

# Understanding risks and lessons from sustainability: ICMM and its role

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# Key trends (1)

## 1. Turbulence up.

Geopolitical, economic; human migration/refugees increasing; stretched international agencies; shocking unemployment in some countries



## 2. Growing concerns.

Inequity, poverty alleviation indigenous people, mine safety and community health and safety, water, climate change, overall biodiversity loss, cultural diversity loss

## 4. Performance goal posts changing faster than performance.

Leading performance up (laggards remain) but so too is company – community conflict fed by stronger global communications and resulting community empowerment

## 3. “Concerns” shifting to “rights”.

Examples: water, royalties/taxes. Move to environmental court of justice; environment assigned “rights”

# Key trends (2)



## 5. Understanding down.

Little understanding of the full range of benefits, costs and risks of the mining and metals industry; responsibilities and accountabilities not well defined

## 6. Antagonism up.

strong belief that the world is being controlled by evil, out-of-control multi-national corporations

8. **Cyber-threats:** growing misinformation on line; internet security an increasing priority

7. **Mining-related NGO activity up.** 30 % increase from 2011 - 2014; major focus is the environment. Influence of “western” NGOs slipping in Latin America, local groups growing

## Key trends (3)



### 9. Collaboration up.

No one party can address issues; need to bring alternate values to the table; formal multi-interest mechanisms growing (e.g. EITI)

### 10. Increasing pressure for transparency and accountability.

Growing anti-corruption movement; pressure for certification; responsible investment criteria hitting the mainstream; consumer values driving corporate performance; liability rules changing to increase the personal responsibility of board members

### 12. Development role up.

Growing role of mining in low and middle-income countries; agencies now seeing that mining as a development engine; major opportunity to link to delivery of the Sustainable Development Goals; new business models emerging

### 11. Demand up.

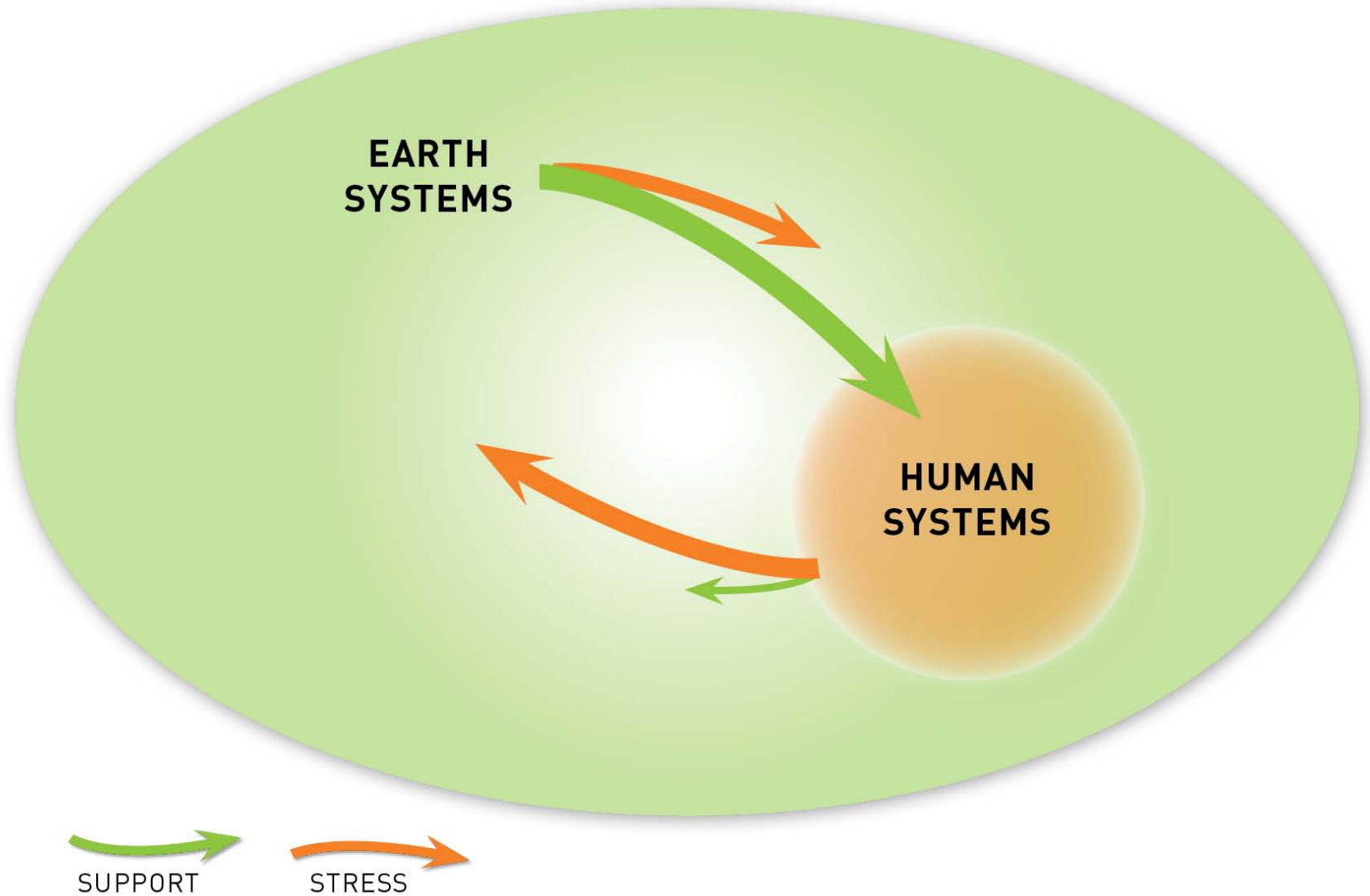
Increasing demand for metals and minerals; growing middle class; urbanization, 1 billion more in 100 years; China setting the agenda for mining and metals

