Cool Business Guide

Lower Costs,
Higher Productivity and
Climate Change Solutions

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March 2001

produced by

Pembina Institute
for Appropriate Development

produced with financial support from

Canada

Alberta
ENVIRONMENT

Canadian Manufacturers & Exporters
Manufacturiers et Exportateurs du Canada

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Summary

- Climate Change is here to stay; it is firmly established as a critical environmental issue in the minds of the public, on the government policy agenda, and for leading businesses.
- The solutions to climate change are win-win: leading businesses are already responding to climate change in creative and innovative ways that help lower energy and other costs, improve productivity, and generate new sources of revenue.
- Greenhouse gas emissions that lead to climate change will increasingly become a business risk that needs to be managed and will also create substantial business opportunities.
- There are many examples of small and medium-sized businesses in Canada that are taking a win-win approach to improving their energy efficiency, reducing their greenhouse gas emissions and responding to the climate change challenge; four are summarized in this chapter, nine more detailed examples are given in Chapter 3.
- To develop a climate change strategy for your business, you need to understand your specific risks and opportunities, where you want to take your business, and how you propose to get there.
- As you develop and implement your response to climate change, it is important to consider both the management and technical dimensions of your plan, and to anticipate potential obstacles so you can incorporate ways of overcoming them into your plans.

"Global warming is here to stay as a hot button for policymakers, a wild card for business, and a disturbing prospect for us all." – *Fortune* Magazine[1]

In the picturesque city of Belleville, Ontario (population 47,000), the 90 employees at Interface Canada are setting new standards for reducing greenhouse gas emissions and creating impressive business value. A leading producer of commercial flooring, Interface uses environmental challenges—including climate change—as company-wide drivers for lower costs, higher productivity and improved employee loyalty. The results are remarkable.

Energy consumed per unit of product was reduced 70 percent from 1993 to 1999. Greenhouse gas emissions are down by more than 8,000 tonnes. Since 1994, Interface's QUEST program (Quality Using Employee Suggestions and Teamwork) has saved the Belleville plant $3-million in energy, water and waste costs. As a result of increased productivity and competitiveness, exports to the U.S. have grown from 15 percent to 60 percent of production over the last four years.[2] According to Rahumathulla Marikkar, Interface's Director of Technology and Environment, "When our employees see the risks of climate change, they get very creative designing solutions that reduce our emissions and help our bottom line by lowering costs and improving productivity."

Business leaders at the 2000 World Economic Forum in Davos, Switzerland voted global climate change as the most pressing issue confronting the world's business community. The good news is that the solutions to climate change are win-win-win. They reduce air pollution and greenhouse gas emissions, protect public health, save money, create high quality jobs, build communities and create a stronger economy. To achieve these benefits, all sectors of Canadian society—individual citizens, businesses, communities and governments—must adapt and change to face the challenge of climate change.

[1] *Fortune*, December 8, 1997.
[2] Andrew Nikiforuk, "Pure Profit," *Canadian Business*, April 3, 2000, p. 71.

The purpose of this Guide is to raise the awareness of managers of small and medium-sized businesses about why climate change is such an important business issue, and to facilitate the implementation of profitable "win-win-win" solutions that deliver business value (see Box). This summary chapter explains why climate change is an important business issue and presents the associated risks and opportunities. It also provides examples of successful responses to climate change, and describes how to start planning and implementing a response for your company.

Responding to Climate Change: Key Business Benefits

1. Reduced Costs and Higher Productivity – Improved Energy and Material Efficiencies
2. New Revenues – New Climate Friendly Technologies, Products and Services
3. Enhanced Brand Image
4. Improved Employee Morale and Loyalty
5. Reduced Liability and Risk

Economics has emerged as the key driver for companies that are taking action on climate change.[3] There are many examples of how businesses have responded to climate change and, at the same time, reduced energy and other costs and increased their productivity and competitiveness.

