

CLIMATE CHANGE:



A Hot Topic for Chartered Accountants

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Senior management and boards of directors of many companies are fast becoming engaged in business issues related to climate change.

They realize that government regulations will progressively “put a price on carbon.” Also, they are increasingly aware of the need to adjust business operations to adapt to the effects of climate change. These growing realities will affect, either directly or indirectly, the business operations of most Canadian companies.

This article sets out some of the ways in which climate change will impact businesses and, as an inevitable result, bring new responsibilities and opportunities for chartered accountants who work for these companies or who are engaged in public practice.

Climate Change Regulation

Climate change impacts many aspects of life—it influences, for example, the availability of water and energy, the productivity of forests and farmlands, the health of ecosystems, the spread of disease and the stability of infrastructures and transportation systems.

In 2007, the *Fourth Assessment Report of the Intergovernmental Panel on Climate Change* concluded that climate change is occurring at an accelerated rate, caused by an increase in concentration of greenhouse gas (GHG) emissions¹ in the atmosphere and that the increases in GHG emissions are largely due to human activity.²

Countries around the world recognize that they will be affected by climate change. Many have enacted legislation and approved regulations requiring the reduction of GHG emissions.³

Canada is no exception. Consider the regulations that have recently been enacted in Canada. In 2007, Alberta enacted climate change regulations, effective July 1, 2007 setting emissions intensity limits on greenhouse gas emissions of certain facilities—note that Alberta regulations stipulate that to be eligible as a third party auditor under the regulations one must be a professional engineer or a chartered accountant. Also that year, Quebec instituted a carbon tax on fuel distributors, impacting a broad group of corporations,

and just this year British Columbia instituted a carbon tax on fuel consumption, impacting users of fuel. The Government of Canada has also been active. In 2007, it introduced mandatory requirements for facilities in a range of industries to provide information on 2006 greenhouse gas emissions by May 31, 2008. This year, the federal government set out a regulatory framework requiring facilities in a number of industries to reduce 2006 greenhouse gas emissions intensities by 18% by the end of 2010, and also set out a regulatory framework to establish a national greenhouse gas emissions trading system, open to non-regulated activities.

The effect of these regulations is to put a price on GHG emissions and thereby change corporate and individual behaviors.

For businesses, regulations may mean increased short-term compliance costs. These regulations may entail higher operational costs—for example, staffing costs related to reporting requirements, costs for purchasing carbon credits for compliance, tail-end removal of emissions which may decrease operational efficiencies—as well as higher capital expenditures—for example, retrofitting existing processes to reduce GHG emissions, early decommissioning of old facilities, and developing or purchasing new technologies.

Regulations will lead to increasing costs for hydrocarbon-based fuels. Businesses and individuals who are dependent on fuel consumption will face increased costs in society’s pursuit of lower GHG emissions.

Regulations will also bring tremendous opportunities as businesses seek out new technologies to deal with climate change issues. By improving production and distribution processes to reduce greenhouse gas emissions and comply with regulations, companies can achieve competitive advantages.

Impacts on Business of Climate Change

There are two distinct ways that companies will be impacted by climate change. The first is mitigation, or what is to be done to reduce

greenhouse gas emissions, acknowledged as being the cause of climate change. The second concerns adaptation—what is to be done to adapt to the impacts and expected impacts of climate change.

In addition to global, national, regional or local steps to mitigate climate change by reducing GHG emissions, companies will need to adapt to the physical effects of climate change, regardless of their own levels of GHG emissions. It will become increasingly important to implement adaptation measures along with mitigation actions.

Mitigation

Mitigation involves acting to reduce greenhouse gas emissions. To provide a level playing field for all companies, actions in this area are often initiated by a need to comply with existing or expected regulations.

A first step in mitigation is for a company to measure the GHG emissions directly attributable to its global operations and also possibly to its suppliers, products, and services. There are recognized methodologies to inventory greenhouse gas emissions. There are also recognized methodologies⁴ for providing assurance about reported information on GHG emissions.⁵

¹ The six main greenhouse gases covered by the Kyoto Protocol are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

² See <http://www.ipcc.ch/index.htm> for more information on the *Fourth Assessment Report of the Intergovernmental Panel on Climate Change*.

³ In the USA, which did not ratify the Kyoto treaty committing signatory countries to GHG reductions in the 2008-2012 period, some states, such as California, have nevertheless enacted domestic GHG reduction requirements which can also have implications for Canadian businesses.

⁴ ISO (International Organization for Standardization) standard 14064 and the Greenhouse Gas Protocol Initiative provide guidance for measuring, reporting and verifying GHG emissions. In December 2007, ISO, the World Resources Institute and the World Business Council for Sustainable Development signed a memorandum of understanding to jointly promote the ISO 14064 standards and the GHG Protocol standards.

