
Fostering a Sustainable Canada

Protecting our health, environment and economy

Recommendations for the 2005 Federal Budget

Submission to the Standing Committee on Finance

December 8, 2004



David
Suzuki
Foundation

SOLUTIONS ARE IN OUR NATURE

Fostering a Sustainable Canada
Protecting our health, environment, and economy

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Summary

*“We understand that our success and our quality of life are increasingly tied to our relationship with our environment. The decisions we make now have profound implications for the future....
Environmental stewardship reflects a key element of our heritage. It is both a shared value and a fundamental imperative. For it is vital not only to our health and well-being but to our economy and our competitiveness.”*

Rt. Hon. Paul Martin, Reply to the Speech from the Throne, October 5, 2004

Canadians are stewards of substantial portions of the world’s fresh water, oceans, wetlands, forests, wildlife and wilderness. We are among the wealthiest, healthiest and best-educated people in the world. However, we are living well beyond what our natural resources can sustain. The Conference Board of Canada, the United Nations, and the World Economic Forum agree that Canada is a laggard on environmental issues among industrialized nations.¹ We finished 28th out of 29 Organisation for Economic Co-operation and Development (OECD) nations in a study that examined 25 key indicators in ten categories including air, water, energy, waste, climate change, ozone depletion, agriculture, transportation and biological diversity.²

Canada needs a new, truly sustainable vision of its future that will inspire Canadians to build an innovative 21st Century economy that protects public health and provides for ecological sustainability. The traditional approach of balancing economic priorities off of environmental ones is undermining the long-term prosperity of the country. As stewards of this country, it is imperative that the federal government take the lead in developing and implementing policies based on the understanding that a sustainable and vibrant economy is inextricably linked to healthy people and a healthy environment.

Fostering a Sustainable Canada outlines the need for a national sustainability plan and includes a number of proposals – if implemented – that will put Canada on a path to achieve *Sustainability Within a Generation*.³ The proposals in this submission cover some important cross-cutting priorities and four facets of Canadian life.

1. Cross-Cutting Sustainability Priorities are critical in moving forward a common agenda for all federal ministries and departments. These proposals will enable Canada to learn from jurisdictions around the world that are advancing sustainability and fostering forward-looking economies.

- *A National Sustainability Plan* must be developed and implemented by the federal government. This plan begins with a vision of the Canada we want to be and then to be effective, it must be a strategic plan. This will require a list of generational objectives along with interim markers of success.
- *A Pollution Dividend for Health Care & a 21st Century Economy* would enable the federal government to generate revenue for investing in health care as well as industrial innovation. This revenue would come from gradually phasing in increases in excise tax on fuels reflecting their health and environmental costs.

¹ Porter, Michael et al. 2000. *The Global Competitiveness Report 2000*. New York: Oxford University Press; Conference Board of Canada. 2003. *Performance and Potential 2003-04: Defining the Canadian Advantage*, www.conferenceboard.ca

² Boyd, David R. 2001. *Canada vs. The OECD: An Environmental Comparison*. Victoria: Eco-Research Chair in Environmental Law and Policy. www.environmentalindicators.com

³ Reconciling Canada’s environmental, social and economic objectives and establishing Canada as a world leader in sustainable living and environmental protection has been outlined in Boyd, David R. 2004. *Sustainability within a Generation: a new vision for Canada*. David Suzuki Foundation.

- *An Environment-Health Full-Cost Accounting Study* is a research priority for Environment Canada and Health Canada to assess the human health and environmental costs of burning fossil fuels. More complete data is required to facilitate better decision-making if Canada is to remain globally competitive and maintain the quality of life Canadians have come to expect.

2. Developing a National Commitment to Efficiency will help Canada move from its close-to-last place ranking amongst industrial countries in its per capita energy and resource consumption.

- *A National Energy Efficiency Strategy* focuses on continuing the federal government's efforts to improve energy efficiency in buildings by strengthening its programs in building audits and retrofits. The proposal outlines how Natural Resources Canada can enhance its role in comprehensively setting standards to help Canadian consumers buy more energy-efficient capital goods.

3. Promoting Sustainable Cities will be critical if Canadian cities are to be desirable places to live and to be centres for economic development. The following proposal focuses on one major infrastructure priority and a mechanism to ensure Canadian communities support rather than undermine ecological sustainability and health protection.

- *A Transit Renewal and Sustainable Cities Strategy* outlines investment for one of the most critical urban infrastructure needs – public transit. Support for transit and other urban infrastructure must be dependent on building more sustainable cities and communities - a central pillar of the New Deal.

4. Advancing Industrial Innovation will be central in an economy that enhances – rather than balances off – environmental and human health priorities. The following proposals advance industrial agendas that strengthen Canadian sustainability.

- *A National Renewable Energy Strategy* outlines how Canada can take advantage of the industrial opportunities in the world's fastest growing energy sector. The measures map out a strategy to catch up with other jurisdictions and take advantage of our exceptional renewable energy resources.
- *A Sustainable Energy Trust* outlines a critical mechanism for enabling cost-effective, practical sustainable energy technologies to be integrated into the marketplace. This public trust could be established through profits from the sale of Petro-Canada and would focus on *deploying* new technologies that complement the numerous federal R&D programs.
- *A Cleaner Car Campaign* involves measures to advance the manufacturing and purchase of energy-efficient vehicles in Canada.

5. Protecting Natural Capital involves some key measures that help safeguard the energy sources, forests, wildlife and ecological systems upon which humanity depends, including the life-supporting natural processes that clean air, purify water, pollinate plants, absorb carbon dioxide and prevent floods.

- *An Effective Species at Risk Act* requires an ecosystem approach to habitat protection for endangered species. The proposal recommends establishing safety net provisions to enable federal authorities to place critical habitat under moratoria in all jurisdictions until comprehensive ecosystem-based plans are completed.
- *A Terrestrial Protected Areas Strategy* involves the completion of the federal protected areas strategy and an expanded network of national wildlife areas and the implementation of Ecosystem-Based Management (EBM) across Canada through agreements with provincial and territorial governments and aboriginal people.
- *An Enhanced Marine and Fresh Water Protection Program* involves increased funding to the Department of Fisheries and Oceans for enforcement and compliance, research and stock assessments, as well as a *national freshwater conservation strategy* to maintain water quality, eliminate industrial water pollution, reduce water consumption and improve sewage treatment.

Achieving sustainability will require federal government leadership. In order to inspire all Canadians – from individuals to businesses to other levels of government – the federal government needs a vision for a new Canada. This new Canada will provide clear economic opportunities while protecting the quality of life Canadians currently enjoy and will sustain the function and integrity of Canada’s unique natural environments.

An integrated sustainability approach would compel government to start looking at both sides of the ledger. The first statements of Canada’s inaugural Chief Medical Officer of Health in the wake of the First Ministers Health Summit speak directly to this need: “We’ve become so preoccupied with the health insurance system that we’ve forgotten prevention.” The proposals in this submission are critical elements in an integrated strategy to address one of the top priorities of Canadians: our health care funding crisis.

Compartmentalized thinking pervades many facets of government, for example the current Smart Regulation initiative which, once again, balances off human health and environmental safeguards with short-term economic priorities rather than taking a truly integrated and innovative policy approach.

In the past, society’s well-being has been measured solely by economic growth – focusing exclusively on economic indicators like the Gross Domestic Product (GDP) to measure progress. At the same time, our environmental policies have primarily been reactive; correcting environmental problems, like pollution, after the fact. This strategy is failing Canadians – it is expensive, has resulted in the loss of irreplaceable habitat, the extinction of species, and has hurt human health. In contrast, a national sustainability strategy is a proactive approach, which will enable Canada to build a competitive 21st century economy that protects natural capital. This new economy will provide innovative investment opportunities and jobs in renewable energy, value-added sectors in our traditional resource industries, industrial design for developing “closed-loop” manufacturing systems and products that use energy, water and other natural resources more efficiently.

One of the key elements of a visionary approach to sustainability in Canada is establishing targets and timelines that will enable us to achieve our goal of becoming a world leader. These targets and timelines provide inspiration and focus for strategic planning in both the government and private sector, offer certainty to industry and businesses, and ensure public accountability. Furthermore, these targets and timelines must apply the best scientific principles to measurable objectives and should be consistent with the targets and timelines set by other OECD nations that have already adopted national sustainability plans.

Fostering a Sustainable Canada includes many proposals that dovetail the priorities of many other institutions in the country including other environmental groups – particularly the Green Budget Coalition of which the David Suzuki Foundation is an active player – a number of sustainable energy trade associations, as well as other provincial and municipal governments.

Part I: Cross-Cutting Sustainability Priorities

Sustainability is not a goal that readily falls into one ministry or level of government but is a bold new vision that requires harnessing the energies and creative spirit of individuals as well as the public and private sectors into a national sustainability plan for this country. A positive, sustainable Canadian future can only be realized if the federal government makes a commitment to working on solutions and policies across jurisdictions and mandates. These cross-cutting priorities are just first steps that will help Canada become a world leader in environmental protection.

Proposal: A National Sustainability Plan

“I strongly encourage the federal government to prepare both a compelling, explicit vision of a sustainable Canada and a government-wide strategy to realize the vision...

I am convinced this is possible – and essential, if Canada’s economy is to remain innovative and competitive and if the quality of life is to remain among the highest in the world. I look forward to the day when leadership and creativity on environmental issues and sustainable development are found not just in pockets of the federal government but across it.

Johanne Gelin, Commissioner of the Environment and Sustainable Development, October 2004⁴

Overview

If Canada is to become a leader in environmental protection and sustainable living, it will require leadership on the part of the federal government who must inspire all Canadians – individuals, businesses, and other levels of government--with a vision of a new Canada. This vision must include recognition that a healthy economy is inextricably linked to healthy people and a healthy environment.

Recommendations

1. The federal government should invest in the development of a national sustainability plan to be adopted during this parliamentary session. This plan must have a time-specific generational objectives for sustainability with measurable milestones.
2. The development, design and implementation of this new national sustainability plan must be a shared responsibility of, at minimum, the ministers of Environment, Natural Resources, Industry, Infrastructure for Cities and Communities and Health. Sustainability must be an objective that transcends the conventional conceptions of ministry mandates; this will bring in other departments including Agriculture, Finance, Fisheries and Oceans, Public Health and Transport.

Benefits for Canadians

A national sustainability plan must position a healthy environment and high public health standards as interdependent in order to foster a competitive, clean economy. Concerted support for environmentally-driven growth will create new opportunities for international and national cooperation, serving in turn to strengthen policy-making at all levels. Benefits of a national sustainability strategy include:

- Increases in efficiency as well as lower levels of waste and pollution.
- The removal of perverse subsidies will save Canadians billions of dollars annually.

