

Recommendations for Budget 2010

Investing in a Prosperous Green Future



Bird Studies Canada • Canadian Environmental Law Association
Canadian Parks and Wilderness Society • Centre for Integral Economics
David Suzuki Foundation • Ducks Unlimited Canada • Ecojustice
Environmental Defence • Équiterre • Friends of the Earth
Greenpeace Canada • International Institute for Sustainable Development
MiningWatch Canada • Nature Canada • Nature Conservancy of Canada
Pembina Institute • Pollution Probe • Sierra Club Canada
Social Investment Organization • Wildlife Habitat Canada • WWF–Canada



Executive Summary

"We need to take action, we owe it to future generations."

Prime Minister Stephen Harper¹

Budget 2010 is a prime opportunity to create enduring economic and environmental benefits for Canadians.

The Green Budget Coalition's priority recommendations for Budget 2010 are:

- 1) Protecting Ecosystems and Biodiversity: A Necessity in the Face of Climate Change,**
- 2) Investing in Canada's Freshwater Future: Beginning with the Great Lakes - St. Lawrence Basin, and**
- 3) Renewable Energy: Attracting Investment, Creating Jobs.**

Adopting these three recommendations alone would stimulate over eight thousand new jobs in renewable energy, ensure a clean source of drinking water for millions of Canadians, and protect key elements of our marine and terrestrial ecosystems.

Investing in renewable energy and a national water strategy will expedite the transformation of the Canadian economy into a globally-leading, environmentally-restorative economy that creates jobs while preserving Canadians' enviable quality of life. Canada and the OECD, in its Declaration on Green Growth, have recently recognised "the need to ensure that each country pursues green growth policies, including to tackle climate change".²

Furthermore, implementing these recommendations would help Canada shine on the world stage, during the International Year of Biodiversity (2010) and in the lead-up to hosting the G8 Summit in June 2010. Prime Minister Harper has already highlighted that Canada has an "unprecedented opportunity to lead the way to a better, cleaner, healthier world,"³ and that "climate change

is perhaps the biggest threat to confront the future of humanity today."⁴

The **Green Budget Coalition** (GBC) brings together the collective expertise of twenty-one of Canada's leading environmental and conservation organizations, representing over 600,000 Canadians, and has been assisting the federal government to develop and adopt strategic budgetary and fiscal measures since 1999.

This document details the Green Budget Coalition's three priority recommendations, and seven actions on other important issues, whose adoption could create dramatic progress towards long-term sustainability and a globally-leading, environmentally-restorative economy for Canadians.

¹ Speech by Prime Minister Stephen Harper in Sydney, Australia, on September 7, 2007. <http://www.ecoaction.gc.ca/speeches-discours/20070907-eng.cfm>. Accessed August 30, 2009.

² Organisation for Economic Co-operation and Development (OECD) (June 25, 2009). 2009 Ministerial Conclusions. Meeting of the Council at Ministerial Level, 24-25 June 2009, C/MIN(2009)5?FINAL, p. 3. [http://www.oilis.oecd.org/olis/2009doc.nsf/LinkTo/NT00004882/\\$FILE/JT03267276.PDF](http://www.oilis.oecd.org/olis/2009doc.nsf/LinkTo/NT00004882/$FILE/JT03267276.PDF).

³ Speech by Prime Minister Stephen Harper in Sydney, Australia, on September 7, 2007.

⁴ Speech by Prime Minister Stephen Harper in Berlin, Germany, on June 4, 2007. <http://www.pm.gc.ca/eng/media.asp?category=2&id=1681>.

1) Protecting Ecosystems and Biodiversity: A Necessity in the Face of Climate Change

2010 is the International Year of Biodiversity, and the deadline for reporting to the United Nations Convention on Biological Diversity (CBD) on progress in protecting biodiversity. Given that Canada has not fully met our commitments under the CBD, there is a need to enhance efforts and engage in more tangible actions that will result in the long-term protection of Canada's ecosystems and natural resources.

Climate change is a growing threat facing Canada's natural environment and economy. Protecting key elements of Canada's ecosystems is an important strategy for mitigating increases in greenhouse gas concentrations in the atmosphere. Healthy ecosystems can facilitate adaptation and enhance the probability of securing functional and resilient ecosystems that maintain species, enhance economic prosperity, and provide clean air and water.

To improve Canada's performance on biodiversity protection, the Green Budget Coalition recommends that Canada *act now to fund a national ecosystem based adaptation strategy including:*

1. Completing Canada's national systems of national parks and federal protected areas for wildlife,⁶ and ensuring their long-term protection;
2. Implementing integrated oceans management plans in five Large Ocean Management Areas (LOMAs), completing a national system of marine protected areas that covers at least 30% of Canada's ocean area, and enhancing efforts to recover wild salmon populations through fisheries, aquaculture and habitat protection reforms; and
3. Creating incentives for protecting and restoring greenhouse gas reservoirs in natural forests and wetlands.

It is also important to fund the full, effective implementation of the *Species At Risk Act*.

2) Investing in Canada's Freshwater Future: Beginning with the Great Lakes-St. Lawrence Basin

Canadians strongly believe that water is our single most important natural resource, ahead of oil, forestry and agriculture. Furthermore, there is broad consensus among representatives of a cross-section of

Canadian society that federal leadership is crucial in protecting Canada's freshwater resources.

Canada should deliver its promised federal water strategy,⁷ building upon its actions over the past three years, with initial implementation in the Great Lakes-St. Lawrence basin due to its unique economic, social and cultural importance. Federal leadership is required to ensure that actions to protect and restore the Great Lakes and St. Lawrence are focused and well coordinated.

Priority areas for investment in the waters of the Great Lakes – St. Lawrence are:

1. Water Quantity and Quality

- a. Improve water quality by updating water and wastewater infrastructure and integrating conservation measures to ensure sustainability of water resources.
- b. Ensure the clean up and de-listing of existing Great Lakes Areas of Concern (AoCs) and delivery of Ecological Rehabilitation Action Plans for both AoCs and the St. Lawrence Zones d'intervention prioritaire (ZIPs) in Québec.

2. Freshwater Ecosystems

- a. Foster healthy biodiversity through the preservation and protection of ecologically sensitive wetland habitat in the watershed, particularly near shore areas.
- b. Protect from invasive species.

Such investments will ensure a clean healthy source of drinking water for millions of Canadians, strengthen the ecosystem's capacity and resilience to support strong economic and social systems, and facilitate a healthy, growing economy and business climate for area residents.

3) Renewable Energy: Attracting Investment, Creating Jobs

2010 is an important time for the government of Canada to increase its support for renewable power, to enable Canada to meet its target of 90% non-emitting electricity by 2020, and to create new economic development opportunities while keeping pace with major growth in the sector both in the United States and overseas. While renewable energy includes electricity, heat and fuels, this fiscal year is an important time to focus on renewable electricity⁸ in order to be prepared for the necessary replacement of

⁶ Federal protected areas for wildlife comprise National Wildlife Areas and Migratory Bird Sanctuaries.

⁷ In the 2007 Speech from the Throne, Canada's government committed to a "new water strategy". Steps have been taken toward fulfilling this commitment under the *Government of Canada's Action Plan for Clean Water*.

⁸ "Renewable electricity" refers to electricity generated by renewable energy sources.

many of Canada's power plants that are reaching the end of their working lives and for potential increased demand from electric and plug-in hybrid cars, while reducing the impact and emissions from the current portfolio of power stations.

