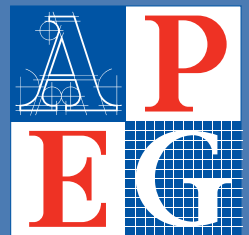




# Report of the Climate Change Task Force



Professional Engineers  
and Geoscientists of BC  
[www.apeg.bc.ca](http://www.apeg.bc.ca)

**Climate Change Task Force Strategic Report**

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## Introduction

In December 2008, Council established a climate change task force<sup>1</sup> to develop a strategic plan outlining the role APEGBC could play within its regulatory framework to address the impacts of climate change<sup>2</sup> on professional engineering and geoscience practice.

Climate change adaptation recognizes that the climate is changing and humankind must adapt to this new and evolving scenario that will impact many aspects of day to day life on the planet. Examples of climate change factors that can impact the practice of professional engineering and geoscience include, but are not limited to, changes to snow and wind loading, increased precipitation and higher stream flows, and hotter and drier climatic regimes. Significant changes to the existing norms are considerations that must be addressed. Adapting to a changing climate is critical to public safety (e.g. infrastructure, terrain stability, drinking water etc).

Mitigation recognizes that mankind is affecting the rate at which the climate is changing, above the natural levels, primarily through our consumption of carbon based products that are increasing the amount of greenhouse gases in the atmosphere. Non-energy contributions to climate change such as deforestation and agricultural methane/ N<sub>2</sub>O can also not be neglected. Moderating energy use and reducing carbon emissions are two examples of ways that APEGBC members can design differently to reduce greenhouse gases.

The task force recognizes that continuing advances in climate change science will necessitate an adaptive management approach for professional practice in this area.

*Why does APEGBC have to be involved now?*

The first tenet of the Code of Ethics states that *Professional Engineers and Professional Geoscientists shall hold paramount the safety, health and welfare of the public, the protection of the environment, and promote health and safety within the workplace.* Climate change is a public safety issue. It is also an issue where protection of, and in fact understanding of, the environment is key to professional engineers and professional geoscientists carrying out their public safety obligations. Members need practice information and guidance to meet the challenges brought about by climate change.

Another driving force behind the need for the Association to provide support for members on this issue is that the Government of British Columbia has made climate change a priority. To this end, it has prescribed maximum GHG emission levels through new legislation such as the *Revenue Neutral - Carbon Tax Act*, *Greenhouse Gas Reduction (Vehicle Emissions Standards) Act* and *Greenhouse Gas Reduction (Emissions Standards) Statutes Amendment Act*. It has also enacted new codes and laws around adaptation such as the greening of the BC Building Code. APEGBC members need to have the knowledge to comply with these new codes and laws.

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<sup>1</sup> The terms of reference for the Task Force and list of task force members is included in Appendix 1.

<sup>2</sup> Within this document climate change refers to both adaptation and mitigation.

Professional engineers and geoscientists recommend actions and make decisions in many diverse fields. While some disciplines of engineering and geoscience are more obviously impacted by the need to adapt to climate change such as building and infrastructure design, or energy consumption, most if not all professional engineers and geoscientists will play a role in mitigating for climate change by changing the way they design or produce products to have a smaller carbon footprint and by considering lifecycle impacts.

The task force firmly believes that members' professional practice can help solve many of the issues around both adaptation and mitigation. As our society's problem solvers, we have an obligation to act now.

**Task Force Members:**

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Janet Sinclair, Director, Communications and Engagement

Tim Verigin, Member Services Coordinator

## **Deliverables as per Terms of Reference**

1. *Determine a means of identifying a cohort of members who would be qualified, willing and available to: (a) advise Council on matters related to climate change, and (b) prepare position papers for Council consideration that respond to government policies and regulations for reducing greenhouse gas emissions, and adapting to climate change.*

The Task Force recommends formation of an advisory group that will meet as required to address this deliverable. A list of names has been generated, both members and non-members who, because of their understanding of issues related to climate change as well as their knowledge of current initiatives in government and other organizations on this subject, could provide expert advice as needed to the Association. Non-member professional input is crucial to the success of this Council initiative. The task force recommends that these advisors are given formal structure as an advisory group to APEGBC and receive support to meet as required.