**We must consider the full sustainability perspective:  
the wellbeing of people and the environment.**

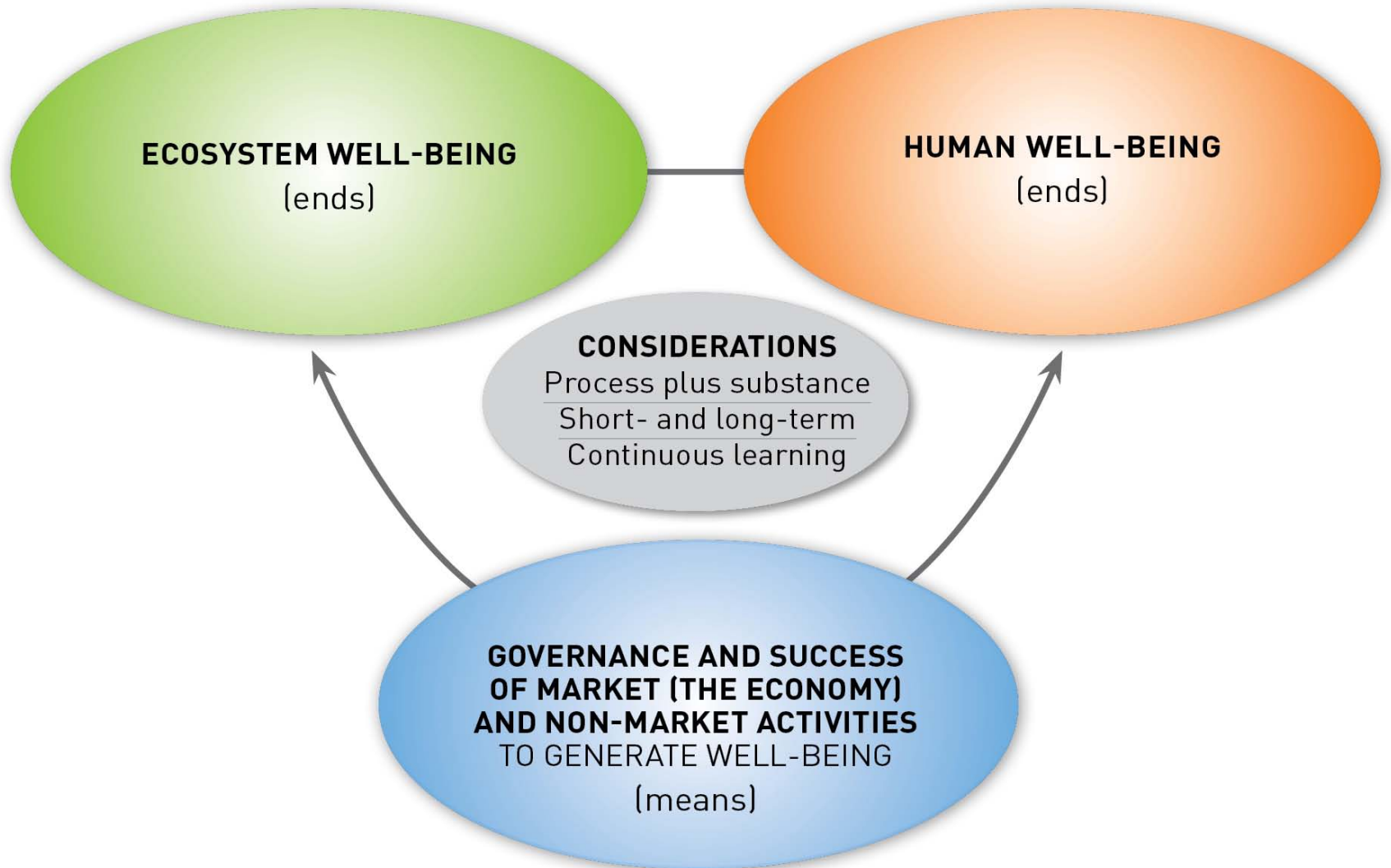
**Now and over the long-term.**



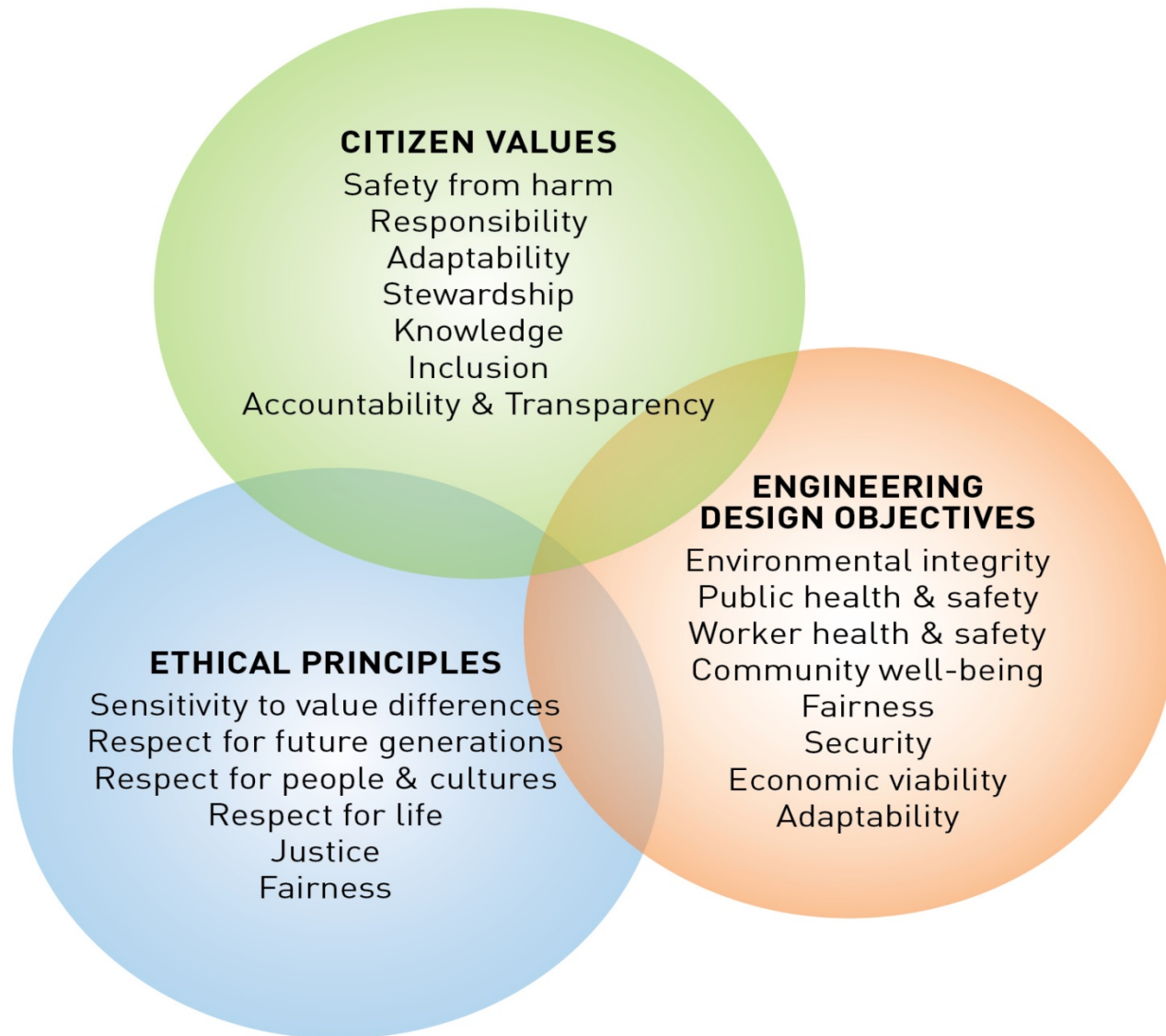
# System



# Understanding ends and means, key considerations



# Towards effective integration





# Definitions

## **Sustainability**

the persistence of certain necessary and desired characteristics of both people and the enveloping ecosystem (of which people are a part) over a very long time – indefinitely

Robinson et al., 1990

## **Development**

to expand or realize the potentials of; bring gradually to a fuller, greater, or better state.

