ICMM member companies

- BHP Billiton (Australia)
- African Rainbow Minerals (South Africa)
- Vale (Brazil)
- Xstrata (Switzerland)
- Barrick (Canada)
- Anglo American (United Kingdom)
- Mitsubishi Materials (Japan)
- Freeport-McMoRan Copper & Gold (United States)
- Lihir Gold
- AngloGold Ashanti
- Gold Fields
- Goldcorp
- Lonmin
- Nippon Mining & Metals
- Rio Tinto
- Sumitomo Metal Mining
- Teck
- Newmont
ICMM member associations

**Americas**
Cámara Argentina de Empresarios Mineros
Cámara Asomineros Andi - Colombia
Cámara Minera de México
Cámara Minera de Venezuela
Consejo Minero de Chile A.G.
Instituto Brasileiro de Mineração - Brazil
Mining Association of Canada
National Mining Association - USA
Prospectors and Developers Association of Canada
Sociedad Nacional de Minería - Chile
Sociedad Nacional de Minería, Petróleo y Energía – Peru

**Asia-Pacific**
China International Mining Group
Federation of Indian Mineral Industries
Indonesian Mining Association
Japan Mining Industry Association
Minerals Council of Australia

**Commodity Associations**
Cobalt Development Institute
International Aluminium Institute
International Copper Association
International Lead Association
International Molybdenum Association
International Wrought Copper Council
International Zinc Association
Nickel Institute
World Coal Institute
World Gold Council

**Africa**
Chamber of Mines of South Africa
Mining Industry Associations of Southern Africa

**Europe**
Eurometaux
Euromines
Location of member operations

Over 500 sites in 59 countries
Key Trends

1. People
2. Environment
3. Mining and Metals
4. Collaboration
Key Trends - People

- pressing need to address poverty, nutrition and health, particularly in emerging nations
- enhanced involvement of local interests in decision-making
- growing concern about respecting indigenous peoples’ values and concerns
- increased demand for transparency
- increased focus on respecting human rights
- ongoing conflict in weak governance zones
Key Trends - Environment

- growing concerns about maintaining ecosystem integrity
- growing emphasis on water, energy, biodiversity
- continuing concerns about climate change
Key Trends – Metals and Mining

- worldwide consumption of key mined commodities UP;
- demand in emerging economies UP;
- increased dependence on metals to support a shift to a “green” economy;
- increased role of developing regions in mineral production;
- growing role of mining in the developing countries’ economies;
- growing pressure to ensure consistency in the application of standards within countries, between countries, across the industry from small to large players;
- increased efforts to deal with artisanal and small scale mining – on its own and in relationship to large scale mining
Key Trends - Collaboration

- growing formal recognition that no one party can do it alone;
- delineating a fair distribution of benefits, costs, risks and responsibilities;
- gaining the capacity and skills needed to do so (all).
Understanding the System

1. Mine Project Life Cycle
2. Metals and Minerals Life Cycle
3. Ripple Affect
4. Communities of Interest
Mine project life cycle

1. Exploration
   - 1-10 years
   - Suspension Termination

2. Detailed site investigation, design and estimating
   - Typically 1-3 years
   - Suspension Termination

3. Construction

4. Operation
   - 2-100 years progressive rehabilitation
   - Temporary closure

5. Final closure and decommissioning
   - 1-5 years

6. Post-closure
   - In perpetuity

Key:
- Mine life cycle 1960s
- Mine life cycle 1970s +
- Mine life cycle 2000
Metals and minerals life cycle

1. Exploration
2. Reserves
3. Mining and milling
4. Concentrate
5. Primary smelting and refining
6. Secondary smelting and refining
7. First products
8. Manufacturing
9. Consumer products
10. Wholesale and retail trade (Domestic and international)
11. End-uses
12. Recycle

11. Produce refined metals
6. Produce semi-fabricated products
2. Produce consumer products

African Rainbow Minerals
Barrick
Goldcorp
Goldfields
Lihir Gold
Lonmin
MMG
Newmont
Rio Tinto
Teck
Vale

AngloGold Ashanti
BHP Billiton
Freeport-McMoRan
Nippon Mining & Metals
Sumitomo Metal Mining
Xstrata

Anglo American
Mitsubishi Materials

Mitsubishi Materials
Nippon Mining & Metals
Teck
Vale
Xstrata

5. recycle old-scrap at a secondary smelter

Sumitomo Metal Mining

1. recycles old-scrap in primary smelter
Ripple Affect

DIRECT OUTPUTS
BENEFITS AND COSTS TO PEOPLE
all communities of interest

DIRECT OUTPUTS
BENEFITS AND COSTS TO THE ENVIRONMENT
Environmental stress and restoration: chemical, physical, biological