- The trade journal *Energy User News* looked at 1,000 energy efficiency upgrades involving one or more of the following components: lighting, motors, drives, heating and cooling, and building control systems. The results showed an average reduction in energy use of 39 percent, with an average return on investment of 32 percent—a 3.1-year simple payback.[4]
- The U.S. Department of Energy, Industrial Assessment Center audited more than 4,000 small to medium-sized manufacturing facilities between 1990 and 1997. These audits identified average annual cost savings of between $18,000 and $98,000 per facility across 20 industrial sectors, with average simple paybacks between 13 and 28 months.[5]
- The Eco-Efficiency Innovation program conducted facility audits at 45 small and medium-sized manufacturing plants in Ontario in 1999 and 2000. The audits identified many cost saving opportunities; 90 percent of the participating manufacturers implemented energy- and water-saving projects with average annual energy savings of 10 to 15 percent, simple paybacks ranging from one to three years, and average annual greenhouse gas emission reductions of 1,250 tonnes.[6]

Chapter 3 of this Guide gives nine detailed examples of Canadian companies that have reduced costs, increased their productivity and competitiveness or developed new revenue sources by responding to climate change.

To manage the business risk of climate change and to take advantage of the opportunities, climate change considerations need to be integrated into key business decisions and processes. This Guide highlights many practical examples, tools, approaches and resources to help businesses plan and implement their response.

[3] Stephanie Gehlen South, *Corporate Leadership on Climate Change* (Arlington, MA: Cutter Information Corp., 2000).
[4] Joseph J. Romm, *Cool Companies: How the Best Businesses Boost Profits and Productivity by Cutting Greenhouse Gas Emissions* (Washington, DC: Island Press, 1999); p. 47.
[5] Climate Wise, *Wise Rules for Industrial Efficiency: A Tool Kit for Estimating Energy Savings and Greenhouse Gas Emission Reductions* (United States Environmental Protection Agency, 1998); p. 32. Available at http://greenbiz.com/toolbox/tools_third.cfm?LinkAdvID=4795.
[6] Corinne McLean, "Digging deep for efficiencies and energy savings," *Plant*, February 12, 2001, page unknown (http://www.plant.ca). For more information about the Eco-Efficiency Innovation program, see its profile in Chapter 6.

The Climate Change Challenge

Climate change is one of the most serious issues facing Canada and the rest of the world. Human activity, particularly the combustion of fossil fuels, is increasing the atmospheric concentrations of greenhouse gases. Scientific evidence indicates that these gases are enhancing the natural greenhouse effect that makes our planet habitable. As concentrations of greenhouse gases increase in the atmosphere, the earth retains more heat from the sun. Although sometimes referred to as "global warming," a more accurate term for this process is "climate change," reflecting the fact that changes in temperature will also affect other climate variables such as precipitation, ocean currents and wind patterns. More information on the science and impacts of climate change can be found in Chapter 2.

Whenever a business makes a decision, many internal and external factors need to be considered. Whether the decision is about new products, new technologies, new facilities or something else, it is important to consider the impact of the decision on costs, productivity and competitiveness. Will there be a shortage of skilled staff if you expand to a new location? How will interest rates affect your decision to upgrade your facilities and take on debt? Will your proposed new product meet your customers' needs? Many factors can have an impact on costs and profitability. One of them is climate change.

Managing the Business Risks Associated with Climate Change

Climate change is likely to have significant consequences on businesses with assets and operations directly affected by the weather, such as insurance, real estate, agriculture, forest products, fisheries and tourism. Just as important, however, government policy and market responses to the threat of climate change will also have an impact on your business.

As governments take action to meet international environmental commitments,[7] the use of regulatory and fiscal policies to reduce greenhouse gas emissions will result in increased costs for products and services that cause such emissions. The two most popular fiscal measures being considered internationally to reduce greenhouse gas emissions are a carbon tax and emissions trading.[8] Several European countries including Germany, Norway, Sweden, Finland, the United Kingdom, Denmark and France have already adjusted energy taxation to reflect the greenhouse gas, or "carbon" content of energy sources. While the Canadian government is currently committed to not using a carbon tax, it is actively exploring emissions trading options.

These policies will reduce the value of some assets (e.g., inefficient truck fleets and buildings) and increase the value of others (e.g., energy efficient technologies and products, and replacements or substitutions for carbon-intensive energy sources). They will make greenhouse gas emissions a more substantial cost of doing business and will create opportunities for technologies, products and services that reduce these emissions.

