Towards Sustainable Mining (TSM):
Options for Mongolia

Glenn Kendall
СЕСМИМ төслийн
Уул уурхайн Бодлого,
Зохицуулалтын Зөвлөх

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Objectives

I. Present the main elements of the Mining Association of Canada's Towards Sustainable Mining (TSM) initiative

II. Discuss how TSM might be implemented in the Mongolian context

Why TSM was Adopted

- To respond to demands from society for more sustainable mining practices
  - Community engagement
  - Environmental stewardship
  - Climate change

- To reduce demands from government and increased regulation

- To improve the efficiency, performance and image of the mining industry….risk management
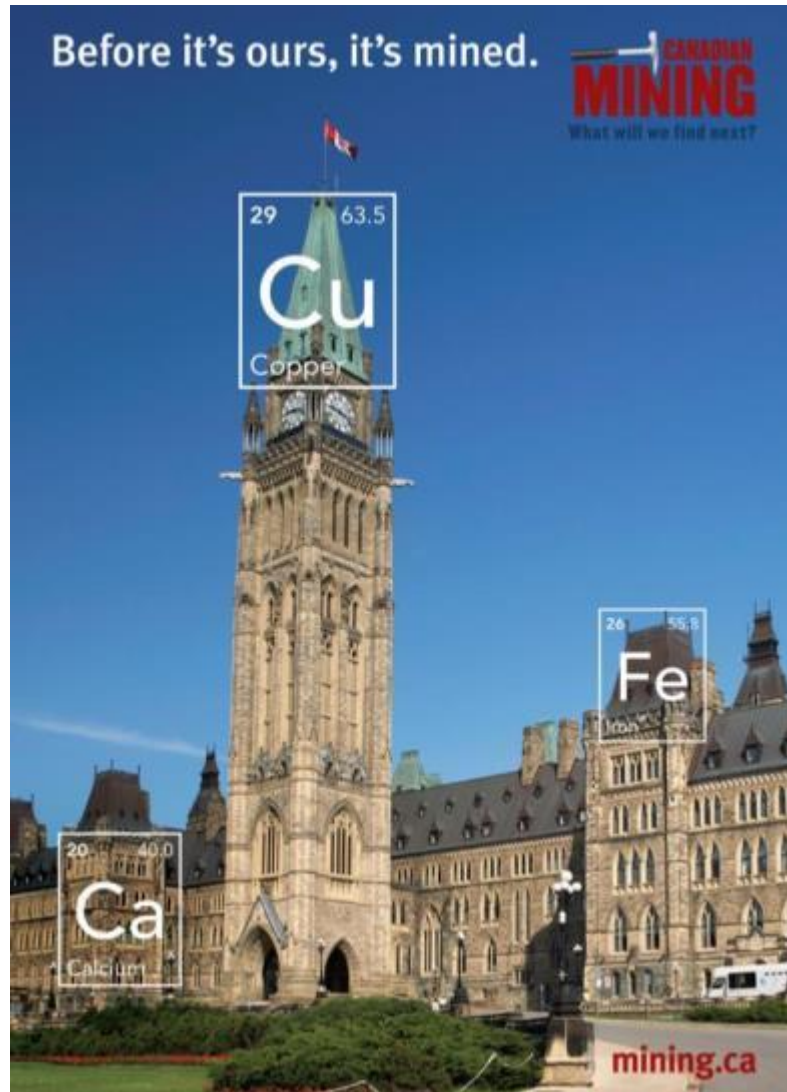
- The national voice of the Canadian mining industry since 1935.

- Members are engaged in mineral exploration, mining, smelting, refining and semi-fabrication.

- Member companies account for the vast majority of Canada's output of metals and major industrial minerals.

- Associate members comprise a wide range of services and equipment supplied to the mining industry.

- Towards Sustainable Mining Initiative (TSM) – stewardship, social license and encourages excellence and continuous improvement.

TSM's core strengths are:

- **Accountability** – Assessments are conducted at the facility level where mining activity takes place – the only program in the world to do this in our sector

- **Transparency** – Annual reporting against 23 indicators with independent verification every three years

- **Credibility** – Includes ongoing consultation with a national Community of Interest Advisory panel to improve industry performance and shape TSM for continual advancement

COI Advisory Panel
Aboriginal peoples
Environmental NGO
Economic/community development
Social NGO including faith based groups
Finance/investment
International development
Labour/workplace
Media/communications
MAC Board of Directors
Junior Mining Company Representative

