

# APEGBC Sustainability Management System 2002 Review

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## Background

Sustainability principles are increasingly being adopted as core principles in major corporations, governments and other organizations both in BC and the world over. In essence, these principles seek to establish a dynamic balance between economic, environmental and social priorities, and to improve or maintain human and ecosystem well-being together, both now and into the long-term, locally and globally.

To date, the APEGBC Sustainability Committee (SC) has developed and implemented a number of initiatives supporting the Association's ongoing commitment and obligations with respect to sustainability. In 2000, following extensive consultations with stakeholders, APEGBC staff, and peer committees, the SC prepared a plan for developing a Sustainability Management System (SMS) to help APEGBC adopt a more systematic approach to sustainability. In a nutshell, the goals of the SMS are:

- to provide a framework for mobilizing the resources of APEGBC employees, committees and volunteer members towards the challenge of incorporating sustainability into each aspect of APEGBC's services;
- to lead by example and encourage Professional Engineers and Geoscientists to implement similar initiatives in their own professional activities;
- to enhance the Association's image as an innovator in professional development, as well as significantly improving performance in its core activities.

Council approved the SMS in September 2000 and directed the SC to work at its development. The results of these efforts are presented in the following sections.

## SMS Concept

The ultimate goal of the SMS Plan is to develop a Management System that provides a systematic framework for integrating sustainability considerations into existing processes, structures and functions within the Association.

The SMS will be the part of APEGBC's overall management structure that addresses the impact of its services on sustainability. The SMS will provide order and consistency in methodologies by allocating resources, assigning responsibilities, and continually evaluating practices, procedures, and processes.

The SMS is essential to APEGBC's ability to anticipate and meet growing sustainability performance expectations. Generally, the SMS should provide APEGBC with the framework to do the following:

- establish an appropriate sustainability policy;
- determine the legislative requirements with respect to sustainability associated with APEGBC's activities, and services;
- develop staff and members' commitment to sustainability with clear assignment of accountability and responsibility;
- encourage sustainability planning throughout the full range of APEGBC's activities,
- establish a disciplined management process for achieving targeted performance levels;
- provide appropriate and sufficient resources, including training, to achieve targeted performance levels on an ongoing basis;
- evaluate sustainability performance against the policy, objectives, and targets, and seek improvement where appropriate;
- establish a management process to review and audit the SMS and to identify opportunities for improvement of the system
- establish and maintain appropriate communications with internal and external interested parties; and
- encourage members and their companies to establish an SMS on their own.

## SMS: Mission, Goals and Objectives

### Mission

The SMS exists to incorporate sustainability principles into APEGBC and thereby to assist APEGBC in meeting its legal and ethical obligations to sustainability.

### Goals

The SMS will act as a framework for incorporating sustainability principles into APEGBC's mission, vision, strategic plan, operations, functions, communications and partnerships.

The SMS will provide an example to Members and so will lead the adoption of sustainability principles throughout BC.

### Objectives

The SMS will ensure that:

- APEGBC's commitments to sustainability continue to be relevant and adequate
- all APEGBC employees understand sustainability concepts and their relevance to their work
- APEGBC conducts initiatives that help to improve the adoption of sustainability practices among Members
- the SMS will establish a process of systematic consultation and feedback with respect to sustainability
- sustainability principles are fully integrated in all functions of the Association
- sustainability benchmarks and indicators are widely accepted and used within APEGBC
- APEGBC's action plans with respect to sustainability continue to meet needs perceived by Members and external stakeholders.

## Methodology

The design of the SMS is compatible with ISO 14001. The ISO 14000 series, from the International Organization for Standardisation, is an internationally recognized standard for environmental management systems that is based on voluntary initiatives for continual improvement. Modified for the APEGBC context, this proven standard provides a framework for the organization to improve sustainability performance within its financial, legal and political capacity. The focus of an APEGBC SMS will be on integrating sustainability considerations into existing processes, structures and functions within the Association. It will provide for:

- Creation of a process for establishing and achieving targeted performance levels;
- Creation of a mechanism for assessing the success of programs and policies and translation of that insight into improved activities.

The SMS activities are based on the ISO model of continual improvement (Fig. 1) and the process undertakes five phases: Commitment, Planning, Implementation, Evaluation and Review.

Figure 1: The SMS Model



## SMS Development

As a precursor to the development of the final SMS, an SMS Blueprint and Action Plan were initiated in response to issues identified during consultations in 2000. The issues were summarized as five strategies and twenty associated action items that are required to address weaknesses or gaps in the performance of APEGBC or its Members with respect to sustainability. The details of these five strategies are included in Appendix 1. Future sustainability strategies may have different priorities. However, the actions associated with these strategies will contribute significantly towards the final development of a SMS for APEGBC.

As indicated previously, the SMS will contain five phases: Commitment, Planning, Implementation, Evaluation and Review.

### Commitment

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#### **Objectives**

The objective is to insure increasing commitment to and acceptance of sustainability within APEGBC staff, committees and members.

#### **Activities**

Define and commit to a sustainability policy that can be documented, implemented, and maintained.

#### **Action Items**

- Strategic plan (2000-2005)

#### **Achievements**

- Commitment to sustainability principles (1993).
- Adoption of Guidelines for sustainability (1995).
- Creation of sustainability committee to advance the cause of sustainability (1996).
- Reference to Sustainability in APEG code of ethics.
- Inclusion of Sustainability in Strategic Plan 2000-2005

#### **Remaining Issues**

With the strategic plan, this objective has been reached at least in principle. There is still a gap between the acceptance of the principles of sustainability and the understanding of how to apply the concept in reality. Other activities of the SMS plan, such as the primer, should reduce this gap.

