

From the Whitehorse Mining Initiative Towards Sustainable Mining: lessons learned

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ABSTRACT

Much debate has taken place within the mineral policy community about whether or not meaningful progress has been made towards more sustainable practices. This paper investigates the changing approaches towards sustainable development undertaken by the Mining Association of Canada (MAC) over a period of approximately 20 years. The analysis begins in the early 1990s when MAC initiated the Whitehorse Mining Initiative (WMI) and concludes in 2010 when the association was operating under a strategy entitled Towards Sustainable Mining (TSM). The goal is to consider the nature of the learning that has taken place towards sustainability within the mineral industry using the case of a leading national mining association. The investigation was undertaken through a literature review as well as key informant interviews with stakeholders affected by the Canadian Mining Industry. Findings suggest that MAC's approach to sustainable development has shifted from an ambitious and holistic partnership involving a range of stakeholders to a focused, member-specific agenda that addresses a few performance issues. The transition to TSM was based on lessons learned through working with the WMI and subsequent efforts. It reflects broader corporate tendencies to address social and ecological issues through corporate social responsibility initiatives. The implications of these trends suggest that voluntary initiatives in and of themselves should not be expected to replace the comprehensive regulatory responsibilities historically provided by government.

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1. Introduction

Much debate has taken place within the mineral policy community about whether or not meaningful progress has been made towards more sustainable practices. Despite the increasing numbers of sustainable mining initiatives, many question their overall effectiveness (Fonseca, 2010; MiningWatch, 2004; Moody, 2001; Whitmore, 2006). For their part, industry players will frequently argue that mining has the potential to leave positive legacies for the environment and communities, thus contributing to sustainable development (ICMM, 2009; MMSD, 2002). The nature of the debate ranges from disputes about what the term sustainability implies to questions about motivation, action and effectiveness of initiatives.

Such debates are particularly vociferous in resource-based countries such as Canada, which has been referred to as "the

world's miner" (Bassompierre, 2006, p. 50). Canada was among the world's top producers of many minerals and metals throughout much of the past century and currently plays a leading role in global exploration (NRCan, 2008). In 2009, Canadian-based exploration companies contributed an estimated 34% of the world's total exploration budget (NRCan, 2010b).

The Mining Association of Canada (MAC) has long been considered an industry leader in Canadian social and environmental voluntary initiatives (McAllister and Alexander, 1997). Its endeavours have influenced mineral development in Canada while highlighting the importance of public participation, accountability, and environmental stewardship.

This paper investigates the extent to which learning has taken place in the period of time between two of MAC's most important initiatives: the 1993 Whitehorse Mining Initiative (WMI) and its Leadership Council Accord and the most recent Towards Sustainable Mining (TSM). Learning, a key requirement of sustainability strategies (e.g., Keen et al., 2005), provides an insightful lens through which to analyse the merits and potential implications of policy shifts.

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The paper begins with an overview of MAC and its evolving approach to sustainability policies. This sets the stage for a discussion of a policy-learning framework and its associated methodology that is used to investigate the way in which the goal of sustainability has been pursued over the past twenty years from the WMI and its final Leadership Council Accord to TSM. This analysis is followed by an exploration of the lessons learned about what role the mineral industry might be expected to play with respect to fostering the long-term sustainability of valued socio-ecological systems.

2. Sustainable development, minerals, and the mining association of Canada

Mining activities profoundly transform landscapes and socio-economic patterns of affected countries and communities. For millennia, these impacts have been tolerated by society because of minerals' many benefits, but the escalating environmental crisis is generating widespread public demands for a sustainable mineral industry. In reaction to these pressures, large mining corporations have been increasingly promoting sustainability initiatives. As Fig. 1 suggests, this process has become particularly intense since the turn of the 21st century.

An important effort from the early 2000s was the Global Mining Initiative (GMI), which was promoted by nine CEOs of large mining companies (Young, 2005). At the core of the GMI was the Mining, Minerals and Sustainable Development (MMSD) project, which gathered over 150 individuals and organizations to understand the role that the sector could play in sustainable development. Despite several challenges (Danielson, 2006), the project resulted in the publication of notable reports, including the landmark *Breaking New Ground* (MMSD, 2002). Numerous studies followed on the heels of the MMSD project, as analysts strove to understand the implications of sustainable development to mining organizations and operations (e.g., Azapagic, 2004; Hilson and Murck, 2000; Mudd, 2007; Worrall et al., 2009). But consensus as to how to make mining compatible with sustainability is far from being achieved. The finite nature of minerals puzzles advocates of sustainable development. Many people see the nature of the mining industry as unsustainable. As a global NGO campaign has argued:

Mining is inherently unsustainable - it requires the depletion of non-renewable natural and cultural resources. In many cases, mines can be operated more responsibly, with reduced negative impacts. But a truly sustainable global society will take fewer minerals from the earth each year. (Young and Septoff, 2002, p. 1)

Generalizations like the one above are rhetorically strong, but factually contentious. There are a number of issues and uncertainties

involved in the extraction of minerals that call for contextual and careful considerations about the long-term viability of mining.