- ◆ Meets twice per year

- ◆ Work of Panel publicly available on the MAC website

- ◆ Annual COI Panel Statement published in *TSM Progress Report*

Environmental Stewardship	Communities & People	Energy Efficiency

Tailings Management
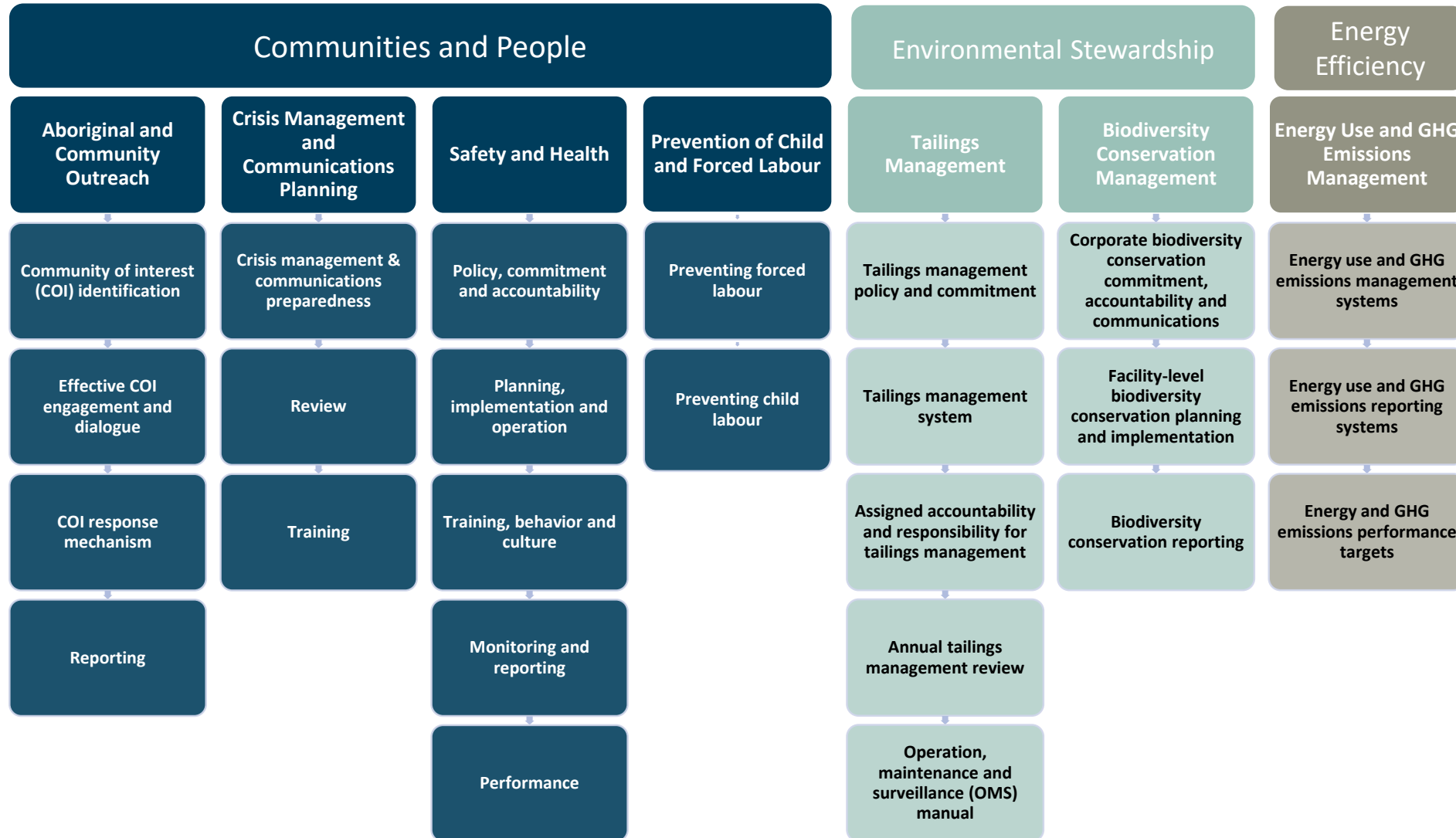
Biodiversity Conservation Management

Aboriginal & Community Outreach

Safety & Health Management

Crisis Management & Communications Planning

Preventing Child and Forced Labour

Energy Use & Greenhouse Gas Emissions Management

Community of Interest Advisory Panel

The Mining Association of Canada | L'association minière du Canada

Communities and People

Aboriginal and Community Outreach

- Community of interest (COI) identification
- Effective COI engagement and dialogue
- COI response mechanism
- Reporting

