



Towards Sustainable Mining  
Vers le développement minier durable

## Understanding TSM

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## TOWARDS SUSTAINABLE MINING: OUR COMMITMENT

Established in 2004, TSM's main objective is to enable mining companies to meet society's needs for minerals, metals and energy products in the most socially, economically and environmentally responsible way. The program's core strengths are:

- ◆ **Performance driven** – Includes a requirement to demonstrate measurable continual sustainability improvement.
- ◆ **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 25 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



...MADE-IN-CANADA,  
GOING GLOBAL.

Canada was the first to develop an externally-verified performance system for mining operations. Since then, countries around the world have adopted TSM to draw from Canada's expertise.

TSM® reflects our commitment to leaving a positive legacy where we operate. In turn, we're helping businesses and their customers be confident in how their products are made.

Learn more at: [mining.ca/responsible-sourcing](https://mining.ca/responsible-sourcing)



## ***COI Advisory Panel***

Aboriginal peoples

Environmental NGO

Economic/community development

Social NGO including faith based groups

Finance/investment

International development

Labour/workplace

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*



## COMPONENTS OF TSM: FOCUS AREAS AND PROTOCOLS

### Environmental Stewardship



Tailings Management  
Biodiversity Conservation  
Management  
Water Stewardship

### Communities & People



Aboriginal & Community Outreach  
Safety & Health Management  
Crisis Management & Communications  
Planning  
Preventing Child and Forced Labour

### Energy Efficiency



Energy Use & Greenhouse Gas  
Emissions Management

**Developed in consultation with Community of Interest Advisory Panel**

## Communities and People

Aboriginal and Community Outreach

Crisis Management and Communications Planning

Safety and Health

Prevention of Child and Forced Labour

Community of interest (COI) identification

Crisis management & communications preparedness

Policy, commitment and accountability

Preventing forced labour

Effective COI engagement and dialogue

Review

Planning, implementation and operation

Preventing child labour

COI response mechanism

Training

Training, behavior and culture

Reporting

Monitoring and reporting

Performance

## Environmental Stewardship

Tailings Management

Biodiversity Conservation Management

Water Stewardship

Tailings management policy and commitment

Corporate biodiversity conservation commitment, accountability and communications