MAC is a well-established institution that has long been promoting understanding of the implications of sustainability to Canada's largest mining companies. The policies promoted by MAC are among the most important in the Canadian sector, as they influence the behaviour of companies that "account for the vast majority of Canada's output of metals and major industrial minerals" (MAC, 2010a). In January 2010, MAC had 29 member companies and 47 associate members playing a variety of roles in the Canadian sector (MAC, 2010b).

Historically, MAC was concerned with issues such as taxation, trade, land access, socio-economic regulations, labour conditions, and technological development. Yet growing debate about the impact of mining companies on the environment and communities led the association to include social and environmental issues in its agenda. In the 1980s, MAC became the first national association in the world to introduce an environmental policy that its members were expected to follow. A decade and a half later, in 1993, MAC envisioned a sustainable mining industry with the WMI (see Fig. 1).

The WMI was spearheaded by George Miller, then president of MAC. The initiative was a comprehensive national roundtable funded by industry and governments with the ambitious goal of achieving a consensus among diverse groups including the Canadian environmental network, Aboriginal organizations, labour, government, and the mineral industry. This effort was a radical departure for an industry better known for its individualistic, competitive and isolationist nature. In the early 1990s, the industry was not faring well. It was facing competitive challenges abroad and an unsympathetic reception at home. While once the Canadian public interest was considered synonymous with resource development, the end of the twentieth century saw a voting urban population and their elected officials more concerned with environmental issues than the fate of the mineral industry. The industry found itself sharing the public arena with many other participants, and a number of them were not sympathetic to the competitive concerns of mineral prospectors, developers, or producers. The industry continued to produce significant revenues for the country as well as jobs and spin-off economic activities, but its overall reputation became linked to serious environmental degradation and social problems. The industry hoped that the WMI would foster a broader and more sympathetic understanding of its activities and role in Canada as well as a more hospitable regulatory environment.

The WMI was initiated in February of 1993 and concluded in the fall of 1994. Among its most relevant outcomes was the Leadership Council Accord, which established a policy framework for "dealing with issues related to mining in Canada in a cooperative

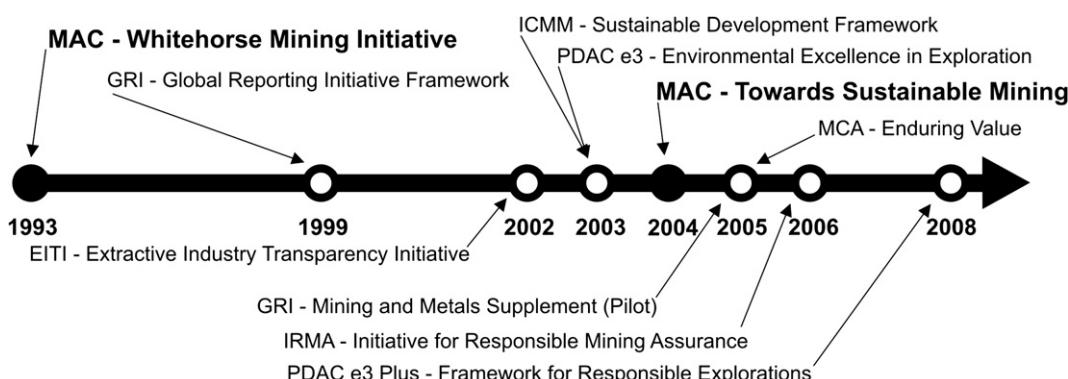


Fig. 1. Chronology of non-state sustainability initiatives in the mineral sector. Source: Figure designed by the authors based on references related to the initiatives

and collaborative manner" (WMI, 1994). The WMI serves as an important benchmark to assess progress towards a more harmonized and sustainable approach to mining in Canada (McAllister, 1999). Following this policy, many provinces undertook a number of consultative initiatives. The multi-stakeholder B.C. Advisory Council on Mining developed its own vision statement and initiated a set of discussions on the role of mining in the province. Similarly, Manitoba engaged in multi-stakeholder discussions to resolve some contentious land use issues based on the principles of the Leadership Council Accord (McAllister and Alexander, 1997, p. 154). The WMI process has also served as a model for similar multi-stakeholder efforts in Brazil and South Africa. More recent multi-stakeholder consultations, such as the National Roundtables on Corporate Social Responsibility and the Canadian Extractive Industry (Andrews et al., 2007), continue to play a policy role both in industry and government, albeit with a considerably reduced scope.