Daly, 1989

## **Sustainable Development**

the human and, most importantly, the ACTION part of the above idea set – it covers what and how people do.

The result is not a “fixed state of harmony.” Rather, it is an ongoing process in which people take actions leading to development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland 1987, Milos Decl. 2003).

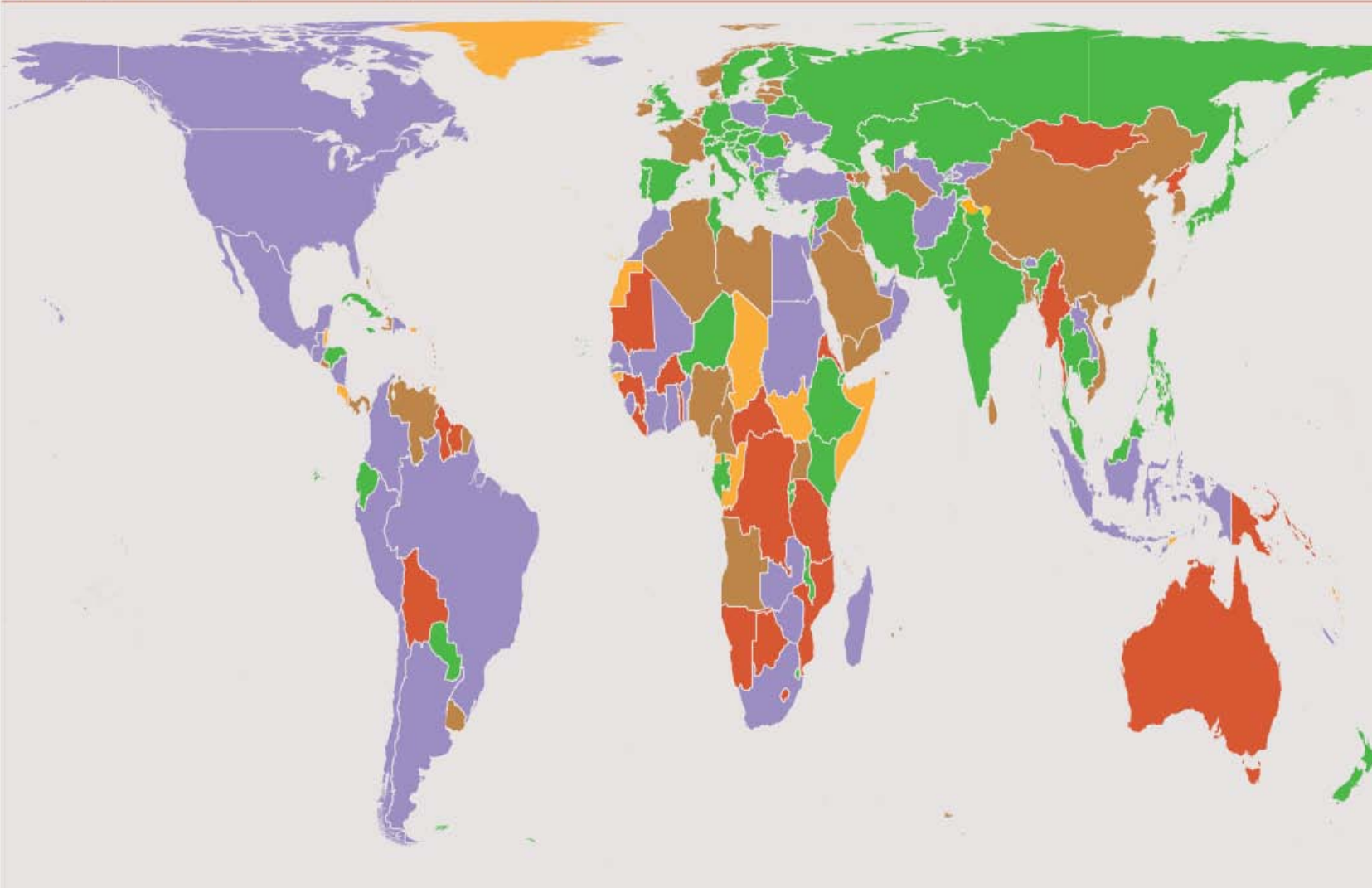
Conversely, actions that reduce the ability of future generations to meet their own needs should be minimized and if deemed essential to continue with today, at least done so with the explicit recognition of and sensitivity to future implications.

# The role of mining in national economies – 2014 update

## An updated Mining Contribution Index (MCI)

Mining Contribution Index score

Above 80   Above 60, less than 80   Above 40, less than 60   Above 20, less than 40   Zero to 20



# Mining company overall structure

category	approximate asset base, \$USD	approximate numbers of companies	comment
Global giants	Exceeds \$10 billion	50	global giants and seniors control the majority of available capital, their focus in on the industry; they have multiple operations
Seniors	\$3 - \$10 billion	100	
Intermediates	\$1 - \$3 billion	350	often on their way up; their focus is on growing their reserves
Juniors: small (often one mine) producers	\$500 million - \$1 billion	1,000	some growing, some shrinking; their focus is on their mine
Juniors: exploration	\$5 - \$500 million	2,000	volatile and market dependent; they are finders, not producers and their focus is on their exploration project
Junior juniors	Below \$5 million	2,500	Their focus is on accessing venture capital and optimizing their stock price

## Spectrum of corporate behaviour



**Hostile Avoiders**  
*Opposers*

**Rearguard**  
*Resistors*

**Corporate Couch Potatoes**  
*Slow adapters*

**Vanguard of the Rearguard**  
*Cautious innovators*

**Leading Edge Doers**

# Ranking of Commodities in the world economy

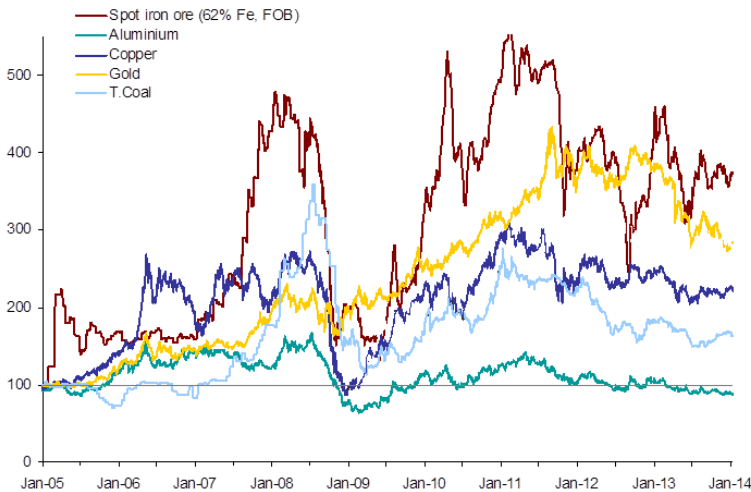
## Mid-2012 to mid-2013

<i>Commodities</i>	<i>MINED (‘000t)</i>	<i>PRICE (US\$/t)</i>	<i>VALUE PA (US\$ bn)</i>
Coal	7,800,000	85	663
Iron Ore	1,900,000	130	247
Copper	17,000	7,100	121
Gold	2.65	42,300,000	112
Bauxite	260,000	350	91
Nickel	1,700	14,000	24
Zinc	13,000	1,800	23
Platinum Group Metals	0.48	30,300,000	15
Diamonds	0.025	580,000,000	14
Lead	3,600	2,000	7
<b>Top Ten Total</b>	<b>9,995,000</b>	<b>(132)</b>	<b>1,317</b>