Water Governance

Tailings management system

Facility-level biodiversity conservation planning and implementation

Operational Water Management

Assigned accountability and responsibility for tailings management

Biodiversity conservation reporting

Watershed-Scale Planning

Annual tailings management review

Water Reporting and Performance

Operation, maintenance and surveillance (OMS) manual

## 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

The facility does not meet the requirements of level B

Good Practice →

### Self-assessment

- ◆ Annual

### External verification

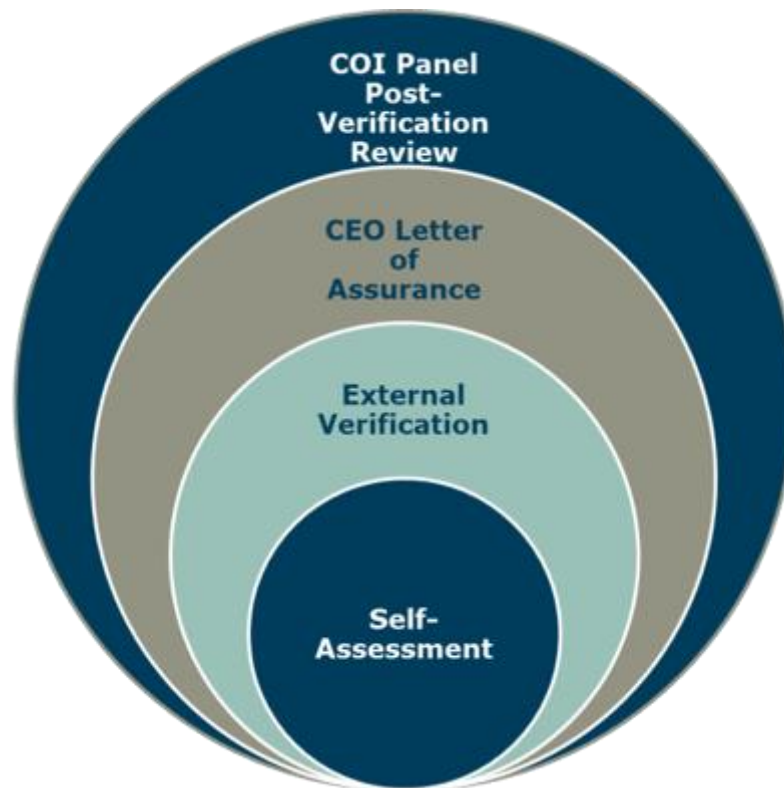
- ◆ Every three years

### CEO letter of assurance

- ◆ Posted on MAC website in year of external verification

### COI Panel Review

- ◆ 2 companies each year



2018



2017 TSM Results

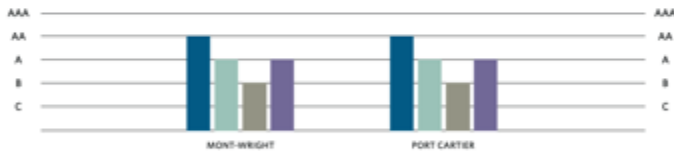
ArcelorMittal Mines Canada

### Crisis Management and Communications Planning Assessment

FACILITY	PREPAREDNESS	REVIEW	TRAINING
CORPORATE	✓	✗	✗
MONT-WRIGHT	✓	✗	✗
PORT CARTIER	✓	✗	✓

### Aboriginal and Community Outreach Assessment

- COMMUNITY OF INTEREST (COI) IDENTIFICATION
- COI RESPONSE MECHANISM
- EFFECTIVE COI ENGAGEMENT AND DIALOGUE
- REPORTING



### Safety and Health Assessment

- COMMITMENTS AND ACCOUNTABILITY
- MONITORING AND REPORTING
- PLANNING AND IMPLEMENTATION
- PERFORMANCE
- TRAINING, BEHAVIOUR AND CULTURE



2018

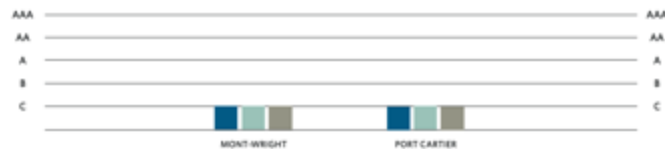
### Tailings Management Assessment

- TAILINGS MANAGEMENT POLICY AND COMMITMENT
- ANNUAL TAILINGS MANAGEMENT REVIEW
- TAILINGS MANAGEMENT SYSTEM
- OPERATION, MAINTENANCE AND SURVEILLANCE (OMS) MANUAL
- ASSIGNED ACCOUNTABILITY AND RESPONSIBILITY FOR TAILINGS MANAGEMENT



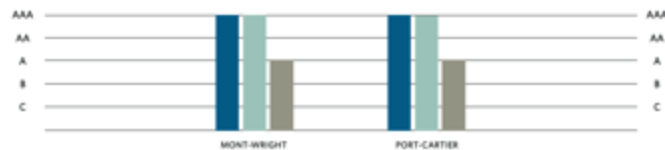
### Biodiversity Conservation Management Assessment

- CORPORATE BIODIVERSITY CONSERVATION POLICY, ACCOUNTABILITY AND COMMUNICATIONS
- FACILITY-LEVEL BIODIVERSITY CONSERVATION PLANNING AND IMPLEMENTATION
- BIODIVERSITY CONSERVATION REPORTING



