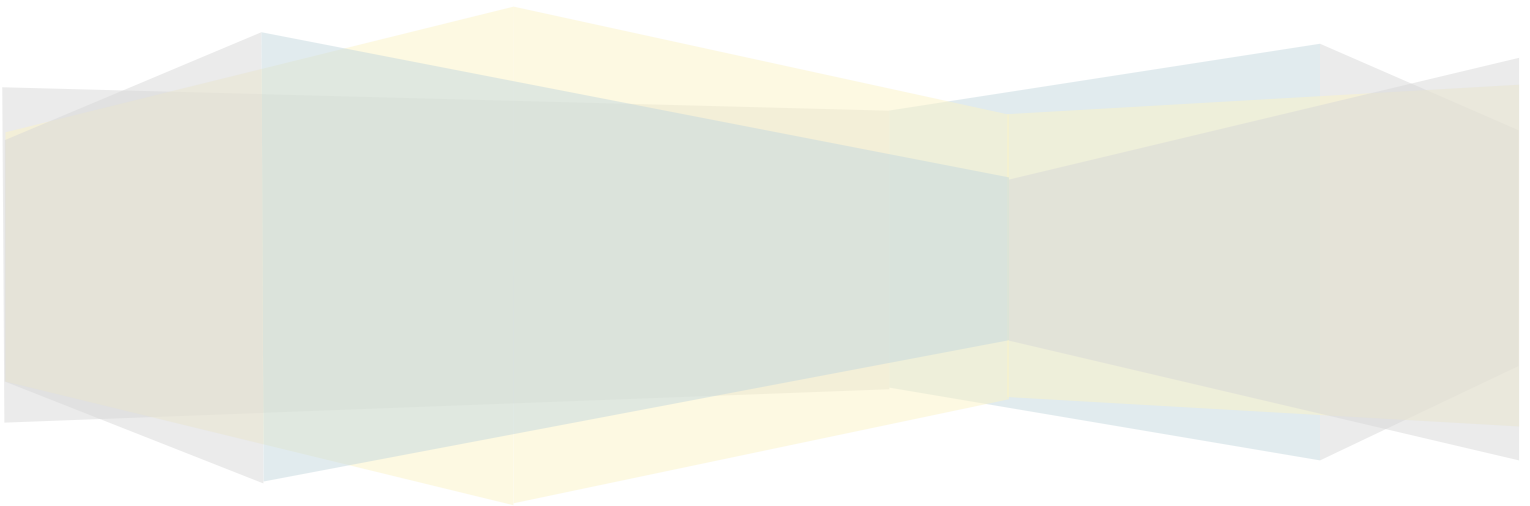


# **Mining Association of Canada**

## **Towards Sustainable Mining (TSM)**

**International Business Development Plan 2018-2020**



### **EXECUTIVE SUMMARY**

Canadian mining companies were present in 102 foreign countries in 2015 and Canadian mining assets abroad totaled \$170.8 billion.<sup>1</sup> A strong Canadian mining sector abroad provides many benefits back to Canada including improved access to export markets for Canadian mining equipment and service providers. Sudbury, for example, has become an important hub of mining suppliers that exports goods and services all over the world. Mining also contributes to prosperity of investors through the TSX and TSX-V and provide a foundation for the ongoing vitality of the Canadian financial sector.

Canadian mining companies overseas are also an important contributor to international development and often provide added leverage to expand the impact of official international aid from Global Affairs Canada and development oriented NGOs such as those associated with the Devonshire Initiative. This positive impact is particularly strong in non-OECD countries. In a 2016 review, eight members operating in 12 non-OECD countries spent \$6.2B with in-country businesses, employees, and taxes providing a significant economic engine. When compared with Canada's entire Official Development Assistance budget of \$4.8 B in 80 countries, the significant contribution of Canada's mining sector to international development is apparent.

In 2004, the Mining Association of Canada (MAC) launched the Towards Sustainable Mining (TSM) Initiative in Canada. From the onset, participation in TSM was mandatory for MAC's members operations in Canada and was guided by the advice of a national Community of Interest Advisory Panel. Over the past 13 years, the program has evolved, and now sees higher standards within it, and increased levels of performance and broader application by Canadian companies to their sites in Canada and abroad. The breadth, quality and site-specific nature of TSM has resulted in it being recognized as a world-class system of responsible operation for the Mining industry.

More recently, interest in TSM has grown over the years with four countries outside of Canada that have officially adopted the program for its members and are working towards full implementation of the program (Finland, Argentina, Botswana and the Philippines). In establishing formal agreements with other national associations, MAC has worked diligently to ensure that the TSM brand remains trusted and TSM is applied consistently in all jurisdictions. To do this, MAC trademarks TSM in each the adopting jurisdiction, provides initial training, guidance and support for the implementation of TSM, and will conduct an evaluation of the program in the adopting jurisdiction after 5 years, reserving the right to terminate the agreement. Interest in TSM as a responsible operating and sourcing standard is rising, with interest from other countries as well as the international financial and manufacturing sectors increasing each year. Manufacturing and financial sector interest is coming from organizations such as Apple, ArcelorMittal and the Caisse de Depot.

The expansion of TSM to jurisdictions across the globe is in the best interest of Canadian companies working and investing in these countries. Specifically, the uptake of TSM globally helps demonstrate Canada's leadership and capability in the area of socially responsible mining practices. It positions companies that have been applying TSM for many years in Canada as leaders in the industry in the knowledge and application of the CSR practices that have become essential to operate and maintain social and business support. If TSM continues to be adopted more globally, the Canadian mining sector will gain an ongoing competitive advantage through both the developed knowledge and capability, and the use of an existing Canadian program as certification of CSR.

To support this increased workload, realize the competitive advantage and reinforce Canadian leadership in responsible business practice through TSM, MAC needs the support of Global Affairs Canada through the Global Opportunities for Associations (GOA) program. In addition to providing a competitive advantage for the Canadian mining industry, the international expansion of TSM also represents a strategic way for the Government of Canada

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1 <http://www.nrcan.gc.ca/mining-materials/publications/19323>

to promote the Canadian mining industry and to do so according to a performance based system with a thirteen-year track record in Canada.

The global expansion of TSM is creating opportunities for Canadian consultants, as they are able to market their professional services related to TSM to companies implementing TSM abroad. Specifically, Canadian industry experts and auditors are being commissioned by facilities outside of Canada to conduct external verification of their performance against the TSM protocols. Canadian engineering firms are being sought after to design and manage tailings impoundments and other Canadian consultants are gaining international business to help advise companies and associations on TSM implementation.

Over the past several years, MAC has developed a strong relationship with Canada's Trade Commissioner Service and has benefited from support provided by Global Affairs Canada's to help foster uptake of TSM in abroad. This support has been critical to initiate TSM international growth interest, and with it and the evolution of TSM, we are now at a defining point in the opportunity and ability to support further growth and expansion.

To capture this opportunity and advance TSM to the next stage as a leading international responsible mining standard, MAC needs the certainty associated with GOA support to implement the TSM International Growth Plan over the next 3 years. This support will enable MAC to capitalize on the current high level of international interest in TSM, increase the number of countries in which it pursues TSM licensing agreements, and provide the training and capacity development support necessary to ensure effective and credible program implementation and to ensure the TSM brand is promoted and adopted while being protected and responsibly implemented globally. Without this support it is unlikely that MAC will be able to capture this opportunity and execute this plan.

### **SECTOR OVERVIEW & ANALYSIS**

The mining industry, even at the bottom of a downturn, contributes greatly to Canada's economic strength. The industry directly employs more than 373,000 workers across the country in mineral extraction, smelting, fabrication and manufacturing, and indirectly employs an additional 190,000. It pays the highest salaries in Canada and often in other countries. In 2015, the average total compensation in the mining, smelting and refining sector in Canada was \$116,212.<sup>2</sup> Proportionally, the mining industry is also the largest private sector employer of indigenous people in Canada and employment is poised to increase. Our sector is also a major customer of indigenous owned businesses and Canadian mining companies regularly partner with aboriginal communities to develop new indigenous owned companies to provide goods and services. The industry \$56 billion contribution to Canada's gross domestic product in 2015 included \$24.6 billion in mineral extraction, and \$30.9 billion in mineral processing and manufacturing. Looking forward, the global mining industry's economic prospects are strong as the middle classes of the world's most populous countries continue to emerge the global economy shifts to lower carbon energy production which will require new sources of metals and minerals. As such, demand for raw materials is poised to increase.

Following several years of volatility, world economic growth is anticipated to increase from 3.1 percent in 2016 to 3.6 percent in 2018, reflecting improved economic sentiment. According to Natural Resources Canada (NRCan), Canadian mining companies were present in 102 foreign countries in 2015 and Canadian mining assets abroad totaled \$170.8 billion.<sup>3</sup> A strong Canadian mining sector abroad provides many benefits back to Canada including improved access to export markets for Canadian mining equipment and service providers. Sudbury, for example, has become an important hub of mining suppliers that exports goods and services all over the world. Mining also contributes to prosperity of investors through the TSX and TSX-V and provide a foundation for the ongoing vitality of the Canadian financial sector. Canadian mining companies overseas are also an important contributor to international development and often provide added leverage to expand the impact of official international aid from Global Affairs Canada and development oriented NGOs such as those associated with the Devonshire Initiative.