The Government of Canada should start by seizing the opportunity to invest in clean electricity by:

1. Replacing the sun-setting ecoENERGY for Renewable Power (eERP) program with a capital grant program including a specific set-aside for northern and remote communities. Renewing and expanding federal support for renewable electricity will avoid investment uncertainty as the current eERP production incentive was over-subscribed over a year ahead of its program end date (March 2011). An equivalent incentive in the form of a capital contribution will enable developers to finance new projects, keeping the Canadian market competitive at a time when global investment (particularly in the United States) is ramping up.
2. Establishing "Green Energy Bonds" as a mechanism that will ease access to capital and reduce borrowing costs for renewable energy developers, while enabling individual Canadians to directly support the development of renewable electricity.
3. Unlocking Canada's geothermal potential by developing a national geothermal data and classification system to assess, quantify and characterize Canada's national geothermal resources.

The Green Budget Coalition also recommends the following seven actions on other important issues:

1. **Energy Efficiency:** Create jobs and monthly savings for Canadians by funding actions to advance: home heat pumps, smart grid technologies, new green buildings, retrofits to existing apartment buildings, electric/hybrid vehicle fleets, and a national energy efficiency advertising campaign.
2. **Metal and Mineral Recycling:** Support innovation and the development of environmentally sound closed-loop metal and mineral recycling by harmonizing the tax benefits between primary extraction and recycling and by supporting new material stewardship initiatives.
3. **Chrysotile Asbestos Subsidies:** End the annual federal \$250,000 contribution to the Chrysotile Institute, which promotes the use of chrysotile asbestos, a known carcinogen, internationally.
4. **Conserving Our Migratory Birds:** Invest in migratory bird conservation through programs

supporting additional monitoring and research, particularly in the Arctic and in support of incidental take regulations.

5. Extending Ecogift Tax Incentives to Inventory Lands: Further assist Canadian landowners to preserve Canada's natural heritage.

6. Natural Capital Indicators: Renew and expand existing indicators to provide the necessary information for decision-makers to preserve and grow our natural capital simultaneously with our financial capital, and to support implementation of the Federal Sustainable Development Act.

7. Carbon Pricing: Revenue Recycling. Direct revenues from carbon pricing⁹ to six priority areas: helping meet Canada's GHG reduction target and international climate finance obligations, protecting low-income Canadians, households in unduly impacted regions, and trade-exposed sectors, and reducing personal and corporate taxes.

The transformation to a globally-leading, environmentally-restorative Canadian economy requires each of the following actions: major investments in renewable energy and water and wastewater infrastructure; a strong federal signal that polluters will pay for the environmental and health damage they cause; and making financial transfers to governments, and subsidies to industry, conditional on achieving defined environmental outcomes.

The Green Budget Coalition thus firmly believes that Canada's prosperity requires policies that ensure that market prices for goods and services accurately reflect the true value of the required resources, today and in the future, as well as the full costs and benefits to the environment and human health associated with their development, production, transportation, sale, use and disposal. Canada's economy will only maximize benefits for Canadians, and be truly "green," when market prices thus tell the environmental truth.

This approach is often called ecological fiscal reform (EFR), and could be implemented through a mix of market-based instruments, such as taxes, fees, rebates, credits, tradable permits and subsidy removal. True-cost pricing policies should be complemented by the transitional use of policies such as product incentives and "fee-bates" to shift buying and usage patterns for major purchases, such as heating systems, automobiles and appliances, towards those whose life-cycle impacts are more positive for the environment and human health. The existing and proposed new ecoENERGY for renewable power programs represent progress in this direction.

⁹ A carbon price can be implemented through a cap-and-trade system or a carbon tax.

Such EFR policies create many benefits. They reward environmental leaders among businesses and citizens, preserve natural resources for higher value uses, stimulate environmental innovations with global export potential, and expedite the development of economies where economic success brings concurrent environmental and human health benefits, and where self-interested economic choices are more frequently those with the most social and environmental benefits. Furthermore, such policies provide enhanced fairness to citizens and business through the “polluter pays principle,”¹⁰ by forcing polluters to pay for the harm they cause.

The Green Budget Coalition has commended many actions in recent federal budgets as being important steps towards implementing ecological fiscal reform, and highlights many prime opportunities in this document to build upon those measures. In particular, *Carbon Pricing: Revenue Recycling* illustrates how revenues from carbon pricing can generate further benefits in addition to the price disincentive. *Metal and Mineral Recycling: Closing the Loop* would build upon changes to capital cost allowance rates in Budgets 2007-2009 to advance Canada farther towards a sustainable resource future.

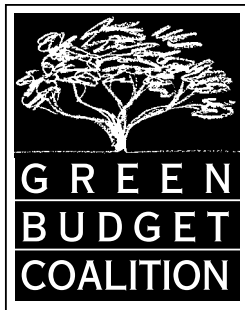
The Green Budget Coalition also strongly encourages the Government to further build upon the important steps it has taken towards making environmental values and information central to all relevant government policy-making. The Federal Sustainable Development Act, adopted in 2008, has great potential to provide long-term benefits to Canadians. Indicators tracking the health of Canada’s water and air were, importantly, renewed in *Budget 2009* and point the way towards further information which Canadians and their political leaders need to support decisions with the greatest long-term benefits. *Natural Capital Indicators* highlights the best next steps on this path.

The Green Budget Coalition expects to continue promoting and refining these recommendations until they are adopted.

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¹⁰ The government defined “polluter pays” in *Budget 2005* as meaning that “the polluter should bear the costs of activities that directly or indirectly damage the environment. This cost, in turn, is then factored into market prices.” [<http://www.fin.gc.ca/budget05/bp/bpa4e.htm>] On May 29, 2007, as Environment Minister, the Hon. John Baird re-affirmed the government’s commitment to this principle by telling the Standing Committee on the Environment and Sustainable Development that the government “believes that the polluter should pay.” The “polluter pays principle” was previously defined in the 1972 OECD Guiding Principles on the International Economic Aspects of Environmental Policies, as cited in OECD (2001): *Environmentally Related Taxes in OECD Countries: Issues and Strategies*, Paris, p.16.



The
GREEN BUDGET COALITION (GBC)

brings together

**Canada's leading environmental and conservation organizations
to assist the federal government to develop and implement
strategic budgetary and fiscal measures
critical to long-term environmental sustainability.**

The Green Budget Coalition was founded in 1999 with the recognition that the annual federal budget is often the most important Canadian policy document of the year in terms of environmental impact, and that the integration of environmental values into economic and fiscal policy is a fundamental requirement for achieving environmental sustainability and lifelong human health. The GBC's primary focus is selecting, developing, circulating, and then discussing, with government officials and parliamentarians, strategic environmental and conservation recommendations for each annual federal budget, along with the advancement of ecological fiscal reform. The GBC is committed to continually refining its recommendations, through in-depth analysis and ongoing dialogue with representatives of the Canadian government, and other non-governmental organizations.

The Green Budget Coalition comprises twenty-one of Canada's leading environmental and conservation groups. These member groups collectively represent over 600,000 Canadians, through their volunteers, members, and supporters. The GBC operates within four caucuses: Clean Air & Climate Change, Protecting Canada's Natural Capital, Healthy Communities & Toxics Cleanup, and Ecological Fiscal Reform, and makes its decisions on a consensus basis. Barry Turner, Director of Government Relations for Ducks Unlimited Canada, is the volunteer Chair of the Green Budget Coalition.





