

Towards Sustainable Mining

Norsk Bergindustri

September 2020



The Mining Association
of Canada

L'association minière
du Canada

The Mining Association of Canada

- The national voice of the Canadian mining industry since 1935
- Promotes the industry nationally and internationally, working with governments and educating the public
- Members account for about 75% of Canada's minerals and metals production



The Mining Association
of Canada
L'association minière
du Canada



Towards Sustainable Mining

- An award-winning performance system that helps mining companies evaluate and manage their environmental and social responsibilities
- A set of tools and indicators to drive performance and ensure that key mining risks are managed responsibly
- Mandatory for all mining companies that are members of associations that have adopted TSM
- Grounded in a commitment to accountability, transparency, credibility and continual improvement



Guiding Principles – Summarized

- Involving **communities of interest** and proactively seeking **dialogue**
- Fostering **leadership** to achieve sustainable resource **stewardship**
- Conducting business with **excellence**, transparency and **accountability**
- Protecting **health and safety** and respecting **worker rights**
- Seeking to minimize impact on the **environment** and **biodiversity**
- Respecting **human rights** and the unique role of **Indigenous peoples**
- Maintaining **ethical conduct** and complying with laws and regulations
- Supporting **community participation** in opportunities provided by mining
- Responding to community priorities and providing **lasting benefits**



Community of Interest Advisory Panel

An independent advisory body comprised of individuals from:

- Indigenous groups
- Communities where the mining industry is active
- Environmental and social NGOs
- Labour
- Financial organizations
- Select members of the Mining Association of Canada's Board of Directors



- Biannual meetings
- Annual reviews of company performance
- Critical perspectives on emerging issues



TSM Protocols

Environmental Stewardship



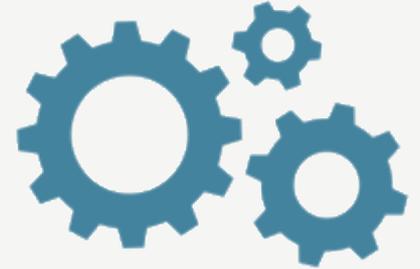
Tailings Management
Biodiversity Conservation
Management
Water Stewardship

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

TSM Protocols

Communities and People



Environmental Stewardship



Energy Efficiency



Protocol Structure

- Comprised of individual performance indicators
- Supported by a series of criteria at each level of performance
- Accompanied by detailed guidance to support interpretation and implementation

1. CORPORATE BIODIVERSITY CONSERVATION COMMITMENT, ACCOUNTABILITY AND COMMUNICATIONS

Purpose

To confirm that corporate commitment and accountabilities are in place and communicated to relevant employees to support the management of biodiversity conservation issues.

Biodiversity Conservation Commitment, Accountability and Communications: Assessment Criteria

LEVEL	CRITERIA
C	The facility does not meet all level B criteria.
B	Demonstrated senior management biodiversity commitment is in place but may not be consistent with the intent of the TSM Mining and Biodiversity Conservation Framework. Plans are in place to achieve Level A performance.
A	Demonstrated senior management commitment, consistent with the intent of the <i>TSM Mining and Biodiversity Conservation Framework</i> and to the application of the mitigation hierarchy to achieve stated biodiversity outcomes. Commitment to biodiversity conservation has been communicated to relevant employees, contractors and facility-level Communities of Interest (COI). Roles, responsibilities and accountabilities for implementation of the commitment are clear, and resources have been assigned to support implementation of the commitment.
AA	Biodiversity conservation commitment and its implementation are subject to independent verification/review (internal or external).
AAA	Biodiversity conservation commitment includes a stated ambition of no net loss and commitment to actively partner with other organizations for biodiversity conservation, and roles, responsibilities and resources have been assigned to support this commitment.

Indicator

Criteria

Rating System

AAA

Excellence and leadership.

AA

Systems and processes are integrated into management decisions and business functions

A

Good practice. Systems and processes are developed and implemented.

B

Procedures exist but are not fully consistent or documented. Systems and processes are planned and being developed.