Implementation of sound corporate social responsibility practices is fundamental to Canadian mining industry's success both in Canada and abroad. Mining operations are often located in remote areas and can be associated with legacy issues. There are many examples of Canadian companies operating in regions where there is a lack of local government services. Additionally, implementation of responsible practices can help ensure a strong reputation for the entire sector.

### **THE MINING ASSOCIATION OF CANADA (MAC) AND TOWARDS SUSTAINABLE MINING (TSM)**

The Mining Association of Canada (MAC) is the national organization representing the Canadian mining industry, comprising companies engaged in mineral exploration, mining, smelting, refining and semi-fabrication. Our members account for the majority of Canada's production of base and precious metals, uranium, diamonds, metallurgical coal, mined oil sands and industrial minerals.

**MAC's Vision:** A strong, responsible and globally-competitive Canadian mining and minerals processing industry that creates wealth and opportunity for all Canadians.

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<sup>2</sup> Mining Association of Canada, *Facts and Figures of the Canadian Mining Industry 2016*: <http://mining.ca/sites/default/files/documents/Facts-and-Figures-2016.pdf>

<sup>3</sup> Natural Resources Canada, Canadian Mining Assets: <http://www.nrcan.gc.ca/mining-materials/publications/19323>

**MAC's Mission:** To contribute to building a strong, sustainable and internationally-competitive Canadian mining, minerals and metals industry with broad national support and to promote sound corporate and public policy.

**MAC's Strategic Goals:**

1. *MINING IN SOCIETY - The mining industry's contributions to the Canadian and global economy are known; the industry is innovative, and environmentally and socially progressive.*
2. *REGULATORY CONFIDENCE - The Canadian regulatory regime is supported by society and the mining industry.*
3. *ECONOMIC COMPETITIVENESS - A favourable policy regime enhances the industry's competitiveness and retains Canada's leadership in mining.*
4. *LEADING VOICE - MAC is the respected, authoritative voice of the Canadian mining industry.*

An important means to achieve the association's vision, mission and strategic goals is through Towards Sustainable Mining (TSM), an award-winning performance-based program whereby mining operations evaluate, manage and publicly report on critical environmental and social responsibilities at the site level. Participation, which is mandatory for all MAC members' Canadian operations, involves public reporting, third-party verification and ongoing consultation with a national Community of Interest Advisory Panel.

TSM is a key element in achieving MAC's first strategic goal regarding Mining in Society. Within this goal is an objective to position the Canadian mining industry as "a global leader in environmental and social practices". In order to achieve this, one of the plan's key sub-objectives is that "TSM is recognized by members, policy makers, and communities of interest as international best practice, and is shared with other mining jurisdictions." The international adoption of TSM is a central element to achieving this objective.

**TSM Background**

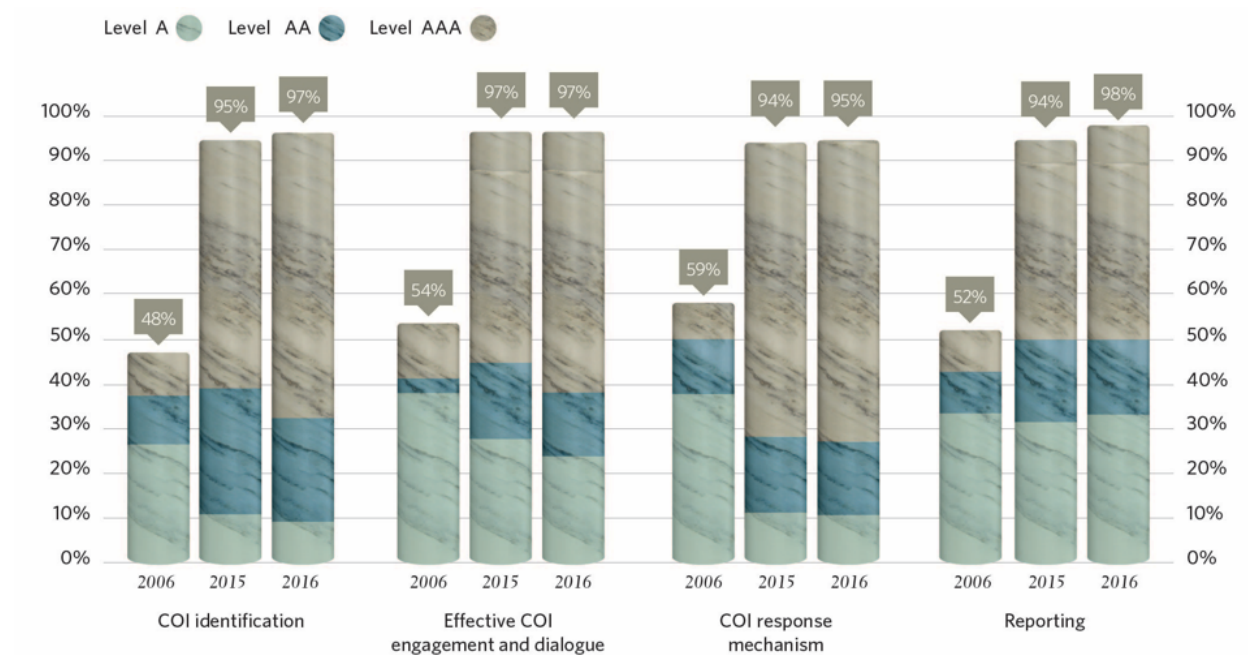
TSM was launched in Canada in 2004 with a focus on tailings management, crisis management planning, community relations and energy use and greenhouse gas emissions (GHG) management. At that time, each of protocols for these areas represented the leading edge of practice. For example, the energy and GHG protocol required mines to report on whether they set and achieved annual GHG targets, something that was not commonplace elsewhere. Since then, the original four protocols have been updated to ensure that they continue to drive performance and remain relevant to stakeholder interests and concerns. Two new protocols (Safety and Health and Biodiversity Conservation Management) were introduced in 2009. Most recently, in 2017, the MAC Board of Directors approved a new verification protocol related to the prevention of child labour and forced labour and a significant update to the Tailings Management Protocol and accompanying Tailings Management Guide. These recent updates to the tailings guide and protocol were the result of an extensive external review by an expert task force to help identify and incorporate lessons learned from the tailings failure at Mt. Polley in British Columbia. Additionally, MAC supported Canadian foreign policy by formally announcing its commitment to implement the Voluntary Principles on Security and Human Rights in 2017 when Canada held the Chair of the VPs. It is through TSM, its protocols and our Community of Interest Advisory Panel (COI Panel) that MAC members demonstrate their commitments to the implementation of best practices, support for communities, respect for human and indigenous rights and to working with civil society.

TSM is a registered trademark in Canada and MAC is in the process of registering the trademark in Finland, Argentina, Botswana and the Philippines. By sharing TSM with other mining jurisdictions, MAC is contributing to raising global mining practices. It is MAC's objective to position TSM as representing the Canadian "brand" of sustainable mining.

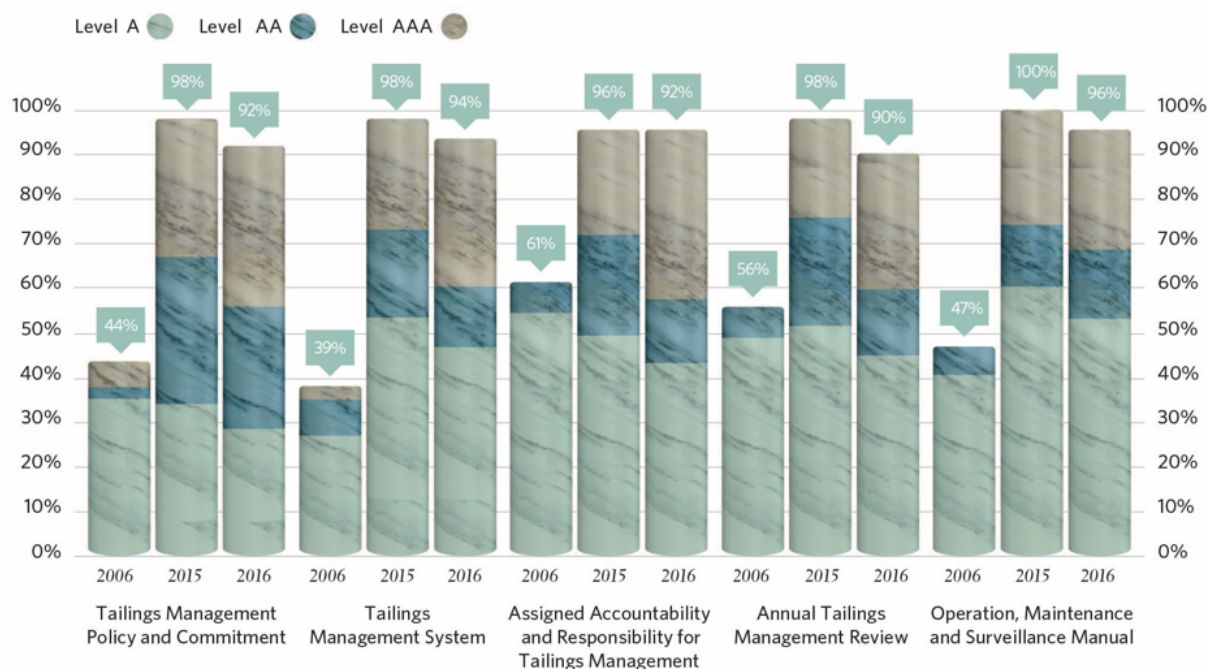
Over the years, TSM has reached many important milestones and has been recognized by reputable organizations with awards and accolades for its impact in the Canadian mining industry. TSM has been recognized with awards by the Globe Foundation (2005), the Prospectors & Developers Association of Canada (2012) and the Excellence in Corporate Responsibility Awards (2013). TSM has been successful in pushing for continuous progress on critical environmental and social issues relevant to the mining sector and its Communities of Interest, including the