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This document will also be available at www.greenbudget.ca/2010/main.html.

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Greening Canada's Economy

Creating Enduring Economic, Environmental and Social Benefits

“Green growth will be relevant going beyond the current crisis, addressing urgent challenges including the fight against climate change and environmental degradation, enhancement of energy security, and the creation of new engines for economic growth. The crisis should not be used as an excuse to postpone decisions for the future of the planet.”

OECD Declaration on Green Growth (June 2009)¹¹

A truly healthy, sustainable Canadian economy would improve the lives of Canadians and the health of our planet in an ongoing, integrated fashion without the need to sacrifice one for the other.

A truly sustainable Canadian economy would conserve, and potentially increase, supplies of the natural resources we use for energy and manufacturing, through closed-loop recycling methods and a much greater dependence on renewable energy and energy efficiency.

A truly sustainable Canadian economy would result in continually cleaner air, water, and soil, and thus a continually improved quality of life for Canadians.

Achieving such a sustainable economy will not be an easy task, but it is critical that we pursue it.

“The Government of Canada ... acknowledges the need to integrate environmental, economic and social factors in the making of all decisions by government.”

Federal Sustainable Development Act¹²

As the Sustainable Development Act highlights, to achieve enduring prosperity for Canadians requires strategically integrated policy measures. Importantly, the best economic, environmental, and social policy decisions create benefits in all three spheres, and by doing so, also maximize the use of public funds.

There are many steps needed to advance towards a truly sustainable economy. One of the keys is simply to ensure that market prices “tell the truth.” This is currently not the case. Indeed, as Sir Nicholas Stern has pointed out, “climate change is the greatest market failure the world has seen.”¹³

Canada’s economy will only maximize benefits for Canadians, and be truly “green”, when market prices do tell the environmental truth, by reflecting true values, today and in the future, as well as the full costs and benefits — financially, environmentally, and socially.

When measuring the life-cycle impacts of specific goods and services we generally include the costs and benefits

¹¹ OECD (June 25, 2009). Declaration on Green Growth. Meeting of the Council at Ministerial Level, 24-25 June 2009, C/MIN(2009)5/ADD1/FINAL, p. 2. [http://www.oilis.oecd.org/oilis/2009doc.nsf/LinkTo/NT00004886/\\$FILE/JT03267277.PDF](http://www.oilis.oecd.org/oilis/2009doc.nsf/LinkTo/NT00004886/$FILE/JT03267277.PDF).

¹² Bill C-474. Received Royal Assent, and thus came into Force, in June 2008. <http://www2.parl.gc.ca/HousePublications/Publication.aspx?DocId=3576210&Language=e&Mode=1&File=42>. Accessed August 21, 2009.

¹³ Press note: “Publication of the Stern Review on the Economics of Climate change” (30 October, 2006). Available from http://www.hm-treasury.gov.uk/newsroom_and_speeches/press/2006/press_stern_06.cfm.

associated with resource depletion, waste creation, pollution emissions, and ecological restoration resulting from their development, production, transportation, sale, use, and disposal. However, the full spectrum of such costs and benefits is generally not represented in the price of goods and services, and the remaining “externalities”¹⁴ are thus imposed on, or provided to, society at large with no compensation. Because of this, businesses and consumers tend to over-consume, or under-supply, particular goods and services when the related prices, or incentives, respectively, are artificially low.¹⁵

Economists refer to this situation as a “market failure” because there is no market for the externalities, and the market for the goods and services is distorted. Economic theory says that when prices reflect true costs, an optimal level of consumption takes place, and society’s welfare derived from the consumption of goods and services is maximized. Conversely, when prices do not reflect the full costs, the arising market failure prevents Canada’s economy from being fully efficient and from maximizing societal well-being for Canadians.

Canada’s economy suffers from two major types of ongoing market failure.

Firstly, we are over-consuming and inefficiently utilizing our non-renewable natural resources, to a large extent because their market prices do not accurately reflect their critical value as a source of economic activity, nor the costs of the tax concessions and environmental damage currently linked to their extraction and production. If our children and grandchildren had a chance to bid on the natural resources we are currently depleting, they would likely offer much more. We should treat our natural resources as an asset to be nurtured and grown, for our long-term benefit, just as we would treat our financial savings.

Secondly, we are over-polluting our air, water, and soil — and through them our own human bodies — substantially because market prices similarly undervalue the crucial value of their — and our — capacity to absorb this pollution, and of its negative impacts, especially as we approach the limits of these capacities. We have taken the absorptive capacity of the air, water, and soil for granted for many centuries. We depend on it for everything we do, from manufacturing, to driving, to simply breathing.

However, changes to our global climate, as well as increases in sicknesses like cancer amongst our family and friends, suggest that we have reached the point at which we can no longer pollute without major consequence.

As a result of these market failures, when businesses and citizens make strategic operational and purchasing decisions to benefit the environment, they often find themselves incurring increased costs in order to do so — costs that their competitors or neighbours do not face. This reflects the on-going imbalance that exists between our economic and ecological systems. This imbalance is counterproductive to achieving a healthier society because it sends the wrong signals to economic decision-makers.

The Green Budget Coalition firmly believes that Canada’s prosperity requires policies that ensure that market prices for goods and services accurately reflect the true value of the required resources, today and in the future, as well as the full costs and benefits to the environment and human health associated with their development, production, transportation, sale, use and disposal. This approach is often called ecological fiscal reform (EFR), and could be implemented through a mix of market-based instruments, such as taxes, fees, rebates, credits, tradable permits and subsidy removal.

True-cost pricing policies should be complemented by the transitional use of policies such as product incentives and “fee-bates” to shift buying and usage patterns for energy-intensive items, such as heating systems, automobiles and appliances, towards those whose life-cycle impacts are more positive for the environment and human health. The ecoENERGY program represents a start.

Such EFR policies create many benefits. They reward environmental leaders amongst businesses and citizens, preserve natural resources for higher value uses, stimulate environmental innovations with global export potential, and expedite the development of economies where economic success brings concurrent environmental and human health benefits, and where self-interested economic choices are more frequently those with the most social and environmental benefits. Furthermore, such policies provide enhanced fairness to citizens and business through the “polluter pays” principle,¹⁶ by forcing polluters to pay for the harm they cause.

¹⁴ “Externalities” refers to costs or benefits, resulting from an economic activity, that impact an individual or entity not involved in determining that activity, and which are not reflected in market prices. Common environmental externalities include air, water and noise pollution, as well as the stewardship of wetlands and forests.

¹⁵ Common examples of over-consumed goods include energy and roads for transportation, and imported fruits and vegetables. Under-supplied services include forests.

¹⁶ In *Budget 2005*, the Government defined “polluter pays” as meaning that “the polluter should bear the costs of activities that directly or indirectly damage the environment. This cost, in turn, is then factored into market prices.” [<http://www.fin.gc.ca/budget05/bp/bpa4e.htm>] On May 29, 2007, as Environment Minister, the Hon. John Baird re-affirmed the government’s commitment to this principle by telling the Standing Committee on the Environment and Sustainable Development that the government “believes that the polluter should pay.” The “polluter pays principle” was previously defined in the 1972 OECD Guiding Principles on the International Economic Aspects of Environmental Policies, as cited in OECD (2001): *Environmentally Related Taxes in OECD Countries: Issues and Strategies*, Paris, p.16.