In the early 2000s, MAC developed a different approach to sustainable development: TSM. Publicly launched in May 2004, TSM constitutes an evolving set of guiding principles and performance indicators in four key areas: crisis management, energy use and greenhouse gas (GHG) emissions, external outreach, and tailings management. In addition, TSM is developing performance indicators related to issues such as Aboriginal People and Biodiversity Conservation (MAC, 2010c). Led by MAC's Board of Directors, TSM was created primarily by MAC members in consultation with external stakeholders. Since 2004, the initiative has been receiving systematic input from a Community of Interest (COI) Advisory Panel (Ford, 2005), which includes 14 representatives of First Nations and Aboriginal Organizations, industry and industry-associations, environmental non-governmental organizations, local government and economic development corporations and academia.

In 2005, the Globe Foundation awarded MAC the Industry Association Award for Environmental Performance, acknowledging that this association "has shown leadership by going beyond regulatory compliance to develop a collective commitment to improved environmental performance through research, development and education in partnership with governments, non-governmental organizations, communities and other stakeholders" (Globe Foundation, 2010). More recently, a study found that MAC had the strongest sustainability policy approach in comparison with seven other industry associations (Five Winds, 2008). Nevertheless, the extent to which MAC's efforts are translating into sustainability remains a matter of debate (MiningWatch, 2000, 2010b). This is particularly the case when one considers that the understanding of the term sustainability has evolved over the past twenty years, as have the relationships between the various affected constituencies.

This paper contributes to a better understanding of MAC's evolving policies while trying to understand the extent to which learning has taken place between the WMI and the TSM. It also contributes to the ongoing discussion surrounding the role of voluntary, industry-led initiatives in environmental regulation (Cashore et al., 2009; Hysing, 2009).

3. A learning framework to analyse policy change

Learning became an important framework for considering policy change in the early 1970s (Bennett et al., 2004). Sabatier suggests that policy-oriented learning "is an ongoing process of search and adaption motivated by the desire to realize the core beliefs (of an organization)" (Sabatier, 1988). Learning is indicated when a policy articulates changes in the means of implementation and/or changes in intent or direction (Sabatier, 1993). A learning approach considers "how knowledge on environmental issues is

used in policymaking and to the institutionalization of knowledge over time" (Swartling et al., 2007, p. 51). Approaching policy change from a learning perspective allows for consideration of the past, present and future opportunities for policy development. Moreover, learning recognizes that the pursuit of sustainability is not static but a flexible and open-ended process – a point also recognized by the leaders of the WMI. As such, learning can frame one's understanding of policy change directed towards efforts to foster socially inclusive and environmentally sustainable resource development. Finally, a learning approach aids in delineating "between significant policy shifts and incremental tactical adjustments" (Lertzman et al., 1996, p. 112).

Research directed at policy learning, for the most part, has been associated with changes in government policy. Voluntary, industry-led policies are now serving an increasing role in governance (Hysing, 2009). These initiatives are frequently conceptualized as manifestations of Corporate Social Responsibility, as they stem mostly from large multinational corporations and related associations (Vogel, 2005). These voluntary polices are described as "modes of governing that do not exclusively rely on government authority...[in other words, these systems include]...governing by non-governmental actors" (Hysing, 2009, p. 314). Policies promoted by the MAC reflect this new pattern of governing and are equally appropriate to be considered through the lens of learning.

The framework of analysis used here was adapted from work by Nilsson and Eckerberg (2007), applied in the Swedish agricultural and energy sectors (Nilsson et al., 2007). Table 1 outlines the criteria and operational questions used to compare and contrast each policy. It focuses on the key objectives and strategies articulated within each policy (such as the underlying problem and core values and goals). Also included is consideration of the decision and implementation process surrounding each policy. It has been persuasively argued that "learning is possible through adaptation to changing conditions and acquisition of new knowledge based on experience throughout the policy process" (Swartling et al., 2007, p. 51). As such, it is important to investigate not only the policy itself, but the context and the process through which it was created and implemented. Operational questions, identified in Table 1, reflect the "spirit" of the criteria, and are included for the purpose of clarity.

This analysis sets the stage for understanding different types of policy-oriented learning. Of critical importance are differences in the category broadly termed "Policy Objectives and Strategies." As noted above, policy-oriented learning involves a range of adaptations in policies; these changes can stem from internal

Table 1
Criteria and operational questions used to contrast policy changes.

Criteria	Operational questions
<i>Policy objectives and strategies</i>	
Underlying problem	What issue(s) is the policy meant to redress?
Policy preference	What approach is used to redress the issues?
Main goals	What goals are specified in the policy?
Scale	What is the geographic scale of the policy (i.e. local, regional, national, international)?
<i>Decision-making and implementation</i>	
Stakeholder participation	Who was involved in the development and implementation of the policy?
Operationalization	Through what processes is the policy implemented?
Implementation Obligation	How is the policy binding for participants?
Monitoring and verification	How are the results monitored and verified?
Communication	How are the results communicated to stakeholders?
Adaptive management	Is the policy subject to change with increased understanding of the issue?