communities around which we operate. The proof is in the results, which have seen steady improvement over the duration of TSM and helped to enhance the responsible Canadian mining brand. Figure 1a and 1b provides examples of how TSM has driven improved performance and measured it. These graphs show that in the early days of TSM (2006) only about 50% of participating mines could achieve or exceed Level A performance. Today over 90% of mines meet or exceed that standard of performance.

**Figure 1a - Aboriginal and Community Outreach Assessments Percentage of Facilities at a Level A or Higher 2006, 2015 and 2016**



**Figure 1b - Tailings Management Assessments Percentage of Facilities at a Level A or Higher 2006, 2015 and 2016**



## Benefits for Canada

The growth of TSM into an international standard will help cement Canada's reputation as a world leader in responsible mining, in line with the Extractive Sector CSR Strategy. At its heart, TSM is built around a set of guiding principles that establish the Canadian mining industry's commitment to responsible mining. These principles include commitments related to both environmental and social performance and TSM allows the industry to measure progress in how these values are being adhered to and implemented in Canada and, as TSM grows, around the world. Being an industry-led initiative, TSM demonstrates the Canadian mining sector's commitment to continuous improvement, its contribution to fighting climate change and reduces the sector's risk of social and environmental conflict. It accomplishes this by integrating the highest stakeholder engagement at national and operational levels combined with transparency of facility level reporting and third-party verification.

The international expansion of TSM represents a strategic way for the Government of Canada to promote the Canadian mining industry and to do so according to a performance based system with a thirteen-year track record in Canada. TSM has also helped shape international policy by bringing its approach to the OECD. In fact, the structure of the 2016 *OECD Due Diligence Guide to Stakeholder Engagement* was based on the TSM Aboriginal and Community Outreach Protocol.

## MEASURABLE RESULTS OF TSM

### MEASURING INDUSTRY IMPROVEMENT IN RESPONSIBLE MINING PRACTICES

TSM was an early innovator, as it was the first mining-specific initiative to require facility-level, independently verified public reporting. TSM began measuring and verifying responsible mining practices in 2006. Each year, this data is reported for individual facilities and aggregated at the industry level in the annual TSM Progress Report. Since its inception, TSM has been able to measure and demonstrate significant environmental and social performance improvement amongst the participating companies and facilities. For example, in 2006, only about 50% of participating facilities could meet or exceed the good practice, Level A, standards for Tailings Management

and Aboriginal and Community Outreach. In 2016 over 95% of facilities reported meeting or exceeding the criteria for Level A. Significant improvement has been measured in every area addressed by TSM protocols.

#### INCLUSION OF TSM AS A KEY STANDARD FOR DEMONSTRATING THE RESPONSIBLE SOURCING OF METALS AND MINERALS

Over the last few years, pressure has increased tremendously on manufacturers of consumer electronics, automotive, jewelry and aerospace to demonstrate that the metals and minerals they use are responsibly sourced. As a result of this pressure, these sectors have turned to responsible mining standards such as TSM to provide the assurance that metals and minerals entering the supply chain have been sourced responsibly. With an increasing number of facilities implementing TSM both within Canada and abroad, TSM allows interested parties to compare performance across a large number of mining facilities. In January 2017, Apple updated their *Supplier Responsibility Standards* to include expectations for the mining sector and referenced ten standards that either addressed all or some of the key issues Apple is concerned about including tailings, water, child and forced labour, conflict, pollution and worker and community safety. TSM was included as one of the standards that addresses a number of these issues. As work advances around demonstrating responsible sourcing of metals and minerals the successful recognition of TSM as a credible standard has strong potential to provide preferential market access opportunities to Canadian companies that have integrated TSM into their systems.

#### INFLUENCING REGULATORY REQUIREMENTS

Another measure of TSM's success is how it has been accepted and supported by regulators of the mining sector. MAC has become aware of several examples where TSM has influenced regulation:

- The Nunavut Water Board has included requirements to achieve Level A scores in TSM in Agnico Eagle's water license for the Meadowbank Mine.
- The BC Mine Safety and Reclamation Code has incorporated by reference the TSM tailings management guide as a requirement for operators of tailings facilities in BC.
- Alberta's regulator considers the implementation of TSM's tailings standard a prerequisite to achieve the highest rating as part of their regulatory inspection process.

The influence of TSM in regulatory standards benefits the Canadian mining sector by reinforcing the message that the industry takes its environmental and social responsibilities seriously and instills confidence amongst communities and stakeholders.

#### TSM RECOGNITION OF INNOVATION IN RESPONSIBLE MINING PRACTICES

One of TSM's program elements is its TSM Environmental and Community Awards of Excellence. These awards are adjudicated by members of TSM's Community of Interest (COI) Advisory Panel and recognize innovation in areas of environmental and social practice that align with TSM protocols. Since the awards' inception in 2014, TSM has recognized over 20 innovative such projects, either as finalists or award winners. Examples of these projects include:

- Ground breaking wind energy projects in the arctic at Glencore's Raglan Mine in Northern Quebec and Rio Tinto's Diavik Mine in the Northwest Territories.
- A commercial garden project and accompanying milling platform that have provided livelihoods to women in communities around IAMGOLD's Essakane Mine in Burkina Faso.
- A DNA project that has been able to map Grizzly Bear populations in the Northwest Territories in a level of detail that has never been accomplished before.
- A near real-time water quality monitoring partnership that provides communities with water quality data on various streams within the vicinity of the Voisey's Bay Mine in Labrador.
- A project to inventory native flora and fauna around Agnico Eagle's Pinos Altos Mine in Mexico that has identified new economic opportunities related to blackberry, wild blueberry and stevia, which are helping to diversify the regional economy beyond the dominant forestry industry.



### MARKET PENETRATION OF TSM

In recent years, MAC has seen increased interest in TSM from different organizations in Canada and around the world. Both the Mining Association of British Columbia and the Quebec Mining Association have adopted TSM and are working with their members on implementation. These partnerships with the provincial associations have helped broaden the uptake of TSM within Canada. As of 2017, of the roughly 93 operating metal, diamond, met coal and oil sand mines in Canada, three-quarters of them (69 mines) are in various stages of TSM implementation.

### INTERNATIONAL UPTAKE OF TSM

Internationally, we are also seeing increased interest in TSM. In 2015, TSM achieved an important milestone with the Finnish Mining Association's (FinnMin) adoption of TSM. In 2016, the Argentinean Chamber of Mining Entrepreneurs (CAEM) became the second association outside of Canada to sign a licensing agreement followed by the Botswana Chamber of Mines (BCM) officially in early 2017. In December 2017, MAC will sign a fourth agreement with the Chamber of Mines in the Philippines, bringing TSM's presence to five continents. There is simply no other national system that is positioned like TSM, evidenced by interest in replication.

Among the plethora of voluntary standards, TSM has proven to be attractive to other national mining associations for several reasons:

- TSM was developed by experts within the mining industry who understand the sector's key risks. This means that the criteria established in TSM are much clearer to understand and interpret by mine operators than other standards that are designed to be applied across multiple sectors, such as the Global Reporting Initiative or the Carbon Disclosure Project.
- TSM brings in best practices from leading companies and challenges the rest of the industry to improve performance.
- The program is credible, as it was developed with the guidance and input of a national Community of Interest Advisory Panel, which remains involved in TSM's ongoing implementation.
- TSM assessments and external verification take place at the facility-level, which makes the performance results more meaningful to local communities of interest than other standards that focus on corporate-level reporting.

In response to steadily increasing interest from other national associations and chambers of mines, MAC has undertaken to freely share TSM with willing partner national associations, prioritizing those that express an interest in TSM and share common member companies with MAC. In addition to the four national associations that have officially adopted TSM, MAC has also partnered with the Brazilian Mining Association (IBRAM) to translate MAC's three guidance documents on tailings management into Portuguese. MAC is currently working towards agreements with mining associations in Norway and Spain and has had discussions with many others.