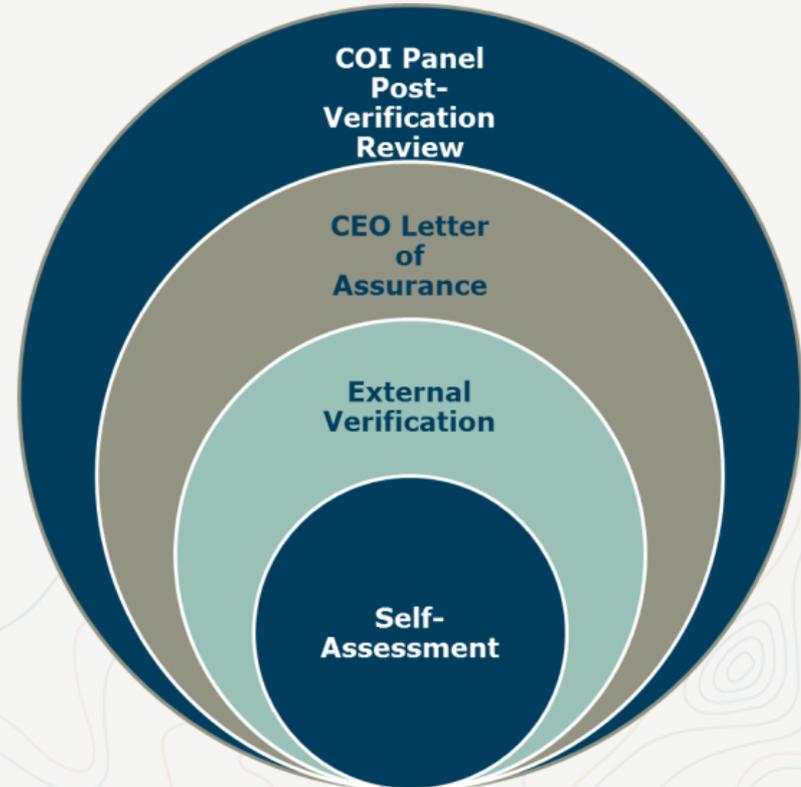
C

No systems are in place. Activities tend to be reactive. Procedures may exist but they are not integrated into policies and management systems.



Verification Process

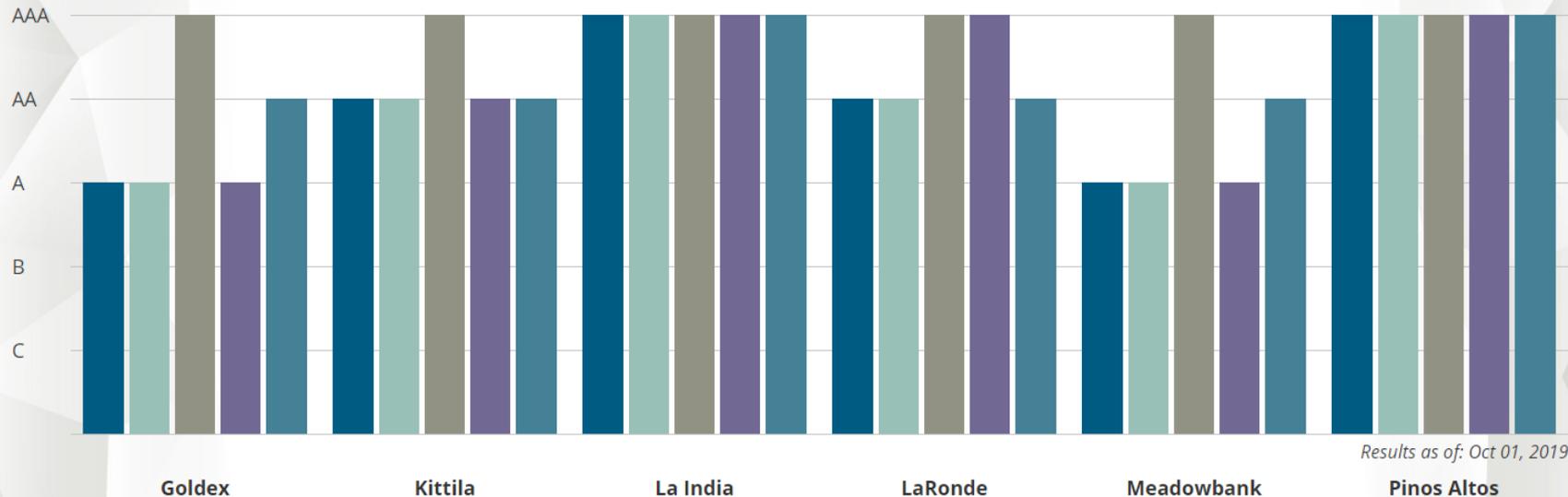
- Annual self-assessments
- External verification of self-assessments by trained verifiers every three years
- Letter signed by CEO that the results are externally verified according to requirements
- Potential for selection by the Advisory Panel for a post-verification review