Crisis Management and Communications Planning

- Crisis management & communications preparedness
- Review
- Training

Safety and Health

- Policy, commitment and accountability
- Planning, implementation and operation
- Training, behavior and culture
- Monitoring and reporting
- Performance

Prevention of Child and Forced Labour

- Preventing forced labour
- Preventing child labour

Environmental Stewardship

Tailings Management

- Tailings management policy and commitment
- Tailings management system
- Assigned accountability and responsibility for tailings management
- Annual tailings management review
- Operation, maintenance and surveillance (OMS) manual

Biodiversity Conservation Management

- Corporate biodiversity conservation commitment, accountability and communications
- Facility-level biodiversity conservation planning and implementation
- Biodiversity conservation reporting

Energy Efficiency

Energy Use and GHG Emissions Management

- Energy use and GHG emissions management systems
- Energy use and GHG emissions reporting systems
- Energy and GHG emissions performance targets

AAA	• Excellence and Leadership
AA	• Integration into management decisions and business functions
A	• Systems/processes are developed and implemented
B	• Procedures exist but are not fully consistent or documented; systems/processes planned and being developed
C	• No systems in place; activities tend to be reactive; procedures may exist but they are not integrated into policies and management systems

Understanding TSM Protocols – An Example

➤ Measurable, specific criteria for each level of performance
  ➤ 'C' through 'AAA' ('C' "really bad", 'A' "world leading")

➤ Self-assessment checklist available

Safety and Health

I. Policy Commitment and Accountability

II. Planning, Implementation and Operation

III. Training, Behavior and Culture

IV. Monitoring and Reporting

V. Performance

Performance: Assessment Criteria

LEVEL CRITERIA

C

No safety and health performance targets have been established for employees of the facility.

B

Safety and health performance targets are set for employees of the facility. Targets may not include performance of contractors. Targets are communicated to employees.

A

Performance targets include on-site contractors. Facility management is involved in reviewing and improving performance relative to targets. Performance results are communicated to employees and on-site contractors. The facility has not had a fatality in the reporting year.

AA

Performance targets are set for both leading and lagging indicators. Senior company management reviews performance against facility targets and associated improvement plans. Facility (or company) benchmarks its safety and health performance against its peers.

AAA

The facility has consistently met its continual improvement performance targets (at least 3 of the last 4 years) and is fatality free over the entire four-year period. The facility externally audits its safety and health performance to ensure accuracy

Self-assessment

♦ Annual

External verification

♦ Every three years

CEO letter of assurance

♦ Posted on MAC website in year of external verification

COI Panel Review

♦ 2-3 companies each year
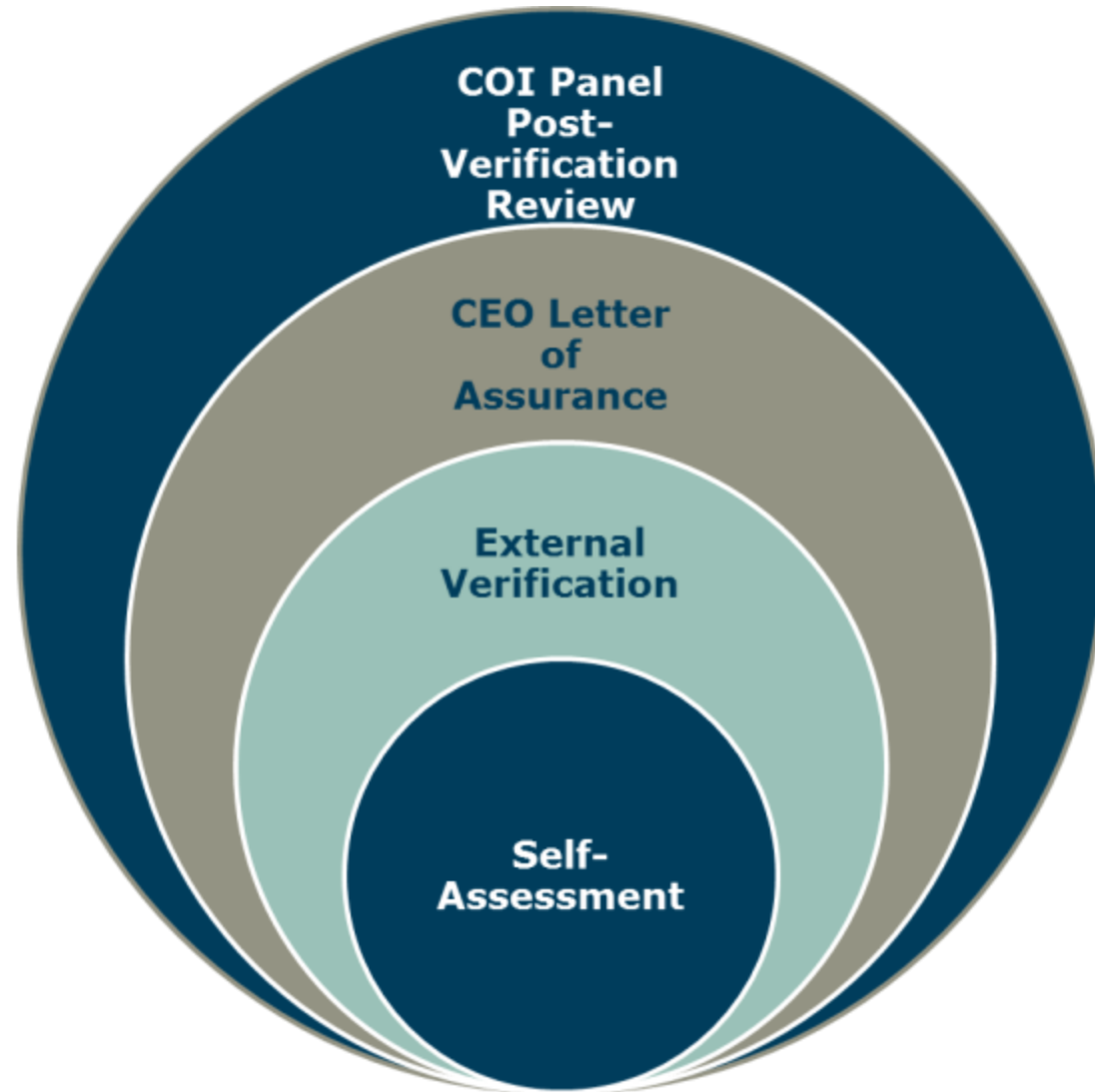
♦ In November, 2016, the MAC Board directed the TSM Initiative Leaders to develop a new water protocol. This work is currently underway.