Source: Based on Nilsson et al. (2007)

experiences of coalition members and/or external shocks to the policy system (Jenkins-Smith and Sabatier, 1994). The former is considered technical learning; it involves modifications to policy preferences used to achieve the underlying problem. Technical learning is predominately achieved within one coalition; it is focused on improving the ability "of an AC (advocacy coalition) to achieve its goal" (Hoberg, 1996, p. 115). Conceptual learning involves a changed understanding of the problem itself, which then may influence policy preferences and goals. Conceptual learning may occur within one coalition; however, it may also transcend one interest group, meaning it occurs across coalitions. This categorization of learning is usually preferred in the conceptualization of learning for sustainability (Nilsson, 2005). As Nilsson has argued, sustainability involves a specialized form of conceptual learning, "a policy-learning process in which perspectives evolve and reframe sectoral objectives, strategies and decision-making processes towards sustainable development" (Nilsson, 2005, p. 207). Table 2 outlines the types of learning.

Data collection in this research focused primarily on the texts of the WMI Leadership Council Accord and TSM, and related secondary literature. In addition, and where necessary, the paper included evidence gathered through key informant interviews with participants selected from the communities of interest of the Canadian mineral sector. The interviews (all telephone-based) were conducted during the fall of 2009. Questions addressed issues such as motivations behind policy creation, strengths and weaknesses of the WMI process and TSM, and future prospects of industry-led sustainability initiatives in the Canadian mineral sector.

4. Contrasting WMI and TSM

4.1. Policy Evolution

MAC's policy approach to sustainability has changed substantially between WMI and its Leadership Council Accord and TSM, notably with respect to the strategy and implementation aspects. Table 3 makes clear those changes, while contrasting the main characteristics of the policies.

The underlying problem addressed by both policies is the role of the mining industry in sustainable development. The WMI Leadership Council Accord envisioned a "(...) socially, economically and environmentally sustainable, and prosperous mining industry, underpinned by political and community consensus" (WMI, 1994). TSM's sustainability orientation is obvious in its name and guiding principles, which states that "(...) our opportunities to contribute to and thrive in the economies in which we operate must be earned through a demonstrated commitment to sustainable development" (MAC, 2004b). Some NGOs and authors see an unsolvable conflict between sustainability and extractions of non-renewable resources (Kirsch, 2009; MiningWatch, 2004; Whitmore, 2006; Young and Septoff, 2002). Proponents of both WMI and TSM, however, suggest that this conflict can be avoided through more efficient and socio-environmentally responsible operations committed to local

economies. Nonetheless, there are subtle differences in each conceptualization of the underlying problem. The WMI Leadership Council Accord articulates a broader conception of sustainable development, explicitly acknowledging economic, environmental, political and local dimensions. TSM, conversely, articulates the concept of sustainable development in a more focused manner; its emphasis is on the performance on specific socio-environmental issues within mining companies.

Differences between the WMI and TSM begin to emerge more clearly when contrasting the policy preference, strategy and decision-making. First, the approach used to redress the underlying problem articulated in each policy differs significantly. For its part, the strategic vision of the Leadership Council Accord addresses a "sustainable mining industry within the framework of an evolving and sustainable Canadian society (...)" (WMI, 1994). Thus many of the themes and areas of challenge reflected resource management issues throughout Canada, rather than within mining operations. For example, the Leadership Council Accord documents called for a number of regulatory improvements related to taxation regimes and environmental assessments (EA). With respect to the latter, the policy aims at fostering an effective EA within the context of land use planning and government policy and programs, ensuring that decisions are implemented and monitored. The policy approach articulated by the Leadership Council Accord transcends mining to address resource management in a more integrated manner. In this way, the solutions rest not solely with companies, but with governments working together with other actors, such as first nations, companies, and labour unions.

The policy preference articulated by TSM, conversely, focuses on MAC's member companies and their social and environmental programs. It relies substantially on corporate voluntary efforts as a means to address the underlying problem of sustainable development. For example, TSM introduces specific management and performance indicators in connection with energy use and GHG emissions to be self-evaluated by companies at each operational facility. By the time TSM was launched, there was already substantial knowledge about the strengths and weaknesses of corporate voluntary initiatives in the mining sector. Some analysts have pointed out that these initiatives are inherently limited and that their benefits depend on a number of factors, including how they relate to other regulated and non-regulated policies (Greene et al., 2002; Walker and Howard, 2002). Nonetheless, the flexibility and non-coercive design offered by these initiatives seem to provide a motivating promise of tangible progress in connection with particular socio-environmental issues.