Annual Public Reporting by Facilities

Safety and Health Assessment

■ Commitments and accountability
 ■ Planning and implementation
 ■ Training, behaviour and culture
■ Monitoring and reporting
 ■ Performance

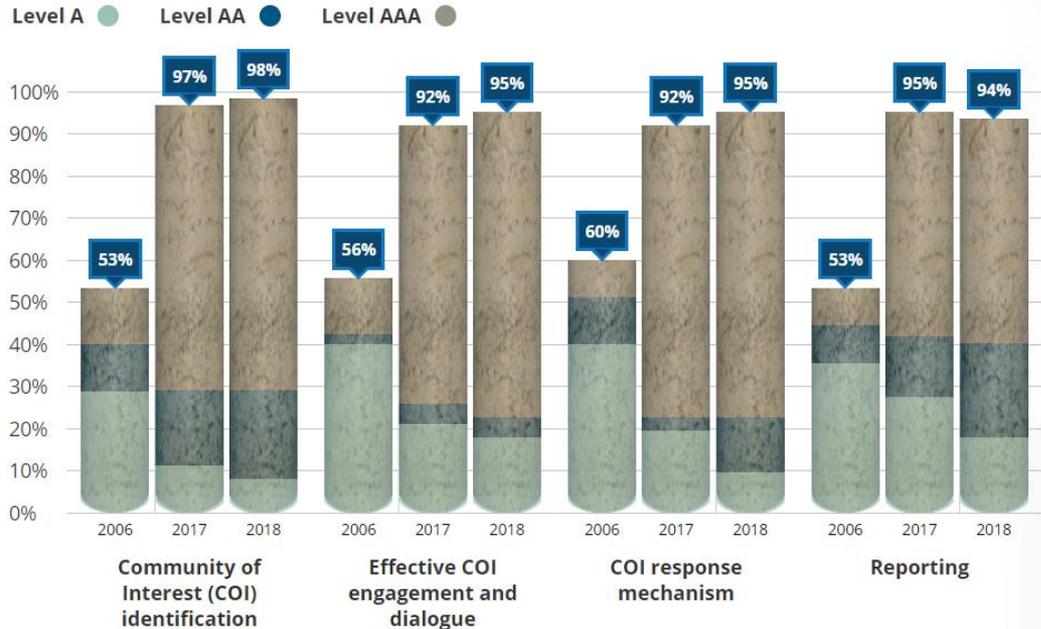


Continual Improvement

- Improvements in industry performance are measurable and meaningful over time
- Companies commit to demonstrate continual improvement until they achieve good practice

Indigenous and Community Relationships

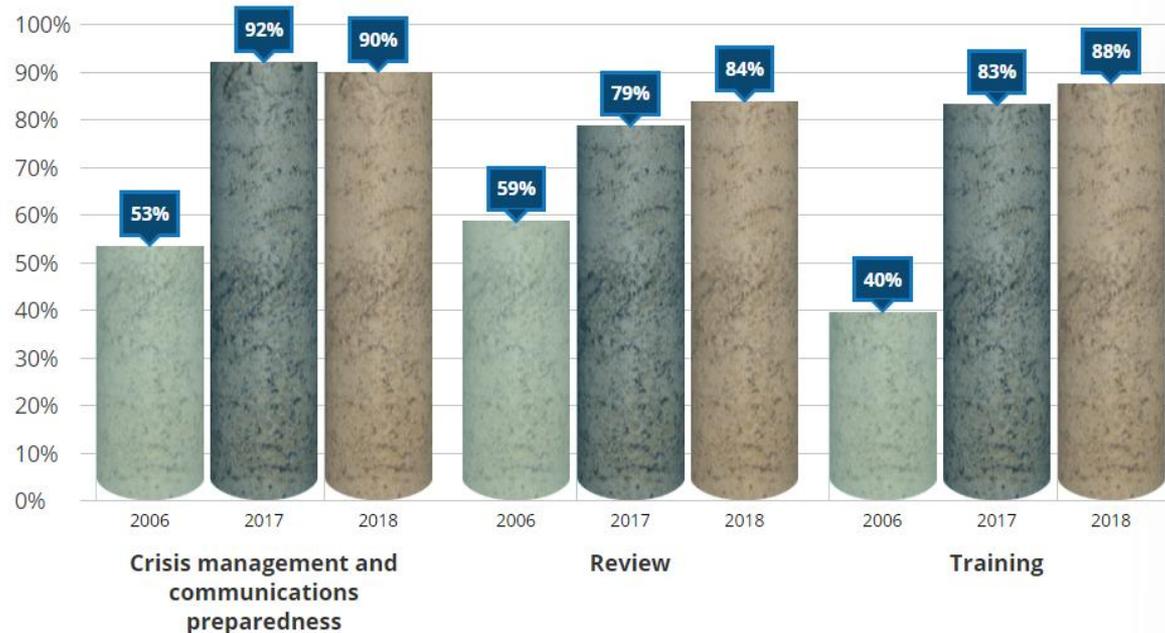
Percentage of Facilities at a Level A or Higher – 2006, 2017 and 2018