#### **Supporting Documents**

- Engineers and Geoscientists Act
- Sustainability Guidelines
- Terms of References of Sustainability Committee
- Code of Ethics
- Guidelines for excellence
- Strategic Plan Mission Statement 1995-2000

#### **Recommendations**

The next immediate step should be to create a sustainability policy that will form the point of reference for all future sustainability activities.

### Planning

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#### **Objectives**

The objective is to establish a process of systematic planning, consultation and feedback leading to the setting of objectives and targets.

### **Activities**

Establish a systemic procedure to identify the sustainability aspect of the profession, to evaluate its impact and use this information to set objectives and targets. This includes having a comprehensive look at the organisation, consulting stakeholders, establishing objectives, analysing the gaps between "What is" and "What should be".

### **Related Action Items**

- Integration
- Partnership
- Forum
- Renewal

### **Achievements**

- Extensive consultation with members and external stakeholders, (Charrette 1999)
- Staff interviews (1999)
- Presentation to peer committees, including executive committee and council. (2000)
- Workshop with Council and Staff organised in Spring 2001
- Meetings with Geoscience and Communication Committees
- ISO 14001 preliminary study and discussions.
- Partnership with AIBC and ASTT

### **Remaining Issues**

- Although extensive planning and consultation has been done, a systematic consultation process is not in place yet.
- Objectives and targets still need to be set.
- Full integration still needs to be achieved

### **Supporting Documents**

- Charrette summary (in SMS)
- Staff/Council Workshop results
- ISO proposal by PWC

### **Recommendations**

The next steps should be to define objectives and targets based on the specific aspect of the profession and the role of APEGBC as keeper of its Standards.

Simultaneously, the full SMS should be drafted based on the ISO 14001 model with the help of a management system expert.

## **Implementation**

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### **Objectives**

This phase has multiple objectives:

- APEGBC staff gaining appropriate knowledge of sustainability concepts.
- Raising awareness and knowledge of sustainability in Members and supporting others' efforts to implement sustainability in their own activities
- Full integration of sustainability in all APEGBC's functions
- Enabling the SMS program by finding and allocating resources

### **Activities**

Define roles and responsibilities, and ensure adequate resources to implement, control, and maintain the system. These activities include:

- Training and awareness for increased competence and knowledge
- Communication for transparency and accountability
- Alignment and integration with existing structure and operations
- Finding new resources

### **Related Action Items**

- Funding
- External Sourcing
- Primer
- Technology Briefs
- Award
- Continual Professional Development
- Communication Plan
- Web

### **Achievements**

- Compiled toolkits (Sustainability grid, 1998)
- Prepared a special issue of Innovation (July/August 1999)
- Obtained funding from APEGBC (2001 & 2002).
- Received external funding from Federal Government (Industry Canada and IRAP, 2001-2002)
- Hired two Sustainability researchers (2001 & 2002)
- Completed six primer modules (2002)
- Published three newsletters (2002)
- Organized and showed Doors to Sustainability exhibition (2001-2002)
- Held sustainability sessions at AGM 01 and AGM 02
- Delivered first CPD module (Sept 2002)
- Developed Communication plan (2002)
- Developed Web site and put on-line (2002)

### **Remaining Issues**

Although awareness and knowledge of sustainability were greatly improved, full integration still needs to be achieved.

### **Supporting Documents**

- Innovation Magazine (July/August 1999)
- 6 primer modules:
  - General
  - Guidelines
  - Municipal
  - Mining
  - Green Building (Draft)
  - Climate Change (Draft)
- Communication Plan
- Web Site
- Three volumes of the “Sustainability Now” Newsletter.

### **Recommendations**

The next immediate step is to implement the communication plan.

Other recommendations:

- Develop a systematic external funding / sponsorship program.
- Make the employment of a sustainability researcher a regular annual program co-funded by APEGBC and external sponsorship.

### **Evaluation**

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#### **Objectives**

The objective is to create benchmarks and indicators widely accepted and used by APEGBC and the profession and use them to evaluate the progress of the sustainability initiative.

### **Activities**

Establish key indicators, measure and report progress against the objectives and targets established during the planning phase.

### **Related Action Items**

- EIT/GIT Req.
- Licensing Req.
- Practice guidelines.
- Practice Review
- Performance Criteria
- External Assessment

### **Achievements**

- Investigated practical ways to incorporate the sustainability guidelines into the practice review process
- LEED™ accepted as preferred standard by council (AGM 2001)
- LEED™ Implementation Task Force (LITF) created
- LITF recommendation prepared for AGM 2002
- Practice Review Questionnaire drafted

### **Remaining Issues**

This Objective is not achieved.

Although LEED proved to be a worthwhile and successful initiative, other actions items are falling behind schedule because the integration phase has not been completed yet.

### **Supporting Documents**

- LEED Implementation Task Force Recommendation to Council
- Practice Review questionnaire

### **Recommendations**

The next critical steps is to carry out the LITF recommendations (if accepted by Council)

Other recommendations:

- Translate the objectives and targets, once they are established, into professional criteria for
  - EIT/GIT accreditation requirement,
  - Licensing requirements,
  - Practice review guidelines
  - Professional Practice Guidelines
- Implement Practice Review Plan
- Carry remaining action items

## **Review**

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### **Objectives**

The objective is to ensure that the SMS continues to meet needs of Members and external stakeholders.