♦ The approach is to build on the Finnish TSM Water Protocol, ICMM's Water Position Statement and the Alliance for Water Stewardship Council Standard.

♦ The Protocol currently has four indicators at the moment:

1. *Water governance* – focusing on responsibilities, accountabilities and commitments

2. *Operational Water Management* – focusing on water balance, identification of impacts, risks and opportunities, monitoring, setting and tracking objectives and contingency planning for operational incidents and extreme events

3. *Catchment-Level Water Management* - focusing on engaging with other water users in the catchment and identifying catchment level risks and opportunities

4. *Water Stewardship Reporting and Disclosure* – focusing on internal and external reporting

- In February MAC adopted a new membership commitment relating to security and human rights to compliment the TSM commitment:

    - *As members of the Mining Association of Canada, all participating companies that rely upon private or public security forces commit to implementing a human rights and security approach consistent with the Voluntary Principles on Security and Human Rights (VPs) and based on a determination of risk at facilities that they control.*

- Key elements of this commitment include:

    - The creation of a communities of practice forum for MAC member security practitioners

    - A reporting element focused on implementation and assurance

    - Recognized equivalencies for ICMM and World Gold Council

TSM has been adopted by the Mining Association of BC, the Quebec Mining Association, the Finnish Mining Association (FinnMin), the Argentinean Chamber of Mining Entrepreneurs (CAEM) and the Botswana Chamber of Mines.

Each implementing association is required to have something in place to meet each of the following seven components:

1. Guiding Principles
2. Performance Indicators
3. Facility Level Reporting
4. Independent Verification
5. Public Reporting of Facility Level Reporting
6. Condition of Membership
7. Community of Interest Advisory Body

It is left up to the association, in conjunction with their Community of Interest Advisory Body, to decide how best to implement each item

♦ Publication of results

    ♦ company specific

    ♦ aggregated for the membership as a whole

♦ On website (www.mining.ca)