Canada lags behind most other industrialized countries, including the United States and Australia, in utilizing market-based instruments, particularly financial disincentives.

The Green Budget Coalition has commended the Government of Canada's progress in recent budgets towards implementing ecological fiscal reform. Some of the most notable actions were the phase-out of the 100% accelerated capital cost allowance (ACCA) for the oil sands, as part of a closer realignment of the ACCA with environmental objectives; the introduction of a (temporary) modest carbon tax as part of a revenue-neutral "feebate" structure for new automobile purchases; and steps towards imposing a price on GHG emissions through a cap-and-trade system.

The Green Budget Coalition is highlighting many opportunities in this document to build upon such measures.

Existing and additional stimulus funds provide a unique opportunity for the Government of Canada to simultaneously advance economic and environmental objectives, and to expedite the transformation of the Canadian economy into a globally leading, environmentally-restorative economy. Through the power of federal spending the government can stimulate economic activity while facilitating the reduction of greenhouse gas emissions (GHGs). By targeting new government spending on renewable energy, building retrofits, and public transit programs, the Government of Canada can re-allocate public funds to address increasing unemployment, household and business costs, and GHG emissions. (See *Renewable Energy* and *Energy Efficiency*, later in this document.)

Metal and Mineral Recycling: Closing the Loop would build upon Finance Canada's progressive changes to better align tax policy with Canada's environmental objectives, by further supporting innovation and the development of environmentally sound closed-loop metal and mineral recycling.

Natural Capital Indicators outlines key options to provide better information on the state of Canada's natural capital to parliamentarians, government officials and citizens, to help us all make and support policy decisions that preserve and grow our natural capital, which is central to our economy, our health, and our lives, and upon which the well-being of future generations depends. Renewing and expanding Canada's indicators, building upon recommendations from the National Round Table on the Environment and the Economy (NRTEE),¹⁷ is a key step towards realizing the benefits of effectively integrating environmental values into federal policy and policy-making.

Carbon Pricing: Recycling Revenues highlights how the anticipated revenues from a carbon price could be strategically directed to create further economic, environmental and social benefits on top of those created by the emission reductions stimulated by the carbon price.

As Canada's market prices better incorporate full environmental values (both costs and benefits), Canada's economy will become more resource efficient, and will cause less environmental and human health damage through pollution. Most importantly, it will leave our children with a more sustainable resource base, cleaner air, water, and soil, and thus a higher quality of life.

¹⁷ National Round Table on the Environment and the Economy (2003): *Environment and Sustainable Development Indicators for Canada*. <http://www.nrtee-trnee.com/eng/publications/sustainable-development-indicators/sustainable-development-indicators.pdf>.



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Protecting Ecosystems and Biodiversity:

A Necessity in the Face of Climate Change

RECOMMENDATION SUMMARY:

2010 is the International Year of Biodiversity, and the deadline for reporting by Canada and all other signatories to the United Nations Convention on Biological Diversity (CBD) on progress in protecting biodiversity. Given that Canada has not fully met our commitments under the CBD, there is a need to enhance efforts and engage in more tangible actions that will result in the long-term protection of Canada's ecosystems and natural resources.

Climate change is a growing threat facing Canada's natural environment and economy. Protecting key elements of Canada's ecosystems is an important strategy for mitigating increases in greenhouse gas concentrations in the atmosphere. Healthy ecosystems can facilitate adaptation and enhance the probability of securing functional and resilient ecosystems that maintain species, enhance economic prosperity, and provide clean air and water.

In the interest of improving Canada's performance on biodiversity protection, *the Green Budget Coalition recommends that the Government of Canada act now to fund a national ecosystem based adaptation strategy¹⁸ that includes:*

- 1) Completing Canada's national systems of national parks and federal protected areas for wildlife,¹⁹ and ensuring their long-term protection;
- 2) Implementing integrated oceans management plans in five Large Ocean Management Areas (LOMAs), completing a national system of marine protected areas that covers at least 30% of Canada's ocean area, and enhancing efforts to recover wild salmon populations through fisheries, aquaculture and habitat protection reforms; and
- 3) Creating incentives for protecting and restoring greenhouse gas reservoirs in natural forests and wetlands.

It is also important to fund the full and effective implementation of the *Species At Risk Act*.

¹⁸ "Ecosystem-based Adaptation (EbA) identifies and implements a range of strategies for the management, conservation and restoration of ecosystems to ensure that they continue to provide the services that enable people to adapt to the impacts of climate change. As a component of broader adaptation and development strategies, ecosystem-based adaptation aims to increase the resilience and reduce the vulnerability of ecosystems and people in the face of climate change. Ecosystem-based management includes [...] maintaining and enhancing the resilience of ecosystems at the landscape scale, through systems of effectively managed protected areas and improvements in the management of surrounding lands and seas." International Union for Conservation of Nature, Ecosystem-based Adaptation (EbA), Position Paper, UNFCCC Climate Change Talks, 1st-12th June 2009. http://cmsdata.iucn.org/downloads/iucn_position_paper_eba_june_09_2.pdf.

¹⁹ Federal protected areas for wildlife comprise National Wildlife Areas and Migratory Bird Sanctuaries.

Investment Required

Total: \$208 million per year for the first two years, \$178 million per year for the subsequent three years, and \$130 million per year thereafter:

- *Federal protected areas for wildlife:*
\$35 million/year ongoing
- *National parks:*
\$75 million/year for 5 years, followed by
\$95 million/year in ongoing funding
- *Ocean management and protection:*
\$62 million/year for 5 years
- *Species At Risk:*
\$30 million/year for 2 years
- *Wetlands carbon sequestration research, inventory and monitoring:*
\$31.1 million (total) over 5 years

Benefits for Canadians

Healthy marine and terrestrial ecosystems are the foundation upon which Canada's environmental, economic and cultural well-being depends. Specific benefits include:

- Substantial contributions to the Canadian economy:
 - The value of natural capital contained in diverse ecosystems in Canada is hundreds of billions of dollars;²⁰
 - Canadian and US visitor spending on nature-related activities in 1996 contributed \$12.1 billion to Canada's Gross Domestic Product (GDP), and sustained 215,000 jobs;²¹
 - Parks Canada sites alone generate \$1.5 billion in visitor spending per year — five times the amount invested by government to operate them — and support 37,600 jobs;²²
- Supporting Canadian competitiveness in the global marketplace as consumers demand sustainable products from healthy ecosystems,
- Enabling Canada's species and their habitat to better adapt to climate change, and safeguarding essential ecological services such as clean water, air and climate regulation,
- Achieving strategic and comprehensive biodiversity conservation across marine and terrestrial environments, and northern and southern landscapes.

Background and Rationale

The Vision

Nature is a core value for Canadians. Our spectacular land and seascapes and their natural riches have shaped our past and our current identity. How we treat Canada's lands and waters, and the ecosystems they support, will determine our future.

The National Round Table on the Environment and the Economy, in its State of the Debate Report "*Securing Canada's Natural Capital: A Vision for Nature Conservation in the 21st Century*" laid out a compelling vision for nature conservation:

"The vision is to position Canada as a global leader in nature conservation ... by taking innovative and decisive actions to maintain the diversity and health of our unparalleled natural ecosystems for all time. Achieving this vision will provide Canada and the world with clean air and water, abundant wildlife populations, healthy communities, and a robust, diversified economy now and in the future."²³

Commitments

Canada has made significant international and national commitments to conserve its marine and terrestrial biodiversity.