(Source: Intierra/RMG)

# Mining's reality

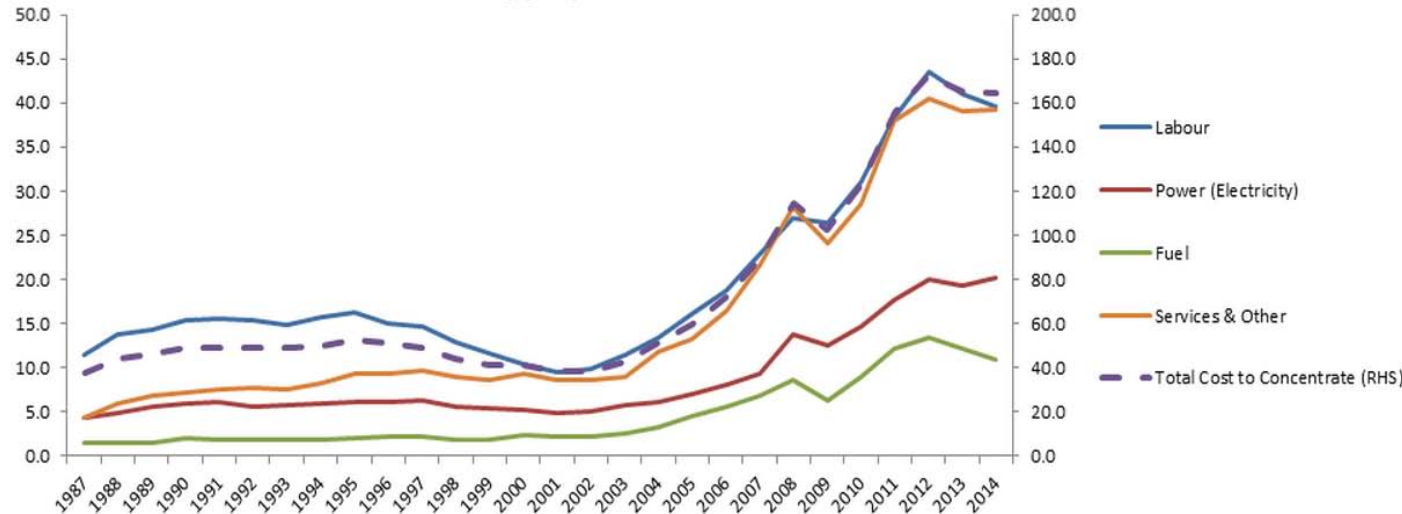
## Daily commodity prices (Jan 2005 = 100)