By sharing TSM and promoting TSM to other national associations, MAC is doing a service to its members and the Canadian mining sector as a whole. Application of TSM globally helps enhance the credibility of TSM, which increases the value of its application in Canada, provides a competitive advantage to Canadian mining companies that are already accustomed to applying TSM and increases the reputation and brand of the Canadian mining sector as a responsible supplier of metals and minerals. The international uptake also helps to demonstrate that companies are working to the same high standards that are followed in Canada. It helps foster meaningful relationships with communities on the ground, gives regulators assurance that both environmental and social issues are being managed responsibly, helps ensure investor confidence and allows participating companies to provide assurance to customers that the metals and minerals being supplied are sourced responsibly.

### TSM CREATING BUSINESS OPPORTUNITIES FOR CANADIAN MINING SUPPLIERS

Canadian professional services firms (including engineering, management, and verification companies) have a wealth of experience supporting TSM implementation at mining facilities across Canada and at select international operations. This provides them with a competitive advantage when it comes to supporting TSM implementation in international jurisdictions because they are familiar with the program, its requirements, and how to embed these

requirements into facility-level management and reporting systems. Canadian engineering firms are also recognized for their depth of expertise in tailings management, and their familiarity with MAC's best practice tailings management guides puts them at a distinct advantage.

Business opportunities associated with TSM's international expansion include:

- Supporting the chamber of mines/industry association with program adoption, including providing training for association staff and companies, train-the-trainer, supporting development of the verification program, and supporting program design and implementation
- Supporting mining facilities in TSM implementation, including gap assessments, management system development in each of the areas covered by a protocol, and external verification

TSM has already created opportunities for Canadian mining suppliers abroad. Companies like Stratos Inc., Materials Efficiency Research Group (MERG) and Safety Science Management Consulting have been employed by mining companies abroad to provide verification services related to assuring TSM reporting. As an example, Stratos was contracted by Debswana, a joint venture between De Beers and the Botswana government, to provide verification services for their three mines in Botswana. Additionally, Stratos and MERG have both provided advisory services in Finland to support its national implementation of TSM.

As more national associations adopt TSM, there will be increasing demand for professional services to build capacity within the national association, provide training for implementing companies and design and implement important aspects of the program such as the external verification system. Since 2004, consulting firms across Canada have been engaged with MAC on TSM and helping MAC members implement and verify their performance. This expertise that was built in Canada can be exported to other jurisdictions that are working to implement TSM.

## **STRATEGIC PRIORITIES & OBJECTIVES**

Over the last three years MAC has observed growing international interest and demand for implementation of TSM. This expansion is supported by Canada's leading mining companies. It is complementary and consistent with Canada's International Trade Policy and has been promoted by Canadian diplomatic missions (or the Trade Commissioner Service) in target countries. The goal of TSM expansion is to establish TSM as the leading international standard for social and environmental performance in mining. The objective of this project is to achieve TSM implementation in 10 new countries and set the stage for a sustainable international secretariat.

### **EVALUATING AND PRIORITISING PROSPECTIVE MARKETS**

This plan focuses on the expansion of TSM to other mining jurisdictions. TSM is applicable to all mining activities and can even be adapted for application during exploration, closure and refining. MAC is concentrating on markets where Canadian mining companies have an interest and where there is interest in TSM from national mining associations. Specifically, markets will be assessed and prioritized based on the following criteria, backed with credible external statistics whenever available:

- The number of Canadian and overall projects and active mines in the target country
- The national association's capacity to implement TSM
- Country stability
- Country's mining policy
- Support from MAC members operating in-country
- Potential for future interest from Canadian companies and suppliers
- Level of support from mining sector in-country
- The target country's position on Natural Resources Canada's Mining Assets list

- Fraser Institute's Investment Attractiveness Index<sup>4</sup>
- Export Development Canada's Country Evaluations
- Support of national/sub-national government

Beyond assessments against the criteria above, MAC reserves the right to refuse a jurisdiction from adopting TSM and using the TSM brand. While MAC continues to share TSM with these countries and encourages them to adopt best practices, it does not want to risk diminishing the TSM brand by allowing a country that is not fully committed to the program to adopt it. In the past, MAC has been approached by national associations that either do not have the capacity and resources to implement the program or do not have a company champion to drive its adoption. In those cases, MAC has encouraged the association to continue to work towards best practices, build capacity and work towards demonstrating that TSM could be implemented successfully in the future.

#### IMPORTANCE OF AN INDUSTRY CHAMPION

From the list above and from experience with the first four agreements, the most important factor in the list above is the support of a MAC member operating in-country as this company can act as an in-country champion and mentor to the rest of the industry. Having an industry champion familiar with TSM has proven useful in helping to provide comfort that the standard is reasonable and not overly burdensome. Such a champion can also help build capacity and represent TSM on a more cost-effective basis than having MAC staff travel in every instance. This greatly reduces the cost of TSM implementation and increases the speed and likelihood of successful implementation.

#### CURRENT TARGET MARKETS AND PRIORITIES

MAC intends to engage directly with national mining associations in other jurisdictions. This allows for TSM to be established as a national standard applied more broadly than just for Canadian companies. It will create a level playing field for all companies' active in a given jurisdiction regardless of what expectations are established by home country governments, such as Canada, China, Australia, the United Kingdom and others. MAC has identified three categories of target markets to pursue as part of this strategy:

1. **Implementing Jurisdictions** – These are countries that have already signed a licensing agreement with MAC for TSM implementation. These are critical markets for TSM because the successful implementation of TSM in these jurisdictions is integral to protecting and enhancing the brand of TSM as an effective and credible global responsible mining standard. These are markets that will continue to require MAC support to build implementing capacity as part of the five-year phased implementation process outlined in the agreement template. This support will include training workshops, assistance in establishing reporting and verification structures and in establishing a Community of Interest Advisory Panel. After the necessary capacity and infrastructure is established, these markets remain integral to TSM as they become peer countries contributing to the overall success of the initiative. There are currently four countries in this category (Finland, Argentina, Botswana and the Philippines).
2. **High-priority Jurisdictions** – These are countries that have expressed an interest in TSM and which have the potential to help TSM take large steps forward in terms of market penetration, brand recognition and/or to further embed TSM as an important tool for investors and/or manufacturers. Typically, markets in this category would be associated with major mining centres such as South Africa or Chile. Examples of countries that would fall into this category and are currently in discussions regarding agreements including Ecuador, South Africa, Spain and Norway. While Spain and Norway are not major mining jurisdictions on their own, the national mining association in Spain, CONFEDER, has expressed a desire to champion TSM adoption within the European Union. Additionally, Norway's participation in TSM

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<sup>4</sup> Fraser Institute: <https://www.fraserinstitute.org/categories/mining>

<sup>5</sup> Export Development Canada's Country Info: <https://www.edc.ca/EN/Country-Info/Pages/default.aspx>

combined with Finland's commitment would help in establishing TSM as the dominant arctic mining standard. Ecuador is seen as important as it will further establish TSM as a viable standard in Latin America, the single most important mining jurisdiction for Canadian mining companies operating abroad. South Africa is a high priority because of its significance as a mining centre in Africa. Other countries in this category that have expressed an interest in TSM include Mongolia, Brazil, Mexico and Cuba.

ArcelorMittal, the world's largest steel manufacturer and mining company, with significant iron ore operations in Canada, has also recently informed MAC of its intention to roll-out TSM across its mining divisions. This activity will help to introduce TSM to countries such as Ukraine, Kazakhstan, Liberia and the United States. Other MAC members are also applying TSM in countries such as Surinam, Burkina Faso, Mali, Madagascar, Australia and Turkey, opening the possibility of potential sector adoption there.

3. **Jurisdictions in Transition** – Some jurisdictions, such as Guatemala and Zimbabwe, have expressed interest in TSM but are not likely to be able to meet the conditions necessary for successful implementation of TSM. While MAC believes that TSM has the potential to drive responsible mining practices in any jurisdiction, over the next 3 to 5 years it will be critical for TSM to focus on jurisdictions that are likely to be successful in their implementation efforts in order to enhance the TSM brand and increase its value to the Canadian mining sector. As such, TSM will monitor conditions in these jurisdictions and consider reprioritizing them should circumstances change. Additionally, this category may include countries that meet some but not all of the assessment criteria listed above. Should funding be made available either by Canadian embassies or high commissions in these countries or through other sources, MAC will consider beginning discussions. An example of this was a recent trip MAC took to present TSM in Serbia. Serbia does not meet several of the assessment criteria but funding was made available through the Canadian embassy and MAC was able to send a representative to make a presentation. For jurisdictions that fit in this category, MAC will continue to share the TSM protocols, guidance and training materials, and encourage them to work towards implementing best practices.