A second key difference between the two policies lies with the main goals and implementation processes. These differences mirror the strategic focus of each policy. WMI Leadership Council Accord's main goal was "to work for a mix of policies at the federal, provincial, and territorial levels [satisfying] the objectives of Canadians for progress in the economic, social and environmental spheres". It also included the establishment of "a regulatory regime that is both effective and efficient in maintaining prescribed

Table 2
Types of learning.

	Technical learning	Conceptual learning	Learning for sustainability(?)
Learning outcomes Frames	instrument viability and effectiveness stable	problem definitions, goals and strategies evolving	problem definitions, goals and strategies evolving towards sustainability
Indicated in policy	revisions of instruments or levels of instruments	revisions of new problems and goals	revisions of sustainability problems and goals
Indicated in argument	accounts and citing of evaluations and experiences	new problems, goal and systems descriptions	sustainability-led problems, goal and systems descriptions

Source: Swartling et al. (2007)

Table 3

Differences between WMI and TSM.

Criteria	WMI Leadership Council Accord	TSM
<i>Policy objectives and strategy</i>		
Underlying problem	• role of mining industry in sustainable development	• role of mining industry in sustainable development
Policy preference	• mix of regulated and non-regulated policies	• self-regulation
Main goals	<ul style="list-style-type: none"> • elusive and numerous in connection with the following areas: <ul style="list-style-type: none"> – addressing business needs – maintaining healthy environment – resolving land use issues – ensuring the welfare of workers and communities – meeting aboriginal concerns – improving decisions 	<ul style="list-style-type: none"> • specific and quantifiable in the following areas: <ul style="list-style-type: none"> – crisis management – energy use and GHG emissions management – external outreach performance – tailings management performance.
Scale	• Canadian territory	• Canadian territory
<i>Decision-making and implementation</i>		
Stakeholder participation	<ul style="list-style-type: none"> • involved mostly in the design • included mining ministers, leaders of aboriginal organizations, leaders of labour unions, leaders of environmental organizations, academics 	<ul style="list-style-type: none"> • involved in the development as well as in the implementation and verification of the policy • includes aboriginal peoples (national, regional), labour (national, regional), community leaders, NGOs (policy, environment social, including faith-based and youth), mining industry, investment community, academics, other mining associations, customers, and suppliers
Operationalization	<ul style="list-style-type: none"> • informed NRCAN's Minerals and Metals Policy and MAC's policies • stimulated a number of follow-up provincial and specific associational consultative initiatives. New communications networks fostered. Arguably provided the foundation for international initiatives such as the MMSD onward 	<ul style="list-style-type: none"> • member companies self-assess their performance according to a number of technical protocols and checklists. The policy is overseen by a Governance Team who receives systematic feedback from an advisory panel made up of several stakeholders.
Implementation Obligation	• signatories to promote principles	• binding for MAC members
Monitoring and Verification	• elusive and non-systematic monitoring without external verification	<ul style="list-style-type: none"> • systematic and externally verified monitoring, based on quantifiable and comparable indicators
Communication	• annual progress reports with scant information	<ul style="list-style-type: none"> • annual progress reports published in MAC's website, carrying specific data, diagrams, and statements about member companies' progress on the main indicators and issues addressed by the initiative
Adaptive management	• unclear	• inherent, based on an incremental strategy

standards of activities and operations, and in reducing the cost of complying with regulatory requirements" (WMI, 1994). To enable these broad goals, the policy outlined many sub-goals covering six key issues (highlighted in Table 3's Main Goals).

The WMI was implemented through the coordination of a Leadership Council supported by a Working Group and four Issues Groups addressing specific areas (Environment, finance/taxation, land access, and workplace/workforce/community). Each Issue Group was responsible for creating a number of principles and objectives and making many practical recommendations for the various institutional actors involved in Canada's resource management. These recommendations, nonetheless, were presented in a rather elusive and non-standardized manner. Their monitoring and enforcement were almost non-existent. The few Progress Reports of the WMI Leadership Council Accord (e.g., 1996) provided scant information about the status of the actions recommended by the Issue Groups. However, the partnerships developed during the Accord led to subsequent agreements in provincial governments, and between stakeholders throughout the country. One of the most notable results was that taken by the federal government which adopted a number of recommendations in their follow-up Minerals and Metals Policy of the Government of Canada and it is still acknowledged on the website today (NRCan, 2010a). Since the early 2000s to the time of writing, however, a comprehensive, inclusive

approach to sustainable resource development has not been part of the minority federal Conservative government's agenda.