It is also recommended by the Task Force that, where necessary, experts be called upon to provide specific knowledge and input to practice guidelines, continuing professional development seminars, information articles in Innovation, and other discipline-specific advice. These experts can be found through use of Association expert lists, practice networks, and calls for volunteers.

2. *Recommend revisions to existing practice guidelines or the development of new ones so that members have guidance on incorporating climate change in their practice, including requirements for greenhouse gas offsets to be verified or validated.*

Currently no practice guidelines address climate change and members practice. To address this, the Task Force recommends the following:

- 2.1. Include a section on climate change in the new Guideline for Professional Practice (formerly known as the Guideline for Professional Excellence);
- 2.2. Incorporate best practice standards for climate change adaptation and mitigation into existing and future practice guidelines. This includes working with APEGBC's Director, Professional Standards and Development to develop a series of questions with regards to both adaptation and mitigation as it relates to members' practice.

Potential questions to include are:

- Have you considered the changing climate in your design?
- Have you met your legal obligations to reduce GHG's?
- Have you considered life cycle costing?
- Have you considered the increasing cost of energy?

- 2.3. Include commentary on the requirements to consider adaptation factors related to and mitigation of climate change in the EIT/GIT Guidelines and Sustainability Guidelines.

2.4. Work with the climate change research community to translate evolving research into forms and opportunities for learning, so APEGBC members can address their legal and ethical obligations in their practice.

3. *Recommend continuing professional development programs for members.*

One of the greatest impacts will come through ongoing education of APEGBC members about the need and means by which they can change their practice to adapt and mitigate for climate change. The task force believes the experts identified through Recommendation 1 will be the best source of ideas and content for professional development programs. The following knowledge sharing mechanisms have been identified by the task force:

- *Seminars, Conferences and Webcasts*
- *Forums to share knowledge*
- *Publications – website, Connections e-news, and Innovation magazine*

Currently Engineers Canada, through their Public Infrastructure Engineering Vulnerability Committee (PIEVC) program, has developed many documents that could be turned into APEGBC professional development programs. In addition, there is also a vast body of knowledge that already exists that could be incorporated into APEGBC's professional development program.

## **Additional Recommendations**

The Task Force recommends the following additional initiatives:

### **1. Association Policy**

Association policy can strongly influence the way that engineers and geoscientists practice. This influence can occur through setting requirements and expectations within registration policies, and within practice guidelines and standards. The Association's commitment to climate change adaptation and mitigation can also be demonstrated by including this as a criterion in the decision making framework for strategic and operational decisions of the Association.

#### *1.1. Registration requirements for new P.Eng. and P.Geo.*

- 1.1.1. Include information and direction in EIT/GIT Guidelines
- 1.1.2. Include as a work experience requirement
- 1.1.3. Include as knowledge requirement and test in Professional Practice Exam

#### *1.2. Practice Review – Individual*

- 1.2.1. Use practice review as an opportunity to advise members on responsibilities related to climate change;
- 1.2.2. Include assessment of member's knowledge and integration of adaptation and mitigation of climate change into their practice as part of the practice review process.

#### *1.3. Organizational Quality Assurance (pilot program pending)*

- 1.3.1. Include best practice standards in Organizational Quality Assurance Guideline (pending)
- 1.3.2. Use organizational review as an opportunity to advise organization on their responsibilities related to climate change;
- 1.3.3. Assess as part of organizational review the organization's compliance with climate change adaptation and mitigation;
- 1.3.4. Include as a requirement for organizations to keep their certificate of compliance.

#### *1.4. Association Decision Making Criteria*

- 1.4.1. Demonstrate leadership to members, government and the public by requiring integration of climate change considerations into the work of the Association and its members.
- 1.4.2. Incorporate consideration of climate change adaptation and mitigation responsibilities into the decision making framework for policy and operational decisions of the Association.

### **2. Government Policy**

Engineers and geoscientists have legislation, codes, and standards they must follow when carrying out their work. Examples of this are the *BC Building Code* and the *Greenhouse Gas Reduction Targets Act*. The task force recommends that the Association undertake the following:

### *2.1. Legislation, Codes and Standards*

2.1.1. Stay informed about the development and amendment of legislation, codes and standards, and provide input where appropriate.

### *2.2. Need for registered professionals*

2.2.1. Continue to diligently advise government on the need for professional engineers and professional geoscientists to be active participants in the development and implementation of solutions to this issue.