#### IMPLEMENTING MARKETS

For the successful growth of TSM, it is critical that MAC continue to support the implementation of TSM in jurisdictions that have already signed agreements with MAC. These markets are critical to the success of TSM as they are providing the basis for establishing TSM as an international mining standard. Support for these countries includes such activities as strategic implementation planning, capacity building for sustainability, conducting train-the-trainer workshops, advising on the implementation of Communities of Interest Advisory Panels and supporting a communities of practice network that enables knowledge transfer and peer-to-peer support for ongoing implementation. These markets include:

##### **Finland**

MAC's membership includes two mines operating in Finland. First Quantum's Pyhäsalmi mine is an underground copper and zinc mine located in central Finland. Agnico Eagle's Kittila mine in northern Finland is the largest primary gold producer in Europe. Both First Quantum and Agnico Eagle were voluntarily reporting on TSM performance in Finland before the national association decided to adopt the program for its membership. In fact, both companies were instrumental in bringing TSM to Finland and are supportive of its ongoing implementation.

The Finnish Mining Association (FinnMin) has been overseeing the implementation of TSM in Finland. FinnMin members have been trained on the program and are working towards public reporting of performance and third party external verification.

MAC intends to continue to support FinnMin as it fully implements the program. Ongoing support will include participation in training workshops and collaboration on performance indicators, as appropriate. MAC will also be engaged with FinnMin in 2020 to conduct an evaluation of the program's implementation in Finland as per the agreement between the two organizations.

## **Argentina**

In Argentina, MAC has three members with operating mines. Goldcorp operates the Cerro Negro mine, which is a high-grade gold mine located in the Santa Cruz province of Argentina. Goldcorp is also a 35% owner of the Alumbrera mining operation, which is one of the world's largest and lowest-cost gold and copper operations. Barrick Gold is a 50% owner of the Veladero mine, located in the San Juan Province of Argentina in the highly prospective Frontera District. Pan American Silver, a relatively new MAC member, operates the Manantial Espejo silver and gold mine in Santa Cruz, Argentina. They also have four exploration projects in different parts of the country. All three companies support the implementation of TSM in Argentina and encouraged MAC to work with the national association (CAEM) to formally adopt the program for its entire membership. Multinational members of MAC, such as Glencore, are also active in Argentina and have backed this initiative. CAEM has begun to implement the program and is currently focused on establishing its own Community of Interest Advisory Panel and providing training for its member companies and key stakeholders. CAEM has engaged former Canadian Ambassador to Argentina Tim Martin for strategic and policy advice.

## **Botswana**

MAC is affiliated with the Botswana Chamber of Mines (BCM) through the Debswana Diamond Company, which is a 50-50 partnership between De Beers and the Republic of Botswana. Debswana operates four mines in Botswana and is the country's largest private sector employer. Debswana has been applying the TSM protocols for the past few years and was instrumental in bringing TSM to the national association. BCM is working towards full implementation of TSM, which includes ensuring its other members have received the appropriate training.

## **Republic of the Philippines**

B2Gold's Masbate Gold Project (MGP) is located in Masbate Island in the Republic of the Philippines. Additionally, non-Canadian companies such as Philex Mining (which is a Filipino owned company) have been incorporating the criteria of the TSM assessment protocols into their facility-level management systems and were instrumental in the Chamber of Mines' decision to adopt TSM as a valuable tool to improve performance and enhance community relationships.

Mining in the Philippines has become increasingly uncertain and controversial. In 2017, the Environment Secretary ordered the closure of 23 mining operations and the cancellation of 75 mineral production sharing agreements and imposed a ban on open pit mining. There is mistrust between the public and the mining sector, which is founded on legacy issues, including a tailings leak from the 1990s. A recent directive by the President of the Philippines to the mining sector instructed mining companies to employ Canadian and Australian standards in their operations and this led the industry to approve the adoption of TSM. TSM is being viewed by the Chamber of Mines as a tool to rebuild that trust and improve responsible mining performance.

When it comes to gold, nickel, copper and chromite, the Philippines is the fifth most mineral-rich country in the world. Sector-wide adoption of TSM in the Philippines would offer Canadian companies operating in the region a tool to improve environmental performance and re-build trust with the community and the government. Improved trust in the mining sector may help ensure increased certainty for mining investment in this jurisdiction. Implementation of TSM in the Philippines also provides an entry way into other important mining jurisdictions in South East Asia.

## **HIGH-PRIORITY MARKETS**

Beyond those that have officially signed on to the program and require ongoing support to build the necessary capacity for successful implementation, there are several other jurisdictions interested in TSM that MAC has determined to be appropriate target markets for new agreements. Pursuing opportunities in these target markets typically includes presentations at conferences, engagement with governments, industry and stakeholders, negotiations to arrive at an agreement, training and inclusion in the TSM Community of Practice Network. MAC is actively working with the national associations in the following countries to consider adopting TSM:

## **Spain**

First Quantum Minerals' Las Cruces mine in the Sevilla Province of Southern Spain has been implementing TSM since 2009. With the support of First Quantum, MAC has been engaged with the national association for the past couple of years. With the support of the Canadian embassy in Madrid, MAC staff have traveled to Spain to present TSM and to begin the process of developing a formal agreement.

Spain is dealing with legacy issues in its mining sector. A tailings failure in 1998 was followed by an economic downturn and mining companies walking away from operations without remediation. While mining practices in Spain have since improved, there is still mistrust due to past performance. TSM in Spain would help re-build the reputation of the industry and would be of benefit of Canadian companies, such as First Quantum, who are currently at risk of being associated with the negative reputation of the industry. CONFEDM has also expressed a strong desire to champion TSM within the European Union and is keen to work with FinnMin to achieve this.

### *Challenges*

The Spanish mining association, CONFEDM, has had a standard called GMMS for a number of years. This standard is a combination of ISO 14001 and a series of outcomes indicators that measure data points such as the amount of money a mine invests in cultural heritage preservation and community economic development. CONFEDM's motivation for adopting TSM is to merge it with existing elements of GMMS in order to fill identified gaps. This will be the first time TSM will have been integrated with another existing national standard which presents a new challenge to work through.

### *Capacity to Implement and Likelihood of Success*

CONFEDM is considered to have adequate capacity to implement TSM and a high likelihood of success. This assessment is based on the fact that they are already implementing and managing the GMMS standard and are looking to strengthen it with TSM. Additionally, First Quantum Minerals, one of the first MAC members to implement TSM international, can act as an industry champion and mentor increasing the likelihood of successful implementation.

## **Ecuador**

As the Ecuadorian government continues to rebuild its economy from the devastating earthquake that struck in 2016, the national government has identified mining as a key economic engine. In order to build their mining sector, the government is working to overcome years of mining policies that forced all but a few mining companies out of the country. While the government has implemented policy and regulatory reforms that have reopened the country for foreign investment in mining, they are also working with the industry to adopt best practice environmental and social standards and have identified TSM as a key component to developing a strong and responsible mining industry.

In the fall of 2016, the Ecuadorian government reached out to MAC, with the support of Lundin Gold, a company affiliated with MAC member, Lundin Mining, and INV Mining, partly-owned by MAC member IamGold, to express a desire to see TSM implemented in Ecuador as part of a strategy to rebuild their mining sector based on effective regulation and strong industry environmental and social standards. Lundin Gold is in the process of building the Fruta del Norte project which is located within a 150km long copper – gold metallogenic sub-province located in the Cordillera del Cóndor region. Fruta del Norte is significant because it is the first project permitted by the Ecuadorian government under their new regulatory regime. MAC has been engaged with the industry, the government and indigenous representatives regarding the feasibility of TSM adoption. The Canadian trade commissioner service has also played a key role in facilitating this engagement.

### *Challenges*

Currently, there is a very limited large-scale mining sector in Ecuador with two operating mines. The permitting of Fruta del Norte is significant because it is sending a signal that new mining projects can be successfully permitted. It will take time to overcome the industry perception that Ecuador is not welcoming to foreign investment in mining, but the adoption of TSM is seen as a key part of rebuilding a positive image. Another challenge to overcome is strong community opposition to mining in some parts of the country. This opposition is based on legacy issues and is being reinforced by the conduct of other non-Canadian companies currently operating in Ecuador. There is agreement that “responsible mining” needs to be backed by strong and transparent performance and that TSM is the tool to demonstrate that performance. However, the largest challenge to overcome will be the lack of capacity within the national mining association. It is currently quite small and does not have the human or financial resources to effectively implement TSM. This challenge could be overcome by having the association members agree to restructure the association and provide it with the resources to effectively administer TSM. CAEM in Argentina had this same challenge and chose to overcome it by restructuring when they made the decision to adopt TSM in 2016.

#### *Capacity to Implement and Likelihood of Success*

While limited mining association capacity currently exists in Ecuador, given the strong desire of the Ecuadorian government to see TSM implemented and the presence of two industry champions in Lundin Gold and INV Mining, the current lack of capacity is not seen as a significant impediment in this case. A similar set of conditions existed with CAEM in Argentina before the decision was made to adopt TSM, at which point the industry restructured and appropriately resourced CAEM to implement TSM. It is anticipated that a similar decision could be taken in Ecuador, positioning it well for successful TSM implementation.