Internationally, Canada committed under the Convention on Biological Diversity "Programme of Work on Protected Areas" to establish and maintain comprehensive, effectively managed, and ecologically representative national and regional systems of protected areas, by 2010 for terrestrial sites and by 2012 for marine sites.

While there has been some progress towards this goal, much remains to be done, particularly in the oceans. Canada ranks 16th among OECD countries in the amount of lands set aside in terrestrial protected areas, and an embarrassing 70th globally in percentage of oceans protected.²⁴ At the same time we are the country with the best remaining opportunity to conserve nature.

²⁰ For example, the total non-market value of boreal forest ecosystem services is estimated at \$703 billion -- 14 times greater than the net market value of boreal natural capital extraction (Counting Canada's Natural Capital: Assessing the Real Value of Canada's Ecosystem Services (2009) Mark Anielski, Sara Wilson for the Pembina Institute. Commissioned by the Canadian Boreal Initiative. http://www.borealcanada.ca/documents/BorealBook_CCNC_09_enFINAL.pdf. p. 2). Ontario's Greenbelt alone contributes \$2.6 billion worth of non-market ecological services each year, an average value of \$3,487 per hectare (Ontario's Wealth, Canada's Future: Appreciating the Value of the Greenbelt's Eco-Services (2008) Sara Wilson for the David Suzuki Foundation).

²¹ Survey on the Importance of Nature to Canadians: Survey Highlights. Federal-Provincial-Territorial Task Force on the Importance of Nature to Canadians. Environment Canada (1999). http://www.ec.gc.ca/nature/index_e.htm.

²² Economic impacts of Parks Canada (2001) prepared by the Outspan Group for Parks Canada.

²³ National Round Table on the Environment and the Economy State of the Debate Report, 2003, *Securing Canada's Natural Capital: A Vision for Nature Conservation in the 21st Century*.

²⁴ Canadian Protected Areas Status Report, 2000-2005. (2006). Government of Canada.

Under the United Nations Framework Convention on Climate Change and its Kyoto Protocol, Canada has also committed to the protection and conservation of greenhouse gas reservoirs, for example in forests and wetlands.

Canada needs to act decisively to meet our international obligations to complete systems of protected areas on land and sea, and ensure these are linked together as a network by encouraging compatible activities on working landscapes.

Overview

Canada continues to lose elements of both its terrestrial and marine ecosystems due to many types of human activities. Climate change ranks among the most significant and pressing threat facing these natural environments. Protecting more of Canada's natural heritage is the best way to enhance the probability of securing functional and resilient ecosystems that maintain species, enhance economic prosperity, and provide clean air and water.

There is much that Canada can do to both reduce the threats to ecosystems and species and to develop management strategies that enable adaptation to the influences of climate change. The effects of climate change on natural ecosystems are not speculation. Serious effects on nature are occurring today.

Warming temperatures and changing climates are causing many terrestrial and marine habitats to change or be lost, forcing species to adapt and cover alternative geographic ranges. It is, therefore, important to ensure that an extensive, connected matrix of natural habitats is available over which species may range more widely over time.

Canada's wetlands, forests and grasslands are all natural carbon stores and sinks. As such, these natural ecosystems need to be included in the Government of Canada's overall strategy to address climate change. Given that climate change induced changes to natural environments are anticipated even in the face of greenhouse gas reductions, an ecosystem based adaptation strategy is necessary if Canada hopes to limit the loss of species and curtail the decline in ecosystem functions.

The Green Budget Coalition recommends that the Government of Canada act now to fund a comprehensive **national ecosystem based adaptation strategy**, including a schedule of actions to be undertaken by governments and the private sector that addresses the current terrestrial, wetland and ocean ecosystem conservation needs detailed below.

Protecting Terrestrial Landscapes

Natural landscapes are and will continue to be stressed by the influences of climate change. Forests, wetlands, grasslands, water courses and the species inhabiting these environments must adapt to the changing environment. Industries based on living natural resources such as forestry, agriculture and fisheries have traditionally assumed that the environment is a constant, but this assumption is no longer valid.

Adaptation to climate change will be critical for our economy, our social well-being and for nature. We have the tools available now, like protected area designations, to take action that will accommodate adaptation of natural systems to the effects of climate change.

We have never lived through a period of dramatic global changes in climate and we are ill prepared to deal with these changes. It is, therefore, essential to invest in natural areas protection and to engage appropriate research and monitoring that facilitates an increased understanding of necessary adaptation and mitigation strategies.

Populations of many species are increasingly stressed as their habitats change. Some habitat types will become more common and others less common. Some species will react fairly quickly, others very slowly.

There is an urgent need to carefully monitor Canada's species and to design conservation strategies that will help them shift their geographic ranges in response to habitat changes. Special care will have to be given to species that are rapidly declining in abundance, especially those that currently rank as, or become, at risk. Conservation strategies aimed at currently protecting important habitats are critical, and these must also be applied with consideration to how the lands and waters will look as a result of changing climate patterns.

Government Action Required

The Green Budget Coalition recommends that the Government of Canada fund a national ecosystem based adaptation strategy including the following terrestrial elements:

- Increased funding of key protection commitments for national parks and federal protected areas for wildlife (FPAWS, comprising National Wildlife Areas and Migratory Bird Sanctuaries).
 - **New National Parks – Invest \$30 million per year for five years followed by \$50 million per year** in on-going management funding to

complete and operate new and expanded national parks.²⁵

- **Ecological Integrity – Invest \$45 million per year** to protect the long-term ecological integrity of all Canada’s national parks in the face of growing stresses such as climate change.²⁶
- **Invest \$35 million per year in ongoing funding to allow Environment Canada to properly steward, manage, and expand the network of FPAWs** in order to protect fragile ecosystems, safeguard endangered species, and better connect Canadians with nature.
- A national plan that identifies a comprehensive, representative and effectively managed protected area system (federal, provincial and territorial protected areas) that meets commitments under the Convention on Biological Diversity and reflects the needs to support vulnerable and resilient ecosystems in the face of climate change.
- Integrated monitoring and prediction. Research and ecosystem monitoring that identifies projected and real climate change impacts on ecosystems and also identifies vulnerable and resilient ecosystems.

Maintaining Ocean Health and Productivity

The influences of greenhouse gas pollution and climate change are resulting in both the warming and acidification of our oceans. The resulting biological and physical changes in oceans are causing shifts in species diversity, abundance and distribution.

Acidification threatens the Earth’s entire food chain. As our ocean absorbs more atmospheric carbon, a phenomenon is triggered that results in elevated acidity of ocean waters that renders marine environments uninhabitable for many species of marine life. This phenomenon is most detrimental to plankton, which forms the base of the marine food chain. As the frequency of acidic water in shallow depths escalates, there is a corresponding reduction in plankton growth and a reduction in productivity that ripples up the food chain, reducing survival of many fish species.

Climate change trends in our oceans underscore the need to reduce the ongoing human induced sources of

greenhouse gases. There is an urgent need to implement adaptive management strategies that reduce the risk of extirpation or extinction of marine species and to track and monitor ecosystem changes.