⁵ e.g. ISO 14064 Part 3.

Chartered accountants may be called upon to provide assurance on GHG emission inventories reported to governments, as is currently happening in Alberta.

Recognizing the likelihood of accountants being expected to provide assurance on GHG related information, the International Auditing and Assurance Standards Board (IAASB) approved a project in December 2007 to develop a new international standard for Assurance Engagements on Carbon Emissions Information. Until this new standard is finalized, not likely before late 2009 at the earliest, chartered accountants may wish to use the CICA's 2003 Practice Guide Engagements to Audit Greenhouse Gas Emissions Information or its updated version, available in spring 2008.

As GHG emission costs increase and regulatory targets become more stringent, financial statement auditors will increasingly need to assess the financial implications of climate change regulations in forming their opinions on the fairness of financial statements that embody GHG-related obligations and transactions. This may involve not only carrying out appropriate audit procedures on GHG emissions, but also on production numbers, as Alberta and expected national regulations are currently intensity-based targets (emissions per unit of production).

Adaptation

Adaptation involves taking action to minimize and respond to the effects of climate change. Initiatives in these areas largely originate from a risk management perspective.

Companies that are not large emitters of greenhouse gas emissions would be mistaken in thinking that they do not need to assess climate change impacts.

For many businesses, operations are intrinsically linked to the ecosystem. For example, many thermal generation facilities are dependent on water to cool their processes. In many areas, climate change is one of the factors contributing to a decrease in reliability of water supply. Many new generation facilities must take into account water supply interruptions in their economic forecasting and legal supply arrangements.

Other businesses are very dependent on eco-zones, which are shifting because of climate change. Consider the effects of climate change on sectors such as recreation (e.g., ski resorts, recreational fishing), agriculture (e.g., seeding dates, crop variety choices), fishing (e.g., salmon are very

sensitive to temperature changes in their spawning areas), forestry (e.g., the spread of the pine beetle epidemic due to a lack of continuous cold winters), and insurance (e.g., the growth in the number and severity of natural disasters and extreme weather events). Although many of these industries cannot be considered large GHG emitters, they are nevertheless affected by climate change.

Climate change impacts are all expected to bring a range of challenges and benefits. For companies, adapting to these phenomena will involve identifying their current and potential impacts on business, reducing vulnerability to them and taking advantage of any potential opportunities they present. Some geographical areas and some industries may be impacted

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more than others by adaptation issues.

Companies will increasingly address adaptation as aspects of their business strategy and risk management. Actions taken to minimize and respond to the effects of climate change will ultimately be reflected in financial statements.

Operational and Financial Impacts on Companies

Companies will increasingly face operational changes as a result of climate change. Both mitigation (compliance with regulations) and adaptation (risk management actions) will impact an organization's operations, financial decision-making and reporting in a number of ways. Some examples include:

- Access to Foreign Capital: Shareholders, particularly in Europe but increasingly elsewhere, are concerned about climate change impacts on businesses. They are wary of investing in companies and

industries that have high climate change risks without corresponding mitigation and adaptation plans.

- Continued Operations: Companies that are particularly vulnerable to the impact of climate change will need to adapt to changing conditions. This may cause interruptions in operations, a modification of operations or possibly relocations to adapt.
- New Capital Expenditure Considerations: In Canada, the purchase of carbon offsets/credits or contributions to technology funds may be used to meet regulatory compliance requirements. The ability to buy and sell carbon offsets/credits creates a new dimension to capital expenditure decision-making and may make capital investments attractive where otherwise they would not have met hurdle rates.
- Increased Global Operating Challenges: Companies that operate globally may have to deal with a variety of emissions regulations and emission trading systems, each with different rules, risks and opportunities.
- New Considerations in Mergers and Acquisitions: Mergers and acquisitions, never simple, contain another layer of complexity with climate change risk, opportunity and valuation considerations.
- Financial Statement Disclosures: There will be new liabilities and assets, new expenses and revenues to be recognized in financial statements. For example, Alberta regulations involve emission intensity reduction targets which companies cannot exceed without penalty. This creates liabilities and expenses that will need to be recognized in financial statements. Purchasing emission reduction credits (emission reductions achieved by non-regulated activities) to meet regulatory targets creates new assets that will need to be recognized in financial statements.
- Management's Discussion & Analysis (MD&A) Disclosures: As will be discussed later, public companies are expected to report material climate change matters to their shareholders in their MD&As.

Climate change issues will impact the operational and financial performance of some companies more than others, but it is

likely that all companies will need to assess the nature and magnitude of existing and potential impacts.

Financial Statement Disclosures

Climate change impacts and regulations will increasingly be reflected in financial statements. Carbon taxes, regulatory emission intensity reduction targets and emissions trading create transactions that need to be recognized in financial statements.