The ultimate cost of greenhouse gas emissions is uncertain and difficult to predict, but the range of prices predicted by various analysts strongly suggests there will be a significant

[7] In 1997, by signing the Kyoto Protocol, Canada agreed to reduce its greenhouse gas emissions from 1990 levels by six percent by 2008-2012. However, actual emissions continue to rise. The latest results show that emissions were up 13 percent and are expected to be up 27 percent by 2010. To change this "business as usual" projection to the agreed target reduction of six percent requires a reduction of 26 percent, or about 200 megatonnes of greenhouse gas emissions. This 26 percent is referred to as Canada's "Kyoto gap."

[8] Emissions trading is discussed in section 3.1 and in the Glossary at the end of this Guide.

impact on energy costs in Canada. Depending on how Canada seeks to meet its Kyoto commitment, estimates of greenhouse gas emission permit prices range between $25 and $80 per tonne of carbon dioxide-equivalent (CO_2-e).[9]

The table below shows the impact of a range of greenhouse gas emission permit prices on typical energy costs in Ontario and Alberta. For example, at $40 per tonne of carbon dioxide equivalent (CO_2-e), electricity costs in Alberta would increase by four cents per kilowatt-hour, and gasoline prices would jump 10 cents per litre.

Impact of Greenhouse Gas Permit Prices on Energy Prices[10]

Energy Source	$20/tonne CO_2-e	$40/tonne CO_2-e	$60/tonne CO_2-e
Alberta Electricity	+2 cents/kWh	+4 cents/kWh	+6 cents/kWh
Ontario Electricity	+0.5 cents/kWh	+1 cents/kWh	+1.5 cents/kWh
Natural Gas	+4 cents/m^3	+8 cents/m^3	+11 cents/m^3
Gasoline	+5 cents/litre	+10 cents/litre	+15 cents/litre

These cost increases will have a direct impact on the bottom line and could potentially pose a risk to productivity and competitiveness. **But this risk can be managed**. It is in your interest to take immediate action to reduce your greenhouse gas liability by taking steps to improve energy efficiency and increase the use of low-carbon energy sources.

Even if your business does not use much in the way of fossil fuel-based energy, you may still be at risk. What about your suppliers? Are they heavily dependent on fossil fuels? How do they compare with industry averages and with industry leaders? Manufacturers should be aware of how climate change could affect their major suppliers. Your procurement policies and supply chain management policies need to consider the greenhouse gas intensity of your suppliers as a risk factor. If you don't, you might get surprised by the impact of rising costs for greenhouse gas emissions on their cost structure and hence their prices for you.

Climate change also poses a risk to the demand for your products and services. Whether your business sells to other businesses or to the final consumer, your customers will increasingly prefer more efficient and climate-friendly products. As the general awareness of the environmental, economic and social harm caused by climate change increases, you can expect this consumer preference to move beyond simple cost factors and to become stronger. For a good example of how consumer environmental preferences influence business, consider how the entire Canadian forest products industry has changed in response to customer and public concerns about its practices.

The business risks of climate change are discussed in more detail in Chapter 3.

[9] Work by the Analysis and Modelling Group of Canada's National Climate Change Process in 2000 suggests that greenhouse gas emissions permit prices in 2010 will be in the range of $40 to $80 per tonne of carbon dioxide if Canada seeks to meet its target entirely through domestic actions. U.S. Department of Energy work indicates that, if countries were allowed to make maximum use of the Kyoto Protocol's flexibility mechanisms, emissions permit prices would be $25 per tonne of carbon dioxide.

[10] Greenhouse gas emission factors (fuels and Alberta electricity) from Voluntary Challenge and Registry (VCR) Inc., *Registration Guide 1999*, available at www.vcr-mvr.ca; Ontario electricity emissions factor update from Paul Werbiski, Ontario Power Generation, personal communication July 4, 2000 (paul.werbiski@ontariopowergeneration.com). Alberta electricity would be affected more than Ontario electricity because it is generated using a higher proportion of fossil fuel.