As climate change and other human induced activities increasingly affect ocean conditions along Canada’s coastlines there is a need for a more precautionary approach to using ocean resources, and for reducing the impacts of multiple stressors. Additional conservation, research, and monitoring measures are required to minimize the risk of severe reduction or loss of species in the marine environment. More attention must be paid to the cumulative effects of resource extraction, particularly in the face of changing environmental conditions.

Government Action Required

In order to adequately address the challenges facing Canada’s ocean environments, it is necessary for all federal government departments that have a mandate in any aspect of ocean management to work together on the priority issues. The Green Budget Coalition recommends that the Government of Canada fund the following actions to conserve Canada’s marine ecosystems as part of a national ecosystem based adaptation strategy:

1. Expand Marine Protected Areas (MPA) Network

There is an urgent need to establish a comprehensive network of marine protected areas, including in the Arctic, that will serve as refugia for species at risk and will ensure that natural systems can function free from major human disturbance. MPAs should be managed in light of their important role in establishing baseline monitoring areas in which to track changes in ocean conditions over time and inform future adaptive management strategies. Expediting the expansion of MPAs would reduce both the overall financial costs and the potential biodiversity losses, while capitalising on the valuable goodwill and expertise that is currently in place.

Budget required: \$20 million/year for 5 years

2. Establish Integrated Ocean Management Plans

The most efficient and cost effective way to address the cumulative effects of ocean activities and adapt management plans to changing ocean

²⁵ Priority should be given to funding the creation and operation of the following five national parks: Mealy Mountains (Labrador), Flathead Valley (BC), Northern Bathurst (Nunavut), Gwaii Hanaas (BC), and Nāāts’ihch’oh (NWT). The recommended investment would also result in new national parks in: the South Okanagan region of BC; southern Yukon or northern BC; the East Arm of Great Slave Lake, NWT; and the Manitoba Lowlands; and in land acquisition to complete the Bruce Peninsula National Park (ON), Gulf Islands National Park (BC), Grasslands National Park (Sask.), and Tuktu Nogat National Park (Nunavut/NWT).

²⁶ The blue ribbon *Panel on the Ecological Integrity of Canada’s National Parks* (2000) identified that an investment of \$85 million per year was needed to protect the ecological integrity of our national parks. There remains a gap of \$45 million per year in implementing this plan.

conditions is through the establishment of integrated marine management plans that are based on ecosystem based management principles. This approach is mandated under Canada's Oceans Act. A greater investment is required to develop these plans and establish adaptive management systems. For example in the Beaufort Sea eventual development of the offshore will face costly delays if such a plan is not in place. Only by adequately funding a plan that prescribes what should happen where, can industry be assured that resources will be extractable.

Integrated management plans should facilitate the assessment of management options in light of changes in human stressors and dynamic ecological conditions, including those climatic and oceanic conditions associated with climate change. Processes of ecosystem change should be documented relative to existing management practices and institutional arrangements.

Budget required: \$15 million/year for 5 years

3. Invest in Ocean Research and Monitoring

Ocean conditions and the status of marine species should be tracked in a more comprehensive manner, through ocean research and monitoring. Specific investments are required to document and assess the frequency and scale of acidic ocean water conditions, plankton productivity, the status of fish and shellfish stocks and the shift in species and species ranges as ocean temperature conditions change. For example, the acidification of Arctic waters could disrupt the entire food chain upon which Inuit communities depend. These potential impacts cannot be managed or adapted to if they are not understood.

Budget required: \$15 million/year for 5 years

4. Enhance Efforts to Recover Wild Salmon

As environmental conditions change in our oceans and in freshwater coastal watersheds, wild salmon face increasing challenges in maintaining adequate population levels for ensuring robust populations in the future. Given the continuous and recently dramatic declines in wild salmon, particularly sockeye, there is a need to reorient salmon management to a focus on wild salmon recovery. A successful recovery initiative will require reforms to salmon aquaculture practices including certification, enhanced habitat monitoring and protection, and more substantive restrictions on specific fisheries that have negative effects on the

recovery of specific, degraded stocks of wild salmon.

Budget required: \$12 million/year for 5 years

Fully and Effectively Implementing *Species At Risk Act*

The decline and loss of species is a mounting national and global issue. Overwhelmingly, species declines and extinctions stem from human activity, including factors such as habitat loss, pollution, over-exploitation, and climate change. In the face of this extinction crisis, Canada enacted the *Species at Risk Act*²⁷ (SARA), which came into force in 2003.

The *Species at Risk Act* has the purpose of preventing wildlife species from being extirpated or becoming extinct, providing for the recovery of wildlife species that are extirpated, endangered or threatened, and managing species of special concern to prevent them from becoming endangered or threatened. SARA establishes prohibitions against harm of species at risk, protects their residences, and obligates recovery planning and critical habitat identification. Environment Canada, the Parks Canada Agency, and the Department of Fisheries and Oceans are responsible for the implementation of SARA.

Federal re-investment is required to address significant shortcomings in the implementation of SARA. Key implementation deficiencies highlighted by two recent independent program evaluations and at the 2009 statutory Parliamentary review of SARA include: failure to identify and protect critical habitat for species at risk; lack of resources for stewardship and compensation activities; and, insufficient on-the-ground capacity to carry out necessary science and monitoring for species at risk and their habitats. Recovery action plans will be required for dozens of species in the coming years, and sufficient resources must be in place so that these plans are developed in a timely manner and contain effective measures required to implement species' recovery strategies.

The three federal departments responsible for SARA operate on a shared base level of funding of \$45 million per year, but this amount is insufficient to meet the statutory and stewardship obligations of the Act. In order to protect and recover species at risk, including their habitat, the Green Budget Coalition recommends increased funding to ensure full and effective delivery of the SARA mandate.

²⁷ SARA was enacted in response to the obligations stemming from Canada's ratification of the 1992 United Nations Convention on Biological Diversity, which included a commitment to pass legislation for the protection of species at risk.

Government Action Required

- **Invest \$30 million/year for the next two years (2010-2012)** to support effective on the ground implementation of SARA, including science and monitoring capacity, timely critical habitat identification and protection, stewardship efforts, compliance promotion and compensation initiatives, and action plan development and implementation. By 2012, when the current program funding must be re-authorized, Government should develop and fund a full and realistic budget to cover the SARA program costs for the subsequent years.

Incentives for Protecting and Restoring Greenhouse Gas Reservoirs in Forests and Wetlands

Canada's forests and wetlands are huge greenhouse gas reservoirs, storing the equivalent of a third of all the carbon contained in the Earth's atmosphere. Protecting these carbon-rich ecosystems from industrial development can help reduce greenhouse gas emissions. Restoring degraded forests and wetlands can also reduce emissions and even remove carbon from the atmosphere.

These ecosystems are subject to on-going clearing and degradation; settled areas of Canada have already lost up to 70 percent of their natural wetlands. Continued degradation of these environments will result in continued loss of carbon to the atmosphere.

Emissions from logging and wetland loss are significant. The protection and restoration of forests and wetlands is the most effective management strategy for conserving biodiversity and maintaining the forest's global role in carbon cycling.

Government Action Required

- **Set aside a percentage of carbon pricing revenues to fund the protection of carbon-rich ecosystems for climate change mitigation** (See also *Carbon Pricing: Revenue Recycling*, later in this document).
Funding could directly support federal activities in the north or be transferred to provinces for activities that protect carbon-rich ecosystems and are consistent with the commitment under the *Framework Convention on Climate Change* to protect greenhouse gas reservoirs and the *Program of Work on Protected Areas under the Convention on Biological Diversity*.