### *2.3. Carbon market*

2.3.1. Work with governments and other professional licensing bodies to define roles for engineers and geoscientists as qualified professionals and as members of validation bodies, especially for carbon accounting, trading and offsets.

## **3. Cooperation with Other Stakeholders**

A number of groups are working in the area of climate change adaptation and mitigation research and practice. Collaboration among groups is important to enhance learning and to facilitate implementation of ideas.

### *3.1. Joint Practice Board of professionals focused on climate change*

3.1.1. Pursue the formation of a Joint Practice Board that will include regulatory bodies whose members practice in both the adaptation and mitigation areas of climate change. This would ensure that a collaborative approach to developing areas of practice is utilized and duplication is minimized.

### *3.2. Federal, provincial and municipal governments*

3.2.1. Create and foster direct links to staff working on climate change within provincial and municipal governments;

3.2.2. Support efforts of Engineers Canada and the Canadian Council of Professional Geoscientists to consult and advise with the federal government on climate change issues.

### *3.3. Climate Change Network*

3.3.1. Create linkages to other groups working on climate change issues to share knowledge and to collaborate on efforts that impact engineering and geoscience.

## **Resources**

The extent to which the plan can be implemented will depend on the resources available. Resources that would be required to support the implementation of the plan as described include:

1. *Establishment of Advisory Group*

Consider the establishment of a Climate Change Advisory Group for the purpose of supporting Association efforts on climate change. This will allow for current information and advice to be forwarded to Council for consideration.

2. *Staff support*

Provide dedicated staff support. Greater success in a shorter period of time will be seen if there is dedicated staff with expertise in the subject matter. Alternatively, staff support could be shared with the Sustainability and Environment committees.

3. *Financial support*

Seek external funding/ grants. A number of groups working in the area of climate change are looking for partners to implement actions in this area.

## **Conclusion**

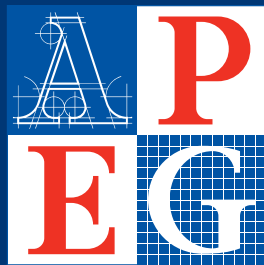
Climate change is a professional practice issue. It is directly related to the core function of APEGBC – to uphold and protect the public interest respecting the practice of professional engineering and the practice of professional geoscience. Members need the Association’s support not only through direct practice guidance, but through the work the Association can do with governments and others to develop appropriate public policy on this global issue.

It is strongly recommended that the Association take on a leadership role on this issue and that the resources required to support this initiative in a meaningful way be allocated.

## Appendix 1 – Climate Change Task Force Terms of Reference

- 1. Name:** Climate Change Task Force
- 2. Function:** To advise Council on members’ professional practice with regards to climate change.
- 3. Deliverables:** This task force will deliver a *Strategic Plan on Climate Change* that will identify risks, describe opportunities within APEGBC’s regulatory role, and make recommendations to Council. Its scope will include:
1. Determining a means of identifying a cohort of members who would be qualified, willing and available to: (a) advise Council on matters related to climate change, and (b) prepare position papers for Council consideration that respond to government policies and regulations for reducing greenhouse gas emissions, and adapting to climate change.
  2. Recommending revisions to existing practice guidelines or the development of new ones so that members have guidance on adapting their practices to climate change including requirements for greenhouse gas offsets to be verified or validated.
  3. Recommending continuing professional development programs for members.
- Delivery Date:** **Council shall receive an interim report by June 2009 and a final report by September 2009.**
- 4. Membership:** Seven or more members drawn from the membership, and having expertise in mitigation of greenhouse gas emissions and adaptation to climate change and/ or the role that APEGBC members could play.
- 5. Method of Appointment:** All members to be appointed by Council including the Chair.
- 6. Terms of Office:** Until September 2009 as directed by Council.
- 7. Quorum:** 50 %
- 8. Frequency & Conduct of Meetings:** As determined by the Chair and Senior Staff Liaison. The Task Force may meet in person or by electronic means depending on the purpose of the specific meeting.
- 9. Staff Support** Administrative duties and support are the responsibility of the Director, Communications & Engagement.
- 10. Review of Terms:** The Task Force will review its terms of reference at the completion of each deliverable, and on completion of its tenure.

APPROVED BY COUNCIL: March 13, 2009 (Minute # CO-09-35)



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