### **Activities**

Take corrective actions, reviewing the management system and evaluating the general performance against the policy.

### **Related Action Items**

- Renewal Process
- AGM

### **Achievements**

- Stakeholder workshop held with Council and staff
- Report to Council AGM 2001 and 2002

***Remaining Issues***

These activities have not started yet

***Supporting Documents***

Report to Council 2002

***Recommendations***

That reporting and renewal process systematically becomes part of the annual AGM.

Table 1 presents a synoptic summary of the above.

**Table 1: SMS Development**

Phase	Objectives	Activities	SMS Action Items	Done to date	Documents
Commitment and Policy Setting	<p>Commitment and acceptance of Sustainability paradigm within APEGBC staff, committees and members.</p> <p><b>Assessment:</b>  <i>This objective has been reached at least in principle. The implementation of the other steps will help gaining wider acceptance at all levels</i></p>	<p>Define and commit to a sustainability policy that can be documented, implemented and maintained.</p> <p>This should take into consideration the Association's mandate and philosophy.</p> <p>It needs to be signed by the Association staff and council and communicated to all members.</p>	1.1 Strategic Plan	<p>Commitment to sustainability principles. Guidelines for sustainability.</p> <p>Creation of sustainability committee to advance the cause of sustainability.</p> <p>Sustainability is part of APEG code of ethics.</p> <p><b>Sustainability included in Strategic Plan 1995-2000</b></p>	<p>Engineers and Geoscientists Act</p> <p>Sustainability Guidelines</p> <p>TOR of Sustainability Committee</p> <p>Code of Ethics</p> <p>Guidelines for excellence</p> <p><b>Strategic Plan Mission Statement 1995-2000</b></p>
Planning	<p>Establish a process of systematic planning, consultation and feedback.</p> <p><b>Assessment:</b>  <i>This objective has been partially completed. Although extensive planning and consultation has been done, there no system in place yet.</i></p>	<p>Establish a systemic procedure to identify the sustainability aspect of the profession, to evaluate its impact and use this information to set objectives. This includes having a comprehensive look at the organisation, consulting stakeholders, establishing objectives, analysing the gaps (between "What is" and "What should be").</p>	<p>1.2 Integration</p> <p>4.3. Partnership</p> <p>4.4. Forum</p> <p>6.1. Renewal</p> <p><u>Next critical steps</u></p> <p><i>Develop plan ISO 14001 plan together with PWC,</i></p>	<p>Extensive consultation with members and external stakeholders, (Charrette 1999)</p> <p>Staff interviews (1999)</p> <p>Presentation to peer committees, including executive committee and council. (2000)</p> <p><b>Workshop with Council and Staff organised in Spring 2001</b></p> <p><b>Meetings with Geoscience and Communication Committees</b></p> <p><b>ISO 14001 preliminary study and discussions.</b></p> <p><b>Partnership with AIBC and ASTT</b></p>	<p>Charrette summary</p> <p><b>Spreadsheet with Workshop results</b></p> <p><b>ISO proposal by PWC</b></p>



Implementation	<p>Mastering by all APEGBC employees of sustainability concepts. Full integration in all functions of the Association</p> <p>Raising awareness of sustainability in Members and supporting others' efforts to implement sustainability</p> <p>Enabling the SMS by finding resources</p> <p><b>Assessment:</b> Objective partially completed. Awareness of and knowledge about sustainability greatly improved. Full integration not achieved yet.</p>	<p>Define roles and responsibilities, and ensure adequate resources to implement, control, and maintain the system. It includes:</p> <ul style="list-style-type: none"> <li>• Training and awareness for increased competence and knowledge.</li> <li>• Communication for transparency and accountability</li> <li>• Alignment and integration with existing structure and operations</li> </ul> <p><u>New activities</u> Developing a systematic program for funding and hiring a sustainability researcher to help develop and implement the initiatives described by this plan.</p>	<p>2.1. Funding 2.2. External Sourcing 3.1 Primer 3.2. Technology Briefs 3.3. Award 3.4 CPD 4.1. Communic Plan 4.2. Web</p> <p><u>Next critical steps</u> Implement com. plan Get systematic funding Create Sust'y researcher annual program</p>	<p>Identification of toolkits (Sust'y grid) Preparing a special issue of Innovation (July/August 99)</p> <p><b>Funding by APEGBC</b> <b>External funding received from Federal Government (Industry Canada and IRAP)</b></p> <p><b>Hired two Sustainability researchers (2001 &amp; 2002)</b> <b>Completed six primer modules</b> <b>Published three newsletters</b> <b>Doors to sustainability exhibition.</b> <b>Sessions at AGM 01 and AGM 02</b> <b>First CPD module delivered</b> <b>Communication plan developed</b> <b>Web site on-line</b></p>	<p>Innovation Magazine</p> <p><b>6 primer modules :</b></p> <ul style="list-style-type: none"> <li>• General</li> <li>• Guidelines</li> <li>• Municipal</li> <li>• Mining</li> <li>• Green Building</li> <li>• Climate Change</li> </ul> <p>Communication Plan Web Site Three newsletters: Sustainability Now</p>
Measurement and Evaluation	<p>Benchmark and indicators widely accepted and used</p> <p><b>Assessment:</b> Objective far from completed. LEED™ proved to be a worthwhile and successful initiative. Other actions items are lagging behind because full integration has not been achieved yet.</p>	<p>Establish key indicators, measure and report progress against the gaps, objectives and targets established during the planning phase.</p> <p><u>New activities</u> Translate the objectives and targets into professional criteria for EIT/GIT, licensing, Practice review.</p>	<p>1.3 EIT/GIT Req. 1.4. Licensing Req. 1.5. Practice guidelines. 1.6 Practice Review 5.1. Performance Criteria 5.2 External Assesst</p> <p><u>Next critical steps</u> Implement Practice Review Plan</p>	<p>Investigated practical ways to incorporate the sustainability guidelines into the practice review process</p> <p><b>LEED™ accepted as preferred standard by council (AGM 2001)</b> <b>LEED™ Implementation Task Force (LITF) created</b> <b>LITF recommendation prepared for AGM 2002</b> <b>Practice Review Questionnaire drafted</b></p>	<p><b>LEED Implementation task Force</b> <b>Recommendation to Council</b> <b>Practice Review questionnaire</b></p>
Review and Improvement	<p>Ensure sustainability action plans continue to meet needs perceived by Members and external stakeholders.</p>	<p>Take corrective actions, reviewing the management system and evaluating the general performance against the policy.</p>	<p>6.1. Renewal Process 6.2. AGM</p>	<p>Stakeholder workshop held with Council and staff Report to Council AGM 2001 and 2002</p>	<p><b>Report to Council 2002</b></p>