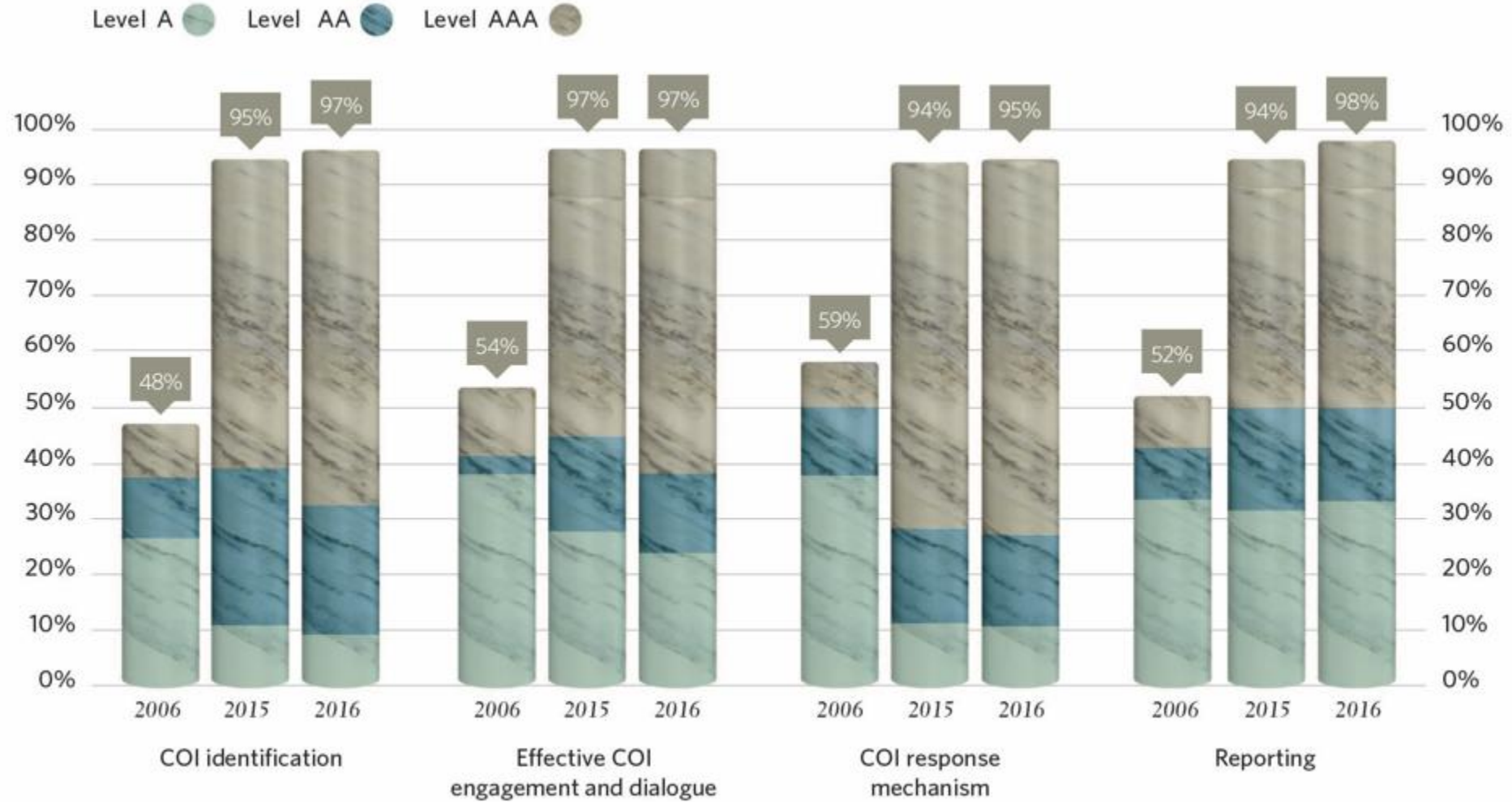♦ Useful for comparison between companies (and peer pressure)
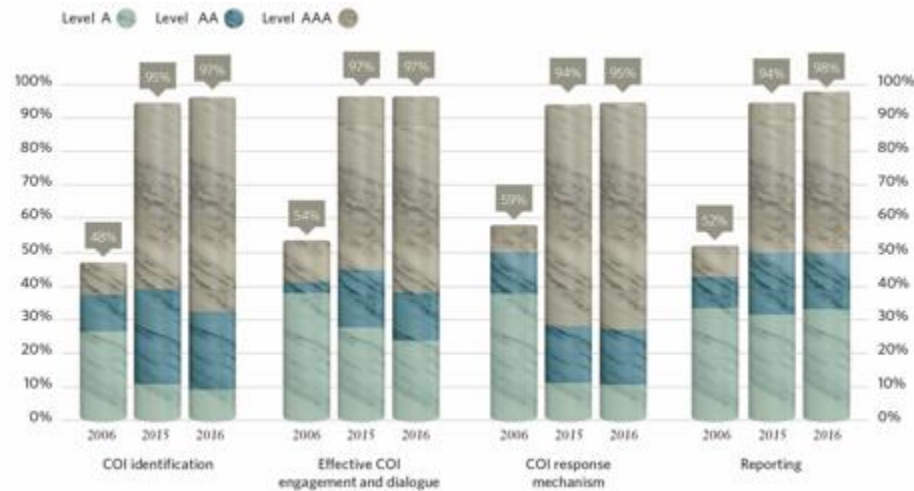
Safety and Health Assessments