### **Norway**

Norway has been looking at TSM for nearly five years. Recently, the national association has been engaged with the Finnish Mining Association on TSM and the potential for adoption. While there are no MAC members operating in Norway, MAC sees Norway as a low-risk jurisdiction with the capacity to implement the program. If the Norwegian mining industry were to adopt TSM, Canadian companies seeking to invest in Norway would have a competitive advantage over companies from other parts of the world. Additionally, Norway is highly respected globally for their leadership in sustainability practices and TSM as a whole would benefit significantly from the additional credibility that would be gained by including Norway as a partner. The combination of Finland and Norway participating in TSM would also increase the likelihood of adoption across the rest of Scandinavia, potentially creating a pan-arctic mining standard.

#### *Challenges*

The primary challenge with TSM uptake in Norway is that adoption will not occur through the national mining association. Instead, the Norwegians have established an innovation cluster called the Mining and Mineral Cluster Norway, which is the proposed home for TSM. This is not completely consistent with the implementation model already established for TSM that focuses on working with national associations. As a result, the implementation model will have to be adapted slightly to work in this different organizational context. However, one significant benefit with this path is that housing TSM in the Mining and Mineral Cluster Norway strengthens the diversity of applicable models for where TSM can be housed in each jurisdiction demonstrating that, while the most common home is a national mining association, it is not dependent on this model for success.

#### *Capacity to Implement and Likelihood of Success*

Critical to the Mining and Mineral Cluster Norway moving forward with TSM was an application submitted to the Norwegian government to establish the Cluster as a National Center of Expertise and fund it accordingly. TSM was built into the application. Unfortunately, in November 2017, MAC was informed by the Cluster that their application was not successful. Until an alternative funding source is identified, in the short term the capacity to implement TSM in Norway is limited and the likelihood of success is considered low. However, the Cluster is in the

process of searching for new funding sources and if they are successful with other avenues, the capacity concern could be quickly addressed and the likelihood of success greatly increased.

### **South Africa**

As of 2014, there were 14 Canadian mining companies, representing \$1.1 billion in assets, in South Africa<sup>6</sup>. Building on the interest in Botswana, MAC has been discussing the feasibility of TSM adoption in South Africa. The South African Chamber of Mines has several members in common with MAC including companies such as Rio Tinto, Glencore, De Beers and Anglo American. In fact, it was De Beers and Anglo American that led the Botswana Chamber of Mines to sign onto TSM.

The South African Chamber is currently looking for tools that it can implement to help rebuild trust from the government and from communities in the South African mining industry and they have identified TSM as a tool that can play an instrumental role in demonstrating industry transparency and accountability. Given the importance of South Africa as a global centre of mining, TSM adoption by the South African Chamber would significantly contribute to the establishment of TSM as the global standard for responsible mining. Additionally, as with other countries already mentioned, Canadian companies seeking to invest in South Africa would have a competitive advantage over companies from other parts of the world given their familiarity with TSM.

### *Challenges*

The most likely challenge with respect to TSM implementation in South Africa will be the deep polarization faced by the mining sector from government officials and stakeholders. Trust in the industry is at an all-time low and it is likely that TSM will come under greater scrutiny there than in any other jurisdiction currently being prioritized by MAC, with the possible exception of the Philippines. In order for implementation to be successful, the Chamber of Mines will have to be well equipped to respond to the scrutiny and able to build a coalition of support to establish TSM as a means to demonstrate responsible mining practice. However, given the strength and size of the South African Chamber, it is highly likely that they will have the resources necessary to support TSM effectively and MAC will be able to work with the Chamber to ensure that TSM holds up to whatever scrutiny is brought to bear.

### *Capacity to Implement and Likelihood of Success*

The South African Chamber is well resourced with ample capacity to implement TSM and upon a positive decision to adopt TSM, there is considered to be a high likelihood of successful implementation as long as the Chamber can navigate the polarized environment to establish a substantive Community of Interest Advisory Panel to support TSM implementation. Additionally, while there is not currently a company already implementing TSM in South Africa to act as a champion, the Botswana Chamber of Mines is well positioned to support the South African Chamber. Further, the primary TSM champion in Botswana is Debswana, which is a partnership between the Government of Botswana and De Beers. De Beers and its parent company, Anglo American have a strong presence in South Africa.

### **Cuba**

Sherritt International, one of MAC's Canadian-headquartered companies, owns 50% of the Moa Joint Venture, which has operations in Cuba and Alberta. MAC has been discussing the potential of bringing TSM to Cuba with both representatives from Sherritt and the Cuban government.

Cuba is keen to attract foreign investment to build its mining sector and there is an opportunity for more Canadian companies to develop projects in Cuba and build on Sherritt's success. Cuba is believed to hold significant deposits of gold, copper, silver, iron ore and other base metals. Through Law 118, Cuba offers preferential tax treatment to

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6 <http://www.nrcan.gc.ca/mining-materials/publications/15406>



foreign companies doing business in the country. Cuba's adoption of TSM could provide Canadian companies that have experience with the program a competitive advantage in the country.

### *Challenges*

Establishing TSM in Cuba would not be without its challenges. The most significant challenge will be structuring an agreement in such a way that it works with the Cuban government. Typical TSM agreements are signed with national mining associations or chambers of mines rather than with a national government. Though as the possible model of the mineral cluster in Norway demonstrates, other options may be available in Cuba. Another challenge will be MAC's requirement to establish a Community of Interest Advisory Body to help with the implementation of the program in the jurisdiction, provide advice on emerging issues and play a role in the external verification process. Establishing an effective Community of Interest Advisory Body in Cuba will be particularly difficult as the government is the primary contact for the community and there is very little direct engagement between the mining sector and the public. However, this presents a tremendous opportunity to strengthen relationships between the industry and communities of interest. In fact, Sherritt has already established working relationships with various municipal governments, academics and other civil society constituents so this challenge is not considered to be insurmountable.

### *Capacity to Implement and Likelihood of Success*

The likelihood of success in Cuba is less known than with the other jurisdictions given the strong role of the Cuban government in business in Cuba. While TSM has a strong champion with Sherritt, much will depend on whether the Cuban government, a partner in Sherritt's mining and refining operations, decides to support the initiative. Assuming a positive decision is made to support TSM, it is expected that a suitable home for TSM in Cuba would be identified with sufficient capacity for implementation. It will also be necessary to develop a suitable structure for a COI Panel to ensure the successful implementation of TSM.

**TABLE 1: SUMMARY OF STRATEGIC OBJECTIVES AND DESIRED OUTCOMES BY COUNTRY**

Jurisdiction	Strategic Objectives and Desired Outcomes	Anticipated Actions	Measurement of Results
Finland	<ul style="list-style-type: none"> <li>• Full implementation of TSM by 2020.</li> <li>• Collaboration between Finland and other TSM adopting jurisdictions on best practices.</li> <li>• Increased trust of the public in Canadian companies operating in Finland.</li> </ul>	<ul style="list-style-type: none"> <li>• MAC continues to be a resource for FinnMin.</li> <li>• Collaboration with FinnMin on new protocols and new elements of TSM.</li> <li>• Participation in FinnMin's annual mining conference and trade show to share new developments in TSM.</li> <li>• Partnership with FinnMin to advance TSM adoption across Scandinavia and the European Union.</li> <li>• FinnMin's participation in the annual TSM Community of Practice Forum.</li> <li>• Ongoing support by phone and webinar as required.</li> </ul>	<ul style="list-style-type: none"> <li>• 5-year check-in as per the licensing agreement.</li> <li>• Participation in the TSM Community of Practice.</li> <li>• Completion of annual facility level performance reporting.</li> <li>• Establishment of Community of Interest Advisory Body.</li> </ul>
Argentina	<ul style="list-style-type: none"> <li>• Full implementation of TSM by 2021.</li> <li>• Collaboration between Argentina and other TSM adopting jurisdictions on best practices.</li> <li>• Increased trust in Canadian companies operating in Argentina.</li> </ul>	<ul style="list-style-type: none"> <li>• MAC to provide training for companies in Argentina in Q4 2017.</li> <li>• Hold verification workshop to assist in the development of CAEM's TSM verification framework.</li> <li>• Participation in CAEM's annual mining conference to share new developments in TSM.</li> <li>• CAEM's participation in the annual TSM Community of Practice Forum.</li> <li>• Collaboration with CAEM on new protocols and new elements of TSM.</li> <li>• Ongoing support by phone and webinar as required.</li> </ul>	<ul style="list-style-type: none"> <li>• 5-year check-in as per the licensing agreement.</li> <li>• Participation in the TSM Community of Practice.</li> <li>• Completion of annual facility level performance reporting.</li> <li>• Establishment of Community of Interest Advisory Body.</li> </ul>
Botswana	<ul style="list-style-type: none"> <li>• Full implementation of TSM by 2022.</li> <li>• Collaboration between Botswana and other TSM adopting jurisdictions on best practices.</li> <li>• Increased trust in Canadian companies operating in Botswana.</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct train-the-trainer workshop in Q1 2018.</li> <li>• Hold verification workshop to assist in the development of BCM's TSM verification framework.</li> <li>• Collaboration with BCM on new protocols and new elements of TSM.</li> <li>• Participation in Mining Indaba.</li> </ul>	<ul style="list-style-type: none"> <li>• 5-year check-in as per the licensing agreement.</li> <li>• Participation in the TSM Community of Practice.</li> <li>• Completion of annual facility level performance reporting.</li> <li>• Establishment of Community of Interest Advisory Body.</li> </ul>