In comparison with the WMI Leadership Council Accord, TSM's main goal can be regarded as narrower, focused on a sense of enlightened self-interest. TSM emerged in response to the realization that the mining industry's image was deteriorating (Peeling, 2001). It was created to enhance "the industry's reputation by improving its environmental, social, and economic performance" (MAC, 2004c, p. 2). Since its beginning, the main thematic areas for performance improvement have been Crisis Management, Energy Use and GHG Emissions Management, External Outreach, and Tailings Management. These areas were selected by MAC in consultation with some of its stakeholders during 2000–2004. Yet, since 2004, MAC has been working with the COI panel on the development of additional performance indicators on Biodiversity, Mine Closure, Aboriginal Relations, Health and Safety, and Water (Gardiner and Gelfand, 2009; MAC, 2010c). Adopting the TSM has been made a condition of membership in MAC. The initiative is currently coordinated by a Governance Team and a Committee of the MAC Board of Directors. Within each member company, TSM is supported by "initiative leaders" or internal representatives. Moreover, the aforementioned COI has, since 2004, been providing input to MAC on TSM's goals and enhancement requirements (Gardiner and Gelfand, 2009).

MAC has developed several technical documents (protocols and checklist) to serve as guides to member companies' self-assessment and reporting of performance. A number of procedures were also developed for the external verification of consistency and accuracy in companies' self-assessments. These documents provide a staged and standardized approach to be used by external verifiers in conjunction with mining companies (MAC, 2010e). Companies are required to contract external verification services every three years. In addition, the COI panel reviews 2–3 reports annually.

Unlike the WMI Leadership Council Accord, which had weak monitoring and reporting requirements (Gratton, 2008), the TSM requires all companies to report their performance on the four areas addressed by the initiative on an annual basis. Their results are sent to MAC, who compiles the information into annual Progress Reports published in the association's website. The latest report carried the TSM performance of 17 member companies (about half of the total of 30 full members; another 50 are associate members – suppliers of goods and services to the industry and non-producing companies) (MAC, 2009). The high number of non-reporters is explained by the new companies or companies without Canadian producing assets. As with the WMI Leadership Council Accord, TSM applies only to companies extracting minerals in Canadian territory. Nonetheless, MAC is assessing the feasibility to apply the initiative to international operations (Gardiner and Gelfand, 2009).

It is unclear whether or not MAC's website disclosures give sufficient publicity to TSM's positive outcomes. For example, one industry Director of Environment, Health and Safety queries: "the work that we're doing on TSM, is it meeting its attempt? Is it changing the image of the mining industry? Are people reading the reports? Are people seeing the improvements? I'm not sure" (Deveau, 2009). MAC's current president, Gordon Peeling, explains that the association did not want to publicize efforts widely, before substantial progress had been made. But, he now ponders, TSM seems to have reached a degree of maturity that justifies more publicity:

In the early years, we focused very much on "talk when we have something to talk about, when we have sufficient progress". So I think you will start to see that change [increased publicity to MAC's reports]. As an actual fact, I think we should have moved earlier on that, because I think we have left a lot of people wondering where is TSM, people saying you guys are doing all these reports but it is hard to get even any of your members referring to it. (Peeling, 2009)

A third area of difference between the two policies relates to decision-making, specifically who was involved in policy development, and what was each group's obligation as it relates to implementation. The WMI had a wide range of high-powered stakeholders, representing top level government departments, Aboriginal Organizations, Industry, Labour Unions, and Environmental Organizations, who came to broad consensus on the policy before becoming signatories, although there were notable footnotes that stressed areas of disagreement. Those signatories who endorsed the WMI's final Leadership Council Accord became obliged to support and promote the WMI, to "develop and adopt action plans" within his/her jurisdiction. The WMI, however, did not create an ongoing dialogue with all those stakeholders. As Gordon Peeling explains:

Although there was some thought given by government to creating some ongoing dialogue post-WMI, it just didn't happen. I think the industry was so fatigued by a very intense two-year process, that it did not have the will to take the leadership in the absence of the government. That was seen as a lost opportunity, so we [MAC] wanted to make sure that we had an ongoing connection with our community of interest, because public values do change over time.

We wanted to stay connected to ensure that what we were doing within the sustainability context was meeting public expectations' on our performance. (Peeling, 2009)

The TSM has arguably been developed with a more sophisticated understanding of the value of ongoing public participation in policymaking than its predecessor, given the years of learning that had taken place between the two measures. As noted earlier, the TSM was initially designed by MAC members in consultation with external stakeholders. But, in 2004, MAC created the COI advisory panel, so that the latter may systematically be involved in the development of the TSM (Ford, 2005). Among the panel's main role is to "participate in the design and implementation of the TSM, including the Guiding Principles, performance indicators and reporting and verification system" (MAC, 2004a, p. 1). The COI includes several mining stakeholders, but, according to its Term of Reference, should favour the participation of four main groups: Aboriginal, Labour, Community leaders, and NGOs. Whether these groups are predominant among the current 14 members is, nonetheless, unclear (MAC, 2010d).