⁴ Office of the Auditor General of Canada. 2004. *Report of the Commissioner of the Environment and Sustainable Development to the House of Commons*. http://www.oag-bvg.gc.ca/domino/reports.nsf/html/c2004menu_e.html

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- Improvements in air, water and food quality will boost the health of Canadians and reduce the pressures on our healthcare system.
 - Communities will benefit from the new focus on generating genuine wealth, with an emphasis on human, social, economic and natural capital.
 - Creation of knowledge networks between the business community, public institutions, non-governmental organization, and governments.
 - Consumers are also important; changing demand patterns can help stimulate production of more sustainable goods and services for consumers.
 - Organic agriculture and integrated pest management are more labour-intensive than conventional agriculture but will benefit farmers through the reduction of other input costs.
 - Investments in renewable energy and energy efficiency will create more jobs than similar investments in fossil fuel energy.⁵
 - Diverting reusable materials from landfills and incinerators creates jobs, as will greening municipal infrastructure from sewage treatment to public transit.

Rationale

The most successful institutions develop a strategic plan with a long-term goal, a timetable with interim indicators, and measures of success. Likewise, Canada needs a single, ambitious and inspiring plan for sustainability. If this seems unrealistic, we need only look to Europe. Almost every European Union nation has a comprehensive national plan for achieving a sustainable future. Virtually every company that has successfully and profitably achieved impressive results in reducing resource inputs, energy use, greenhouse gas emissions or other pollutants – such as Shell, Interface Flooring, Dofasco, Dow, Inco and numerous others – have had clear milestones and measureable targets. As the Canadian government embarks on this challenge, it is critical to learn from the successes of companies and other governments.

The OECD just recently completed its evaluation of the environmental record of Canada and Sweden and the differences between the two countries could not be more striking. On the one hand, the OECD praises Sweden for adopting a strategic approach to its national sustainability plan. On the other hand, while the OECD recognizes the commitment Canada has made to sustainable development, it makes the criticism that practical policies and actions have yet to be developed and implemented to make this commitment operational.⁶

The importance of timelines and interim targets is best illustrated by Canada's failure to reduce its greenhouse gas emissions. In ratifying the Kyoto Protocol, Canada made a commitment to reduce its greenhouse gas emissions by six per cent from 1990 levels. Under pressure from industry stakeholders, Canada has relied on voluntary measures to achieve these reductions and has set no interim targets for sectoral reductions. This approach coupled with the strength of the economic drivers that push greenhouse gas emissions in Canada have meant that emissions have actually increased. From 1990 to 2000, Canadian emissions increased almost 20 per cent while emissions in the United States and Japan grew 13 per cent and nine per cent, respectively, and the European Union emissions shrank by two per cent.⁷ In

⁵ *Smart Generation: Powering Ontario With Renewable Energy*. 2004. The David Suzuki Foundation. Report Summary: http://www.davidsuzuki.org/files/Climate/Ontario/Smart_Generation_summary.pdf page 3. It is feasible to create in Ontario alone approximately 25,000 jobs in the renewable energy sector by 2010 and 77,000 by 2020.

⁶ OECD. 2004. *OECD Environmental Performance Review of Sweden*. 2004:14. http://www.oecd.org/document/46/0,2340,en_2649_37465_33753774_1_1_1_37465,00.html and OECD. 2004. *OECD Environmental Performance Review of Canada*. 2004:7.

http://www.oecd.org/document/30/0,2340,en_2649_201185_33744542_1_1_1_1.00.html

⁷ Jaccard, M. et al. 2004. "The Morning After: Optimal Greenhouse Gas Policies for Canada's Kyoto Obligations and Beyond." *Commentary*. CD Howe Institute.

fact, Canada is further away from its Kyoto target than any other industrial country, including the United States.⁸

Our organization supports the formation of the Committee on Sustainable Development shared by the Ministries of Environment, Natural Resources, Fisheries and Oceans, Industry, Infrastructure for Cities and Communities, and Health. We also recognize to be truly effective, this committee will need both a broad mandate and sufficient resources. This cross-ministry approach is the only way to ensure that plan reflects an understanding that a sustainable and vibrant economy is inextricably linked to healthy people and a healthy environment.

The fiscal implications of developing, designing and implementing a new national sustainability plan led by five key ministries is difficult to gauge. Some more general notes can be made though the application of policy tools in achieving sustainability:

- **Ecological fiscal reform** involves the use of three key policies: tax shifting, eliminating perverse subsidies and increasing investment in the environment. These tools can be used to overcome market distortions that ignore environmental costs while allowing the market to continue to be the main signaling agent. The basic premise behind ecological tax shifting is that society should stop taxing activities it wants to encourage and start taxing activities it wants to discourage. Ecological tax shifting is an economically efficient and cost effective way to incorporate the ‘user pays’ and ‘polluter pays’ principles while enabling us to move towards sustainability. In fiscal terms a tax shift can be engineered to accomplish sustainability goals while being ‘revenue neutral.’ Perverse subsidies occur when governments subsidize environmentally destructive behaviour. By paying these subsidies, the government incurs an expense in the first instance and then often later on as individuals or communities have to be compensated for ecological damages or in the form of increased health expenditures. A tangible measurement of a nation’s commitment to sustainability is the amount budgeted for environmental protection. Sweden invests more than three per cent of its GDP on protecting its natural capital while Canada invests less than one per cent.⁹ Other items in this submission will indicate critical areas where a renewed commitment to protecting Canada’s rich ecological systems and spaces is necessary.
- The federal government will have to reinvigorate the role of regulation in protecting our public interest to be a world leader in environmental protection and sustainable living. Our failure to meet our Kyoto targets by relying on voluntary measures was described above. In a recent report, the OECD found, “the economic efficiency of voluntary approaches is generally low.”¹⁰ But regulation has enabled Canada to virtually eliminate ozone-depleting substances, cut sulphur emissions in Eastern Canada by more than half, and put catalytic converters on every car in the country. Relying less on voluntary measures and more on a regulatory approach for achieving targets will likely involve more expenditures on monitoring and enforcement but should include a corresponding decrease on the expenditures related to voluntary programs.
- In the Speech from the Throne, the Government of Canada made a commitment to implement a new Green Procurement Policy to govern its purchases. Governments can spur sustainability through their own purchasing and procurement policies, as they are one of the biggest spenders in the Canadian economy. Roughly 20 per cent of GDP involves government expenditure, meaning the Federal

⁸ Boston, Alex. 2004. *Planning for the Next Generation: 10 Principles for Climate Protection and Innovation*. David Suzuki Foundation

⁹ Boyd, David R. 2003. *Unnatural Law: Rethinking Canadian Environmental Law and Policy*. Vancouver: UBC Press. Chapter 12.

¹⁰ OECD. 2003. *Voluntary Approaches for Environmental Policy: Effectiveness, Efficiency and Useage in the Policy Mixes* OECD

government could through its own purchases, help create and sustain a market for environmentally-friendly products and services (i.e., energy-efficient buildings; clean, low-impact power; fuel efficient vehicles; recycled products).

Proposal:
Pollution Dividend for Health Care & a 21st Century Economy

*“The restructured tax would include other sources of pollutants
and ensure that polluting activities by businesses – and by all Canadians –
bear a more appropriate charge for the use of air, water and land.”*

Report of the Technical Committee on Business Taxation. Department of Finance. 1998.

Overview

The *Pollution Dividend for Health Care & a 21st Century Economy* would involve increasing excise taxes on fuels reflecting their health and environmental costs. Excise taxes would be gradually increased, particularly on dirtier fuels such as coal and diesel which have low or no federal excise tax. This revenue could be “recycled” to provinces for investing in health care, particularly health prevention, or in deploying forward-looking, green technologies and infrastructure projects that strengthen Canadian competitiveness such as renewable energy, energy efficiency and public transit. This proposal is being advanced by the Green Budget Coalition and was developed by the David Suzuki Foundation and Integral Economics.

Recommendation

The federal government should adjust excise taxes on fuels to reflect their full health and environmental costs. This would include assessing the cost of carbon, mercury, nitrogen oxides, sulphur dioxide and particulate matter emissions and emissions from embedded energy in fuels. Considering current surges in gasoline prices, the current 10-cent per litre gasoline tax could be considered the benchmark from which the level of taxation on other fuels could be gradually adjusted in proportion to their health and environmental costs. This would initially involve small increases in excise tax on some of the dirtiest fuels such as diesel and coal. A portion of the revenue could be split into two funds: a) a health care transfer to the provinces, and b) a *21st Century Economy Fund* for deployment of green technologies and infrastructure such as advanced renewable energy, energy efficiency and public transit.

Benefits for Canadians

- A consistent stable source of revenue is secured for investing in critical public priorities: healthcare and sustainable industry.
- The health and environmental costs of burning fossil fuels begin to be internalized, sending a price signal to the market and influencing consumption.
- The costs of fossil fuel burning begin to be directly remediated and mitigated by investing in healthcare and sustainable industry.
- Awareness among policy makers, public and industry is heightened concerning the connection between burning fossil fuels and health and sustainable alternatives.

Rationale

The federal government has a tradition of using the tax system to support social and economic goals. Raising tobacco taxes has been effective in reducing smoking rates, and in turn reducing smoking-related healthcare costs. Generating revenue based on the human and environmental health costs of fuel use and recycling it on mitigation and remediation would continue this tradition.

This proposal would help address the growing healthcare funding crisis, driven in part by exposure to air pollutants. Air pollution kills more people annually in Canada than traffic accidents or breast cancer.¹¹ In Ontario alone, air pollution is responsible for more than \$1 billion in direct costs such as hospital room admissions and absenteeism and another \$9 billion in indirect costs, such as mortality.¹²

Over the past 15 years, many OECD countries, including Finland, Denmark, Germany, Norway, Sweden, the Netherlands and UK, have introduced ecological tax reforms to promote economic growth while reducing air pollution including carbon dioxide.¹³ Sweden has a comprehensive regime for taxing fuels based on carbon, energy use, nitrogen oxide and sulphur.¹⁴

In 1998, the Technical Committee on Business Taxation to the Department of Finance recommended specifically that the federal fuel excise tax be restructured to correspond “to the user pay principle.”¹⁵ The Department of Finance has started to reform fuel taxes for ecological reasons by removing the excise tax on ethanol to promote fuel switching towards a more climate-friendly fuel. (Note: Unfortunately this is only true in some cases). Nevertheless, as a general rule the level of taxation on fossil fuels does not reflect health and environmental costs.¹⁶ The federal gasoline tax is 10 cents per litre. Other levels of excise tax vary depending on the fuel: aviation gasoline: 11 cents per litre; unleaded aviation gasoline: 10 cents; diesel fuel: 4 cents; aviation fuel: 4 cents.