Continual Improvement

Crisis Management and Communications Planning

Percentage of Companies and Facilities Responding "Yes" – 2006, 2017 and 2018

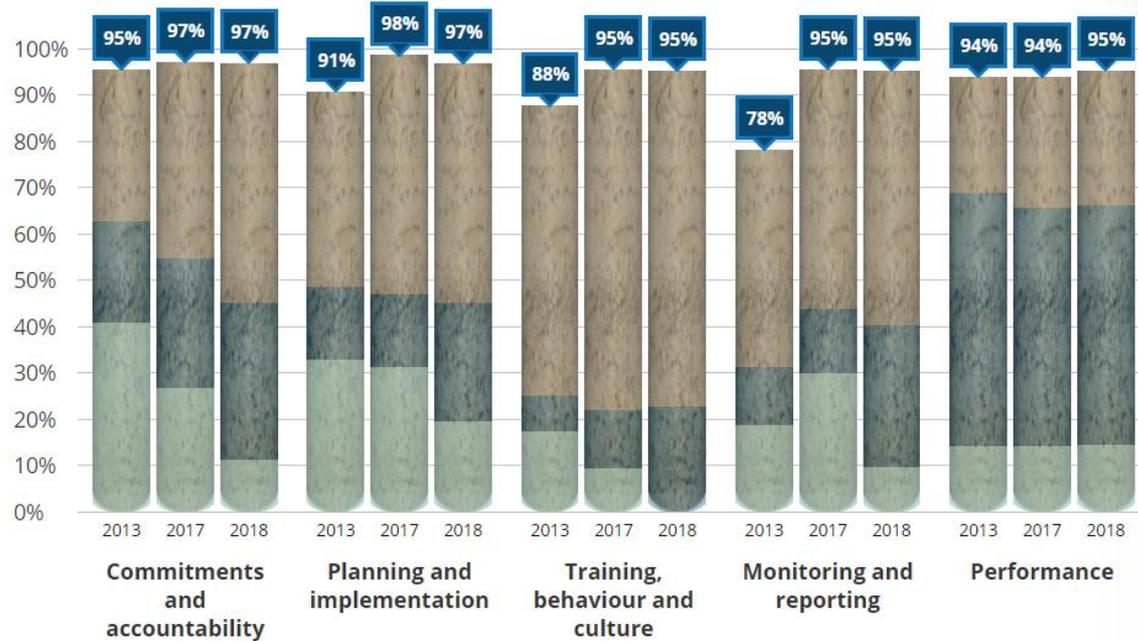


Continual Improvement

Safety and Health

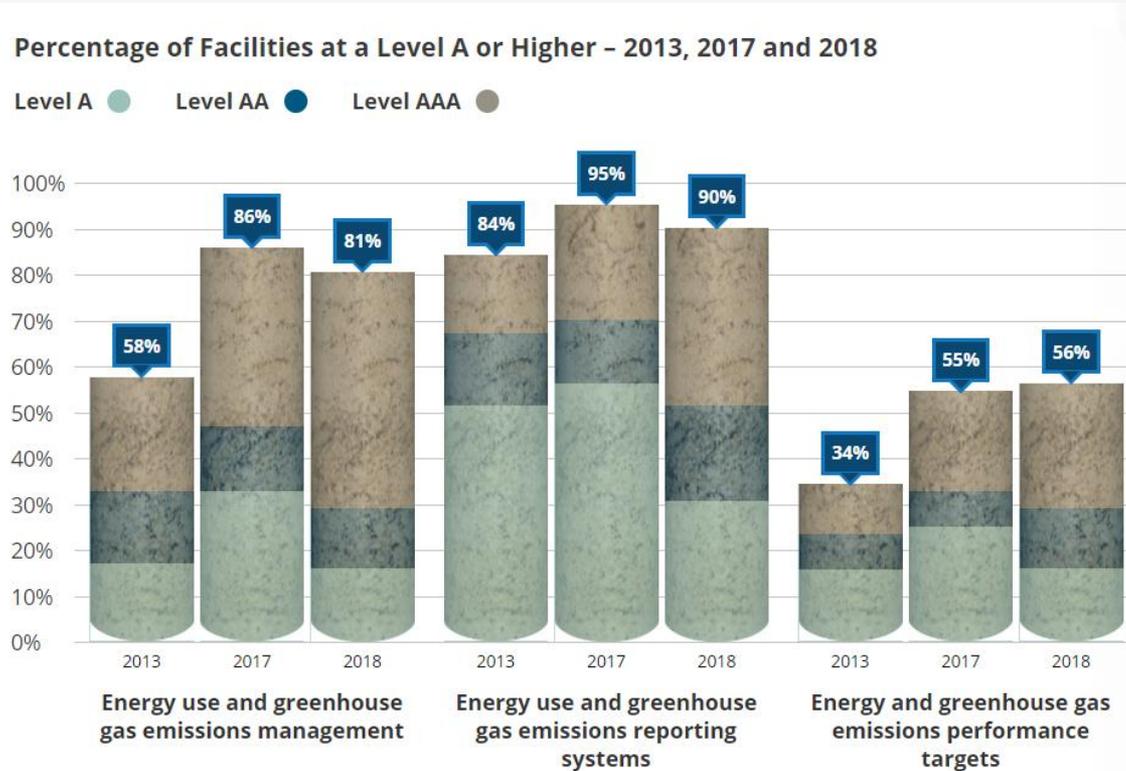
Percentage of Facilities at a Level A or Higher – 2013, 2017 and 2018