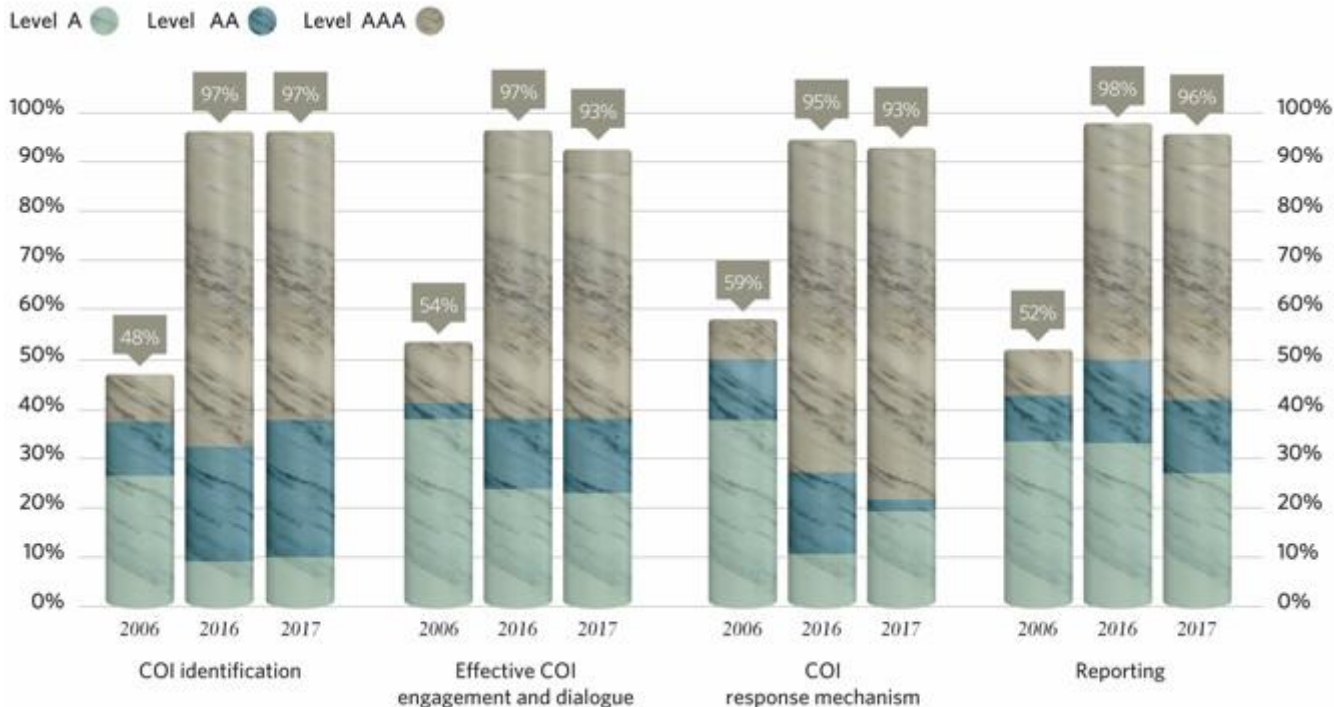
### Energy Use and GHG Emissions Management Assessment

- ENERGY USE AND GHG EMISSIONS MANAGEMENT SYSTEMS
- ENERGY USE AND GHG EMISSIONS REPORTING SYSTEMS
- ENERGY AND GHG EMISSIONS PERFORMANCE TARGETS