The dirtiest fuel, coal, does not appear to even have a federal excise tax while at the same time most provinces apply a sales tax.^{17 18} Thus, the largest, but still relatively modest source of new revenue would come from introducing an excise tax on coal. The public recognizes that burning coal damages the health of those nearby and damages natural systems and therefore would respond positively to investing revenue from an excise tax in healthcare and the development of more ecologically sustainable industries.

Assessments of environmental tax shifting policies in Europe have shown that the effects on the economy are minimal or slightly positive due to energy substitution and increased energy efficiency. In addition, there is no evidence that environmental regulations, including ecological taxes, have had a negative impact on the international competitiveness of firms.¹⁹ Relatively low energy prices in Canada has resulted in our high energy use per capita so tax shifting in Canada should stimulate increases in energy efficiency without impairing our competitive position.

The burden of environmental taxes on the economies of countries where they have been introduced, has been minimized by introducing taxes at low levels and increasing them according to a schedule enabling

¹¹ Air pollution mortality rates in: Burnett R., Cakmak S., and Brook JR. 1998. "The Effect of the Urban Ambient Air Pollution Mix on Daily Mortality Rates in 11 Canadian Cities," *Canadian Journal of Public Health* vol. 89:152-156; Traffic mortality rates from Transport Canada: <http://www.tc.gc.ca/roadsafety/tp/tp3322/2000/pdf/st2000e.pdf> (Retrieved 25.06.04); Breast cancer mortality rates from: http://www.ontario.cancer.ca/ccs/internet/standard/0.3182,3543_14435_langId-en.00.html (Retrieved 25.06.04).

¹² Ontario Medical Association. 2000. *The Illness Costs of Air Pollution in Ontario*. <http://www.oma.org/phealth/icap.htm>

¹³ Andrea Baranzini, Jose Goldemberg and Stefan Speck, "A Future for Carbon Taxes" *Ecological Economics*, 32 (2000), p.395-412

¹⁴ http://europa.eu.int/comm/energy_transport/atlas/htmlu/pfbsweden.html

¹⁵ Technical Committee on Business Taxation. 1998. *Report of the Technical Committee on Business Taxation*. Prepared for the Department of Finance, Government of Canada http://www.fin.gc.ca/taxstudy/brief1_e.html

¹⁶ Canada Customs and Revenue Agency. November 2003. *Current rates of excise tax*. <http://www.cra-arc.gc.ca/E/pub/et/currate/currate-e.pdf>

¹⁷ Ibid.

¹⁸ Western Mining Engineering. *State/Provincial mining taxes*. <http://www.westernmine.com/westernmine/taxcost.htm>

¹⁹ OECD, "Environmental Taxes and Competitiveness: an overview off issues, policy, options and research needs", June 2003, [http://www.olis.oecd.org/olis/2001doc.nsf/LinkTo/comenv-epoc-daffe-cfa\(2001\)90-final](http://www.olis.oecd.org/olis/2001doc.nsf/LinkTo/comenv-epoc-daffe-cfa(2001)90-final)

firms to adjust investment decisions accordingly. Countries have also granted exemptions to firms in energy-intensive sectors in exchange for commitments to meet increased efficiency targets.²⁰

From a spending perspective, the federal government has already indicated that a portion of the federal excise tax on gasoline be dedicated to municipal governments. This proposed investment would be consistent with that move. The Ontario government has similarly announced that it will dedicate a portion of its provincial sales tax on gasoline towards public transit.

It is essential that clear criteria be established for spending money from the *21st Century Economy Fund* to ensure investment is focused on practical, cost-effective technologies that, with relatively small investments, will enter the marketplace and immediately start reducing or displacing greenhouse gas emissions and air pollution.

Alternative and Complementary Policies

Given the critical need for health care and sustainable industry funding, and its educational value, the tax shift as described above is the optimal design. There are, nevertheless, alternatives. Some countries have designed environmental tax reforms to yield “double dividends”, using revenues from pollution taxes to reduce the tax burden on employers or individuals.

- Germany’s “ecotax” on fuels has been decisive in reducing the country’s greenhouse gas emissions by 18 per cent, and in particular flattening transportation emissions (1990-2001). Because the revenue was used to reduce employers’ contribution to the state pension plan, the tax shift yielded double dividends: it reduced pollution and stimulated a modest growth in employment. Environmental taxes have an additional benefit over many regulated standards of providing on-going incentives for increasing efficiency, fuel switching and ultimately reducing emissions.
- In Denmark, average annual green tax revenues of \$600 million (US) have been used to reduce personal income tax rates by 10 per cent, employer payroll contributions by two per cent, and total greenhouse gas emissions.²¹

Increasing the excise tax on fuels has the advantage of passing on the external costs to consumers of these products, and it begins to incorporate all emission costs, including carbon. The pollution dividend on fuels is complemented by other efforts to strengthen energy efficiency such as improved standards for consumer goods (i.e. appliances and cars), and investments in alternatives to automobile use like public transit. As the efficiency of the economy is improved and consumers have more energy efficient choices, the federal government can phase in increased levels of tax on various fuels, including gasoline. This phased increase can be done in such a way to ensure that net spending on energy remains relatively stable.

The Large Final Emitters (LFE) system – if designed correctly – would also reduce consumption of fossil fuels and, in turn, air pollution and greenhouse gas emissions.²² In order for Canada to have any reasonable capacity to meet its Kyoto commitment, it is essential for LFE legislation to be introduced early in 2005. This provides clarity and a timeline to the private sector to facilitate sound investment decisions. In Europe, where emissions trading will begin in earnest in 2005 (three years before the Kyoto commitment period begins), environmental taxes co-exist. Because the LFE system will primarily cover the oil, gas, mining and manufacturing industries, the burden of the pollution dividend would have to be

²⁰ *ibid*

²¹ Andrew Hoerner and Benoit Bosquet, “Environmental Tax Reform: The European Experience”, Center for a Sustainable Economy, February 2001, <http://www.sustainableeconomy.org/eurosurvey.htm>
Information on environmental tax rates and revenues are available from the OECD/EU Environmentally Related Taxes database at: <http://www1.oecd.org/scripts/env/ecoInst/index.htm>

²² For a review of the loopholes in the LFE system see: Boston, Alex. 2004. *Planning for the Next Generation: 10 Principles for Climate Protection and Innovation*. David Suzuki Foundation.

considered in the design of both regimes. In Europe, many of these industries are either exempt from paying ecological taxes or eligible to receive tax rebates in exchange for making commitments to meet energy efficiency targets.

Complementary Proposal: Environment-Health Full-Cost Accounting Study

Overview

To facilitate federal government decisions about the most sustainable and most cost-effective approach to economic, social and environmental policies, better data is required on the external costs associated with economic activities.

Recommendation

The government should carry out a comprehensive modeling initiative to measure the human health and environmental costs of economic activities. Environment Canada and Health Canada should co-lead this research.

Rationale

Currently, health and environmental costs are not incorporated into price and therefore these externalities do not directly affect decision-making in the private or public sector to the extent they should. Instead what happens is the private sector assumes some of these costs (e.g. sick days), the government, and therefore taxpayers, assume more of the responsibility through the costs of environmental remediation, health costs such as hospital visits, and depleted resources. In addition, Canada's long-term social, environmental and economic performance is negatively affected. For example, air pollution leads to premature deaths from respiratory problems and marine biodiversity is diminished and fisheries are compromised by toxic substance releases and oil spills.

It is in the federal government's interest, indeed the public interest, to estimate the full costs of economic activities. This would require a much more integrated approach to research and economic modeling and would involve collaboration among a number of departments including Health Canada, Environment Canada, Industry Canada, Fisheries and Oceans, and Treasury Board. Institutions with limited resources, such as the International Institute on Sustainable Development (IISD), the David Suzuki Foundation, and the OMA (Ontario Medical Association), have undertaken some work to measure some of these costs, but they do not have the resources to carry out a comprehensive modeling exercise.²³

The federal government is in the best position to carry out this research, starting with modeling the external health and environmental costs of carbon combustion in the electricity and transportation sectors. Health Canada and Environment Canada already have models that can assess some of these costs, (e.g. source receptor models for SO₄/SO₂ and O₃, and the Air Quality Valuation Model). A government report for the National Climate Change Process, *The Environmental and Health Co-benefits of Actions to Mitigate Climate Change*, provides a foundation upon which to build.

²³ The work of these three institutions is: a) Venema, Henry David & Stephen Barg. July 2003. *The Full Costs of Thermal Power Production in Eastern Canada*. IISD; B) The Ontario Medical Association has carried out two studies calculating air pollution costs, see: <http://www.oma.org/phealth/smogmain.htm>; C) Caton, Robert and Sandy Constable. 2000. *Clearing the Air: A preliminary analysis of air quality co-benefits from reduced greenhouse gas emissions in Canada*. David Suzuki Foundation.

Part II: Developing a National Commitment to Efficiency

Canada is a very inefficient nation in terms of both energy and resource use. Canada ranks 28th out of 29 OECD nations in energy efficiency, behind countries like Poland, Mexico and Turkey. Canada's economy is 33 per cent less energy efficient than the U.S. In addition, Canada's record on resource use is equally poor. Over 90 per cent of the natural resources extracted for use in manufacturing goes to waste. On a per capita basis, Canada uses two times as much water as France, three times as much as Germany, and five times as much as Denmark.

The following proposal is an important step in the direction of strengthening Canadian efficiency. However, this proposal focuses exclusively on energy efficiency on buildings and some classes of capital goods. There are other proposals in this submission that focus on energy efficiency in cities and automobiles. Increasing Canada's efficiency of other natural resources requires further attention.

Proposal:

National Energy Efficiency Strategy

“Canada should be the place to which the world will look for the best efficiency ideas, products and practices, services and technologies to export – backed up by the best efficiency track record.”

Hon. Ralph Goodale, Speech to the Annual Energy Efficiency Awards, May 1999

Overview

Buildings account for a quarter of Canada's greenhouse gas emissions (GHG). The federal government should establish stable funding for the commercial and institutional energy retrofit program to realize the objectives outlined in the Kyoto implementation plan. The residential retrofit program should be redesigned as a permanent annual investment.

Currently, Canadians spend millions of dollars on capital goods and infrastructure that has obsolete efficiency standards. NRCan's Office of Energy Efficiency should be better resourced to comprehensively update efficiency standards and codes for capital goods, and allow for better integration with other measures and departments.