## Strategy 1: Improve integration of Sustainability in APEGBC systems/standards

APEGBC's fundamental strengths are its legislated roles as the gatekeeper and regulator of professional activities in engineering and geoscience in BC. APEGBC can draw on these strengths to raise the standard of professional engineering and geoscience with respect to sustainability, and thereby demonstrate its legal and ethical responsibility to uphold the welfare and safety of the public. The concept of Sustainability becomes an extension of Public Safety.

<b>Action 1.1</b>	<b>Include sustainability in the new five-year strategic plan</b>
<b>Description</b>	The 1995-2000 strategic plan already contains the principle of sustainability. A member of the sustainability committee currently participates in the strategic plan task force in order to ensure that sustainability principles and the SMS are accounted for.
<b>Rationale</b>	Participate in the new five-year strategic plan to insure sustainability principles and this SMS are accounted for.
<b>Performance Measure</b>	Principles of sustainability included in the new Strategic Plan.
<b>Achievements</b>	Not Completed.
<b>Future Action</b>	Ensure that sustainability principles are included in the next Strategic Plan
<b>By</b>	CL
<b>Notes</b>	
<b>Action 1.2</b>	<b>Review APEG Management Systems and Develop a Work Plan for Integrating Sustainability into Management and Committee Functions</b>
<b>Description</b>	To be effective, the action items described in the SMS need to be fully integrated into the APEGBC overall management system and operations. A key feature of this Action will be to organise a Workshop in which representatives from all APEGBC committees work through the practical implications of applying the Sustainability Guidelines.
<b>Rationale</b>	The Association's sustainability commitments are currently met through the actions of the Sustainability Committee acting in isolation. This action is designed to ensure that accountability for sustainability is shared among all staff and committees and to ensure that activities among committees are neither redundant nor contradictory.
<b>Performance Measure</b>	<ul style="list-style-type: none"> <li>• % individual systems that have been assessed for sustainability or quality features.</li> <li>• % of APEGBC managers who have co-developed / adopted amended systems</li> </ul>
<b>Achievements</b>	<ul style="list-style-type: none"> <li>• Workshop with Council and Staff organised in Spring 2001</li> <li>• Spreadsheet developed with Workshop results.</li> <li>• Sustainability committee met with Geoscience and Communication Committees</li> </ul>
<b>Future Action</b>	<ul style="list-style-type: none"> <li>• Organize Meeting with Practice Review Committee (see Action 1.6)</li> <li>• Develop plan for future efforts</li> <li>• Analyze Rob Dies' spreadsheet (CL)</li> <li>• Obtain slides from Graham Long (GL)</li> <li>• Pursue PWC's offer to assist APEGBC to become ISO 14000 compatible (MdS, Staff, PWC)</li> </ul>
<b>By</b>	CL, MdS, PWC, Staff
<b>Notes</b>	This activity is critical to a successful implementation of the SMS. It is also one of the most difficult. ISO 14000 registration would help greatly. PWC will provide advice to the Sustainability researcher (CL) on how to organized documentation for ISO registration. Staff has agreed to look at potential registration.