- **Expand carbon sequestration and greenhouse gas research in eastern Canada.** Due to differences in climate, geology and topography, the depth of research conducted on wetlands of the Canadian prairies cannot be directly applied to freshwater and salt marsh environments in the balance of Canada. In order to predict the potential of various wetland restoration methods, the research recently undertaken in the Broughton Creek watershed of Manitoba needs to be extrapolated to other environments. This investment includes: field research equipment, sample analysis, research staff, and associated travel costs.

Estimated cost (amongst all partners):
\$4.2 million (total) over 5 years.

Estimated federal share:

\$2.1 million (total) over 5 years

- **Wetlands inventory and modeling** (including support for Canadian Wetland Inventory)

Estimated cost (amongst all partners):
\$58 million (total) over 5 years.

Estimated federal share:

\$29 million (total) over 5 years

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Investing in Canada's Freshwater Future:

Beginning with the Great Lakes-St. Lawrence Basin

RECOMMENDATION SUMMARY:

Deliver Canada's promised federal water strategy,²⁸ with initial implementation in the Great Lakes-St. Lawrence basin. Canadians strongly believe water is the single most important natural resource, ahead of oil, forestry and agriculture. There is broad consensus among representatives of a cross-section of Canadian society that federal leadership is absolutely crucial in protecting Canada's limited freshwater resources,²⁹ and many organizations have published specific policy recommendations.³⁰

Federal leadership is required to ensure that actions to protect and restore the Great Lakes and St. Lawrence are focused and well coordinated. This leadership role must start with developing a shared, basin-wide vision amongst all levels of government, independent scientists, and post-secondary institutions. This should also include environmental NGOs and residents of the Great Lakes-St. Lawrence basin, in order to foster more effective coordination and more efficient and transparent use of public funds. These efforts would result in a more comprehensive understanding of common indicators for Great Lakes and St-Lawrence ecosystem health, as well as advance activities to improve and protect the state of the water system, which stretches from the source waters of the Great Lakes to the ocean.

The government needs to build upon its actions on water over recent years with a plan to effectively restore, protect and enhance the environment of the combined Great Lakes and St. Lawrence River basin, including investments to two key areas:

1. Water Quantity and Quality

- a. Improve water quality by updating water and wastewater infrastructure and integrating conservation measures to ensure sustainability of water resources.
- b. Continue to ensure the clean up and de-listing of existing Great Lakes Areas of Concern (AoCs) and delivery of Ecological Rehabilitation Action Plans for both AoCs and the St Lawrence Zones d'intervention prioritaire (ZIPs) in Québec.

2. Freshwater Ecosystems

- a. Fostering healthy biodiversity through the preservation and protection of ecologically sensitive wetland habitat in the watershed, particularly near shore areas.
- b. Protection from invasive species.

²⁸ In the 2007 Speech from the Throne, Canada's government committed to a "new water strategy". Steps have been taken toward fulfilling this commitment under the *Government of Canada's Action Plan for Clean Water*.

²⁹ Despite the common assertion that Canada has 20% of the world's freshwater, only 6.5% is renewable through groundwater and precipitation, and only 2.5% is geographically accessible without harmful water diversions.

³⁰ See Supporting Documentation at the end of this recommendation.

It is important to note that these levels of required new funding could be substantially reduced by directing previously-announced infrastructure and gas tax funding to these purposes.

\$854 million per year for the next five years (2010-2014),
and **\$520 million per year** for the subsequent five years (2014-2019)

Benefits for Canadians

- A clean source of drinking water for millions of Canadians,
- Creation of sustainable, green jobs,
- Improved health for residents,
- More efficient use of public funds through more effective coordination among all levels of government,
- Transparent and accountable governance of public water resources,
- Financially independent public utilities achieved through the fiscal benefits of water conservation and efficiency, and
- Strengthened ecosystem capacity and resilience to support an economy, social systems, and business climate which:
 - Provide sustainable employment,
 - Deliver quality goods and services, and
 - Use natural resources in a manner that ensures access to those natural resources for future generations.

The Vision

The federal government playing a strong role in ensuring safe drinking water for all Canadians and safeguarding the vitality and health of Canada's fresh water ecosystems, from coast to coast to coast.

Background and Rationale

Canada's celebrated water heritage is under threat. The added pressure of climate change is further upsetting this already overburdened system, damaged by decades of pollution, overconsumption and shoreline development. To protect this critical resource, and the health of every Canadian, the federal government needs to show leadership.³¹ A national strategy is needed. This strategy should coordinate federal, provincial, and territorial actions on the basis of Canada's ten major watersheds.³² While it will take time to fully develop this strategy, it must start with immediate action in the Great Lakes-St. Lawrence basin, our largest source of freshwater, upon which almost one third of Canadians rely.³³ This strategy could also draw upon the many specific policy recommendations published by leading Canadian organisations.³⁴

Canadians strongly believe water is the single most important natural resource, ahead of oil, forestry and agriculture.³⁵ The measurable contribution of water to Canada's economy is estimated to be between \$7.5 and \$23 billion annually, values comparable to agricultural production and other major economic sectors.³⁶

³¹ Representatives from a broad cross-section of Canadian society, including the following organisations, have agreed that federal leadership is absolutely crucial in protecting Canada's limited freshwater resources: The Canadian Chamber of Commerce, National Council of Women of Canada, Canadian Water Resources Association, Pollution Probe, Canadian Water Issues Council, Canadian Water Network, Council of Canadian Academies, and Insurance Bureau of Canada. Details are cited in a July 2008 advertisement in *The Hill Times* by the Forum for Leadership On Water (FLOW: Nature Québec, World Wildlife Fund, University of Victoria Polis Project on Ecological Governance, Centre for Indigenous Environmental Resources, Soil and Water Conservation Society, and UBC Program on Water Governance) and endorsed by the Assembly of First Nations, Canadian Environmental Law Association, Canadian Federation of University Women, Canadian Partnership Initiative-United Nations Water for Life Decade 2005-2015, Canadian Water Network, Conservation Council of New Brunswick, Ecology Action Centre, Ecojustice, Environmental-Aboriginal Legal Guardianship through Law and Education (EAGLE), Federation of Ontario Cottagers' Associations, Friends of the Earth Canada, Grand Riverkeeper Labrador, Great Lakes United, Lake Ontario Waterkeeper, Manitoba Eco-Network, National Council of Women of Canada, Okanagan Basin Water Board, Ottawa Riverkeeper, Petitcodiac Riverkeeper, Sierra Club Canada, Trout Unlimited Canada, Unilever Canada, Water Matters, Waterlution, Watershed Watch Salmon Society, and West Coast Environmental Law.

³² Arctic Seaboard, Mackenzie River, Atlantic Seaboard, St. Lawrence River, Hudson Bay Seaboard, Nelson River, Pacific Seaboard, Yukon River, Columbia River, Missouri River. See map at: <http://www.cec.org/naatlas/img/NA-Watersheds.gif>.

³³ Nearly 20 million Canadians depend on the Great Lakes and St. Lawrence River for clean water for drinking and cooking, healthy fish for sport and food, protected natural features for recreation and for enjoying the many ecological wonders that the Great Lakes and St. Lawrence offer.

³⁴ See Supporting Documentation at the end of this recommendation.