Recommendations:

1. The existing commercial and institutional retrofit program should have stable funding until the federal target for this sector is achieved by establishing a \$250 million revolving fund. Program efficacy for the targeted 20 per cent of buildings should be improved by increasing the required efficiency improvement from 10 per cent to 30 per cent.
2. The residential retrofit program should become a permanent annual investment of \$100 million to successfully meet the federal goal of 20 per cent of current housing stock. Delivery of the energy assessment portion should be strengthened by providing funds to community-based groups who are delivering educational programs about energy efficiency.
3. NRCan's Office of Energy Efficiency should be better resourced to comprehensively update efficiency standards and codes for appliances, equipment, building components and buildings. Secondly, the OEE programs could be better integrated with social marketing, taxation measures and industrial innovation programs through increased coordination between programs and departments.

Benefits for Canadians

- Strengthen the competitiveness of the Canadian economy by improving our resource efficiency.
- Reduce electricity costs for businesses, institutions and individuals; in turn, which should stimulate spending in other sectors.
- Leverage climate protection support from provinces facing electricity demand-supply imbalances.
- Reduce air pollution and human health impacts from reduced fossil fuel combustion.
- Create employment – investing in efficiency creates more jobs than investing in new supply.
- Contribute to Canada's international commitment under the Kyoto Protocol.

Rationale

Energy Efficient Buildings

Canadians annually consume 6.19 tonnes of oil equivalent per capita -- almost double the OECD average of 3.18 tonnes per capita and five times the world average. Canada's energy and carbon-intensive economy carries tremendous social costs. The Ontario Medical Association estimates that air pollution is responsible for over \$1 billion provincially in direct costs such as hospital room admissions and absenteeism, and another \$9 billion in indirect costs such as mortality.

Improving the efficiency of the economy will strengthen Canada's competitiveness and reduce energy bills. A more efficient economy will create jobs because investing in efficiency creates five times as many jobs compared to investing in new energy supply.²⁴ Other countries around the world have already started integrating climate protection initiatives with industrial innovation strategies. For instance, the UK intends to achieve half of its Kyoto target (2010) and half its 60 per cent emission reduction target (2050) from efficiency improvements with a large focus on industrial innovation.²⁵

Buildings account for one-quarter of Canada's greenhouse gas emissions (GHG), and therefore, represent a significant opportunity for GHG reductions.²⁶ The current federal energy assessment and building retrofit programs provide a foundation on which to achieve significant reductions in GHG emissions.

The current federal programs are not sufficiently robust to meet the Climate Change Plan goals. The \$79.4 million committed in the 2003 budget could enable the retrofit of approximately 73,400 residential homes, about 0.9 per cent of eligible households at \$1,000 per household. This is significantly short of the 20 per cent objective. The commercial/institutional building program has a similar penetration level.

A permanent annual investment of \$100 million for residential retrofits should be established until the Climate Change Plan's objectives are met. The auditing portion of the program should be enhanced by fostering partnerships with community-based organizations that have existing energy efficiency educational and audit programs. The Green Communities program has demonstrated that a community-based educational approach is effective in maximizing energy efficiency opportunities.

The commercial/institutional building program should be enhanced by increasing its target for efficiency improvements from 10 per cent to 30 per cent for 20 per cent of Canada's buildings. The current 1.2

²⁴ Campbell, Barbara, Larry Dufay and Rob Macintosh. 1997. *Comparative Analysis of Employment from Air Emission Reduction Measures*. Pembina Institute prepared for Environment Canada, Global Air Issues Branch

²⁵ Department of Trade and Industry. 2003. *Our Energy Future: Creating a low carbon economy (Energy White Paper)*.

²⁶ Residential and commercial/institutional buildings account for respectively 14 per cent and 10 per cent of Canada's greenhouse gas emissions based on energy end-use allocation from: Torrie, Ralph, et al. 2002. p. 15. *Kyoto and Beyond: The Low Emission Path to Innovation and Efficiency*. David Suzuki Foundation and Climate Action Network

megatonnes (MT) target appears to be based on only 10 per cent improvements, falling far short of its potential. More stable financing is required to realize the full potential of this program and a revolving fund, similar to the Toronto Atmospheric Fund, should be investigated as a more cost-effective approach.

Energy Efficient Capital Goods

Canada's overall energy efficiency can be significantly improved by setting standards to ensure that the country's next generation of capital goods is the most energy efficient that can be brought to the market. Each day, Canadians spend millions of dollars on capital goods and infrastructure that has obsolete efficiency standards. Comprehensively updating minimum efficiency standards is essential for appliances, office and industrial equipment, building components and urban infrastructure – including office, residential and street lighting; escalators; windows and doors; and building codes.

NRCan's Office of Energy Efficiency has a well-respected program that advances efficiency through standards and market transformation. However, the program is limited because of insufficient resources and inadequate political support. The Climate Change Plan's target of 1.6 MT in GHG emission reductions from standards significantly underestimates the potential. California's program to update appliance and building regulations has reduced utility bills for Californians by at least \$15.8 billion since 1978. By 2011, California predicts residents will save an additional \$43 billion in energy costs.²⁷

There are many products that can be improved. High efficiency furnaces can convert up to 97 per cent of a fuel's energy into heat, but furnaces with efficiencies of 78-80 per cent are still on the market.²⁸ The efficiency of traffic lights, standby power of electronic equipment, and commercial freezers can be improved by 90 per cent, 75 per cent and 50 per cent respectively.²⁹ Greater political will and more resources are required to enable the Office of Energy Efficiency to significantly improve standards and support market transformation.

There is a particular need to integrate regulations with other policy instruments to maximize impact. For example, a minimum standard for refrigerators would phase out inefficient refrigerators while a social marketing program and a GST rebate would encourage consumers to purchase a refrigerator significantly above a minimum standard. A capital cost allowance would provide an incentive for manufacturers to invest in assembly line technology to meet new standards. Currently, such policy tools are not fully integrated and as a result market transformation has been very slow.

Alternative and Complementary Policies

There are numerous policies that could reinforce energy efficiency. Tax policy is used to advance industrial goals, but has not been fully taken advantage of to advance efficiency. The federal government encourages the construction of inferior energy standard homes by offering a GST rebate for all new homes. While buyers of new homes are eligible for a GST rebate, homeowners investing in energy efficient renovations are not. The following tax changes would be helpful for individuals and families:³⁰

²⁷ California Energy Commission analysis. See http://www.energy.ca.gov/efficiency/buildings_appliances.html

²⁸ Torrie, Ralph, et al. op.cit. p. 32-47.

²⁹ Appliance Standard Awareness Project. 2001. "Candidates for New Efficiency Standards" adapted from an article by ACEEE entitled "Opportunities for New Appliance and Equipment Standards" <http://www.standardsasap.org/candidate.pdf>

³⁰ A discussion of these policies is at: National Roundtable on the Environment and the Economy. 2003. *The State of the Debate on the Environment and the Economy: environmental quality in Canadian cities: the federal role.*

- Shift the GST rebate for all new homes exclusively to premium energy efficiency homes, e.g. R-2000, LEED silver or equivalent standard homes.
- Amend the Excise Tax Act to enable the purchase of recognized efficient products, e.g. appliances 30 per cent above the minimum standard, to qualify for GST rebates.
- Amend Class 43.1 of the Income Tax Regulations to make investments in community energy systems eligible for the accelerated capital cost allowance.

To strengthen opportunities for manufacturing 21st century products, the federal government should leverage efficiency out of other major initiatives, and, once again, take advantage of the tax system, e.g.:

- the multi-million dollar grants for the automotive sector should be tied to the production of energy efficient vehicles
- Canadian companies should be encouraged to manufacture efficient products through measures like accelerated capital cost allowances for assembly line investments for producing high-efficiency products.

Part III: Promoting Sustainable Cities

While urban Canada is the engine for much of the country's economic growth, social development, and environmental stewardship, the character of Canadian urban development also drives some of the country's largest environmental and social problems while compromising economic opportunities. In particular, urban sprawl causes air and water pollution, habitat destruction, climate change, traffic congestion and accidents, and loss of productive farmland. It costs more to build new roads, electrical lines, sewer and water infrastructure for new subdivisions and shopping centres, than to integrate people into existing areas.³¹

The current political framework in Canada hampers municipalities' ability to improve infrastructure and revitalize themselves. Only eight per cent of Canadian tax dollars goes to municipal governments. Canada is the only OECD country without an ongoing national program for supporting urban transit. Canadian cities confront immense funding, planning, and capacity inadequacies, which result in economic underperformance and growing social and environmental costs.

The following proposal focuses on one of the most urgent infrastructure needs of our cities – transit – and the need for all infrastructure to support environmental sustainability as the “New Deal” has promised.

**Proposal:
Transit Renewal and Sustainable Cities Strategy**

“If we are not careful, if patterns don't change our lives may become filled with too much cement and not enough trees. Filled with too much time spent in traffic – and not enough spent at home with the family. That is why we have to make public transit more than just an alternative choice – it has to be compelling. It has to become the first choice.”

Rt. Hon. Paul Martin, Toronto Transit Commission 50th Anniversary Address, March 2004

Overview

Transportation accounts for one-quarter of Canada's greenhouse gas emissions and is a major contributor to urban smog. About 70 per cent of greenhouse gas emissions from transportation are road-based, and two-thirds of these emissions are generated in urban areas. Congestion is a significant and growing cost to businesses. Transit authorities are facing a \$9 billion shortfall in funding for the period 2004-2008. They estimate that \$6.9 billion is needed just to keep existing equipment in good repair during this period.

To help revitalize Canadian cities – large and small – a National Public Transit Renewal Program should be funded from revenue collected through the excise tax on gasoline. This fund and all municipal infrastructure initiatives funded by the federal government should be consistently evaluated based on a robust set of criteria to meet the government's goals of environmental sustainability.

Recommendations

1. A National Public Transit Renewal Program should be established by allocating an annual \$1.5 billion fund from revenue generated through the excise tax on gasoline. All grants must be evaluated based on a strict set of criteria to ensure transit investments enhance human health and the environment. This fund should include support for alternative transportation such as bike and pedestrian infrastructure.

³¹ David Suzuki Foundation. 2003. Getting the facts” part 2 of *Driven To Action, A Citizen's Toolkit*.

2. All municipal infrastructure initiatives funded by the federal government should be consistently evaluated using a rigorous set of criteria to ascertain that they advance the government's goals of environmental sustainability.