		<ul style="list-style-type: none"> <li>• BCM's participation in the annual TSM Community of Practice Forum.</li> <li>• Ongoing support by phone and webinar as required.</li> </ul>	
Republic of the Philippines	<ul style="list-style-type: none"> <li>• Signed TSM licensing agreement in 2017.</li> <li>• Increased trust in Canadian companies operating in the Philippines.</li> <li>• Regulatory certainty for companies operating in the Philippines.</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct train-the-trainer workshop in Q4 2017.</li> <li>• Ongoing engagement with government and companies operating in the Philippines.</li> <li>• Hold verification workshop to assist in the development of CMP's TSM verification framework.</li> <li>• Collaboration with CMP on new protocols and new elements of TSM.</li> <li>• CMP's participation in the annual TSM Community of Practice Forum.</li> <li>• Ongoing support by phone and webinar as required.</li> </ul>	<ul style="list-style-type: none"> <li>• 5-year check-in as per the licensing agreement.</li> <li>• Participation in the TSM Community of Practice.</li> <li>• Completion of annual facility level performance reporting.</li> <li>• Establishment of Community of Interest Advisory Body.</li> </ul>
Spain	<ul style="list-style-type: none"> <li>• Signed licensing agreement within one year.</li> <li>• Increased trust in Canadian companies operating in Spain.</li> </ul>	<ul style="list-style-type: none"> <li>• Hold signing ceremony with CONFEDM in Q1 2018.</li> <li>• Provide assistance with integrating TSM and Spanish GMMS standard.</li> <li>• Hold verification training workshop to accredit Spanish verifiers.</li> <li>• Conduct train-the-trainer workshop in Q2 or Q3 2018.</li> <li>• CONFEDM's participation in the annual TSM Community of Practice Forum.</li> <li>• Collaborate with CONFEDM to support TSM promotion in the EU.</li> </ul>	<ul style="list-style-type: none"> <li>• 5-year check-in as per the licensing agreement.</li> <li>• Participation in the TSM Community of Practice.</li> <li>• Completion of annual facility level performance reporting.</li> <li>• Establishment of Community of Interest Advisory Body.</li> </ul>
Ecuador	<ul style="list-style-type: none"> <li>• Signed licensing agreement within one year.</li> <li>• High mineral areas of Ecuador are open for investment.</li> <li>• Increased trust in Canadian companies operating in Ecuador.</li> </ul>	<ul style="list-style-type: none"> <li>• Determine most appropriate organization to house TSM.</li> <li>• Agree on licensing agreement terms and sign agreement.</li> <li>• Conduct train-the-trainer workshop on signing of agreement.</li> <li>• Support establishment of Community of Interest Advisory Body.</li> </ul>	<ul style="list-style-type: none"> <li>• 5-year check-in as per the licensing agreement.</li> <li>• Participation in the TSM Community of Practice.</li> <li>• Completion of annual facility level performance reporting.</li> <li>• Establishment of Community of Interest Advisory Body.</li> </ul>

		<ul style="list-style-type: none"> <li>Ecuador's participation in the annual TSM Community of Practice Forum.</li> </ul>	
Norway	<ul style="list-style-type: none"> <li>Signed licensing agreement within one year.</li> <li>Norway is a TSM ambassador to other European countries.</li> </ul>	<ul style="list-style-type: none"> <li>Sign licensing agreement with Mining and Mineral Cluster Norway.</li> <li>Work with Norway to develop training plan supported by both MAC and FinnMin.</li> <li>Support establishment of Community of Interest Advisory Body.</li> <li>Norway's participation in the annual TSM Community of Practice Forum.</li> </ul>	<ul style="list-style-type: none"> <li>5-year check-in as per the licensing agreement.</li> <li>Participation in the TSM Community of Practice.</li> <li>Completion of annual facility level performance reporting.</li> <li>Establishment of Community of Interest Advisory Body.</li> </ul>
South Africa	<ul style="list-style-type: none"> <li>Signed licensing agreement within one year.</li> <li>Increased trust in Canadian companies operating in South Africa.</li> </ul>	<ul style="list-style-type: none"> <li>Present TSM to board of Chamber of Mines of South Africa (CMSA) and build support for TSM implementation.</li> <li>Sign agreement with CMSA at or before 2019 Mining Indaba.</li> <li>Develop training program to support TSM implementation with support of the Botswana Chamber of Mines.</li> <li>Support establishment of Community of Interest Advisory Body.</li> <li>South Africa's participation in the annual TSM Community of Practice Forum.</li> </ul>	<ul style="list-style-type: none"> <li>5-year check-in as per the licensing agreement.</li> <li>Participation in the TSM Community of Practice.</li> <li>Completion of annual facility level performance reporting.</li> <li>Establishment of Community of Interest Advisory Body.</li> </ul>
Cuba	<ul style="list-style-type: none"> <li>Signed TSM licensing agreement with Cuba within the next five years.</li> <li>Increased trust in Canadian companies operating in Cuba.</li> </ul>	<ul style="list-style-type: none"> <li>MAC to deliver training in 2018.</li> <li>Ongoing engagement with government and companies operating in Cuba to determine viability of successful TSM implementation.</li> <li>On agreement to move forward, sign licensing agreement and develop implementation plan including training needs and establishment of Community of Interest Advisory Panel.</li> <li>Cuba's participation in the annual TSM Community of Practice Forum.</li> </ul>	<ul style="list-style-type: none"> <li>5-year check-in as per the licensing agreement.</li> <li>Participation in the TSM Community of Practice.</li> <li>Completion of annual facility level performance reporting.</li> <li>Establishment of Community of Interest Advisory Body.</li> </ul>

## GROWTH PLAN

The growth plan for TSM is focused on establishing TSM as a prominent global responsible mining standard that:

- Continues to drive responsible mining performance improvements at facilities around the world
- Is used by downstream manufacturers to demonstrate that their products are manufactured using responsibly sourced metals and minerals
- Is used by investors to incorporate environmental and social performance into investment decisions.

In order to achieve this, TSM is focused on the following near, medium and long-term growth objectives:

- **Near term – 1 to 3 years** – Ensure that implementing jurisdictions are provided with the support necessary to achieve successful implementation of TSM and to grow the number of signed licensing agreements from 4 to 10, which equates to two new agreements per year.
- **Medium term – 3 to 5 years** – Establish an international secretariat to support the ongoing growth of TSM and ensure that there continues to be a steady stream of new jurisdictions working towards TSM implementation. At the end of five years have 15 licensing agreements in place. All implementing jurisdictions will contribute financially to the secretariat.
- **Long term – beyond 5 years** – TSM is recognized a leading global standard for responsible mining assurance used by investors and manufacturers and present in the majority of major mining jurisdictions including countries like Chile, Mexico, Brazil, Peru, Indonesia, Mongolia and key jurisdictions across Africa.

### LEVEL OF EFFORT REQUIRED TO SUPPORT EACH IMPLEMENTING JURISDICTION

From MAC's experience with the four existing agreements, it typically takes three visits to a country to achieve a signed agreement and provide the initial training required to begin establishing the necessary capacity to advance TSM implementation:

- Visit 1 – Provide initial overview presentations to build a foundation of understanding of TSM. This visit often comes with some degree of training and engagement with stakeholders including NGOs, indigenous peoples and governments
- Visit 2 – Signing of agreement and in-depth training workshop
- Visit 3 – Train-the-trainer workshops, assistance with establishing COI advisory panel and verification process

In between these visits, there is ongoing support provided by webinar and teleconference followed by additional refresher training or more detailed training on specific issues required later in the 5-year phase in process. The level of effort required to support each jurisdiction first in learning about TSM and making the decision to adopt it, and then to develop the capacity necessary to implement it within a five-year timeframe will vary somewhat jurisdiction by jurisdiction. Based on experience to date with the first three implementing jurisdictions, the estimated level of effort for each implementing jurisdiction is broken down by year in table 2.