<b>Action 1.3.</b>	<b>Review EIT / GIT Requirements</b>
<b>Description</b>	APEGBC will conduct a review into how the requirements for EIT / GIT accreditation can and/or could include reference to sustainability principles. This review process must involve the participation of an interdisciplinary committee on which the sustainability committee is represented. The main deliverable of this review will include a set of recommendations about how sustainability could be integrated into EIT/GIT training requirements.
<b>Rationale</b>	EIT / GIT training considerations must balance today's practical realities of professional practise with a balanced understanding of the growing importance of sustainability. The suitability of EIT / GIT accreditation procedures have been questioned in other contexts. Young engineers and geoscientists particularly have much to gain from an early appreciation of sustainability issues, a performance gap highlighted by the charrette.
<b>Performance Measure</b>	% EIT / GIT training modules that incorporate sustainability principles Level of retention of knowledge after training, assessed by delayed follow-up feedback form.
<b>Achievements</b>	Nothing done to date
<b>Future Action</b>	The sustainability committee will work with Elvis Riou (ER) to develop a plan.
<b>By</b>	CL, ER
<b>Notes</b>	This activity is linked to training.
<b>Action 1.4</b>	<b>Examine Licensing Requirements</b>
<b>Description</b>	This action is to <b>investigate</b> (not at this stage to implement) alternatives for integrating sustainability knowledge or skills into license maintenance requirements. The deliverable of the study would include an options paper with a qualitative cost/benefit analysis of each specific proposal.
<b>Rationale</b>	License maintenance requirements have been the subject of consideration for reasons unrelated to sustainability. A multi-perspective review of these requirements may therefore be a timely activity to ensure that license maintenance requirements are relevant and serve all stakeholders' needs.
<b>Performance Measure</b>	% licensing requirements deemed relevant by stakeholders Extent to which licensing requirements promote sustainability Yes/No measure: Have sustainability requirements been articulated explicitly in the license requirements?
<b>Achievements</b>	Nothing done to date
<b>Future Action</b>	Undertake a study - this could be done by a consultant
<b>By</b>	CL
<b>Notes</b>	This activity is strongly related to professional development (Janet Guscott)

<b>Action 1.5.</b>	<b>Practice Guidelines</b>
<b>Description</b>	APEGBC will review existing practice guidelines to ensure that they incorporate sustainability considerations. A system will also be established to ensure that sustainability considerations are properly considered in future guidelines issued by the Association
<b>Rationale</b>	All APEGBC Guidelines are "intended to establish minimum standards of practice which Members must meet to fulfil the Member's professional obligations, especially in regard to the primary duty to protect the public." The specific appearance of sustainability in each of these guidelines will do much to improve their performance in this regard.
<b>Performance Measure</b>	System for new guidelines implemented?: Yes / No % existing guidelines reviewed
<b>Achievements</b>	<ul style="list-style-type: none"> <li>• LEED™ accepted as preferred standard by council at AGM 2001</li> <li>• LEED™ Implementation Task Force (LITF) created</li> <li>• LITF recommendation prepared for council 2002</li> </ul>
<b>Future Action</b>	<ul style="list-style-type: none"> <li>• Review 4 existing guidelines to incorporate sustainability considerations.</li> <li>• Create integrated design guideline</li> <li>• Implement recommendations of LITF</li> </ul>
<b>By</b>	CL
<b>Notes</b>	Most existing guidelines are related to building, this is where a strong link exists between this action item and LEED™.
<b>Action 1.6</b>	<b>Include Sustainability Guidelines in Practice Review</b>
<b>Description</b>	Members will be required to demonstrate that they have consulted the Sustainability Guidelines in their projects. Intended as an evolutionary process, Members will initially be asked to consider questions that probe their awareness and application of the Guidelines, with clear indication that this is for awareness-building only. Eventually, more onus may be placed on Members to show that the Guidelines have been reasonably considered, and that changes in practice have resulted. In the medium to long term (i.e. >five years), remedial action may be recommended as an outcome of a practice review.
<b>Rationale</b>	<p>This action would address the need for improving sustainability performance monitoring capability, a high priority requirement of an ISO-style management system. It would be a major way of integrating sustainability principles into the Association's business and ensuring accountability for its sustainability commitments.</p> <p>Time requirements would be modest, especially given the new format for Practice Review, which would simply require Members to indicate how they are applying the Guidelines. As the emphasis is initially just awareness-building and information sharing, this represents an opportunity for Members to see that APEGBC takes the Guidelines seriously, and to learn about resources available from APEGBC.</p>
<b>Performance Measure</b>	Required?: Yes / No % Members who demonstrate they have referred to the Sustainability Guidelines Quality of application of the Guidelines, assessed against listed indicators.
<b>Achievements</b>	<p>Numerous Contacts have been made with Practice Review Committee</p> <p>Peter Mitchell (PM) has included a provision in the notice of review letter stating that reviewees must have read the Sustainability Guidelines</p> <p>Process for continued implementation (phased approach) has been agreed upon in principle by Sustainability Committee and PM.</p> <p>Questionnaire drafted</p>
<b>Future Action</b>	<ul style="list-style-type: none"> <li>• Finalize questionnaire</li> <li>• Discuss questionnaire with Practice Review Committee and determine method for briefing reviewers</li> <li>• Propose revisions to Guidelines for Professional Excellence</li> </ul>

<b>By</b>	MW, FB, CL, Peter Mitchell
<b>Notes</b>	The PR committee has been very reluctant to accept recommendations of the sustainability committee

## Strategy 2: Enable the SMS

Development and implementation of the SMS will require resources in time and money. This strategy aims at finding these resources, whether internally within APEGBC or externally from sponsors.