Benefits for Canadians

- Strengthen the competitiveness of the economy and improve Canadian living standards.
- Reduce per capita transportation costs by shifting investments to more cost-effective modes.
- Foster sustainability in Canadian cities, notably, reducing air pollution and human health costs from reduced fossil fuel combustion and curbing urban sprawl.
- Create employment in construction, engineering, design and operation.
- Contribute to Canada's international commitment under the Kyoto Protocol.
- Reduce travel times and congestion for Canadians.

Rationale

Now, more than ever, Canada's city regions are central to the country's economic, social, cultural and environmental development. They play a pivotal role in economic growth. The largest 22 cities generate nearly 60 per cent of Canada's GDP and two-thirds of the population lives, works and plays in these cities.³²

At the same time, Canadian cities confront immense funding, planning, and capacity inadequacies, which result in economic underperformance and growing social and environmental costs. The Ontario Medical Association estimates that air pollution in Ontario, alone, is responsible for over \$1 billion in direct costs such as hospital room admissions and absenteeism, and another \$9 billion in indirect costs such as mortality.

Urban sprawl, a function of poor urban planning and inadequate public transit investment, is the major driver of air pollution and greenhouse gas emission growth in nearly all urban areas of Canada. Public transit is the most urgent infrastructure crisis facing our cities.

Sustainable development is considered a central pillar of the New Deal for Cities and Communities.³³ To safeguard this commitment, public transit renewal must be assigned top priority as part of the "New Deal" infrastructure investment. It is crucial that new funding does not exacerbate old problems such as congestion, air pollution, greenhouse gas emissions, urban sprawl, and compromised water quality. In fact, it is essential that federal funding work to solve them. Strong public transit ridership closely correlates to, and therefore is a driver of, strong economic performance and high living standards.³⁴ Transit is also far more cost effective than car travel.³⁵

Transportation accounts for one-quarter of Canada's greenhouse gas emissions and is a major contributor to urban smog. About 70 per cent of greenhouse gas emissions from transportation are road-based, and two-thirds of these emissions are generated in urban areas. Congestion is a significant and growing cost to businesses, particularly in metropolitan Ontario and Quebec, and thus, the lack of new investment has led

³² Declaration of the 22 big city mayors. June 11, 2004.

http://www.cmm.qc.ca/bc22/documents/pdf/declaration_ang_signee.pdf

³³ New Deal is based on principles of sustainable development in *Moving Canada Forward*. June, 2004.

http://www.liberal.ca/platform_e_3.aspx.

³⁴ Kenworthy, J et al. 1997. *Indicators of Transit Efficiency in 37 Global Cities*. Prepared for the World Bank.

³⁵ Kenworthy, J and F. Laube. 2002. *The Millennium Cities Database for Sustainable Transport*, Union Internationale des transports publics, cited by the Centre for Sustainable Transportation in Sustainable Transportation Monitor No 7. 2002.

to critical economic implications at a time when competition south of the border is benefiting from new funding to public transit.³⁶ Without additional transit investment, commuting times in the Greater Toronto area are forecast to grow 50 per cent by 2021, adding \$7 billion annually to congestion costs.³⁷

To improve air quality, public transit must replace the automobile as the major mode of transportation of commuters. This is a major challenge since 75% of Canadian commuters rely on their automobiles.³⁸ This situation can be attributed to multiple factors including the failure of the federal government to invest in public transit and the proliferation of land-use patterns that do not support cost-effective urban transit.

The federal government has begun to reinvest in public transit on an ad hoc basis through its infrastructure programs. However, to effectively address this crisis, a long-term, coherent strategy is essential. A study for Transport Canada concluded that \$1.4 billion per year in capital funding and \$300 million per year in operating funding is required to significantly increase ridership.³⁹

The Canadian Urban Transit Association's survey of transit infrastructure needs released this spring suggests a \$9 billion shortfall in funding for the period 2004-2008. They estimate that \$6.9 billion is needed just to keep existing equipment in good repair during this period (approximately \$1.7 billion per year).

Annually dedicating \$1.5 billion of the excise tax on gasoline to public transit would be appropriate because society's dependence on the automobile is a primary source of transportation-related problems such as atmospheric pollution and traffic congestion. Furthermore, revenues from the excise tax are generated in proportion to the amount of gasoline consumed, and greenhouse gases and air pollution emitted.

Public transit investment should conform to strict criteria to ensure that the federal government's sustainability objectives and the long-term interests of communities and the country are addressed.⁴⁰ Applying sustainability criteria to transit and broader urban infrastructure investments is essential to guarantee that the federal government does not support urban problems such as sprawl. It is important to ensure the government's sustainability goals are met and do not undermine long-term opportunities.

Alternative and Complementary Policies

There are many policy instruments that can support urban sustainability and improved public transit. Canadian tax policy encourages the use of the private automobile by considering employer-provided parking spaces for employees a non-taxable benefit. However, employer-provided transit passes are treated as taxable benefits. Therefore, the Income Tax Act should be amended to make employer-provided transit passes a non-taxable benefit. This could be made revenue neutral by making parking spaces a taxable benefit. (Cost: tax expenditure of \$202-\$264 per new rider per year.)⁴¹

³⁶ Urban Development Institute – Ontario. 2002. *Investing in an Urban Transportation Infrastructure Agenda – Strong Cities & Public Transit: the Need for Investment* (presentation to the Standing Committee on Finance).

³⁷ McCormick Rankin Corporation with Metropolitan Knowledge International. 2002. *Central Ontario Highway Transportation Perspective*. Prepared for the Ontario Ministry of Transportation.

³⁸ Federation of Canadian Municipalities. 2003. Quality of Life Reporting System Highlights Report. p. 12 <http://www.fcm.ca/newfcm/Java/qol2004.pdf>

³⁹ McCormick Rankin, *Urban Transit in Canada – Taking Stock*, prepared for Transport Canada.

⁴⁰ Some of these criteria were laid out in: The National Roundtable on the Environment and the Economy. 2003. p. 33-36. *The State of the Debate on the Environment and the Economy: environmental quality in Canadian cities: the federal role*.

⁴¹ from NRTEE 2003 Budget Recommendations and the Canadian Urban Transit Association 2002 Budget Submission.

Many municipalities, particularly smaller ones, could benefit from new tools, training to move toward more cost-effective and environmentally sustainable infrastructure decisions and long-term integrated planning. Supporting the Capacity Building for Sustainable Community Planning program recommended by the Federation of Canadian Municipalities would be a prudent federal government investment to facilitate federal and municipal government collaboration on sustainability objectives.

The Federal House in Order initiative and the Sustainable Development in Government Operations initiative are solid foundations for strengthening sustainability in cities, particularly in transportation. There are a number of opportunities to make these good programs even better. For example, the federal government could strengthen its transportation demand management programs for employees; adopt a more ambitious, targeted approach to greening the federal fleet of vehicles; and adopt sustainability guidelines governing site and location of federal facilities, specifically including reduced travel for workers and suppliers.

Part IV: Advancing Industrial Innovation

The Canadian government envisions building an innovative 21st century economy and turning the challenge of climate change “to advantage through leadership in green technologies.”⁴² Fostering industrial innovation will be central in an economy that enhances – rather than balances off – environmental and human health priorities. The following proposals include a mechanism to support the deployment of market-ready technologies and advance industrial agendas in just two key sectors related to energy efficiency. Acting on these proposals would be an important step down the path of ecologically sustainable industrial innovation.

Proposal: National Renewable Energy Strategy

“The Government...will engage stakeholders in developing comprehensive approaches to encourage increased production and use of clean, renewable energy...”
Her Excellency the Rt. Hon. Adrienne Clarkson, Speech from the Throne, October 5, 2004

Overview

Low-impact renewable energy is the fastest growing source of new energy in the world. To catch up with other jurisdictions and take advantage of the tremendous international and domestic market opportunities, Canada should establish a National Renewable Energy Strategy. By expanding its commitment to renewable energy in key federal areas, the federal government can leverage significant provincial and territorial government and private sector engagement in advancing renewable energy to improve Canadian energy security, reduce air pollution and greenhouse gas emissions, and strengthen a forward-looking industrial sector. This proposal dovetails a similar proposal jointly advanced by Pollution Probe, Pembina Institute and the David Suzuki Foundation through the Green Budget Coalition. The David Suzuki Foundation would prefer to go further and see the inclusion of distributed renewable energy technologies which are not grid connected such as space conditioning from geothermal heat pumps or solar thermal systems included in this strategy. Such technologies have significant potential in Canada and are critical for strengthening electricity system resilience.

Recommendations

1. Ensure that the expanded Wind Power Production Incentive (WPPI) target of 1,000 megawatts (MW) to 4,000 megawatts (MW) becomes a supportive tool for complementary provincial incentives.⁴³ The expanded WPPI would cost approximately \$500 to \$600 million over 10 years.
2. Establish Green Energy Production Incentives, similar to the WPPI for encouraging the development of other low-impact renewable power technologies at a pre-commercial level (including solar, wave, tidal, hydro and biogas energy).⁴⁴ Incentives should be structured to reflect the marginal development costs of each technology. However, the incentive for solar and other smaller-scale technologies could

⁴² *Speech from the Throne to open the Third Session of the Thirty-Seventh Parliament of Canada*. February 2, 2004.

⁴³ The federal government should support a long-term commitment to wind power at a level that will attract domestic manufacturing to serve domestic and international markets and help Canada develop expertise in this field.

⁴⁴ Combustion of biogas that is generated from wood, agricultural, landfill or sewage wastes with emissions levels that are equal to, or lower, than the best available combustion technologies for natural gas or other fuels.

be structured as a capital cost rebate for ease of administration. The cost would be approximately \$200 million over 10 years.

3. Provide zero or low interest loans through a revolving loan finance system to establish long-term funding of the implementation of renewable energy systems. This one-time investment of \$100 million would enable Canadian consumers – businesses and individuals – to tap into the immense opportunities of distributed energy systems (e.g. combustion of agricultural and wood residues for heat and power; biogas, i.e. manure digesters for heat and power; ground source heat pumps for heating and cooling buildings; and solar thermal and solar photovoltaic systems).⁴⁵
4. Expand the existing Market Incentive Program (MIP) to \$30 million per year up to 2012, providing an incentive for retailers to assume the added cost of marketing and retailing green power. The current program neither matches the scale of renewable energy production capacity nor provides the necessary long-term market certainty.⁴⁶
5. Expand federal funding programs for the research and development (R&D) of innovative Canadian technologies for low-impact renewable energy by \$50 million per year. There is an opportunity for Canada to be among the world leaders in areas such as solar, biomass and ocean-based technologies.⁴⁷
6. Establish long-term funding of \$5 million annually for a comprehensive program to engage Canadians in the support, investment, and purchase of low-impact renewable energy.⁴⁸
7. Establish a national renewable energy training program with an annual \$50 million program to ensure Canadians are prepared to accelerate the deployment of renewable energy by training a new labour force of installers, designers and maintenance personnel.