As Alberta legislation and expected federal requirements stipulate emission intensity (emissions per unit of production or output) targets, chartered accountants will need to plan and carry out appropriate audit procedures regarding not only emissions data, but also production or output data, in determining the fairness of amounts included or stated in financial statements.

There is currently a lack of clear guidance on how to account for greenhouse gas transactions under emissions trading systems, leading to a variety of accounting approaches being used.⁶ The inconsistency in accounting practices, depending on materiality, may be problematic for internal and external users of financial statements in evaluating cash flows, reported earnings and financial condition.

Recognizing this problem, in December 2007 the International Accounting Standards Board approved a new project to determine how GHG transactions are to be accounted for under International Financial Reporting Standards (IFRS).

MD&A Disclosures

Canadian Securities Administrators' National Instrument 51-102 Continuous Disclosure Obligations requires companies to disclose in their MD&As material information about trends, risks and uncertainties that are not reflected in the financial statements.

It is becoming difficult for many companies to argue that climate change matters are not material to institutional investors' decision-making (which inherently is framed within longer time horizons than the next twelve months). Climate change issues are appearing increasingly in shareholder resolutions and are gaining increasing numbers of votes at annual general meetings. Investment firms such as Goldman Sachs have issued policies regarding climate

change. CIBC World Markets created the Carbon Cap Composite Vulnerability Index, ranking companies by industry based on their exposure to risk from a regulated carbon cap-and-trade system. The insurance sector, with over \$16 trillion in global invested assets, is requesting better disclosures from companies in which it invests.

Not only are long-term investors pressing for better disclosures, so too are other companies that are beginning to exert pressure on their corporate supply chains. They are engaging with their suppliers and calling on them to disclose key climate change information.

There is potential exposure for executives and others in locating climate change information only outside regulatory securities filings, perhaps in sustainability reports or in responses to surveys such as the Carbon Disclosure Project. If information contained therein is likely to be considered material to investors, then securities regulations require such disclosures to also be in the MD&A.

Securities regulators have indicated that they are paying more attention to MD&A disclosures about environmental issues in their reviews of corporate filings.⁷

External auditors are required to ensure that information in the MD&A is not inconsistent with that in the financial statements or with knowledge obtained in the course of the audit.

Appropriate Systems and Controls

For public companies, securities regulators require chief executive officers (CEOs) and chief financial officers (CFOs) to certify as to the fairness and completeness of the disclosures in financial statements, MD&As and AIFs.⁸ CEOs and CFOs of non-venture reporting issuers must certify also that their disclosure controls are appropriate to produce timely and reliable information—this applies to all information that should be provided in regulatory filings, including material climate change disclosures in MD&As.

Some companies have invested significantly in establishing reliable information systems related to greenhouse gas emissions, but many have not. Chartered accountants may be well-positioned to advise their clients on establishing appropriate information and control systems related to climate change information.

⁷ For example, Alberta Securities Commission, Continuous Disclosure Review Program 2006 Report, page 10, OSC Staff Notice 51-706 Corporate Finance Branch Report 2007, November 1, 2007, page 21 and OSC Staff Notice 51-716 Environmental Reporting, February 27, 2008.

⁸ Venture issuers are not required to file AIFs.

Government Filings and Credits

Alberta regulations require that facilities submit their annual calendar year compliance reports by March 31 of each year (beginning in March 2008). These reports must be verified by a third party auditor who must be either a professional engineer or a chartered accountant.

The Government of Canada has introduced mandatory requirements for facilities in a range of industries to provide information on 2006 greenhouse gas emissions by May 31, 2008. While third party audits of these reports are not required for submission to the government, financial statement auditors would be well-advised to assess the potential materiality of anticipated federal regulations to their clients. Anticipated regulations are expected to require emission intensity reductions of 18% in 2010 from 2006 baselines, meaning that 2006 baselines may, depending on materiality, need to be audited. It may prove that the earlier these 2006 baseline amounts are audited, the better.

The anticipated federal emissions trading scheme is expected to require verification of emissions reductions certified through the government's review process before credits are awarded. Credits become, in essence, a form of currency that can be used to meet regulatory targets, sold, or banked for future use.

Conclusion

Senior management and boards of directors are increasingly obliged to direct their attention to the business issues of climate change. Adapting to and mitigating the effects of climate change can significantly affect a company operationally and financially.

Companies need to be aware of and take concrete steps to address the impact of climate change and related regulations on the company's strategies, risks, opportunities and financial performance. Chartered accountants, as company executives or as external auditors, have important roles to play in these areas and in contributing to the reliability of information reported to governments and capital markets. ●

Note: This article is based on information as of the date of writing, March 17, 2008.

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⁶ PricewaterhouseCoopers and IETA, Trouble-Entry Accounting – Revisited, September 2007