<b>Action 2.1</b>	<b>Internal Sourcing</b>
<b>Description</b>	Seek Internal Sourcing within APEGBC and its members.
<b>Rationale</b>	The implementation of the SMS will bring numerous benefits to APEGBC such as improved operations or recruitment level; therefore the Association should have a budget for supporting some of the cost of developing the SMS. The budget should include some soft costs such as Staff time or use of existing infrastructure (Communication, web,...).
<b>Performance Measure</b>	% of SMS budget covered by APEGBC, services offered by APEGBC number of members volunteering.
<b>Achievements</b>	\$15,000 obtained in addition to "in-kind" funding from APEGBC
<b>Future Action</b>	Continue budgeting for the same level of funding in future years
<b>By</b>	Ross Rettie, MdS
<b>Notes</b>	We need to make sure that in-kind contribution by APEGBC does not cover normal services to committee functions.
<b>Action 2.2</b>	<b>External Sourcing</b>
<b>Description</b>	Seek External Sourcing from other organisations, corporations, external sponsors, or governmental organisations.
<b>Rationale</b>	The SMS will ultimately help many organisations and governmental agencies in their goal of achieving sustainability. These organisations could be approached for financial or technical help. Federal, Provincial and municipal government could be approached in the context of pollution prevention or the new green economy.
<b>Resources</b>	% of SMS budget covered by sponsorship or services offered by external organisations or agencies.
<b>Achievements</b>	Obtained funds from Industry Canada and IRAP
<b>Future Action</b>	Continue to seek funding
<b>By</b>	MdS
<b>Notes</b>	This funding would serve to pay for the sustainability researcher.

<b>Strategy 3: Increase sustainability awareness and training for staff, committees, and members</b>	
The lack of awareness of sustainability both within APEGBC and its Members is a key barrier to its implementation. APEGBC's prime objective continues to be to rectify this.	
<b>Action 3.1</b>	<b>Sustainability primer</b>
<b>Description</b>	APEGBC will develop an information package about sustainability that will act as a primer. As Members encounter sustainability through other avenues mentioned below, the information package will provide context and background information. <i>A critical component of the primer will be to make the "rational self-interest" case for sustainability to otherwise disinterested Members and/or Member companies.</i> Making a convincing case is critical to the success of this overall project, as sustainability will not sell on an ethical basis alone.
<b>Rationale</b>	A simple, readily accessible resource on sustainability for engineers and geoscientists is a natural initial step in raising awareness. The Internet will be an ideal vehicle for this.
<b>Performance Measure</b>	<ul style="list-style-type: none"> <li>• % Members with a working knowledge of Sustainability Principles, estimated from web survey (Action 4.1)</li> <li>• % Members who have downloaded the primer from the website</li> <li>• % Members who have attended a PD workshop</li> </ul>
<b>Achievements</b>	Completed (6 modules on APEGBC website)
<b>Future Action</b>	Assess the need for improvements/revisions Get membership involved in providing feedback on the Primer (CL)
<b>By</b>	CL
<b>Notes</b>	There is a possibility of expanding the mining module via UBC Mining dept.

Action 3.2	Technology Briefs
<b>Description</b>	<p>APEGBC will develop and issue a two-page briefing note describing newly commercialised technologies that may contribute social or environmental benefits. The note will indicate that APEGBC encourages Members to “familiarise themselves” with this technology or method.</p> <p>Issued biannually, primary responsibility for developing the Briefs will rotate between APEGBC, AIBC and ASTTBC. Subject technologies will be identified in partnership with the professional practice committee, as will development of the Briefing Note itself. Release will be subject to PPC approval.</p> <p>Each Briefing Note will be issued with a press release, flexibly timed to coincide with other news on related new technologies. The Briefing Note will be advertised in Innovations, posted on the APEGBC website, and possibly circulated through an automated “listserve” email distribution.</p>
<b>Rationale</b>	<p>This proposal builds on Members’ capacity for and interest in technology and innovation. It will leverage existing resources (website, Innovation), and will provide high profile news/marketing exposure for at least some newsworthy (local?) technologies (e.g., recent article on flyash in Vancouver Sun).</p> <p>By targeting engineers in highly technical fields that often have difficulty understanding their potential role in promoting sustainability, this Action will have a major impact on the ground. This Action will also enhance the level of relevant contact between the Association and its Members, potentially boosting support for the Association.</p> <p>APEGBC could seek partners to finance this – i.e., BCH Energy Futures for alternative energy briefs, etc.</p>
<b>Performance Measure</b>	<ul style="list-style-type: none"> <li>• <i>Implemented?: Yes / No</i></li> <li>• <i>Number of webpage hits</i></li> <li>• % of Members who have applied this information in their everyday work, or number of high profile projects that were inspired.</li> <li>• Periodic surveys</li> </ul>
<b>Achievements</b>	Some technology briefs completed and form defined
<b>Future Action</b>	<ul style="list-style-type: none"> <li>• Create more technology briefs and publish briefs in Innovation</li> <li>• Link technology briefs to the Sustainability Award</li> </ul>
<b>By</b>	CL
<b>Notes</b>	The technology brief could be linked with the Primer and/or the Sustainability Now newsletter and published on our web site