Benefits for Canadians

- Reducing regional air pollutants, human health impacts, and related costs, from fossil fuel energy use.
- Strengthening the federal plan for implementing the Kyoto Protocol.
- Stimulating regional economic development.
- Creating new employment opportunities for Canadians.
- Strengthening the resilience of Canada's electricity system.
- Attracting substantial private sector investment in innovative technologies.
- Significantly lowering barriers to the development of low-impact renewable energy.

⁴⁵ Many of these technologies are very inexpensive sources of energy but there are significant consumer and builder knowledge gaps, and somewhat large upfront capital costs. Providing zero or low interest loans through a revolving finance system would establish long-term funding for the widespread adoption of these systems, facilitating market transformation and developing economies of scale. As world leaders in distributed renewables, Germany and Japan have successfully used similar models. Manitoba is starting a very promising program for ground source heat pumps.

⁴⁶ An expanded MIP should be tied to actual sales volume, rewarding those retailers who do adequate marketing and education such that actual, additional sales over and above any existing sales volumes are realized.

⁴⁷ By refocusing current federal R&D priorities away from conventional sources of energy to low-impact renewable energy would provide some of the required funding.

⁴⁸ This is needed to inform Canadians about the benefits that low-impact renewable energy sources offer and show them how they can become engaged in supporting, investing in and purchasing renewable energy.

Rationale

Low-impact renewable energy is increasingly playing a central role in addressing both global climate change and regional air pollution in a growing number of jurisdictions around the world. A study by Shell International concluded that renewables could supply 50 per cent of the world's energy needs by 2050, and that renewable energy is the fastest growing sector of energy production worldwide. In fact, wind power is the world's fastest growing energy source, increasing more than 30 per cent annually over the past five years.

At the end of 2003, worldwide wind-generation capacity was more than 39,000 megawatts (MW), with more than 90 per cent of wind capacity located in Europe and the United States. Expansion is occurring because many industrialized and developing countries recognize the central role of renewable energy. They are taking steps to position themselves advantageously with respect to growing environmental requirements while benefiting from the rapidly expanding market. Effective policy mechanisms to support low-impact renewable energy are already in place in Germany, Denmark, Spain, France, Brazil, China and India.

In comparison, Canada is doing little to develop low-impact renewable energy despite strong expressions of support from all federal parties. As a result, we are failing to adequately address climate change over the long term, and we are missing out on becoming a leading contender in this important area of technological innovation. For example, Canada has access to one of the largest wind energy resources in the world yet most other industrialized countries produce more wind power than we do. Denmark generates more than 21 per cent of its annual electricity needs with wind power while other European countries have similar targets. In contrast, wind contributes only 0.1 per cent of Canada's current electricity needs with just 371 MW of capacity. The Canadian Wind Energy Association has targeted the development of 10,000 MW of wind power by 2010, equivalent to a modest five per cent of our anticipated electricity needs in that year.

Wind power is not the only technology currently facing barriers to development. Solar, wave, tidal, biogas and run-of-river hydropower energy sources produce no air pollution, greenhouse gas emissions, or other significant environmental impacts. The federal government already recognizes the benefits of renewable energy technologies through programs such as the Wind Power Production Incentive and the Market Incentive Program. However, Canada requires a concerted, effective Low-Impact Renewable Energy Strategy to support a full range of relevant technologies and to meet the federal targets set in the Climate Change Plan for Canada. Moreover, with the expansion of the WPPI, the federal government should be leveraging greater commitments from provincial and territorial governments.

The federal government is ideally positioned to play a leadership role in establishing a strong renewable energy presence in Canada, and to create leverage to engage provincial and territorial governments. This proposed strategy will build on and extend the federal government's existing mechanisms. It is important to note that the level of financial support required to accelerate the deployment of low-impact renewable energy would not be necessary, if the environmental and public health costs of conventional energy were included in the pricing of energy. Likewise, the current federal and provincial subsidies for fossil fuels and nuclear power maintain artificially low pricing in these sectors. However, in the absence of reform, federal support is needed to balance the playing field.

Alternative and complementary policies

The above set of policy recommendations complement each other as well as existing policies and programs to support low-impact renewable energy in Canada. They build on and extend existing federal programs, and address both the producer and consumer sides of this innovative sector.

Other federal policy options exist for increasing low-impact renewable energy, including:

- Direct incentives for consumers and/or equipment manufacturers.
- Significant support programs to prepare Canadian workers for the transition from conventional energy to renewable energy sources.
- Resource mapping for all renewable energy resources to assess the best locations for low impact renewable energy to meet Canada's energy needs and to ensure that Canadians have easy access to this crucial information.

With the sale of Petro-Canada, there is a unique opportunity to create a secure, long-term source of funding to help with the transition towards a 21st Century economy that genuinely protects human health and provides for ecological sustainability. All the proceeds from the Petro-Canada sale should be placed in a permanent trust from which profits would be invested in the cost-effective deployment of technologies that lead us toward a low-carbon economy, including significant support for the deployment of low-impact renewable energy.

Complementary Proposal: Sustainable Energy Trust

Overview

The federal government has sold its share of Petro-Canada. All proceeds from the sale should be used to establish a Sustainable Energy Trust. This trust would provide long-term funding for the deployment of cost-effective, practical sustainable energy technologies that genuinely protect human health and ecological sustainability.

Recommendation

1. The federal government should invest all \$2.6 billion worth of proceeds from the Petro-Canada sale in a Sustainable Energy Trust. Profits from the trust would be used to deploy cost-effective, practical sustainable energy technologies that genuinely reduce greenhouse gas emissions and decarbonizes the Canadian economy.

Rationale

It is essential that priority be placed on *deploying* practical, cost-effective technologies with short, medium and long-term opportunities for emission reductions such as low-impact renewable energy and energy efficiency technologies. The Sustainable Energy Trust would complement the Sustainable Development Technology Fund that emphasizes development and demonstration.

Canada's critical gap in the chain of innovation is for *deployment* of proven technologies. There are a number of other federal programs covering various stages of innovation, including research and development; i.e., Natural Sciences and Engineering Research Council, Program of Energy Research and Development, Technology Partnership Canada. With few exceptions, e.g. the Wind Power Production Incentive, relatively little money is invested in deploying market-ready or near market-ready sustainable energy technologies.

Many practical technologies are not integrated into the economy because of direct and indirect subsidies provided to conventional industries such as nuclear power, and the oil and gas industry make the alternatives less economically viable. If subsidies were removed from conventional industries, or if industries internalized human health and environmental costs of their products into their prices, there would be little need to for additional support for sustainable energy technologies. However, in the absence of full-cost pricing and the elimination of perverse subsidies to conventional industries, funds are required for deploying cost-effective, practical sustainable energy technologies.

Environment Minister Stéphane Dion has acknowledged that \$40 billion worth of subsidies was used to develop the tar sands. Investing the \$2.6 billion proceeds from the Petro-Canada sale in a trust for sustainable energy still does not level the playing field but it is a good first step.

There is a risk that the effectiveness of this trust could be compromised by heavy investment in capital intensive technological fixes that offer no short- and medium-term opportunities to reduce greenhouse gas emissions, i.e. clean coal and carbon storage, nor effectively help Canada make the transition towards a low-carbon economy.

**Proposal:
Cleaner Car Campaign**

“The Motor Vehicle Fuel Efficiency Initiative in Action Plan 2000 targets a 25 per cent improvement in new vehicle fleet fuel efficiency by 2010. This improvement is possible with existing technologies and technologies that are expected to become available this decade.”

Climate Change Plan for Canada, November 2002

Overview

Passenger vehicles are the largest single source of emissions in the transportation sector, and this sector is one of the largest factors in Canada’s greenhouse gas emission growth and urban air pollution. There are practical technologies that can be incorporated into conventional passenger vehicles at costs that can be offset with reductions in fuel bills. Moreover, there is a need to support the growth of a domestic manufacturing sector that is building vehicles for the 21st century, namely climate-friendly vehicles. There is a suite of policy measures, including fiscal tools, that are crucial to achieve these objectives. These measures have been jointly developed through the Green Budget Coalition with the David Suzuki Foundation and Pembina Institute and the proposal is being led by the Sierra Club of Canada.

Recommendations

1. Establish a 100,000 “cleaner car” campaign providing a \$4,000 incentive to consumers and a \$500 incentive to dealers for the purchase/sale of low-emission vehicles.⁴⁹ This performance-based tax credit would be eliminated when regulations limiting greenhouse gas emissions from passenger vehicles come into effect in 2010. This measure would cost about \$450 million over five years.
2. Provide businesses with an immediate tax deduction for 100 per cent of the cost of vehicles that meet low emission standards.⁵⁰ Under current rules, low-emission vehicles are treated the same as inefficient vehicles. The United Kingdom introduced such a measure in 2002.
3. Support and encourage investment in green car manufacturing in Canada by leveraging engagement from car manufacturers to produce energy-efficient vehicles. General Motors is currently evaluating whether to produce hybrid vehicles at its Ingersoll and Oshawa plants.
4. Introduce a sliding scale for taxation on the use of a company car by an employee. Currently 24 per cent of the vehicle list price is added to an employee’s taxable income for personal use of a company

⁴⁹ The incentive would be valid for vehicles that emit less than 130 grams of GHG per kilometre or light-trucks that emit less than 190 grams per kilometre, roughly the emission ratings from hybrid vehicles.

⁵⁰ See above footnote for the suggested qualifying standard.

vehicle. All vehicles are currently treated equally from the dirtiest to the most efficient. The UK recently introduced a tax measure whereby high-emission vehicles, such as the Ford Expedition, are taxed at 35 per cent and lower emission vehicles, such as the Honda Civic, are taxed at 15 per cent.

Benefits for Canadians

- Meet Canada's Kyoto target for passenger vehicles.
- Reduce smog causing pollutants such as sulphur dioxide, nitrogen oxides and particulate matter and protect the health of Canadians.
- Reinforce global progress toward reducing greenhouse gas emissions, spurring investment and employment in fuel cell and hybrid vehicle manufacturing and R&D.
- Ensure that Canada's auto industry is strengthened by the global trend toward more climate friendly vehicles.

Rationale

Cars and light trucks produce 12 per cent of Canada's greenhouse gas (GHG) emissions and are the largest single source of emissions in the transportation sector. Because fuel economy standards have not changed since the mid-1980s, carmakers have directed marketing and design improvements to everything but fuel efficiency. More significantly, due to a loophole, automobile manufacturers have marketed vehicles, such as SUVs, as passenger vehicles though they are not subject to the same emission standards. This has pushed emissions from vehicles even higher – emissions from light duty trucks have increased 80 per cent since 1990.