Percentage of Facilities at a Level A or Higher 2006, 2015 and 2016
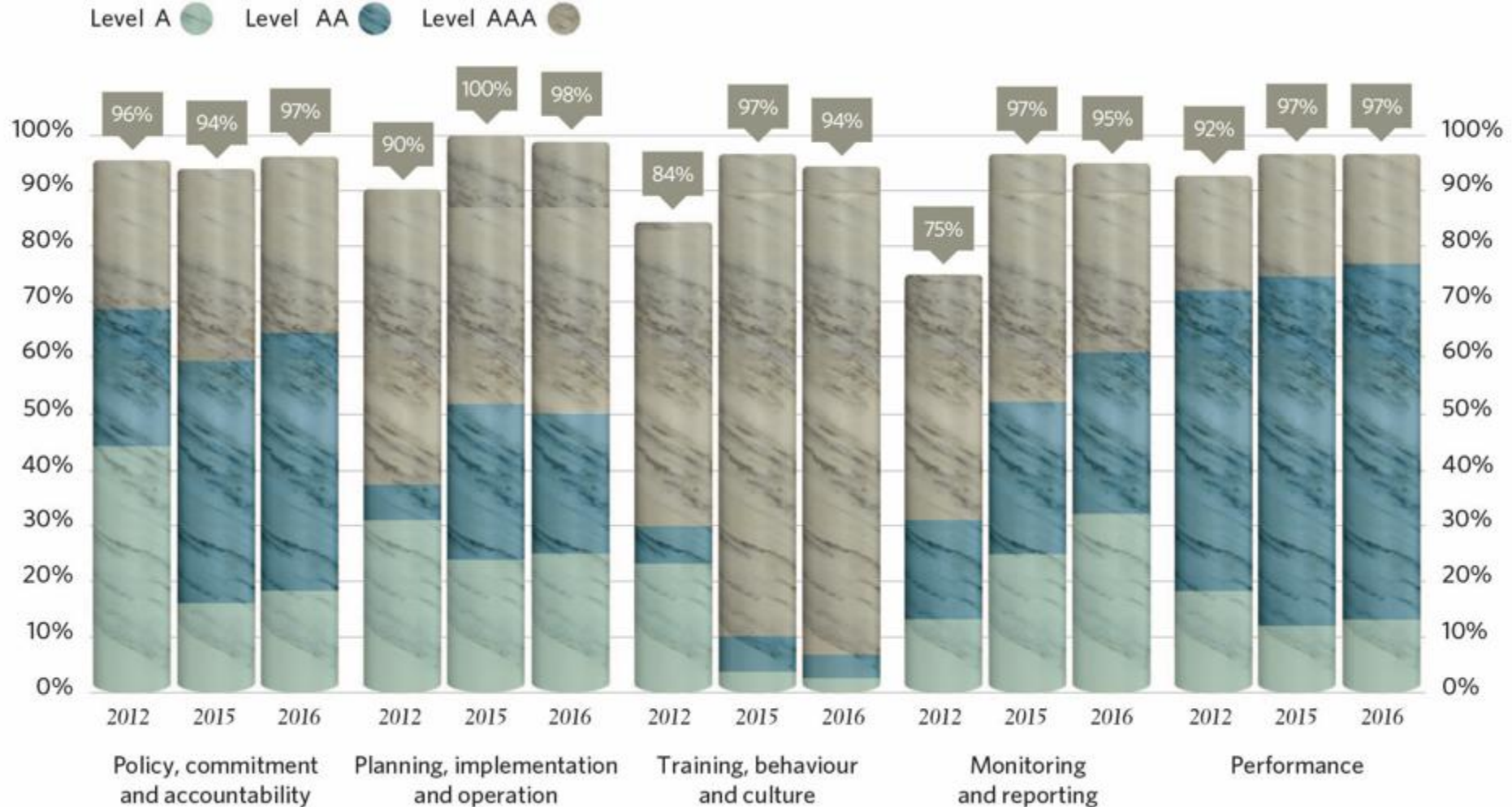
Aboriginal and Community Outreach Assessments
Percentage of Facilities at a Level A or Higher 2006, 2015 and 2016