**Table 2: Year-by-Year breakdown of level of effort to support a new partner country implementing TSM**

Year	Estimated Person Days and Expenses	Notes/Assumptions
Year 0 - Initial meetings and discussions	MAC staff time: 6 person days	<p>Lead-up to support initial learning about TSM and decision to enter into an agreement:</p> <ul style="list-style-type: none"> <li>• Travel time and costs for an initial presentation and discussion</li> <li>• Time to prepare presentation materials</li> <li>• Time for teleconferences and email support</li> <li>• Travel time and costs to sign agreement and conduct first in depth TSM training workshop</li> </ul>
Year 1	MAC staff time: 6 person days	<p>Support initial implementation:</p> <ul style="list-style-type: none"> <li>• Travel time and costs for in-country training workshop</li> <li>• Time to prepare presentation materials</li> <li>• Translations costs (if applicable, not included in estimate)</li> <li>• Time for teleconferences and email support</li> <li>• Time to review implementation plans</li> </ul>
Year 2	MAC staff time: 3 person days	<p>Support for implementation:</p> <ul style="list-style-type: none"> <li>• Time to review materials developed by adopting country and provide feedback</li> <li>• Time for teleconferences and email support</li> </ul>
Year 3	MAC staff time: 6 person days	<p>Support for implementation:</p> <ul style="list-style-type: none"> <li>• Travel time and costs for in-country follow-up training workshop and support accreditation of verifiers</li> <li>• Time to review materials developed by adopting country and provide feedback</li> <li>• Time for teleconferences and email support</li> </ul>
Year 4	MAC staff time: 3 person days	<p>Support for implementation:</p> <ul style="list-style-type: none"> <li>• Time to review materials developed by adopting country and provide feedback</li> <li>• Time for teleconferences and email support</li> </ul>
Year 5	MAC staff time: 2 person days	<p>Conduct 5-year review of implementation of TSM agreement</p>

The management of TSM's growth is sustainable under the current governance structure to a point. As noted above, once the number of adopting associations reaches an estimated 10 countries, it is anticipated that a global secretariat will be needed to oversee the implementation at a global scale. The establishment of a global secretariat will also help position TSM as a global standard. With increased adoption of the program, the needs of TSM will evolve. For example, the international secretariat will be charged with handling future outreach and negotiations with other interested jurisdictions. It will also lead engagement with other interested parties (e.g. communities of interest at the global scale, downstream companies and investors) thus providing additional value to implementing countries and strengthening the brand.

This secretariat is envisioned to function in a similar way as Responsible Care is administered through the International Council of Chemicals Associations.<sup>7</sup> A likely governance model for such a secretariat would include a board structure populated with representatives from the implementing associations and an advisory body made up of a mix of industry and civil society representatives similar to the current advisory panel in place in Canada.

The international secretariat will be co-developed, funded and managed by all implementing associations. It will be charged with coordinating collaboration between the implementing associations, ensuring consistent application of TSM around the globe and facilitating the ongoing expansion of the program. Based on the experience of Responsible Care, it is expected that such a model should be able to sustainably oversee the growth of TSM to as many countries as are willing to sign on. The International Council of Chemistry Associations now supports sixty countries implementing the Responsible Care standard.

#### **ROLE OF MAC MEMBERS**

To date, all engagement with other national mining associations has been done with the support of MAC members that are operating within a particular jurisdiction. The MAC Board of Directors, consisting of one director from each member company, has collectively made the decision to support the international growth of TSM and has authorized MAC to pursue new agreements based on this strategy and application of the above selection criteria. Until an independent secretariat is justified and established, the MAC Board of Directors will continue to oversee the governance of TSM expansion.

Individual MAC members have been and will continue to help support the expansion of TSM to other jurisdictions in many different ways. Some members have provided direct funding for travel and training workshops and made critical introductions to facilitate engagement. Others have traveled to other jurisdictions on behalf of MAC to promote TSM and to engage with interested associations.

Moving forward, the full membership will play a role in overseeing the expansion of TSM and ensuring that as the uptake of the program increases, TSM's reputation and brand are respected. This will involve looking at the existing TSM protocols to determine if there are core protocols (e.g. tailings management) that all adopting associations must implement. It will also involve collaborating with experts from other jurisdictions as the TSM protocols are reviewed and updated.

#### **ROLE OF GLOBAL AFFAIRS CANADA IN SUPPORTING THE GROWTH PLAN**

Through the enhanced CSR Strategy, Global Affairs Canada (GAC) has committed to sharing practical guidance developed by Canadian industry associations, including TSM. As part of this sharing, the Trade Commissioner Service has become a strong promoter of TSM with other national mining sectors. In addition to the possibility of receiving financial support under GOA, we see the following important roles for GAC to support TSM expansion and promotion:

- Provide continued support from the Trade Commissioners in promoting TSM and educating stakeholders in other countries.
- Continue to help MAC make connections necessary to begin discussions regarding TSM through active engagement of Trade Commissioner networks in key mining jurisdictions.

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<sup>7</sup> <https://www.icca-chem.org/responsible-care/>

- Share embassy staff knowledgeable of issues on the ground across the globe to ensure that MAC understands the risks and opportunities associated with partnering with different jurisdictions. GAC's international relations knowledge and expertise will also continue to help MAC make informed decisions as TSM grows into an international standard.

## **ENSURING CONSISTENCY AND PROTECTING THE TSM BRAND**

There are currently four provisions currently in place aimed at ensuring consistency and protecting the TSM brand, with a fifth currently being considered:

1. TSM Licensing Agreement
2. Requirement for the establishment of a Community of Interest Advisory Panel
3. 5-year licensing agreement implementation review
4. Trademark registration and intellectual property rights
5. Rationale for selection of protocols and indicators (currently under consideration)

### **TSM LICENSING AGREEMENTS**

The TSM license establishes the expectation that each implementing jurisdiction meet the following seven components of TSM and contains a provision for a five-year review by MAC to ascertain that the seven components have been adequately implemented. If they are not, MAC is able to withdraw the license. The seven components include:

1. Guiding Principles: Associations must commit to a set of Guiding Principles that reflect the environmental and social goals of the industry and its communities of interest.
2. Performance Indicators: Associations must develop performance indicators to measure success in adhering to those Guiding Principles.
3. Facility Level Reporting: Associations must have measures to track progress against the performance indicators at the facility level, where the mining activity takes place.
4. Independent Verification: Associations must implement an appropriate framework for independent verification of performance to ensure that reported self-assessed results accurately reflect performance.
5. Public Reporting of Facility Level Reporting: A mechanism must facilitate the public reporting of facility-level performance results.
6. Condition of Membership: TSM must be a condition of membership in the implementing association.
7. Community of Interest Advisory Body: Associations must ensure that a Community of Interest Advisory Body, which represents challenging interests and a broad spectrum of societal perspectives, is in place.

### **COMMUNITY OF INTEREST ADVISORY PANEL**

As listed above, the establishment of a Community of Interest Advisory Body (COI Panel) is a key requirement of the TSM Licensing Agreement. These bodies are a critical part in TSM's efforts to ensure that the integrity of the brand is maintained in each country where it is implemented. The licensing agreement stipulates that when a national mining association intends to make a change to a TSM protocol, develop a new one or decide not to use a protocol, it must consult with its COI Panel. This consultation will help to ensure that any changes made to TSM in each jurisdiction do not reduce the rigour or integrity of TSM and align with local societal expectations. This approach is integral to TSM because it allows for a certain level of national customization without putting MAC in the position of having to review and approve every change. It also helps to encourage a level of dialogue between industry and civil society in a way that is less common in some countries.

### **5-YEAR LICENSING AGREEMENT IMPLEMENTATION REVIEW**

The TSM Licensing Agreement also includes a provision to enable MAC to commission an independent review of an adopting association's progress in implementing the provisions of the licensing agreement. The objective of this review is to ensure that sufficient progress has been made in implementing each of the seven components of TSM to give reasonable assurance that implementation has been successful. If sufficient progress has not been demonstrated, MAC has the authority to cancel the agreement and withdraw permission to use the TSM trademark.



#### TRADEMARKS AND INTELLECTUAL PROPERTY RIGHTS (IP)

A key element of ensuring the long-term value of TSM as a brand is maintaining its coherence and consistency. As such, MAC has implemented a series of measures to protect TSM's intellectual property. *Towards Sustainable Mining*® and *TSM*® are registered trademarks in Canada and MAC has incorporated elements into the TSM Licensing Agreement template to address trademark registration in implementing jurisdictions. The template licensing agreement stipulates that MAC will register these trademarks in the jurisdiction adopting TSM and that the adopting association will reimburse MAC for the costs associated with registration. This allows MAC to retain control of the *TSM* brand and provides a means to revoke the rights to it should the adopting association not fulfill its commitments.

With respect to the ownership of the associated TSM intellectual property, the TSM agreement provides a license for each implementing association to freely use all of the IP contained in TSM. There is also a reciprocal obligation that requires each implementing jurisdiction to share any new IP they develop with the other implementing jurisdictions. On the establishment of an international secretariat, trademark and IP ownership is intended to be transferred from MAC to the secretariat to administer these provisions.

#### RATIONALE FOR SELECTION OF PROTOCOLS AND INDICATORS – UNDER CONSIDERATION

The fourth provision currently being considered is the possible establishment of a requirement for implementing associations to provide a rationale for their selection of protocols and indicators. This provision would allow for an appropriate balance between maintaining a degree of national level customization and ensuring that a clear and transparent justification is provided for why a country may decide not to implement certain protocols or indicators.