INDIRECT OUTPUTS
Benefits and costs to downstream consumers, operations, communities and ecosystems because of enhanced supply of metal and mineral products

DIRECT INPUTS
Stakeholder engagement, labour, land, water, energy, feedstocks, reagents and supplies

METAL AND MINERAL PRODUCTS

INDIRECT INPUTS
Benefits and costs to upstream consumers, operations, communities and ecosystems because of demand for inputs

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Interests important to mining

Industry: mining companies (junior to major), investors, labour, service providers, associations

Government: local, regional, national, international

Indigenous peoples and their organizations, mining affected communities

End users, original equipment manufacturers, consumers

Civil society organizations

Academic, learning, and R & D support
What is SD leadership?

**Leadership:** walking the talk – a public statement of sustainability commitments supported by actions that deliver on the public promise of the CEO

**Leadership:** addressing both what (the substance) and how (the process) it is done
ICMM member commitments

10 Principles for Sustainable Development + 7 Position Statements

1. Implement ethical business practices and apply good corporate governance
2. Integrate SD in corporate decision-making
3. Uphold fundamental human rights
4. Manage risks based on sound science
5/6. Improve environment, health and safety performance continuously
7. Conserve biodiversity & conduct integrated land use planning
8. Apply materials and product stewardship
9. Contribute to community development
10. Publicly report, independently assure and engage openly and transparently

Mining and Protected Areas
Mining: Partnerships for Development
Climate Change
Mining and Indigenous Peoples
Mercury Risk Management
Transparency of Mineral Revenues
Mineral Resources and Economic Development
ICMM Programs

1. Reporting & Assurance
   Accountability & Continuous Learning
2. Socio-economic Contribution
   - Resource Endowment
   - Community
3. Environmental Contribution
4. Health & Safety
   - Worker
   - Community
5. Materials Stewardship

Mining and Metals Contribution

6. Communications
7. Strategy and Administration

Core services

Associations Co-ordination Group

www.icmm.com
ICMM Publications

Planning for Integrated Mine Closure: Toolkit

Good Practice Guidance on HIV/AIDS, Tuberculosis and Malaria

Implementing a global solution to managing a low emissions economy
Policy on climate change

A SUSTAINED COMMITMENT TO IMPROVED INDUSTRY PERFORMANCE

ACTION FOR A SAFER WORLD

www.icmm.com
Mining’s macroeconomic contribution

- Foreign Direct Investment
  (Tanzania since 2000: more than $2 billion of the $3 billion total FDI flows)
  - 60% - 90%

- Exports
  - 30% - 60%

- Government Revenue
  - 3% - 20%

- National Income (GDP & GNI)
  - 3% - 10%

- Employment
  - 1% - 2%
Tanzania – The Sharing of Mining Revenues

Estimated to total $25 billion - 1999-2034 from existing 6 mines.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Production costs</td>
<td>57%</td>
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<tr>
<td>Government taxes and royalties</td>
<td>15%</td>
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<tr>
<td>Shareholders</td>
<td>11%</td>
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<tr>
<td>Loans and interests</td>
<td>10%</td>
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<tr>
<td>Capital investment</td>
<td>7%</td>
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TANZANIA GDP: per capita growth (1950-2007)
## Overall goal of ‘Mining: Partnerships for Development’

<table>
<thead>
<tr>
<th>Priority areas</th>
<th>Partnerships</th>
<th>Scope for many more partnerships under MPfD</th>
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<tbody>
<tr>
<td>1. Poverty reduction</td>
<td>Companies</td>
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<td>2. Revenue Management</td>
<td>Companies</td>
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<td>3. Regional Development</td>
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<td>4. Local Content</td>
<td>Companies</td>
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<td>5. Social Investment</td>
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<td>6. Dispute Resolution</td>
<td>Companies</td>
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<td>Civil Society</td>
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**Goal of MPfD –**

To encourage a flourishing of multi-stakeholder partnerships to enhance mining’s socio economic impacts across six priority areas.
Progress, Lessons and Future Directions

Overarching
1. Systems perspective: mine life cycle, mineral life cycle, ripple affect, interests
2. Overall contribution to human and ecosystem wellbeing

Process
3. Engagement; collaboration
4. Transparency and accountability
5. Human rights
Progress, Lessons and Future Directions

Substance

6. Fair distribution of benefits, costs, risks and responsibilities
7. Indigenous people
8. Worker Health and Safety
9. Community health and well-being
10. Artisanal and small scale mining
Progress, Lessons and Future Directions

Substance

11. Climate change
12. Biodiversity
13. Integrated materials management
14. Post-closure implications
15. Consistency in standards and performance: within countries, between countries, across the industry from juniors to majors
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