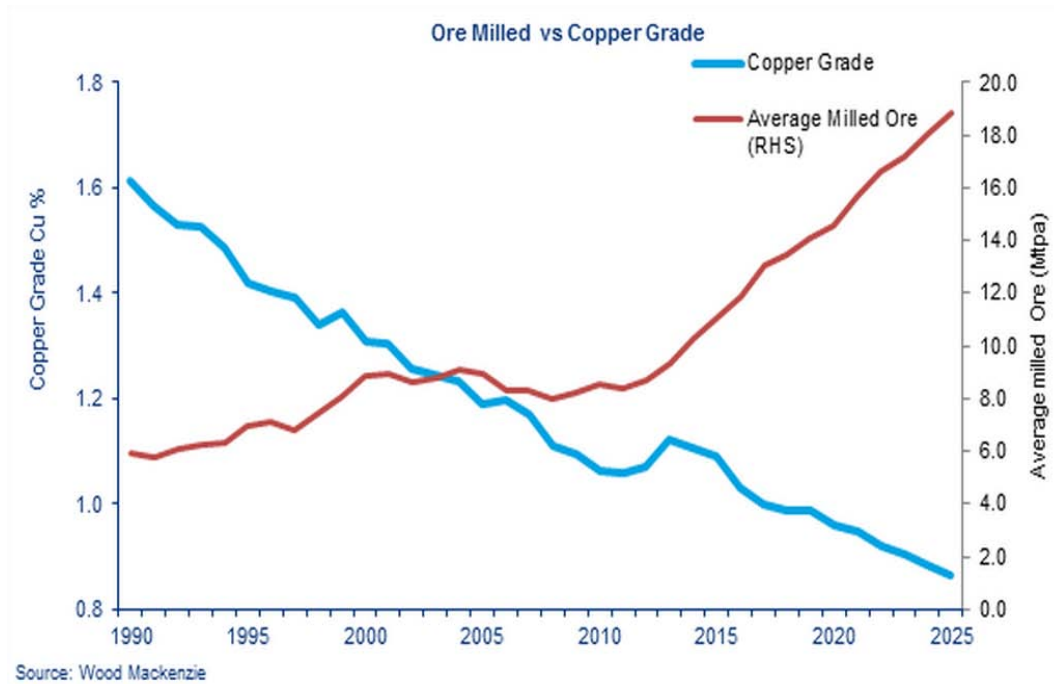
Volatile commodity prices

Increasing costs

## Cash Cost (c/lb)



# Mining's reality

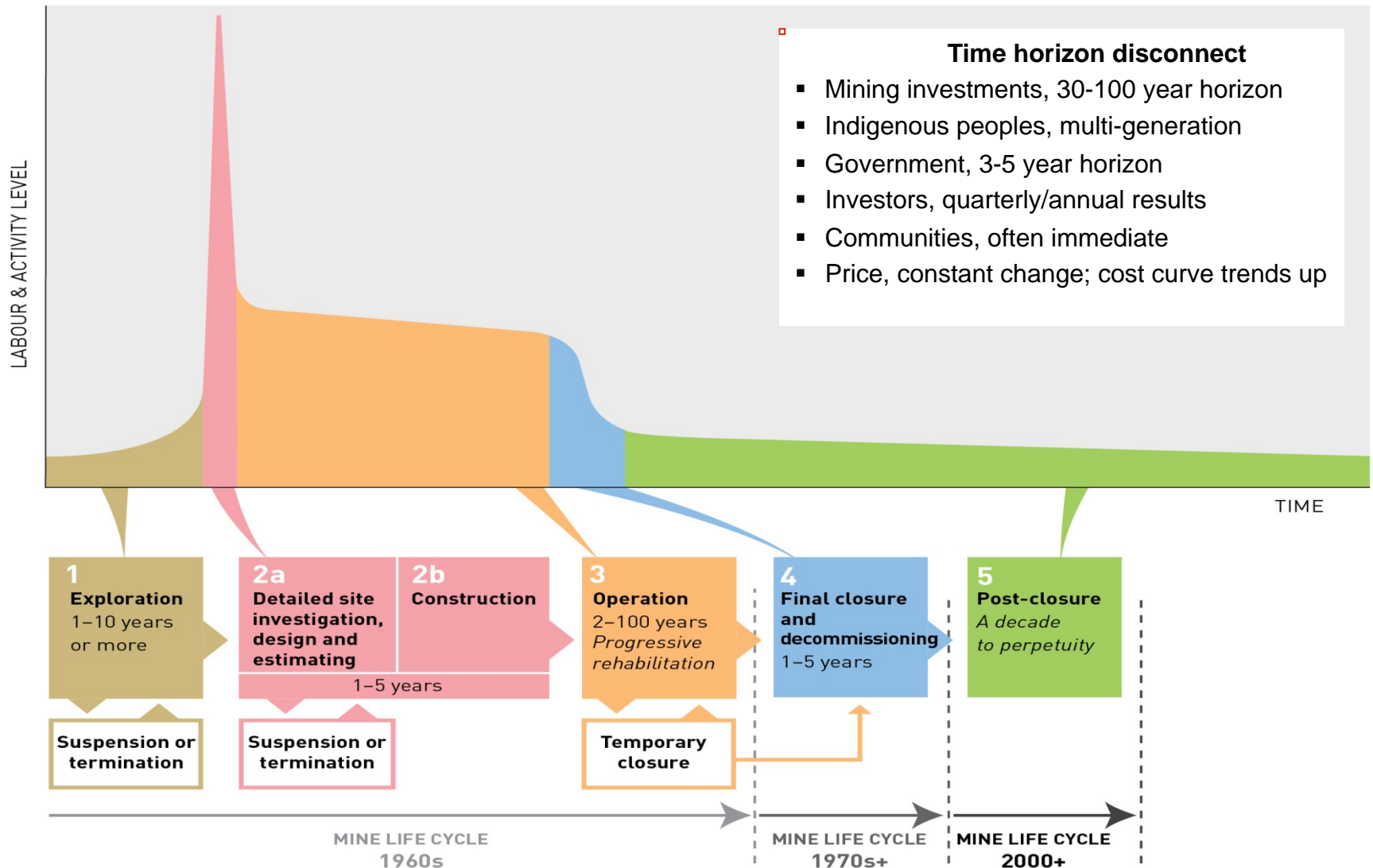


- Declining grades – increasing production costs
- Energy use becomes more intensive

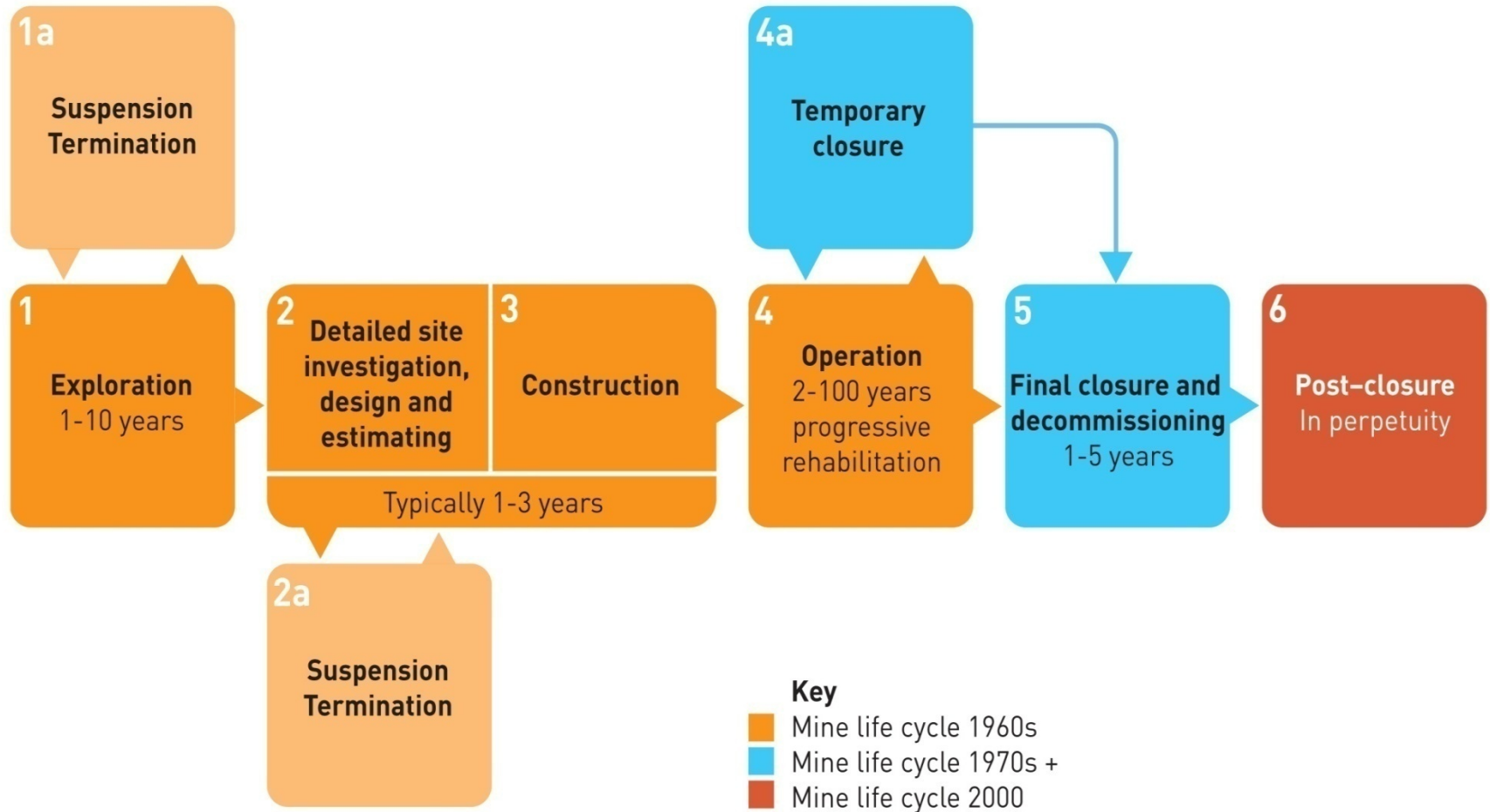
Overall, projects are becoming:

- More complex
- More capital intensive

# Relative activity levels across the project life cycle

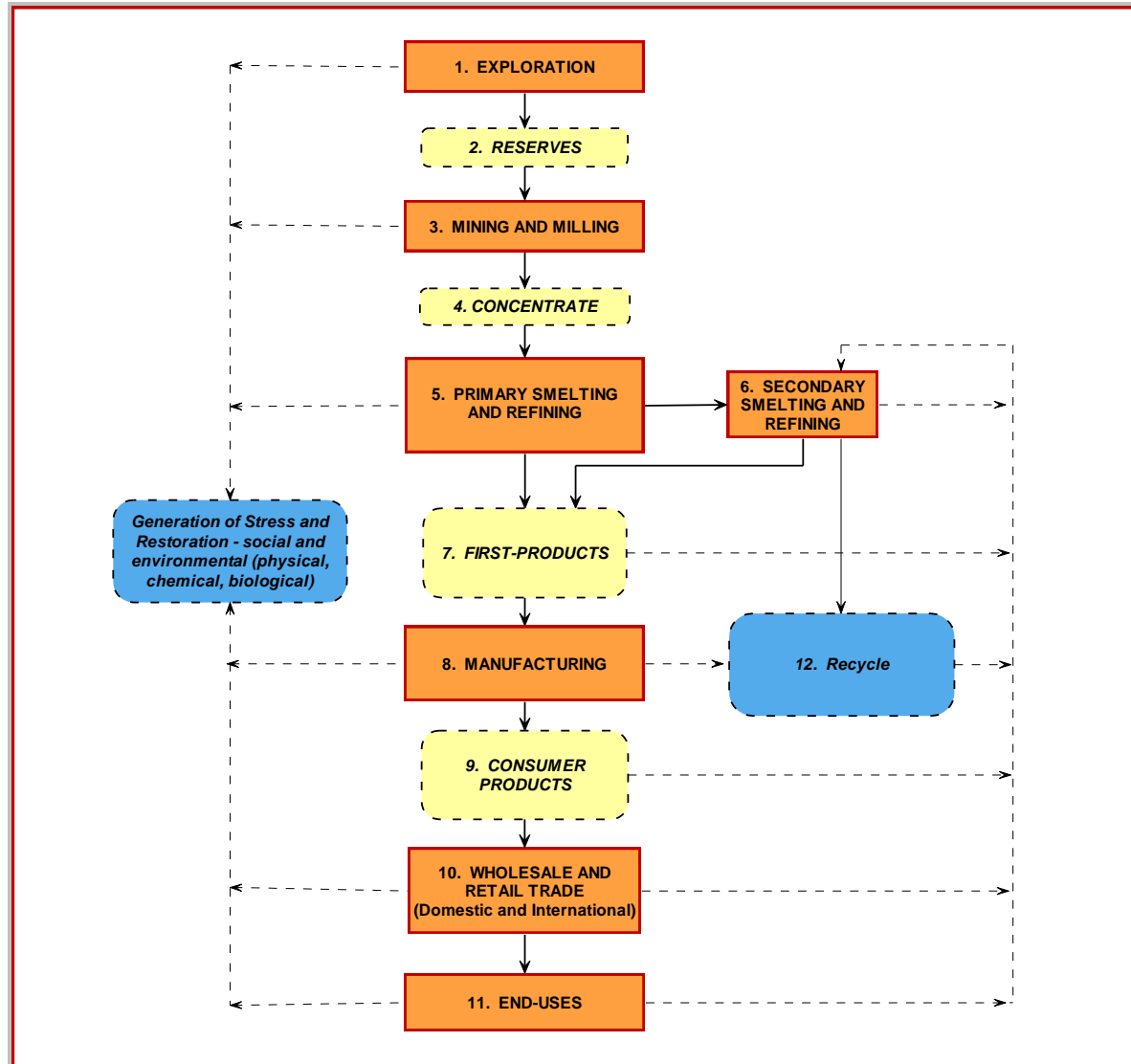


# Mine project life cycle

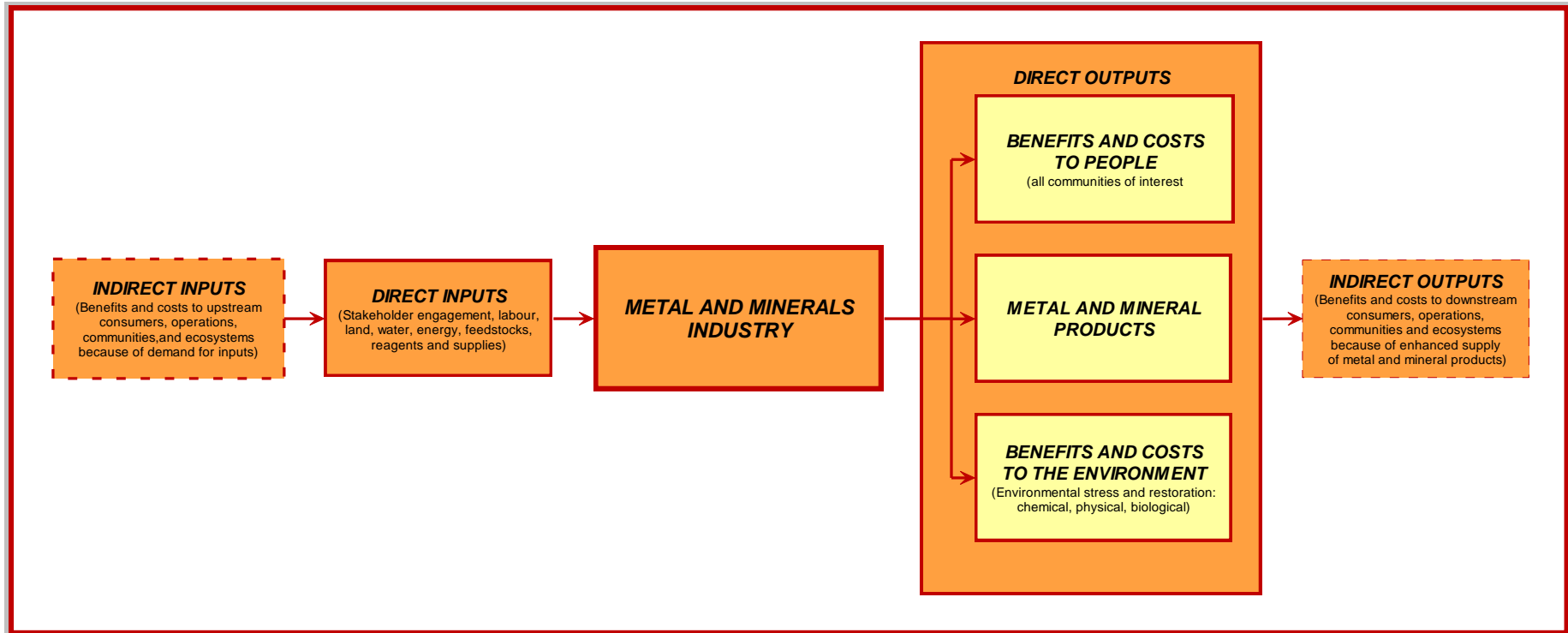




# Boundary Conditions 2: Mine/Minerals Life Cycle



# Boundary conditions 3: ripple effect



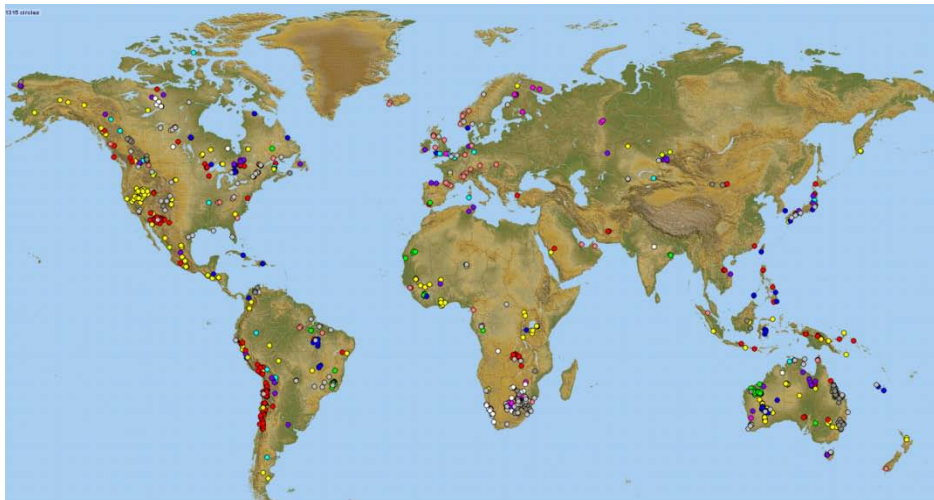
# ICMM at a glance



**CEO led**

**21 Company members**  
(of a global population of about 6,000 companies)

**35 Association members**  
(with reach to another 1500 companies)



**Over 1,200 sites in 70 countries**

(about 1 million employees of about 2.5 million in the formal mining and metals industry)

# ICMM member companies



# Our vision and its fundamental implication



## ICMM Vision

leading mining and metals companies working together and with others to strengthen the contribution to sustainable development



## Fundamental implication

creating value for shareholders while simultaneously creating value for the communities and societies in which they operate



Our role: a catalyst for improving environmental and social performance in the mining and metals industry

# ICMM member commitments

## 10 Principles (2003)

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. Improve environment performance