The federal government's 2002 Climate Change Plan commits the federal government to reduce greenhouse gas emissions from passenger vehicles by 5.2 megatonnes by 2010.⁵¹ To achieve this target, the federal government sought to negotiate a voluntary reduction with carmakers, but after four years of negotiations, carmakers have continued to resist and the federal commitment appears to have weakened.

Canada should consider the steps that California has taken in developing a new policy framework in order to ensure that more climate- friendly vehicles are on Canadian roads. In 2002, California enacted legislation requiring carmakers to reduce GHG emissions from their vehicles and is currently considering regulations that set an emissions reduction target of 30 per cent by 2015.⁵² Northeastern U.S. states such as New York, Vermont and Massachusetts comprise approximately 30 per cent of the North American auto market have already expressed their intention to adopt California's new regulations.⁵³ Canada would help drive a continental shift to cleaner vehicles by enacting similar regulations.

⁵¹ Based on the deployment of available and affordable technologies, the government's target for passenger vehicles foresees 5.2 MT reduction in greenhouse gas emissions vehicles fleets in 2010 and increasing to a 14.1 MT reduction in 2020 as older vehicles are taken off the road. Please see: "Progress on Canada's Greenhouse Gas Strategy," Peter Reilly-Roe, Assistant Director, Transportation Energy Use Division, Office of Energy Efficiency, Natural Resources Canada.

⁵² Bill 1493, or the Pavley Law as it is popularly known, directs the California Air Resources Board (CARB) to adopt regulations to achieve the "maximum feasible and cost-effective reduction of greenhouse gas emissions from motor vehicles." CARB's cost and feasibility analysis assumes the adoption of similar regulations by Canada and other North Eastern American states for a market of approximately 4 to 5 million vehicles. Both California's and Canada's auto markets sell approximately 1.7 million vehicles each annually. For information on California's greenhouse gas emission targets, please see the California Air Resources Board's staff report on the feasible reductions in greenhouse gas emissions from vehicles. Available at: <http://www.arb.ca.gov/cc/cc.htm>

⁵³ Section 177 of the U.S. Clean Air Act allows any state that does not meet one of the National Ambient Air Quality Standards to adopt California's auto emission standards. Maine, Massachusetts, New York, Vermont,

This movement toward cleaner cars at the state level should be a wake-up call for Canada. The auto industry accounts for approximately one-quarter of total Canadian exports, making it Canada's largest export sector 97 per cent of our automotive exports go to the United States. Internationally, Japan, the European Union and Australia are already mandating GHG emissions from their vehicle fleets.

North American automakers are attempting to resist these global trends toward more climate-friendly vehicles. To protect Canadian jobs and the environment, the federal government must be proactive and develop a strategy to ensure that Canada's auto industry adapts and is strengthened by the global campaign against climate change.

Regulation is key to any policy package that aims to reduce GHG emissions from vehicles, especially if the federal government is to ensure fair competition among automakers. The federal government also has a role to play in building demand for more climate-friendly vehicles. Consumer incentives and an effective government procurement policy are two means of building demand. On the supply side, the federal government should encourage the production of greener vehicles in Canada by supporting investment in manufacturing facilities for the production of climate-friendly vehicles. Opportunities already exist. For example, General Motors is presently evaluating whether to build hybrid vehicles at both its Ingersoll and Oshawa facilities.

Alternative and Complementary Policies

The federal government is already pursuing a number of policy initiatives to increase the market penetration of climate-friendly vehicles and to encourage better fuel consumption habits among Canadians.

The most significant measure the federal government should adopt, following on the leadership of the EU, Japan and California, is establishing regulations to improve energy efficiency or reduce greenhouse gas emissions.

The federal government should accelerate the market penetration of cleaner vehicles by mandating that all government vehicle purchases be low-emission vehicles. Presently less than 15 per cent of the 3000 vehicles purchased annually meet the government's own definition of a green vehicle.

The federal government could also enact market share regulations similar to California whereby carmakers must meet increasingly stringent minimum sales criteria for specific vehicle types. California's Zero Emission Vehicle (ZEV) program, for instance, requires that 10 per cent of each carmaker's sales must meet ZEV equivalency.⁵⁴

A feebate system could also be implemented to increase market penetration of low emission vehicles. Under this policy, a fee is placed on the sale of higher emission vehicles and the revenue from the fee is used to finance a rebate for the purchase of climate friendly vehicles. The tax credit for "Kyoto cars" as described in this text, would support and enhance all of these policy alternatives.

Connecticut, New Jersey and Rhode Island have all chosen to adopt California's LEV II standard over the U.S. federal Tier 2 standard. LEV II calls for reductions in nitrogen oxide, hydrocarbons and particulate matter over and above the Tier 2 standard. LEV II standards will be in full effect when California's new greenhouse gas emission standard takes effect in 2009. The California Air Resources Board has accounted for this in its technical analysis. Consequently, any state that wishes to adopt California's greenhouse gas emission standards must also adopt the LEV II.

⁵⁴ Under the ZEV program, carmakers meet their ZEV quota by selling certain low-emission technologies. Carmakers can meet four per cent of the ZEV quota, for instance, by selling hybrid electric vehicles. Carmakers must also make 250 zero emission vehicles nationwide between 2005 and 2008. For more information, please see: <http://www.arb.ca.gov/msprog/zevprog/zevprog.htm>

Advancing the energy efficiency of passenger vehicles must be complemented by strong investment in public transit and improved urban design which addresses the more fundamental problems of a transportation system dominated by automobiles: the economic costs of congestion, the human health costs associated with declining air quality, the loss of biodiversity and the increased investment in urban infrastructure needed to support sprawling urban regions.

Part V: Protecting Natural Capital

Natural capital includes energy sources, minerals, forests, wildlife, plants, fish and the ecological systems such as oceans, forests, watersheds and wetlands that contain these natural elements. Canada's Natural capital provides a wide range of benefits to humans, including food, medicine, and materials for everything from clothing to houses, recreational opportunities, and cultural inspiration.

Ecosystem services include life-supporting natural processes that clean the air, purify water, pollinate plants, absorb carbon dioxide, recycle nutrients, process wastes, prevent floods, control pests, and replenish the soil. The loss of our natural capital not only compromises the ability for our natural systems to support human health and life (i.e. clean air and water), but it impacts our quality of life by jeopardizing the very resources and natural systems that support our economy.

In a recent ruling, the Supreme Court of British Columbia recognized for the first time both the economic and intrinsic value of natural capital (i.e. forest ecosystems in this case) and costs associated with the loss of natural capital. In its Court factum, the Crown identified a number of values and environmental losses – beyond just timber – associated with loss of the forest ecosystem, referring to “the services provided by the ecosystem to human beings, including food sources, water quality and recreational opportunities.”⁵⁵

By maintaining our natural capital in a healthy state, we will inherently maintain sustainable economic opportunities for future Canadians. Sound business practices do not draw down capital accounts, yet across Canada there are too many examples of our natural capital being squandered. Federal and provincial governments have a responsibility and an opportunity to manage lands, oceans and waterways, airsheds, and other natural resources by sound business practices so that future generations can enjoy and benefit by Canada's natural riches.

Proposal: An Effective Species at Risk Act

“Canada is recognized internationally for its natural wealth, including wildlife, forests, water, protected areas. At home Canada's ecosystems and wildlife are legacy issues for Canadians – a core part of the Canadian identity and an essential resource to be preserved for future generations. Canada's natural resources also have significant economy implications with agriculture, forestry and fishing accounting for almost 14 per cent of the GDP and employing 2.3 million Canadians. From a global perspective Canada has 20 per cent of the world's wilderness, 24 per cent of its wetlands, nine per cent of its freshwater, 10 per cent of its forests and the longest coastline in the world. Despite these resources and Canadians' appreciation of nature, Canada's natural capital is at risk. Human induced pressures are contributing to significant declines in many species of animals and plants.”

Environment Canada Performance Report, March 31, 2003

Overview

Canada's list of endangered species grows each year and now tops 400. To reverse this trend, we need to secure the habitat that these species require to survive. The federal government's recently adopted *Species at Risk Act* (SARA) expands its mandate to protect endangered species in Canada. SARA provides authority for the federal Minister of Environment to intervene to protect endangered species and their habitat if existing provincial laws fail to offer equivalent levels of protection.

⁵⁵ Judgment British Columbia v. Canadian Forest Products Ltd. 2004 SCC 38.

Recommendations

Funding is required to properly identify and protect critical habitat for endangered species via ecosystem-based planning.⁵⁶ This requires additional funding for the Species at Risk Act (SARA) including funds for:

- Conducting ecosystem-based conservation planning to identify critical habitat using conservation indicators, and to approach species protection via ecosystem protection.
- An Umbrella Species or Flagship Species Analysis to properly identify communities of plants and animals that share the same endangered species habitat or ecosystem.
- Federal authorities to place critical habitat under moratoria until comprehensive ecosystem-based plans are completed.
- Activating the safety net provisions of SARA in the provinces and territories currently lacking endangered species laws.
- COSEWIC to clear its identification and listing of species at risk backlog; and, to rectify its incomplete counts of remaining species by conducting proper inventory of endangered species.

Benefits to Canadians

- Pride that Canada is not driving species into extinction but rather is a leader in conservation practices.
- Increased exposure and involvement in protecting important global biodiversity. Canada is a signatory to the International Convention on Biological Diversity (ICBD), for which members committed themselves to “achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level...”

Rationale

The Federal government stands to save money in the long run by investing in an ecosystem approach to protecting endangered species. The current method approaches each species individually, rather than addressing the endangered ecosystem and the community of species that co-occur in and are dependant on the same habitat. Developing recovery plans for each individual species is not only costly and inefficient, but poses a greater risk to co-occurring species.

For example, the northern spotted owl, one of the most endangered species in Canada, has been declining for over 30 years and the primary cause is the loss of old growth forest habitat – the main threat being logging. However, 137 additional species of vertebrates and plants are dependent on the same old growth habitat as the spotted owl; 16 per cent of these species are classified as endangered, threatened or special concern by the BC government, yet just six per cent are being managed by B.C.

Twenty-two are Red listed or Blue listed by the provincial government; eleven of these 22 species are also found them to be endangered, threatened or of special concern. Eight of the 138 species are on Schedule 1 of COSEWIC and 2 are on Schedule 2 or 3.