Level A ● Level AA ● Level AAA ●



Continual Improvement

Energy Use and GHG Emissions Management



Continual Improvement

Tailings Management

Percentage of Facilities at a Level A or Higher – 2006, 2017 and 2018

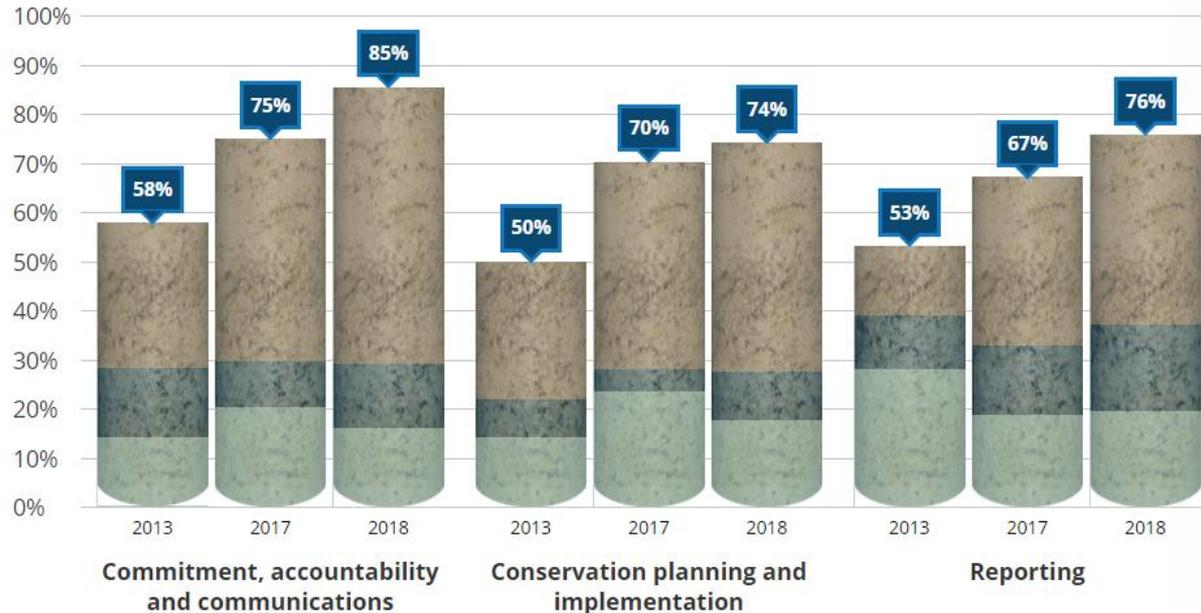


Continual Improvement

Biodiversity Conservation Management

Percentage of Facilities at a Level A or Higher – 2013, 2017 and 2018

Level A ● Level AA ● Level AAA ●



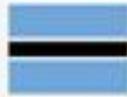
Global Reach



Canada



Argentina



Botswana



Brazil



Finland



The Philippines



Spain



Norway

- Outside of Canada, seven national mining associations have adopted TSM. Interest from other associations continues to grow.
- Each association can tailor TSM to their unique contexts and requirements but is required to adhere to certain core components.
- For many years, MAC members Agnico Eagle, Excellon Resources, Hudbay Minerals, and IAMGOLD have been implementing TSM at their operations outside of Canada.



International Standards

- Beyond TSM, MAC members adhere to a range of other global standards
- MAC is working with other international sustainability standards to facilitate alignment with TSM

INTERNATIONAL INITIATIVES																
MAC MEMBER COMPANY APPLICATION OF INTERNATIONAL STANDARDS AND PROGRAMS	INDUSTRY SUSTAINABILITY INITIATIVES			MANAGEMENT SYSTEM STANDARDS	INTERNATIONAL VOLUNTARY INITIATIVES				REPORTING, DISCLOSURE AND TRANSPARENCY STANDARDS			FINANCING STANDARDS				
	ICMM SUSTAINABLE DEVELOPMENT FRAMEWORK	WGC CONFLICT FREE GOLD STANDARD	ISO 14001 – EMS STANDARD	OHSAS 18001	UN GLOBAL COMPACT	EXTRACTIVE INDUSTRIES TRANSPARENCY INITIATIVE	VOLUNTARY PRINCIPLES ON SECURITY AND HUMAN RIGHTS		OECD GUIDELINES FOR MULTINATIONAL ENTERPRISES	AA 1000	GLOBAL REPORTING INITIATIVE	CARBON DISCLOSURE PROJECT	WATER DISCLOSURE PROJECT	CARBON PRICING LEADERSHIP COALITION	IFC SOCIAL AND ENVIRONMENTAL PERFORMANCE STANDARDS	DOW JONES SUSTAINABILITY INDEX
COMPANIES HEADQUARTERED IN CANADA:																
Agnico Eagle Mines		✓					✓				✓	✓	✓			✓
Barrick Gold Corporation	✓	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓			✓
Eldorado Gold		✓	✓	✓	✓						✓	✓	✓			
First Quantum Minerals Ltd.					✓	✓	✓					✓			✓	