6. Improve health and safety performance
7. Conserve biodiversity & contribute to integrated land use planning
8. Encourage a life cycle approach to materials management
9. Contribute to community development
10. Publicly report, independently assure and engage openly and transparently

## 6 Position Statements

Mining and Indigenous Peoples (2013, 2008)

Climate Change (2011, 2009, 2006)

Mining: Partnerships for Development (2010, 2004)

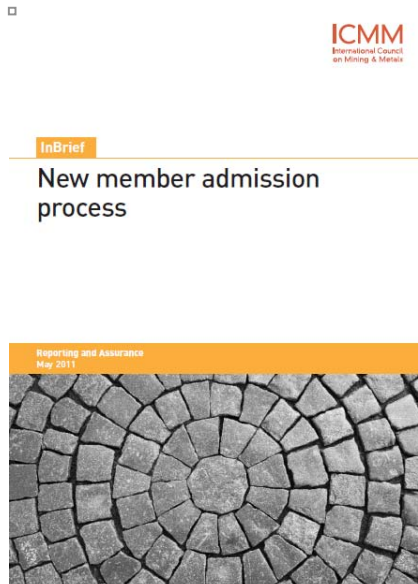
Mercury Risk Management (2009)

Transparency of Mineral Revenues (2009, 2006, 2005, 2003)

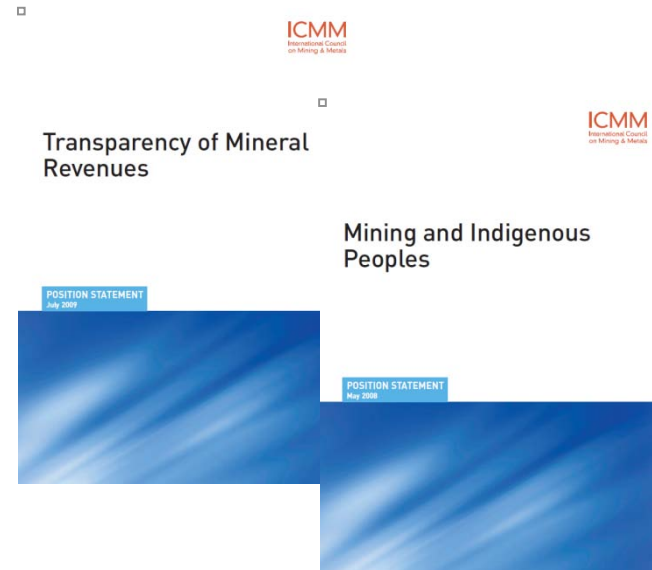
Mining and Protected Areas (2003)

# Enhanced transparency and accountability

## Robust entry criteria and process



## Clear performance expectations



## Reporting



# Issues

## **Social and Economic Development**

Mining as a development partner  
Human rights  
Indigenous people

## **Environment and Climate Change**

Water  
Biodiversity  
Climate change  
Closure

## **Health and Safety**

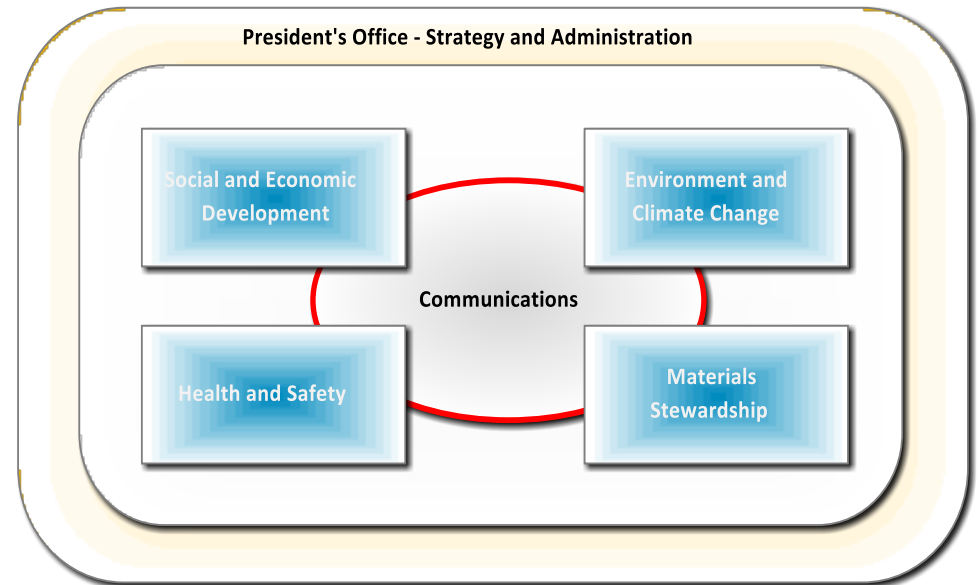
Safeguarding people

## **Materials Stewardship**

Sustainable consumption and production  
Responsibility across the full life cycle