⁵⁶ See p. 47 *Sustainability within a Generation*

Proposal:
Terrestrial Protected Areas Strategy

“... an ecosystem may be said to have an "inherent value" beyond its usefulness to humans. Those who invoke inherent value argue that ecosystems should be preserved not just for their utility to humans, but because they are important in and of themselves”

Supreme Court Judgment *British-Columbia v. Canadian Forest Products Ltd.* 2004 SCC 38

The David Suzuki Foundation urges the federal government to adopt and implement a national sustainability plan. A fundamental challenge in making Canada sustainable is the need to ensure that Canadian nature is protected, maintained or recovered to a state that maintains biodiversity and a full range of opportunities for future Canadians.

For Canada to protect its most unique and productive natural areas and to maintain ecosystem services that they provide, the federal government must bolster its investment in implementation of the Federal Protected Areas Strategy and facilitate the establishment of ecosystem-based management plans for all of Canada’s landscapes.

Recommendations

Terrestrial Protected areas

The federal government must fulfill its commitment to implement a Federal Protected Areas Strategy. This must be done in a manner that ensures a coordinated and science-based approach to protecting Canada’s ecosystems. Successful implementation of this strategy should result in the establishment of a network of marine protected areas (MPAs), completion of the federal protected areas strategy, improved management of all Canada’s national parks and park reserves and an expanded network of national wildlife areas (NWAs).

We recommend that, in addition to current budget commitments, an additional \$300 million over five years be allocated to realize this need.

This recommendation is consistent with a Green Budget Coalition recommendation on strengthening Canada’s protected areas.

Terrestrial ecosystem-based management (EBM)

The federal government must facilitate the implementation of ecosystem-based management (EBM) across Canada. We believe that this can and should be achieved through bilateral agreements between the federal and provincial governments and between the government and First Nations. An opportunity exists now to fund conservation-oriented projects and to build EBM management capacity within provincial and territorial governments and aboriginal people. Creative economic development initiatives will also be required to realize EBM objectives defined in land use planning processes. Where land use planning has not occurred, the federal government should provide additional support to provincial and territorial governments as well as aboriginal people to realize plans based on the principles of EBM.

Meeting this need would help Canada realize its commitment to the Canadian Biodiversity Strategy and Canada’s obligations under the United Nations International Convention on Biodiversity.

We recommend that \$180 million be allocated annually over the next five years to support this recommendation.

Benefits to Canadians:

- Reduced risk of negative health impacts resulting from unsustainable use of our natural capital, and improved health of Canadians overall.
- Improving international competitiveness in a global economy where consumer demand for high environmental standards is becoming increasingly important.
- Security in knowing that ecosystem-based management will maximize the long-term economic opportunities offered by Canada's natural capital.
- Ongoing pride in knowing that Canadians are passing a healthy environment on to future generations.

Rationale:

Investing in the protection of the Web of Life: Maintaining ecological integrity and biodiversity will help ensure that natural systems on which we all rely (nutrient cycles, water filtration, etc.) continue to function. These functions have quantifiable economic values that are not adequately reflected in current cost structures or economic impact assessments. The decline in plant and animal species indicates that Canada's ecosystem management standards and safety nets for resource extraction and development activities are inadequate. Resource management in sectors such as fishing, forestry, mining, and agriculture, as well as urban planning must implement improved standards in order to maintain Canada's remaining natural capital.

Committing to ecosystem-based management (EBM): EBM is an essential planning tool to determine the amount and location of habitat that must be protected in order to maintain terrestrial and marine species and ecosystems across Canada. Developing and adopting standards and practices for marine and terrestrial systems is an essential step in reducing the risks to biodiversity and in ensuring that we maintain natural resources at levels that continue to provide not only viable populations of plant and animal species as well as a variety of economic opportunities and a high quality of life for future generations.

An ecosystem-based approach using conservation area design science is needed to properly identify and protect the critical ecosystem elements of endangered and threatened wildlife. Without this approach species eventually will require species-specific management, which may not prevent their extirpation. EBM provides the tools and process necessary to identify and map locations of threatened species and defines the habitat needs of required levels of protection.

Proposal:
Enhanced Marine and Fresh Water Protection Program

“The mean trophic level of the species groups reported in Food and Agricultural Organization global fisheries statistics declined from 1950 to 1994...”

[These] results indicate that present [fisheries] exploitation patterns are unsustainable.”
Daniel Pauly, Director of UBC Fisheries Centre and preeminent fisheries analyst⁵⁷

Overview

Ocean and freshwater environments face increasing threats from a range of industrial and human activities and are suffering from the cumulative affects of decades of industrial fishing and resource extraction. In many cases, marine and freshwater habitats have been seriously degraded and require restoration.

Given the status of our nation in the international arena it is disturbing that our ocean and freshwater habitat lack adequate levels of protection to ensure their long-term ecological and economic integrity. Our marine environments are afforded almost no protection, although the mechanisms exist for the Canadian government to enact formal protection.

In addition to the need to formally protect critical freshwater and marine habitats, there is also a need to apply ecosystem-based management practices across all Canadian aquatic environments.

To achieve fisheries that are in balance with nature, we must improve our ability to assess fish stocks, to understand fish population dynamics and ecosystem processes, and to manage and enforce fisheries regulations consistently.

Given Canada’s globally unique freshwater resources, we have a responsibility to ensure these freshwater ecosystems remain healthy for future generations. Therefore, it is essential that there be an increased federal investment in all areas of protection and management of Canada’s marine and freshwater environments. Further degradation of these crucial recourses should not be considered an option if the government is committed to sustainability.

Recommendations

a) The long-term protection of Canada’s marine ecosystems requires an annual federal commitment to the Oceans Strategy including:

- Implementation of marine use planning for multisector tables as well as negotiations involving aboriginal people over the next three years. (\$4 million for planning, \$10 million for the research and analysis, and \$1 million to facilitate information and data sharing)
- Funding to increase the federal effort on marine protected areas, specifically the planning and management plan process for Gwaii Haanas. In addition, funding is needed to complete the criteria for ecologically significant areas and for conducting assessments on each coast to identify ecologically significant areas (\$5 million in funding)
- Completion of the National Marine Wildlife Area for the Scott Islands area (\$2 million);
- Funding for Parks Canada to complete its work with DFO to establish indicators for marine ecosystem health (\$4 million dollars)
- Funding to complete integrated management plans including marine protected areas on Canada’s east and artic coasts. (\$21 million).

⁵⁷ From Pauly, D. V. Christensen, J. Dalsgaard, R. Froese, and F. Torres Jr. Fishing Down Marine Food Webs, *Science*, February 6, 1998

b) Ongoing protection of Canada's fisheries and marine and freshwater environments requires increases in program funding for the Department of Fisheries and Oceans (DFO). We recommend an increase investment of at least \$70 million per year to undertake the following priorities:

- Ensure that DFO is effective in meeting its mandate primarily for enforcement and compliance. For example, DFO needs to increase its enforcement capacity to deal with ongoing bilge water pollution, cruise ship pollution, urban runoff and pulp mill pollution.
- Increase staff capabilities in the Oceans program and for independent aquaculture research.
- Undertake comprehensive stock assessments, particularly for ground fish stocks and salmon.

c) Develop a national freshwater conservation strategy. We advocate that the federal government work cooperatively with provinces, territories and aboriginal people to develop a national freshwater conservation strategy to address the problems facing freshwater environments across Canada. This strategy should include the following commitments:

- Eliminate industrial and human activities that degrade the quality and quantity of water required to maintain healthy freshwater ecosystem.
- Lower average per capita water consumption in Canada.
- Elevate the level of sewage treatment to tertiary treatment, or an effective alternative, across Canada.

Benefits to Canadians

There is a great need to better protect and manage ocean and freshwater fish populations and their habitats across Canada, bringing them to a healthier state and after years of habitat loss and over-fishing. This is not only an ecological imperative, but also an economic one.

By maintaining our marine and freshwater natural capital and protecting critical marine habitat Canadians will keep, or regain, multiple benefits from these resources:

- Canada's marine environments have been a source of great wealth and food security for generations.
- Our oceans and the economic opportunities they provide have defined communities and have been a major element of culture for thousands of Canadians.
- In addition to the immediate benefits of ocean and freshwater fisheries our marine and freshwater environments provide globally unique tourism and recreation opportunities.
- If Canada's fish stocks returned to the same abundant levels as they were at the turn of the century, the economic benefits would be substantial.

Rationale:

In order to realize the full benefits of our marine and freshwater ecosystems we must discourage non-sustainable resource extraction practices. The Canadian government and industries operating in our aquatic environments must make appropriate allocations of resources to initiatives aimed at preventing damage to healthy marine and aquatic ecosystems and habitats and to recovering degraded systems.

It is important to realize the act of fishing significantly changes marine ecosystems. Fishing can drastically change the structure of fish populations, the makeup of the ocean food web, and in some cases, devastate critical habitat. If designed and managed properly, however, fisheries can sustain fish populations and their habitat.

To date there has been a lack of coordinated planning in Canada's marine environment. This must change in a manner that has already been outlined in Canada's Ocean Strategy and articulated in Canada's recent

Oceans Act. This will not happen, however, if current low levels of funding to relevant agencies continues.

Although Canada is more water rich than almost any other nation on earth, the integrity of our freshwater ecosystems is seriously threatened. Misuse of freshwater also affects the quantity and quality of drinking water. Full water treatment after it is polluted is difficult and expensive. Preventing contamination is much more cost effective. Disparities are rampant across Canada and many communities – especially aboriginal communities – do not have access to proper, rigorous drinking water treatment. Many rural communities are regularly issued “boil water” advisories. Protecting intact watersheds across Canada is critical for human health and ecosystem integrity.

DFO must develop and implement a process of identifying critical marine areas where commercial and other intrusive activities need to be restricted or prohibited. This must go beyond Parks Canada’s direction to establish one marine park in each major ecological zone. Ecosystem-based management plans, which include the identification of marine protected areas, must be produced for all of Canada’s coastal zones. These need to be based on scientific data and analysis coupled with an inclusive marine use planning initiative that engages aboriginal people in line with recent Supreme Court decisions and involves local communities.

Pollution is another threat to marine biodiversity. The pollution provisions of the Fisheries Act are very strong, but are not adequately used to prevent pollution. In addition, the pollution provisions of the Act are enforced by Environment Canada, which does not have the resources to carry out its obligations.

As interest in using more of our marine resources in more ways increases, now is the time develop comprehensive marine use plans and establish regulations that will avoid negative cumulative impacts. We believe it is the responsibility of the Canadian government to increase the understanding of ecosystem based management principles and practices by all economic agents operating our marine and freshwater environment.