<b>Action 3.3 Sustainability Awards</b>	
<b>Description</b>	APEGBC is currently giving all kinds of awards, including the environmental award. This award will extend the environmental award to the concept of sustainability. Developing a sustainability award will require the development of criteria and guidelines for assessing projects.
<b>Rationale</b>	An Award is extremely effective way to increase awareness and foster emulation.
<b>Performance Measure</b>	Number of companies, individuals applying for the award; prestige of the award
<b>Achievements</b>	Preliminary contact with Awards Committee made Established that we want a new award rather than an extension of environmental award
<b>Future Action</b>	Define award criteria
<b>By</b>	Linda Bily and Sustainability Committee (LB)
<b>Notes</b>	Also look at the possibility of including sustainability in other awards, for example president award.
<b>Action 3.4 Continuing Education Program</b>	
<b>Description</b>	A continuing education program will be designed to address Members' performance gaps. Conducted in collaboration with other professional associations e.g, architects, BCWWA, etc, the program will have the further benefit of aligning sustainability perspectives of the various professional groups. This program could be combined with other educational needs, such as those related to Guidelines for Excellence.  APEGBC should seek corporate sponsorship for this initiative, which will initially be on a voluntary basis, but could, depending on member support, ultimately be part of a license maintenance requirement.
<b>Rationale</b>	This program can be designed to specifically address the high priority performance gaps identified in the charrette. By developing the program on a fee or sponsorship basis, demands on existing APEGBC resources will be minimised.
<b>Performance Measure</b>	% Members with a working knowledge of Sustainability Principles, estimated from web survey (Action 4.1) % Members who have attended a PD workshop
<b>Achievements</b>	First CPD module delivered (LEED seminar in September 2002)
<b>Future Action</b>	Link with the newly created CPD program (Janet Guscott) Need to create a sustainability CPD plan
<b>By</b>	CL, JG
<b>Notes</b>	

Strategy 4: Improve Communication and collaboration on Sustainability practices and standards.

Communication has been identified as one of the key areas in which APEGBC and its members must improve its performance with respect to sustainability (See Appendix). Engineers and geoscientists the world over have a traditional problem in getting their message across, both to the general public and to other professional groups. Through this Action, the first steps will be taken to improve the way APEGBC deals with and uses the media to convey its activities regarding sustainability. Although some care must be extended in approaching this Action (See Appendix, part b), better communications could be the key to re-establishing the strong image of the professions. This Action Item seeks to both address this issue and to find ways of integrating the efforts of like-minded professional groups towards establishing combined sustainable practices and initiatives.

**Action 4.1      Develop a communication strategy**

<b>Description</b>	There are many ways in which APEGBC could develop more effective communications with respect to sustainability. For example, it could sponsor high profile (low cost) events with media potential in partnership with AIBC, ENGOs etc. It could also find opportunities for press releases and low cost sponsorship of events, and develop a strategy for effective use of Innovations, branch newsletters, articles in other professional newsletters, etc. APEGBC could develop a more active media relations contact to respond to media enquiries about general professional issues or events. Such a contact should be well-versed in sustainability issues so that the subject can be raised and referred to where appropriate.
<b>Rationale</b>	The media could represent an opportunity to convey APEGBC's professional and sustainable practices, in partnership with other organizations.
<b>Performance Measure</b>	Implemented?: Yes / No Association of sustainability with APEGBC in the public opinion.
<b>Achievements</b>	Completed. Plan was developed by communication directors and sustainability committee
<b>Future Action</b>	Implement the plan
<b>By</b>	CL
<b>Notes</b>	

**Action 4.2.      Web Site**

<b>Description</b>	Develop an interactive web site to inform members and external parties and receive feedback
<b>Rationale</b>	Today, the web is a mandatory component of any serious communication strategy.
<b>Performance Measure</b>	Number of visitors to the site. Number of feedback comments received.
<b>Achievements</b>	<i>Completed.</i> <i>Web Site developed and operational</i> <i>Sustainabilty.ca and sustainabilitynow.com domain name registered.</i> The web site contains all documents of sustainability committee
<b>Future Action</b>	<ul style="list-style-type: none"> <li>• Continue to promote, maintain and expand website</li> <li>• Improve visibility of sustainability website on the APEGBC website</li> </ul>
<b>By</b>	MdS, CL
<b>Notes</b>	

**Action 4.3      Develop active professional partnerships**

<b>Description</b>	APEGBC will investigate and cultivate professional partnerships relating to sustainability both in BC (eg with AIBC, etc) and beyond.
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<b>Rationale</b>	APEGBC does not exist in isolation. Many like-minded professional organizations in BC and further afield are similarly grappling with sustainability issues, and much could be gained from activity attempting to develop common approaches and pool resources.  The Internet gives APEGBC a whole new avenue for exploring these possibilities. For example, the UK' s Institution of Chemical Engineers has gained considerable experience with it's <a href="http://www.sustainability2000.org">www.sustainability2000.org</a> initiative, which brings corporations, governments and academics together to discuss sustainability issues. Prime Minister Tony Blair formally launched the website last year.
<b>Performance Measure</b>	Implemented?: Yes / No Association of sustainability with APEGBC in the public opinion.
<b>Achievements</b>	Partnerships with AIBC and ASTTBC
<b>Future Action</b>	Consider additional partnerships (eg. sociologists) Bring governments, academics, corporations into the dialogue
<b>By</b>	CL
<b>Notes</b>	
<b>Action 4.4</b>	<b>Sustainability Forum</b>
<b>Description</b>	As a relatively new consideration in professional practice, most genuine efforts to integrate sustainability principles into everyday work represent the state of the art. To ensure efforts are not being unnecessarily duplicated and that the most is made of our combined new experience, APEGBC will facilitate a professional forum to exchange ideas amongst practitioners and the curious. The forum may make use of the APEGBC website, or take the form of community or professional meetings or workshops, the outcomes of which will be made available to those unable to attend.
<b>Rationale</b>	Mirroring the needs of the early Professional Associations, sustainable engineers and geoscientists genuinely need a place to gather, virtual or otherwise, to exchange "war stories" and practical tips and information on the day-to-day realities of sustainability. This will increase the effectiveness of engineer-to-engineer communication, and may serve to interest the public and other professionals in APEGBC's activities.
<b>Performance Measure</b>	<ul style="list-style-type: none"> <li>• Implemented?: Yes / No</li> <li>• Number of webpage hits, meetings</li> <li>• Level of debate, quality of information exchange, existence of other forums</li> </ul>
<b>Achievements</b>	No action to date
<b>Future Action</b>	Go on-line
<b>By</b>	CL
<b>Notes</b>	