Seizing Opportunities Associated with Climate Change

Climate change will create new opportunities for Canadian business. These opportunities fall into one of two general categories: internal efficiency opportunities and new revenue opportunities. Internal efficiency includes:

- improved **energy efficiency** through new technologies or conservation measures;
- improved **materials efficiencies** that reduce waste or eliminate non-energy greenhouse gases (e.g., coolants, products of industrial processes); and
- improved **carbon efficiency** resulting from a change to less greenhouse gas intensive fossil fuels (e.g., switching from coal to oil, or from oil to natural gas) or replacing fossil fuels with "green power" renewable energy like small hydro, some forms of biomass, wind or solar energy.

New revenue opportunities associated with responding to climate change include:

- building brand image (e.g., Climate Neutral Network);
- developing new technologies, products and services that enable your customers to be less greenhouse gas intensive (e.g., energy efficient solutions such as high efficiency lighting and motors); and
- generating offsets or emission reduction credits for sale if your cost of reducing emissions is lower than average.[11]

Many large businesses inside and outside Canada are starting to understand the coming changes associated with climate change and are responding by investing hundreds of millions of dollars to manage the risks and, more importantly, to seize the new opportunities. Businesses like Suncor, TransAlta, Alcan, DuPont, Shell, BP and many others are taking climate change seriously and are finding innovative ways of responding to it profitably. Even the venerable *Harvard Business Review* recently carried a feature called "What Every Executive Needs to Know About Global Warming."[12] These businesses are not responding to hair-raising alarm bells from environmentalists. Their objective is to deliver value to their owners.

Canada's small and medium-sized businesses are also responding to climate change. Their programs and investments are not as high profile as those of Suncor, TransAlta and other large companies but they are making a difference—reducing greenhouse gas emissions and doing it profitably. In the search for lower costs, higher productivity and competitiveness they have discovered that responding to climate change drives both internal efficiencies and new revenue opportunities. Nine detailed success stories are given in Chapter 3. Highlights from five of these examples are summarized below.

Energy Efficient Towel Production at St. Lawrence Corp.

St. Lawrence Corp., based in Iroquois, Ontario, is the largest manufacturer of terry towels in Canada. In the early 1990s, an energy audit identified several no-cost or low-cost opportunities with less than a two-year payback. St. Lawrence has implemented many of these measures, including installing a new, higher efficiency heat reclaimer unit, and optimizing compressed air and steam systems. Annual energy cost savings reached $370,000 per year in 1999 versus a 1990 "business as usual" projection. Although production has increased 11 percent from 1990 to 1999, absolute greenhouse gas emissions are down 13 percent, or 1,227 tonnes.

[11] "Offsets" and "Emission Reduction Credits" are defined in the Glossary.

[12] Kimberly O'Neill Packard and Forest Reinhardt, "What Every Executive Needs to Know About Global Warming," *Harvard Business Review*, July-August 2000, pp. 129-135.

Material Efficiency Savings at Interface

The Interface Canada carpet factory in Belleville, Ontario has gone well beyond conventional energy efficiency measures to also change their product design and manufacturing processes. These changes have eliminated one energy intensive process (carpet printing) and have lowered the carpet finishing process temperature by over 100F^{o} (56^{o}C), improving yield, quality, performance and cost. With higher yields, reduced waste and improved material efficiency, more than 8,000 tonnes of greenhouse gas emissions have been eliminated.

Improving Carbon Efficiency and Saving Money at Kuntz

Kuntz Electroplating, based in Kitchener, Ontario, specializes in electroplating for the automotive industry. Kuntz began implementing environmental initiatives in the 1970s in an effort to reduce costs. Initially, the focus was on reducing raw material use. More recently, Kuntz installed a natural gas-fired cogeneration system to produce their own electricity and 60 to 65 percent of their process heat and space-heating requirements for newly expanded facilities.

The increased efficiency of the cogeneration system produces economic and environmental benefits. Total energy costs were down 20 percent in the first year after start up. After the system installation costs are paid back in five years, ongoing savings will provide annual energy cost reductions for at least another 20 years. Greenhouse gases and other pollutants are down significantly: nitrogen oxides by 9,000 kilograms per year, sulphur dioxide by 120,000 kilograms per year, and carbon dioxide by 20,000 tonnes per year.

