large amount of literature has been collected.
- An “Editorial Panel” is being established (by CSRP Board)
- Negotiation underway with CSIRO publishing



In conclusion



If you think you can help; for example

- provide information, examples, case studies, pictures, etc
- read sections/chapters and offer comments and suggestions

please don't hesitate to contact me: John.rankin@csiro.au

Thank you