## Strategy 5: Develop system of internal and external monitoring

The ISO philosophy of continual improvement requires that all significant actions, systems or programs be monitored and, where possible, quantitatively tracked to ensure that progress towards goals and objectives is being made. It is important to distinguish between monitoring APEGBC and monitoring Members. The “targets” APEGBC sets for itself are “auditable” standards. We do not set targets in this Action Plan. However, we anticipate that subsequent work plans will set targets. APEGBC should self-audit to these targets to assess its performance.

In the future, if ISO certification is pursued, certified auditors would assess performance relative to indicators over which APEGBC has control, such as the number of courses offered to Members. APEGBC cannot control the actual practices of Members. The monitoring plan is therefore two-fold:

- To monitor how well APEGBC is doing with respect to its commitment to implement the Action Plan. This provides feedback on how well the plan is being implemented.
- To monitor (longer term) how member awareness and/or practices are changing. APEGBC has no control over this, and should not be audited in this regard. However, this information provides an indication of whether the Action Plan is effective at achieving APEGBC’s ultimate objectives – to enhance sustainability practices in the professions. The information from this member monitoring plan will be used to revise subsequent action plans to ensure long-term effectiveness and accountability to APEGBC’s sustainability objectives.

An important aspect of a future Sustainability Management System will therefore require that systems are in place to evaluate baseline conditions and to track the performance of initiatives on a regular basis.

Action 5.1	Develop Internal (APEGBC) Performance Criteria and Monitoring Plan
<b>Description</b>	As mentioned elsewhere in this document, APEGBC has recently completed research into the nature of its existing management system. From this review, and working with APEGBC’s employees, the Association will develop a number of practical indicators by which the progress of the organization towards enhancing sustainability can be measured.  Once viable indicators have been agreed upon, a review will establish the current levels of these indicators, and, where possible, these will be compared to similar organizations that have undergone a similar exercise. Periodically, each indicator will be studied to ensure its continued suitability and value.
<b>Rationale</b>	As explored in Appendix F, the use of performance indicators is a fundamental component of the ISO management system.
<b>Performance Measure</b>	<ul style="list-style-type: none"> <li>• Implemented?: Yes / No</li> <li>• Measures to be developed alongside employees.</li> </ul>
<b>Achievements</b>	No action to date
<b>Future Action</b>	Develop
<b>By</b>	CL
<b>Notes</b>	

Action 5.2	Develop External Monitoring Plan
<b>Description</b>	<p>A system of monitoring Members' performance with respect to sustainability will comprise a number of components. One important feature will be a Member survey, which may piggy-back the existing tri-annual member salary survey, or may take the form of an ongoing on-line questionnaire posted to the APEGBC website.</p> <p>An external monitoring system will also include the activities of actual or potential partner professional groups, including AIBC etc.</p>
<b>Rationale</b>	The use of performance indicators is a fundamental component of the ISO management system.
<b>Performance Measure</b>	<ul style="list-style-type: none"> <li>• Implemented?: Yes / No</li> <li>• Measures to be developed alongside employees.</li> </ul>
<b>Achievements</b>	No action to date
<b>Future Action</b>	Develop
<b>By</b>	CL
<b>Notes</b>	

## Strategy 6: Continual Improvement and Renewal

An important part of the ISO-style continuous improvement cycle is the need to periodically take stock of the current position and re-evaluate the meaning of the indicator values, the suitability of policy goals and commitments, etc.

Action 6.1	
<b>Bi-annual Stakeholder Workshop and Plan Renewal</b>	
<b>Description</b>	In a bi-annual stakeholder workshop, APEGBC will step back from the day-to-day considerations of sustainability to contemplate how well its system is functioning. Are its goals and commitments still appropriate? How should current indicator values be interpreted? How are the various programs performing? Which ones should be extended, and which ones cut? The workshop will focus on the systems for which APEGBC as an organization could, in principle, be audited.
<b>Rationale</b>	The review process is a critical feature of an ISO-style management system. External stakeholders are essential participants in this process, to ensure that the Association's goals and objectives mirror those of the society they serve.
<b>Performance Measure</b>	Implemented?: Yes / No
<b>Achievements</b>	Stakeholder workshop held with Council and staff
<b>Future Action</b>	Get a Council member to champion sustainability
<b>By</b>	MdS
<b>Notes</b>	
Action 6.2	
<b>AGM Report</b>	
<b>Description</b>	APEGBC will report its annual achievements in furthering sustainability each year at the AGM.
<b>Rationale</b>	The AGM is an ideal opportunity to reach a variety of stakeholders to inform them of sustainable achievements to date.
<b>Performance Measure</b>	Implemented?: Yes / No
<b>Achievements</b>	Completed
<b>Future Action</b>	Continue
<b>By</b>	MdS
<b>Notes</b>	