Growing Green Revenue – Vision Quest's Barons of Wind

In 2000, Calgary-based Vision Quest Windelectric produced ten million kilowatt hours of electricity for its customers, and displaced 10,000 tonnes of greenhouse gas emissions. In 2001, the company plans to quadruple that amount. Vision Quest is building wind energy capacity in Alberta by installing wind turbines and delivering green power and emission reduction credits to users in partnership with corporations like Suncor and ENMAX, as well as directly to some residential customers.

The climate change benefit of wind energy is that no fossil fuels are burned to produce the electricity. And it is now very close to being an economically viable replacement for the most environmentally damaging forms of electricity production. While wind could not supply all of Canada's electricity needs, it could potentially supply 30 percent or more of all the power used from coast to coast.[13]

The Green Power Opportunity

"Green Power" is electricity produced from low impact renewable sources like wind, solar and small hydro. Driven by growing demand for clean power, deregulation in electricity markets, improved technologies and declining costs, the market for green power is expanding rapidly. Estimates for the ultimate size of this market in Canada are in the $1-billion range.* This growing market represents a huge business opportunity for producers and distributors of green power, and also represents one of many actions energy consumers can take to reduce their GHG emissions.

* A. Pape-Salmon, Pembina Institute, pers. comm. February 28, 2001

Building Brand Image – Climate Neutral Network

In response to a growing opportunity to develop and take advantage of consumer preference for climate-friendly products and build their own brand images, an alliance of businesses has formed the Climate Neutral Network. Their mission is to develop and

[13] This is not because of lack of wind resource, but is due to technical limitations in supplying a centralized electrical grid from a variable generating source such as wind.

promote products with no net impact on the climate. As of the summer of 2000, the Network boasted over 20 members, including well-known companies such as BP, Interface, Nike, Sunoco and The Body Shop. By joining together, these companies have pooled resources and are sharing technical assistance, networking, design principles and reviews, the Climate Neutral Network trademark, and market development. They expect to derive real business benefits from their membership in the Network, including product differentiation, links with communities via offset projects, building trust and goodwill with stakeholders, reduced risk, and low-cost emission offsets. Climate Neutral Network contact details are given in Chapter 6.

These, and examples for other companies, are profiled in more detail in Chapter 3 of this Guide. Other resources with more success stories are described in Chapter 6.

Planning Your Company's Response to Climate Change

You could decide that your business needs to respond to climate change for several reasons, including:

- You want to reduce costs, increase revenues and improve productivity.
- You believe that the price or cost of doing business will increase because governments will inevitably restrict greenhouse gas emissions, thus increasing the cost of products and services that are greenhouse gas-intensive.
- You want to improve your brand image by making it "climate friendly."
- You care about the world you are leaving for future generations.

If you are convinced that your company needs to take action on climate change and start integrating climate change considerations into your business, where should you start? Every business is different and has a unique combination of internal and external drivers, resources and other factors that will shape its response. Planning your response to climate change, however, should not differ dramatically from your approach to other business opportunities and challenges.

Where to begin? You need to set goals, determine priorities, and then develop and implement a plan.

What should you consider when planning a response? You need to understand the nature and size of the risks and opportunities that are unique to your business, allocate the appropriate resources and manage these resources to gain maximum value. Chapter 5 of this Guide contains worksheets to help you answer three basic questions:

1. Where are you now? What are your specific risks and opportunities and what is the current status of your response to climate change?
2. Where do you want to go? What climate change strategy is appropriate to the unique circumstances of your company?
3. How are you going to get there? What high leverage actions can you take now to move you closer to where you want to be?

As you implement these actions it is likely that circumstances will change, so you need to monitor your progress against your original plan, verify your key assumptions and be prepared to revise the plan to take changes into account.

Consider the Management and Technical Dimensions

The best plans to address climate change share certain key elements with good business plans in general. First, it is important to recognize that any business plan requiring changes from current practices needs to consider both the technical dimension (i.e., **What** to do) and the management, or human, dimension (i.e., **How** to do it). Often, there is too much focus on the technical details and not enough on human behaviour and the management of change. Peter Senge calls this "the innovator's dilemma":

> *The fundamental flaw in most innovators' strategies is that they focus on their innovation – on what they are trying to do – rather than on understanding how the larger culture, structures, and norms will react to their efforts.*[14]

To address the management dimension of a plan to respond to climate change, the first step, in common with any successful business initiative, is obtaining upper management commitment. Without this commitment, any new initiative is bound to fail because it will never be able to compete successfully with other priorities for resources and management attention.