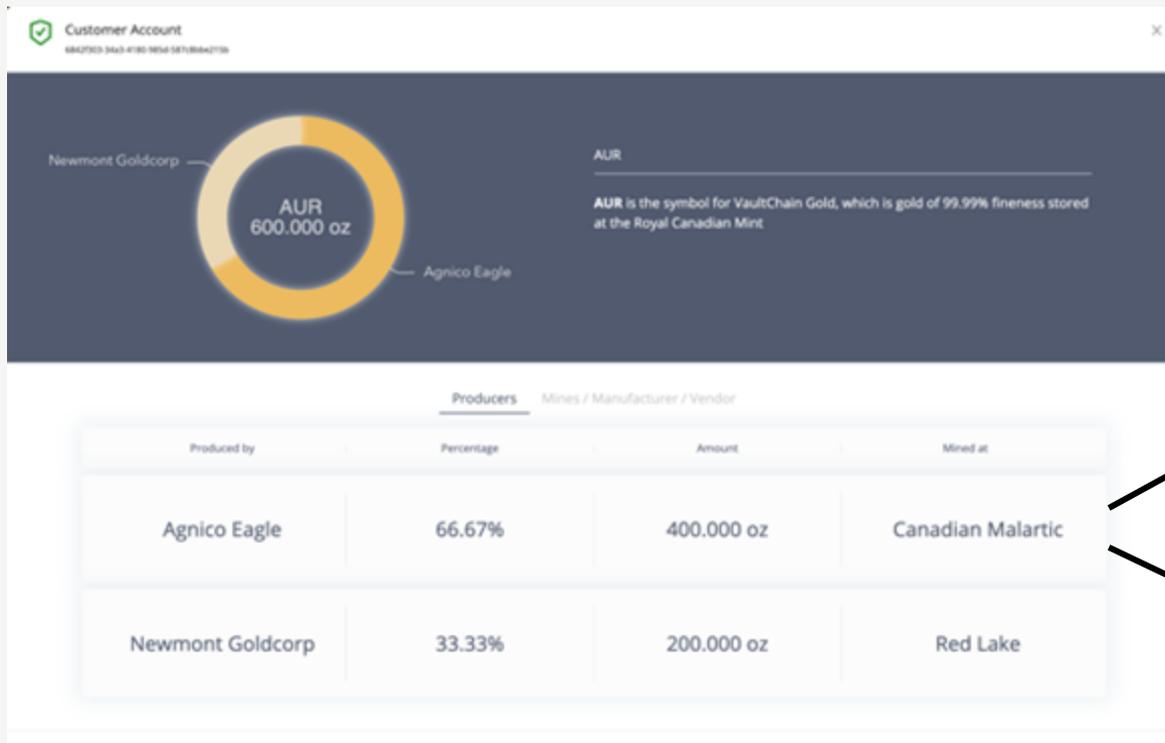
ESG Ratings



- Ratings firms are using TSM performance to inform sustainable investment decisions
- Sustainalytics includes TSM in its criteria for top scores in tailings management
- Sustainalytics plans to introduce other indicators using TSM data

Tick Box	CRITERIA	Score
1	Mining Association of Canada-Towards Sustainable Mining (MAC-TSM) AA, AAA or Initiative for Responsible Mining Assurance (IRMA) compliance levels 3, 4 (>50% of assets).	10
2	MAC-TSM Rating A , or IRMA level 2 (>50% of assets), or MAC-TSM Rating AA, AAA or IRMA levels 3 or 4 (<50% of assets).	6
3	Contracted third-party audits (minimum three years, with annual interim surveillance audits), Responsible Mining Initiative (RMI) or MAC-TSM Rating C or B , or IRMA Compliance levels at any asset, or MAC-TSM Rating A or IRMA level 2 (<50% of assets).	5
4	Application of TSF management standard and self-assessed management programmes (per MAC-TSM review panel requirements).	3
5	TSF management standards applied (ICMM , ILO, IFC PS4.6, ISO14001 , IUCN, SASB NR0302.07-09, IRMA transparency level).	2

Traceability



TRADEWIND

ORIGINS



Agnico Eagle

895cf856-44bf-47b9-b8e7-5ec8f9a0b14d

Location: Canadian Malartic (Mine)

Format: Dore

Certifications: Towards Sustainable Mining

Shipping Date: 11/15/2019

Creation Date: 11/15/2019

Refiner: Royal Canadian Mint [Ⓞ]

Est. Gold: 3,000.000 oz

Est. Silver: 3,000.000 oz



Responsible Sourcing



Supplier Responsibility Standards

Applicable Upstream Standards for Large Scale Mining Companies * and/or Artisanal and Small Scale Mining ("ASM/SSM")* (Mining and Metals Supply Chain)								
Organization/ Standard	Human Rights & Labor			Health & Safety		Environment		
	Conflict	Child Labor	Forced Labor	Occupational Health & Safety	Community Health & Safety	Water Consumption Abstraction	Tailings	Pollution
Better Sourcing**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CCCMC	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a	n/a	n/a
Fairmined**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fairtrade Gold**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
IFC Performance Standards	<input checked="" type="checkbox"/>							
IRMA	<input checked="" type="checkbox"/>							
ITSCI**	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a	n/a	n/a	n/a
Mining Association of Canada (TSM)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
RJC Chain of Custody**++	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
World Gold Council	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	n/a	n/a	n/a	n/a	n/a
ICMM+	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CRAFT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>



For more information...

Pierre Gratton
President & CEO
pgratton@mining.ca
613-233-9391

Ben Chalmers
Senior Vice President
bchalmers@mining.ca
613-233-9391

Katherine Gosselin
Director, Towards Sustainable Mining
kgosselin@mining.ca
613-233-9391