4.2. Learning Evolution

When examining the role of learning for sustainability in MAC's policy development, perhaps the most important distinction between the WMI and TSM involves the processes involved in each initiatives. The WMI included the work of the various stakeholders in different issue groups, and resulted in the array of documents which informed the Leadership Council Accord. This process was, at the time, arguably as important as the signed Leadership Council Accord because it saw the formation of new types of networks and communications (McAllister and Alexander, 1997). Before the WMI was conceived, competing interests would frequently only have the opportunity to meet in contentious circumstances under the glare of media attention. Members of each stakeholder group, including industry, environmentalists, labour etc., found themselves for the first time sitting around a table listening to each other and relating on a more personal level than would have been possible in the past. The WMI led to communications links and unlikely alliances that lasted long after the Leadership Council Accord was signed. These round-table negotiations did not necessarily lead to shared perspectives amongst distinct interests but it did lay down the crucial groundwork that made it possible for future roundtable discussions to take place. In the decade after the signing of the Leadership Council Accord, acquaintances were regularly renewed at subsequent multi-stakeholder negotiations held throughout Canada. Shared language developed around key terms, and more sophisticated roundtable processes developed and new connections were forged.

In this way, the WMI marked a clear and critical outcome of policy-oriented learning. This policy involved a fundamental change from business as usual, or in the words of Sabatier (1988, p. 151), a "re-examination of core beliefs", which attempted to address the growing (and external) emphasis on sustainable development. It was created through a process of iterative dialogue by key stakeholders, and obligated signatories to promote its principles. As such, it is not difficult to conclude that the creation of the WMI Leadership Council Accord illustrated policy-oriented learning for sustainability.

The development and implementation of TSM is less clear cut. The change in policy stemmed from MAC's dissatisfaction with the implementation of the WMI, more than from a "re-examination of core beliefs". The change arose as part of a strategic review in the early 2000s:

MAC's board concluded the industry's reputation was deteriorating and its social license to operate - by this I mean the consent and support of those with an interest in what we do - was eroding.

There was a belief that we had dropped the ball handed to us by the WMI by failing to follow-up on its recommendations in a concerted manner. Most important, the industry believed that the only way we could improve this situation was to improve our performance. (Kruger, 2001)

Thus TSM was created “to enhance the industry’s reputation by improving its environmental, social and economic performance” (Ford, 2005, p. 31). It did not necessarily emerge to fix the problems of the WMI, but to fill policy gaps within MAC’s sphere of influence. Whether it represents a stronger or weaker commitment to sustainable development depends, in part, on what various interests believe is achievable and the most effective way forward.

An interesting contrast between the two efforts, the WMI and TSM, is that the latter was created in a context and era where there was a more informed understanding of the challenges involved in the realization of a sustainable mining industry. Such understanding is explicit in the name of the initiative. “*Towards implies in the direction of but not achieved.* It is presented as an aspiration or goal, which recognizes that MAC members are just beginning and have a lot of work to do to meet it” (Peeling, 2001, p. 2). The approach set up by MAC is incremental and learning-oriented, in the sense that, in consultation with its stakeholders, MAC is continuously adding principles, elements and requirements to TSM. Such an approach seems to meet MAC’s member companies’ expectations (Peeling, 2009).

A comparison with WMI Leadership Council Accord, and understanding the process that led to its development, suggest that TSM can be considered an outcome of technical learning. TSM, as a new approach to sustainable development, has its genesis in the experiences of one organization working with the WMI. Dissatisfaction with the WMI Leadership Council Accord led to the organization drafting a revised approach. TSM is narrower in objective (restricted to one group) and scope (not about re-examining core beliefs, but about finding ways to realize those beliefs). The policy does not represent a shift or re-examination of core beliefs, but it nonetheless involves a marked change in approach to sustainable development, grounded in the experiences of key stakeholders. Technical learning, such as that which is manifested in TSM, is more common within policy systems. Learning within a coalition, with like-interested parties is less problematic; more difficulties arise with an effort to learn across coalitions, where difference of opinion and fundamental beliefs give rise to the potential for conflict (Sabatier, 1988, p. 155). Thus it is important to consider “incremental tactical judgements” such as those involved in the adoption of TSM, in addition to examples of conceptual learning, which involve reconceptualising goals and strategies.

The process, through which the policies have changed, however, leads to some interesting questions. If, as Nilsson et al. argue (2003; 2005; 2007), learning for sustainability is predicated on a specific type of conceptual learning, can technical learning centred within one coalition propel policy development? The policy changes described above address the transition from a national, industry-wide approach articulated in the WMI Leadership Council Accord to an organizational-specific (TSM) approach to sustainable development. Although TSM involved input by the communities of interest, it is unclear how vested any one party is in the approach, particularly as there is no implementation obligation. Furthermore, there is no regulatory obligation and arguably no governmental recognition for adherence to TSM.