Many of the most successful implementation efforts include a designated or self-selected champion who focuses on developing a powerful team, overcoming internal and external barriers, and ensuring that new ways of doing things become well established. The champion needs to be a person with credibility in the organization, the right combination of skills and experience, and an attitude to get the job done whatever it takes.

It is also important to put in place tools to engage and motivate employees. These serve two purposes. First, they tap into the natural creativity and capacity, present in all employees, for finding new ways of doing things. Second, if employees are not made aware of and do not become enthusiastic about changes required to respond to climate change, the likelihood of changes taking hold and becoming permanent is greatly reduced.

Taking Waste to the Mat

One of the greatest obstacles to change is how most companies are organized, says Rahumathulla Marikkar, a chemical engineer and environmental champion with Interface Canada in Belleville. "Operations want to get the product out the door, while health and safety act like policemen. And that's a major obstacle," he says.* As Director of Technology *and* Environment at the Belleville plant, Marikkar doesn't have to deal with that obstacle. His leadership has been instrumental in reducing greenhouse gas emissions by more than 8,000 tonnes, virtually eliminating wastewater, reducing energy consumption per unit produced by 70 percent and saving the Belleville plant $3-million in energy, water and waste costs. In 1999, Marikkar was recognized by Canada's VCR Inc. for his role in helping Interface become a leader in industry and in the community through sustainability and impressive reduction of energy use.

* A. Nikiforuk, "Pure Profit," Canadian Business, April 3, 2000; p. 71.

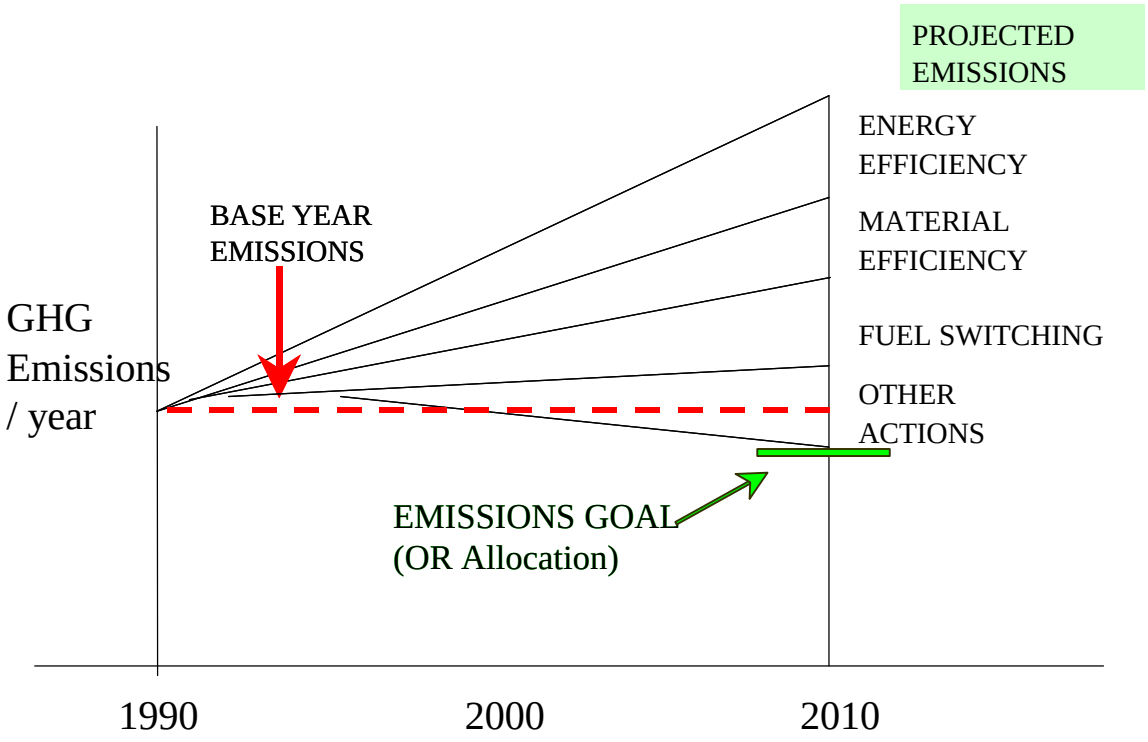
As a plan is implemented, it is important to ensure that management systems and incentives support new behaviour consistent with the required changes. In many cases, internal financial signals may need to be changed. This might include changing how management and employee bonuses are calculated, setting up a revolving investment fund that takes savings from one efficiency upgrade and reinvests it in further upgrades, putting a cost on greenhouse gas emissions for internal investment analysis to test the robustness of projects against future risk, or taking an overall company target on emissions and allocating it to different divisions, sites or product lines. Without changing internal financial signals or other management systems and incentives, it is difficult to send and continuously reinforce a clear message to every employee that your company is serious about responding to climate change.