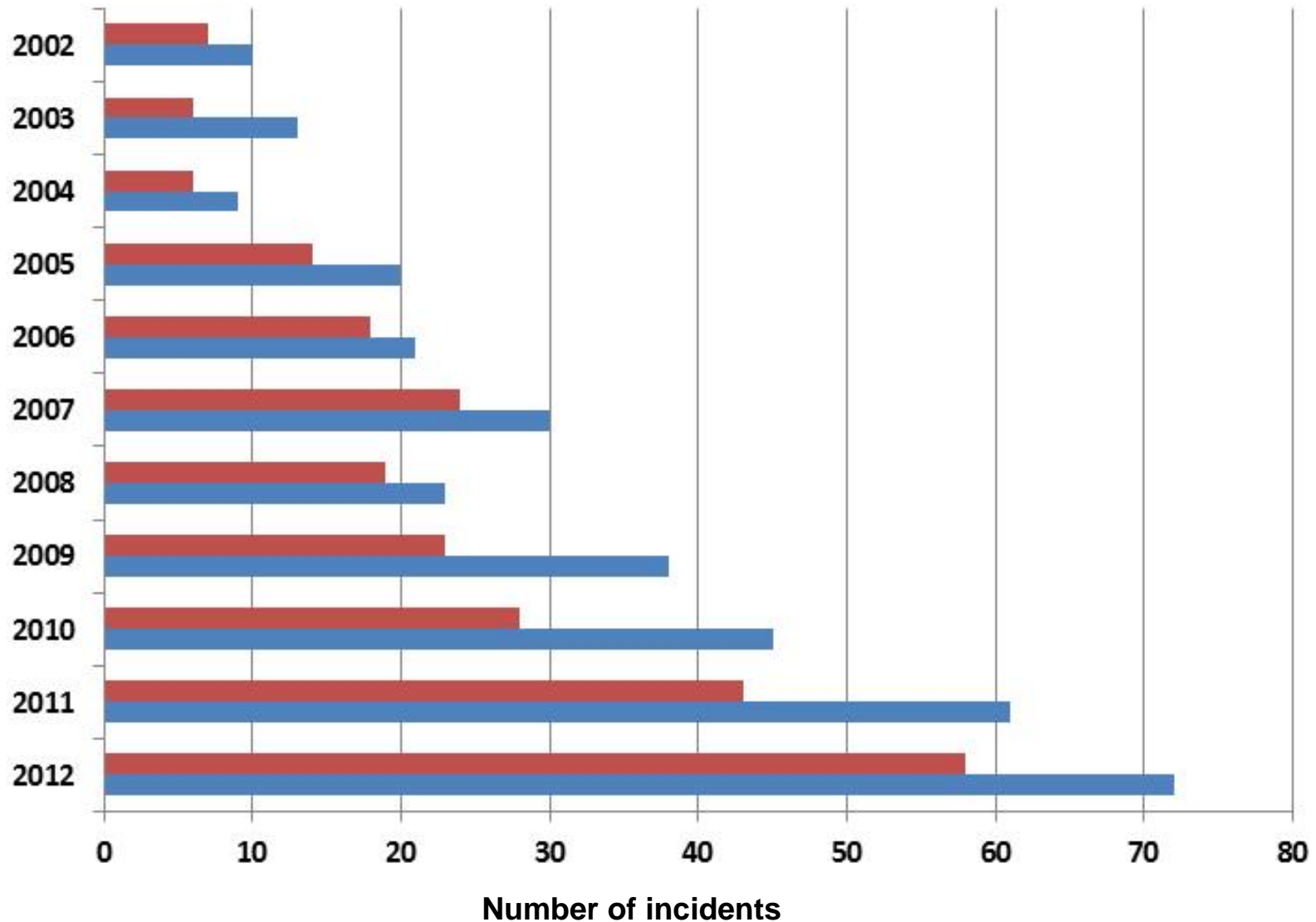
## **Governance**

Transparency  
Anti-corruption





# Increase in mining-community conflicts (ICMM 2014 research)



# Current ICMM focus: strengthening operation - community relationships (graphic from the World Bank Group)



Effective community engagement with impacted communities needs to be sustained throughout the project life cycle - from initial contact prior to exploration through to closure - and needs to be respectful of local priorities and constraints.

# Communities and Free Prior Informed Consent



Mining and Indigenous Peoples



## New York towns can prohibit fracking . . . Dryden – the small town that changed the fracking game

In a 5-to-2 decision with far-reaching implications for the future of natural gas drilling in New York State, on *June 30, 2014*, the *New York Court of Appeals* ruled that towns can use land use regulations (zoning ordinances) to ban the controversial extraction method known as fracking.

Numerous municipalities across the state have either banned fracking or are considering doing so, and the trend may accelerate because of the court's ruling.

[Source: \*http://www.nytimes.com/2014/07/01/nyregion/towns-may-ban-fracking-new-york-state-high-court-rules.html?\\_r=0\*](http://www.nytimes.com/2014/07/01/nyregion/towns-may-ban-fracking-new-york-state-high-court-rules.html?_r=0)  
and see also:

<http://earthjustice.org/features/the-story-of-dryden-the-town-that-fought-fracking-and-is-winning>

# Mount Polley Tailings Failure, Monday 4 Aug 2014

(estimated loss of 10 billion litres of water and 4.5 million cubic metres of tails)



# Closure - the Faro Story



# Closure - the Faro Story



# Closure - the Faro Story



# Closure - Toyoha Mine, JX Nippon





# Three lessons

- 1. Key success factor for mining moving forward:** establishing relationships that are characterized by integrity, respect and trust (note stalled projects Sierra Gorda, Pascua Lama, Conga – approx. \$15 billion USD)
- 2. Rules are not enough** – relationships, excellence, and continuous learning/improvement cannot be legislated (change comes from voluntary commitment/action supplemented by peer pressure)
- 3. Solutions and insights are at the periphery,** not the centre

# Seeing the forest and the trees . . .



. . . and a longer term perspective



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