As such, this example again highlights the questions surrounding the legitimacy of voluntary, industry-led initiatives in environmental governance (Cashore et al., 2009; Clausen and McAllister, 2001; Gibson, 1999; Greene et al., 2002; Hysing, 2009; UNEP, 2002). As analyst Kernaghan Webb (1999) has noted, voluntary

initiatives are a convenient way for industry to avoid government regulations that were seen as cumbersome, expensive and time-consuming. In this context, “[t]he challenge is for industry to develop a non-regulatory system which will be seen by government (and others) as sufficiently rigorous in substance and implementation to make new regulations unnecessary” (Webb, 1999, p. 37). The WMI was so comprehensive in orientation that it suggested a new way forward in the Canadian policy environment. The TSM is a very different entity and cannot fulfil such a role. Bill C-300, a private member’s bill (first reading February 9, 2009) illustrates a controversial case of societal pressure for more regulated social and environmental mechanisms in Canada’s mineral sector. The Bill, amongst others, seeks to empower the federal government to impose sanctions on mining companies with overseas operations non-compliant with voluntary standards. While praised by NGOs and some scholars (Janda, 2009; MiningWatch Canada, 2010a), the Bill is receiving an enormous push back from the industry (Barrick et al., 2009; Foster, 2010).

More than 10 years after the WMI, MAC learned how to obtain more tangible, traceable, and verifiable progress in connection with specific sustainability issues relevant to its member companies and related stakeholders. These issues, however, address just a few of the many challenges that make up the complex road of sustainable development. In light of these limitations, Canadian mining companies are starting to use other voluntary instruments, such as the GRI Framework and its Minerals and Metals Supplement to assess and communicate sustainability performance (Deloitte, 2007; Perez and Sanchez, 2009). The GRI framework covers literally dozens of sustainability issues that are not included in TSM. However, the GRI does not necessarily “complement” the TSM. GRI’s indicators system display significant differences, which can translate into greater burden for mining companies. As the director of a Canadian mining company explains: “There are so many frameworks out there governing issues related to sustainable development in the mining industry. It takes a lot of time to understand where they overlap, do not overlap, and all that needs to be done to comply with the ones we are committed to” (Dillon, 2009).

In addition to TSM and GRI, several other voluntary and regulated instruments were created in the past decade (some of which were illustrated in Fig. 1). What all these initiatives seem to be missing, though, is an integrative policy framework to foster synergies and avoid overlaps among them. The recent federal government initiative “Building the Canadian Advantage” (DFAIT, 2009), which tries to integrated CSR in Canada’s international mineral development, represents a step in that direction. This initiative, however, is very limited in scope. The ideal integrative framework, if developed, would probably resemble some of the main goals envisioned by the WMI. This new overarching policy, however, would need to be more practical and realistic than the WMI Leadership Council Accord was, while creating specific, binding, verifiable mechanisms of implementation. Gathering the mineral policy community together to agree on broad goals for the Canadian mining industry, in the manner of the WMI, was innovative and necessary, but only a first tentative step towards more sustainable mining practices. Conversely, the TSM process, which aims to address just a few of the many challenges faced by the mining industry, is insufficient to promote sustainable approaches to mining.

5. Conclusion

MAC’s approach to sustainable development has shifted significantly in the past two decades. The WMI was far more ambitious and holistic while TSM is very focused on a few performance issues within MAC’s member companies. WMI had more input from stakeholders

during its design, but the TSM achieved a more systematic and clearer role for stakeholder participation during its implementation. Monitoring, verification, and reporting were almost absent in the WMI Leadership Council Accord, but they are now key elements in the TSM.

Those who recognized and promoted lofty ideals of what was being proposed by the WMI almost twenty years cannot help but be disappointed that its broad scope has been curtailed in many ways and become moribund in a number of key areas. However, the importance of education and learning about sustainability by the sector should not be under-estimated. The fact that concepts of sustainability are being promoted in the Canadian mineral industry by its major mining association with its multi-stakeholder advisory group is worth recognition. Two decades ago, this type of language and thinking was a concept known only to specific groups of academics and environmental organizations. Ensuring that mineral companies recognize that sustainability is a concept that must be incorporated into their operating assumptions is no small task and it was achieved over a relatively short timeframe.

What appears to be emerging today is a suite of coalition-specific policy initiatives designed to address the complexity of implementing sustainability in the mineral industry. The Advocacy Coalition Approach is useful for understanding how and why MAC transitioned from endorsing the WMI Leadership Council Accord to developing and promoting TSM. However, this provides but a small piece of the mineral policy arena at work in Canada. To develop a more comprehensive understanding of the learning (or lack of learning) surrounding sustainable development, this approach should be applied to each coalition. Only with a fuller understanding of these elements one can understand if policy developments are leading to increased sustainability of the mineral sector.

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