These management tools and examples of their use are discussed in more detail in Chapter 4.

[14] Peter Senge et al., *The Dance of Change: The Challenges of Sustaining Momentum in Learning Organizations* (New York: Currency/Doubleday, 1999).

The technical dimension of a plan to manage greenhouse gas emissions needs to include a baseline assessment of current emissions, a target for future emissions,[15] projections of future emissions based on business as usual, and the projected impact of planned emission reduction activities. These planned emission reductions could include internal energy efficiency improvements, material efficiency improvements, fuel switching or other activities. The figure below illustrates a plan showing four categories of emission reductions that will be used to reach a target.

Figure 1-1: Example of a Greenhouse Gas (GHG) Emission Reduction Plan



Overcoming Potential Obstacles or Barriers

As you develop, implement and continuously improve your company's plan to manage greenhouse gas emissions and take advantage of new revenue opportunities, it is important to keep in mind potential obstacles or barriers you are likely to encounter so that you can incorporate ways of overcoming them into your plans. These may include lack of awareness about climate change, lack of expertise about how to exploit internal efficiencies or new revenue opportunities, lack of money required to make proposed changes, and lack of time or competing priorities for management attention.

[15] This target could be a voluntary target set to drive action, or it could, in the future, be a regulated limit set by governments.

The information in this Guide, along with associated presentations and workshops,[16] will help you begin to overcome these potential obstacles and to plan and implement a profitable response to climate change for your company. These materials, including tools and resources described in Chapter 6, feature examples of how some companies have responded to climate change along with worksheets for planning your own response. Many of the resources from governments, industry associations and the private sector are available immediately through the Internet. Each resource and tool has been classified and described to help you quickly find what you need to start planning and implementing your response to climate change. You will find help in the areas of Awareness and Education, Expertise and Consulting, Financial Assistance and Incentives, Management and/or Technical Tools, Networking with Solution Providers, Success Stories, and Turnkey Solutions.

Now that you have seen why climate change is an important business issue and how it could affect your company, we invite you to explore the rest of this Guide to learn how to plan and implement your response.

- Chapter 2 describes the science and impacts of climate change, and how the international community and Canada are responding.
- Chapter 3 describes the business risks and opportunities associated with climate change, and gives nine examples of small and medium-sized companies that have profited from their response to climate change.
- Chapter 4 describes seven important elements of climate change strategy that can help you plan and implement a successful response to climate change for your company.
- Chapter 5 describes a five-step process to identify a few high leverage actions you can start to implement immediately to manage your specific risks and seize your unique opportunities.
- Finally, Chapter 6 describes over 50 resources and tools to help identify and implement your response to climate change, and to overcome potential obstacles and barriers.

The bottom line is that climate change is not going away and the substantial resources and innovative capacity of business are starting to be used to create profitable win-win solutions to this major challenge. Whether our response will be enough to match the considerable challenge will depend on all of us.

[16] To help managers of small and medium-sized businesses learn how they can respond to and profit from actions to address the climate change challenge, the Pembina Institute began offering presentations in September 2000. More detailed workshops using this Guide will be offered between March and June 2001. For more information, see the response form at the end of this Guide.