Tailings Management Assessments
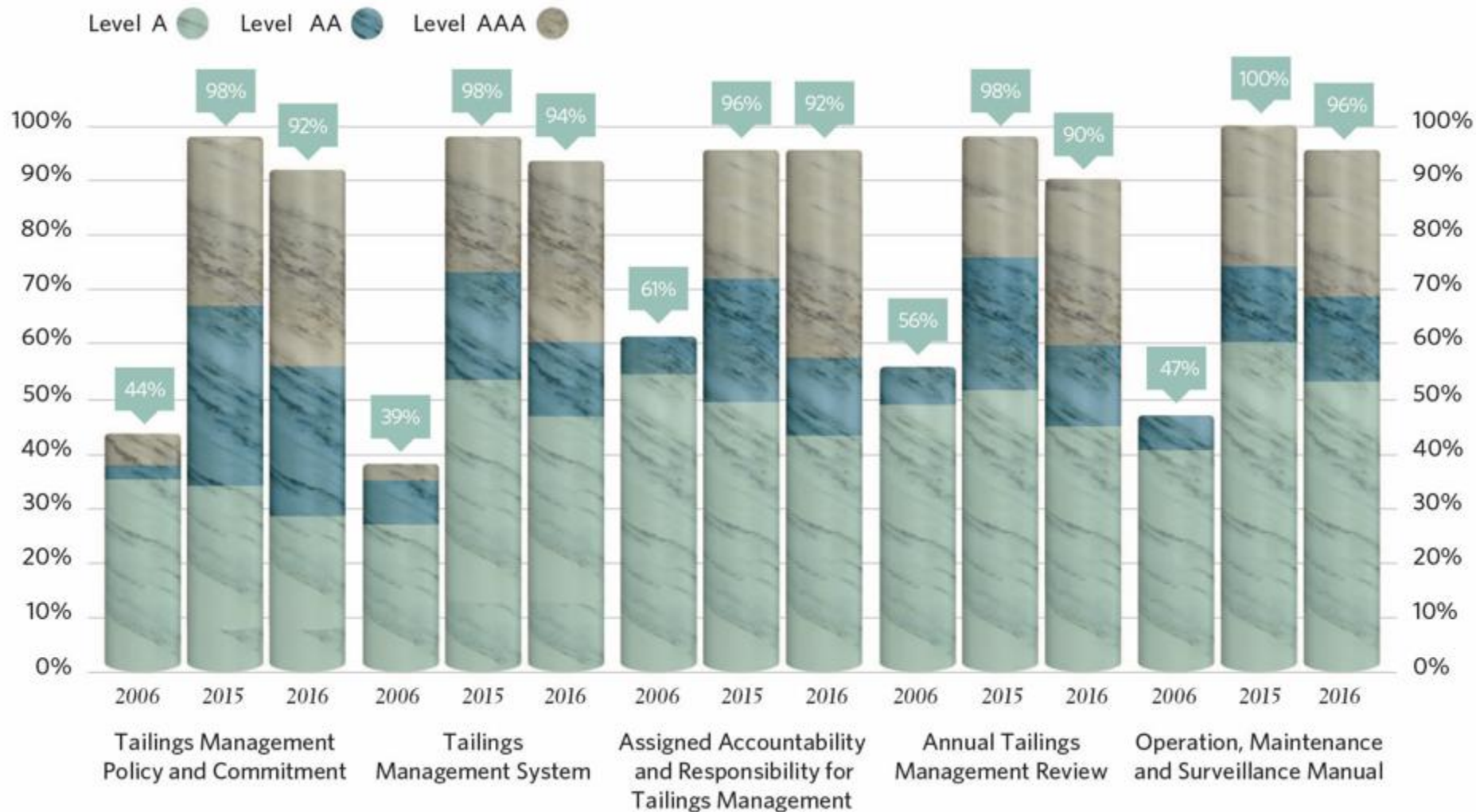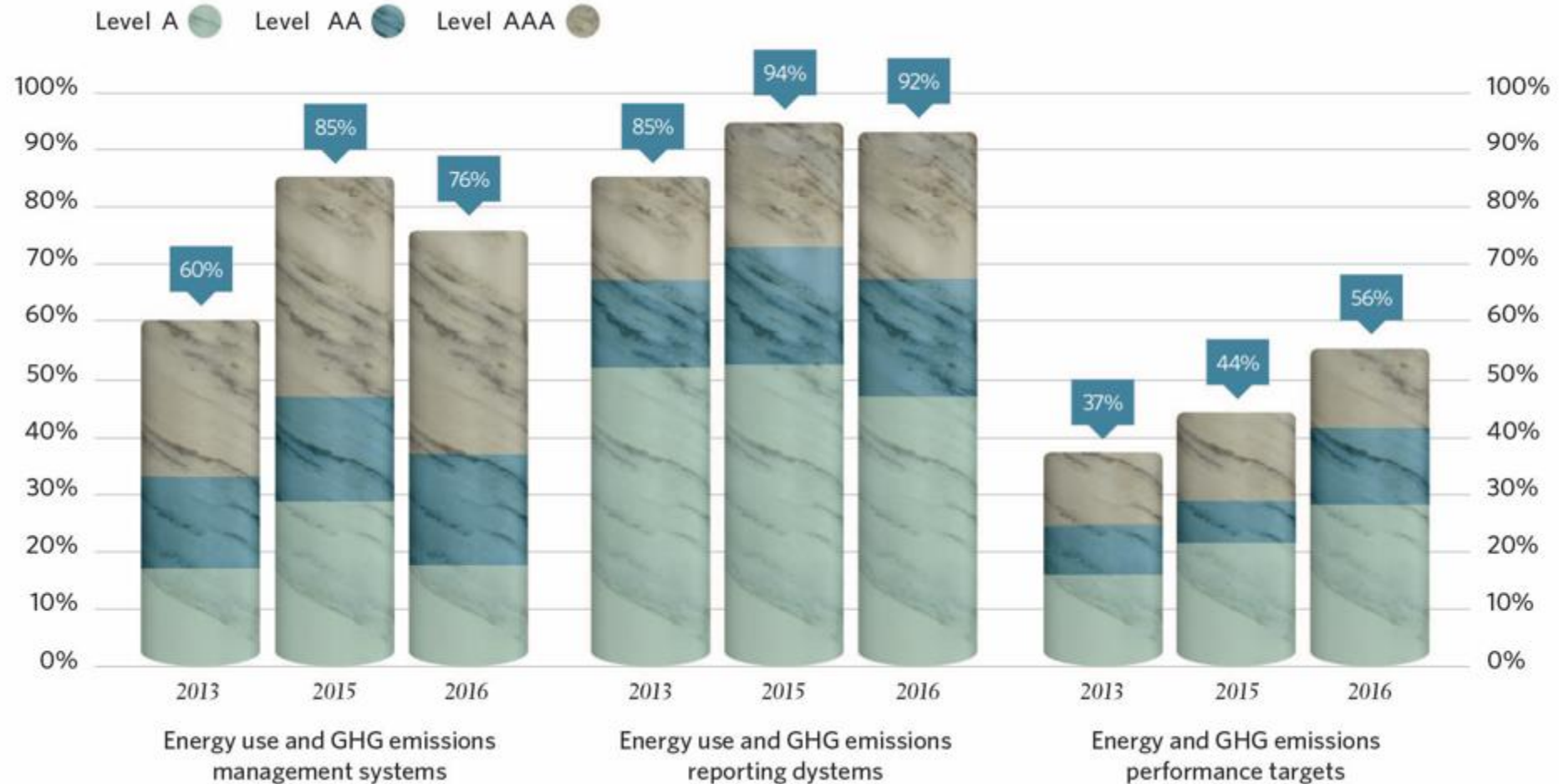**Percentage of Facilities at a Level A or Higher 2006, 2015 and 2016**