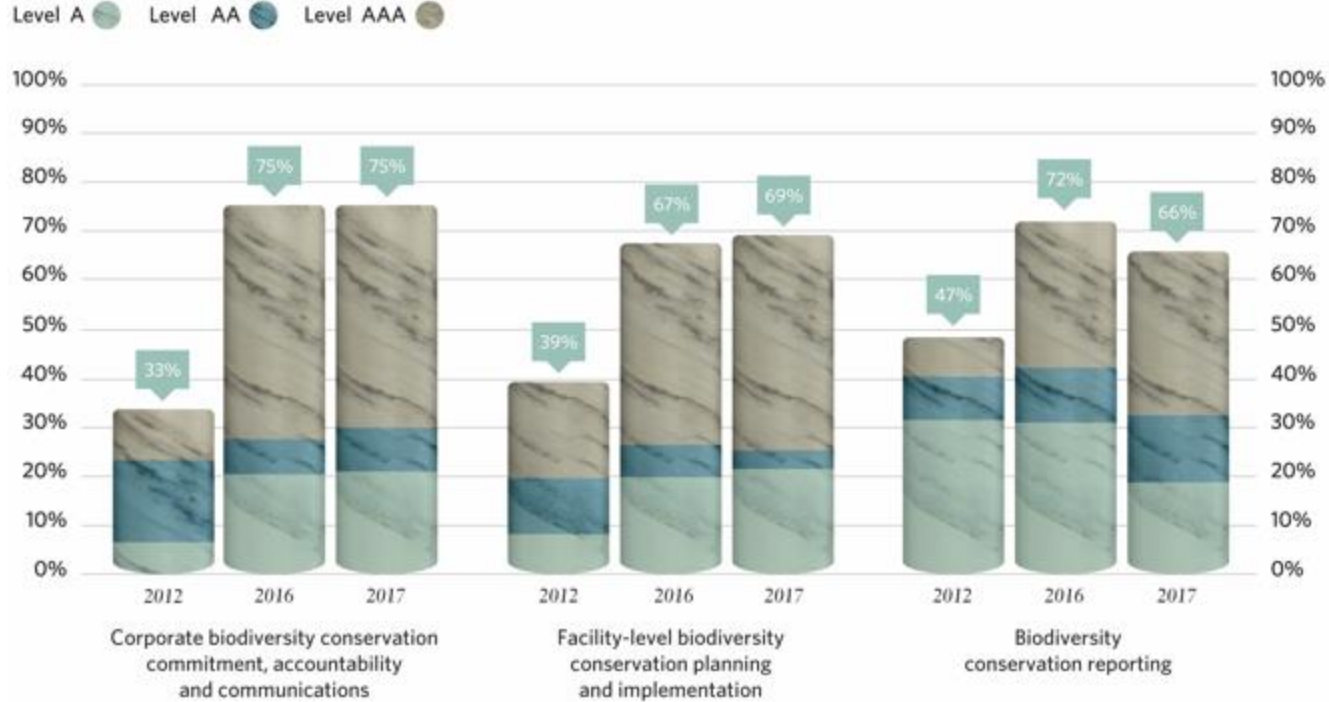


## Aboriginal and Community Outreach Assessments Percentage of Facilities at a Level A or Higher 2006, 2016 and 2017

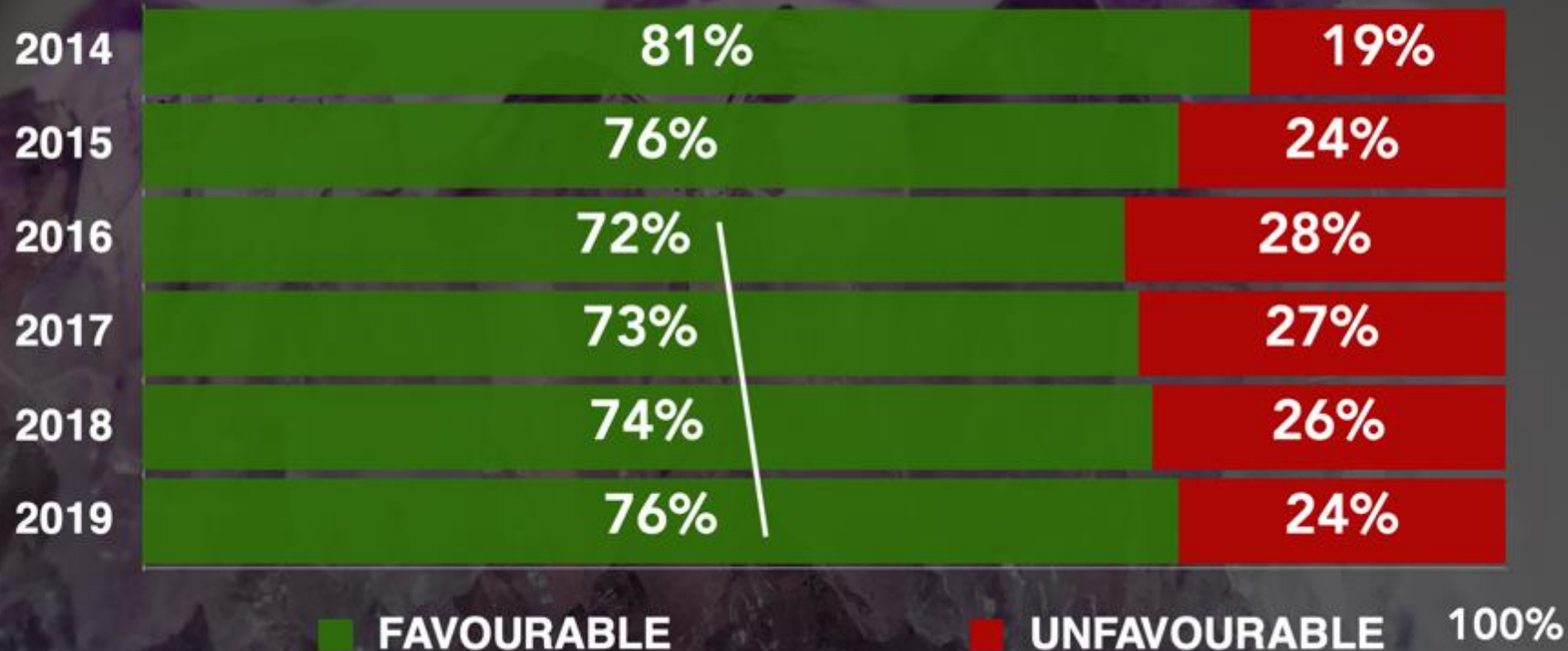


## 2017 AGGREGATE RESULTS: ENVIRONMENTAL STEWARDSHIP

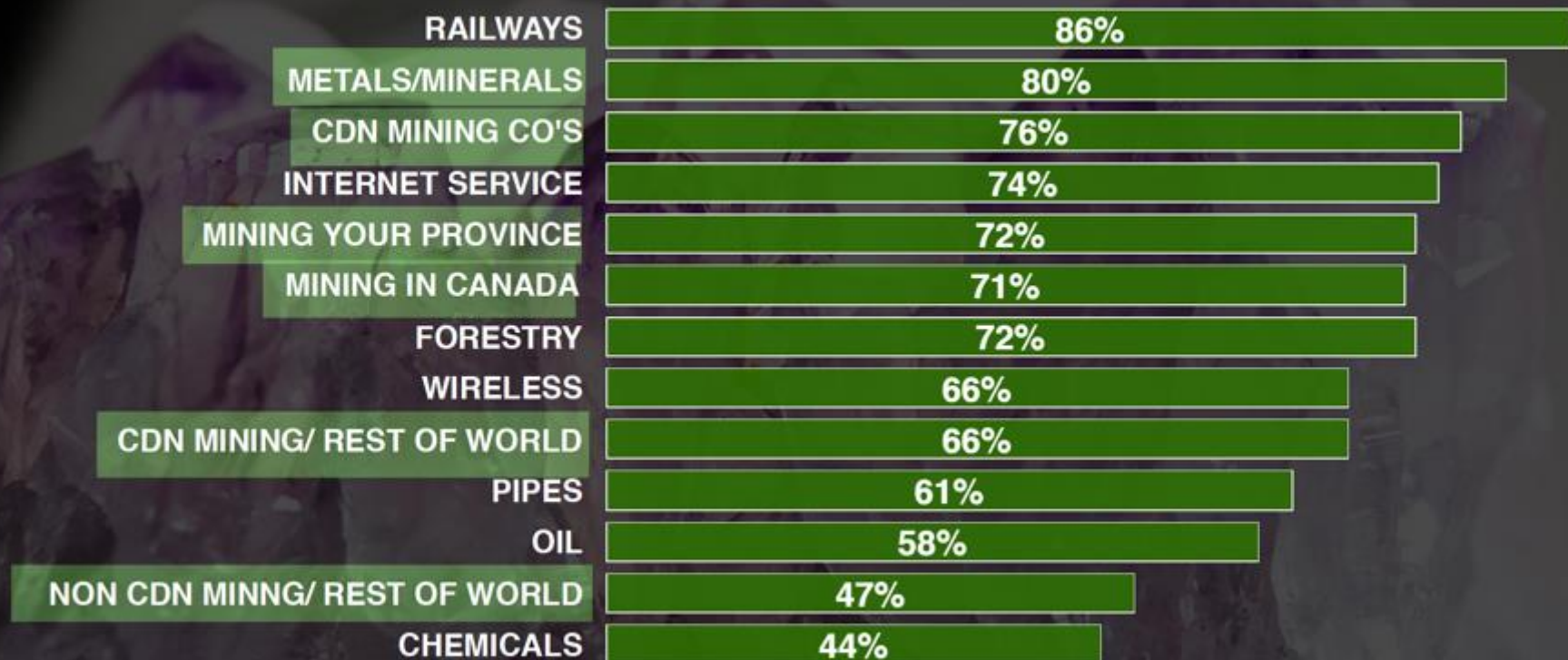
### Biodiversity Conservation Management Assessments Percentage of Facilities at a Level A or Higher 2006, 2016 and 2017



# CANADIAN MINING CO'S



# REPUTATION OF MINING SECTOR



■ FAVOURABLE OPINION

### **Corporate Benefits**

- ◆ Environmental & social performance driver
- ◆ Risk identification & management tool
- ◆ Assistance in access to capital
- ◆ Emerging opportunities to obtain preferential market access through responsible sourcing
- ◆ Obtaining social license
- ◆ Recruitment & retention
- ◆ Innovation & learning

### **Industry Benefits**

- ◆ Provides a strong industry level narrative on how environmental and social concerns are addressed
- ◆ Measures collective industry progress on meeting environmental and social objectives
- ◆ Raises sector performance, including lowest performers
- ◆ Positions participating national industries as global leaders in responsible practice
- ◆ Catalyzes a national dialogue on issues of importance and reduces opposition
- ◆ Only standard that enables a national industry to focus on most significant issues in their country

### **TSM consists of seven core components that must be in place:**

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



**Each implementing association is required to have something in place to meet each of these seven components.**

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

## For more information please contact:

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The Towards Sustainable Mining® program is driving performance improvement in how mining operations protect the environment and engage with their communities. Through TSM®, we are providing the responsibly-sourced minerals and metals that power electric vehicle technology.

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