Energy Use and GHG Emissions Management Assessments
Percentage of Facilities at a Level A or Higher 2006, 2015 and 2016

TSM implemented nationally:

1. Canada
2. Finland
3. Botswana
4. Argentina

Countries with mines implementing TSM, but not yet reporting:

1. Australia
2. Greece

Additional countries with mines reporting on TSM indicators:

1. Burkina Faso
2. Mexico
3. USA
4. Peru
5. Surinam
6. Turkey
7. Australia

National associations and governments that have sought to learn more about TSM

1. Brazil +
2. Chile + *
3. China +
4. Ecuador *
5. European Union *
6. Greenland + *
7. Indonesia *
8. Norway *
9. Spain +
10. Sweden + *
11. Cuba +*
12. Philippines +

* - Interest from government
+ - Interest from Association

TSM Video Overview

http://mining.ca/towards-sustainable-mining/tsm-videos

Group Discussion and Report Back

Task: Each group to discuss the following questions:

I.   Key Strengths and Weaknesses of TSM   (15 min.)

II.   How TSM Could be Adopted in Mongolia   (25 min.)
    (preliminary ideas)
       I.   Where to Start (priority areas)
       II.   Elements of Mongolia's TSM
          (e.g. Principles, Issue Areas, Protocols)

III. Suggested Next Steps   (10 min.)

Thank-you for your participation!