³⁵ This has been demonstrated in two recent polls, one by Ipsos Reid, sponsored by Unilever and RBC, and the other by Nanos Research, sponsored by the Walter and Duncan Gordon Foundation for *Policy Options*. In the Nanos poll, 61.6% of Canadians chose fresh water as the most important natural resource for the country's future, while 21.7% chose oil and gas, 11.2% chose forestry and 3.8 percent chose the fisheries." See <http://www.irpp.org/po/archive/jul09/nanos.pdf>. According to the *2009 Canadian Water Attitudes Study* conducted by Ipsos Reid for Unilever & RBC, "The majority of Canadians (53 per cent) rank freshwater as the country's most important natural resource; ahead of forests (20 per cent), agriculture/farmland (14 per cent), oil (eight per cent) and fisheries (two per cent)", and "Canadians' concern for water equals [their] concern for stability of financial markets". Summary of results available online at <http://www.rbc.com/environment/bluewater/articles/20090317-waterstudy.html>.

³⁶ O'Neill, D., "A Perspective" in Environment Canada, *Threats to Water Availability in Canada* (2004) at p.xi, Available online at <http://www.ec.gc.ca/inre-nwri/default.asp?lang=En&n=0CD66675-1&xml=0CD66675-AD25-4B23-892C-5396F7876F65&offset=4&toc=show> [Retrieved August 28, 2009.]

A prime example of the importance of freshwater to Canada's economy is the Great Lakes-St. Lawrence river region. If it were taken as a country, the Great Lakes regional non-farm economy, at \$4.1 trillion GDP, would be ranked as the second largest in the world,³⁷ after only the United States (US). This region supports 45% of Canada's industrial capacity and 25% of its agricultural capacity, and contributes \$180 billion to Canada-U.S. trade annually. The lakes sustain a \$100 million commercial fishing industry and a \$350 million recreational fishing industry, and every year 1.5 million recreational boaters enjoy the Great Lakes.³⁸ The region supports 48.5 million jobs and is home to nineteen of the top-ranked 100 universities in the world.

This region is a unique economic, social and cultural community and a vital global hub of activity; however, the health and quality of life of the region's residents depends greatly on the environment — on clean air and clean water, and on a healthy and safe place to build a sustainable future.

The Path Forward

In order to successfully safeguard the waters and watersheds in the Great Lakes – St. Lawrence Basin, Canada needs to include a comprehensive, long-term sustainability plan for this region as part of its national water strategy, based on a range of mutually supportive elements.

Protecting public health and the environment requires a strong federal commitment to improving conditions in the Great Lakes and St. Lawrence ecosystem, building upon the initiatives already in place. The *Great Lakes Water Quality Agreement* (GLWQA) is under review amidst a general sense that, while the Agreement has been hugely beneficial to progress in protecting the Great Lakes, it is out of date and needs to be re-thought. Certain issues have become more problematic, including climate change and invasive species, as well as development and growth pressures, and new agreements and approaches will likely be needed to reach the goals that a new GLWQA or its successor should be pursuing.

The *Budget 2007* allocations of \$5 million to the International Joint Commission for a study of the upper Great Lakes and \$11 million to clean up contaminated sediment in eight Great Lakes AoCs were an important indication that the Canadian government recognizes the importance of action on the Great Lakes and St. Lawrence River region. Similar commitments were made in subsequent announcements for cleaning up the Hamilton Harbour (\$35 million) and St. Mary's River (\$17.4 million) Areas of Concern (AoCs) under a shared funding arrangement through the Canadian Strategic Infrastructure Fund (CSIF). More recently, in the autumn of 2009, funding has been announced for Bay of Quinte (\$160,400), Niagara River (\$326,500), and St. Lawrence River (Cornwall: \$290,000) AoCs through the Great Lakes Sustainability Fund, portions of \$2.2 billion that has been committed for 38 forthcoming projects in the Great Lakes region. [At the time this document was finalised, the nature of these forthcoming projects was unclear.]

While these commitments are important, Environment Canada estimates it would cost \$3.5 billion³⁹ to clean up all the significant problems that reduce beneficial use in Canadian AoCs. Furthermore, the Treasury Board reported that "[e]stimates for the 2008-09 CSIF indicate that annual funds for such projects have in fact been reduced, relative to previous years, due to an increase in provincial transfer payments."⁴⁰

The Great Lakes Regional Collaboration in the US, initiated by the White House, has resulted in the development of a US work plan for restoration of the Great Lakes that, in 2005, was estimated to cost about US \$20 Billion over 5 years.⁴¹ The Obama administration has since requested \$475 million to address restoration of the Great Lakes.⁴² This funding would "strategically target the most significant problems in the Great Lakes region, such as aquatic invasive species, nonpoint source pollution, toxics and contained sediment, and habitat and species loss."⁴³ The magnitude of this investment is indicative of the challenge we face in Canada. Canada has not yet undertaken an equivalent, broad-based consultative initiative to this US Great Lakes Regional Collaboration.

³⁷ Brookings Institute, March 2008, *The Vital Connection: Reclaiming Great Lakes Economic Leadership in the Bi-National U.S.-Canadian Region*, page 7. http://www.brookings.edu/reports/2008/0324_greatlakes_canada_austin.aspx.

³⁸ Government of Ontario, http://www.ontario.ca/en/about_ontario/EC001033.

³⁹ 2008 Status Report of the Commissioner of the Environment and Sustainable Development to the House of Commons – Chapter 7: Areas of Concern in the Great Lakes Basin, page 9.

⁴⁰ Treasury Board of Canada Secretariat. 2008-2009 Main Estimates, Part I: The Government Expense Plan, pp.1-19. http://www.tbs-sct.gc.ca/est-pre/20082009/me-bd/pub/part1/ME-001_e.pdf.

⁴¹ The Brookings Institution. (2006). *The Vital Center: A Federal-State Compact to Renew The Great Lakes Region*. p.40. Available online at: http://www.brookings.edu/~media/Files/rc/reports/2006/10metropolitanpolicy_austin/20061020_renewgreatlakes.pdf [Retrieved August 31, 2009.]

⁴² 2009. United States Environmental Protection Agency. Available online at: <http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceac8525735900400c27/50698106f016dcd852575af0055f1a2!OpenDocument> [retrieved August 19, 2009.]

⁴³ May 2009. United States Environmental Protection Agency. *FY 2010 EPA Budget in Brief*. p.6. Available online at: <http://www.epa.gov/budget/2010/2010bib.pdf> [retrieved August 19, 2009].

Detailed Recommendation

The Government of Canada should deliver on its promised federal water strategy, with initial implementation in the Great Lakes-St. Lawrence basin. The government needs to build upon the actions in previous budgets with a plan to effectively restore, protect and enhance the environment of the combined Great Lakes and St. Lawrence River region. It is important to note that substantial portions of these costs could be covered by previously-announced infrastructure and gas tax funding.

The priority areas for investment should be the following:

1. Water Quantity and Quality

a) Upgrading water and wastewater infrastructure — A recent study⁴⁴ found that 20 cities on the Great Lakes, representing just 30 per cent of the region's population, dump more than 90 billion litres of untreated sewage into the Great Lakes every year. Some of the worst offenders include Toronto, Hamilton, and Windsor. The impact that these degraded wastewater systems have on public health is enormous. Fecal coliform bacteria and other biological and chemical compounds pollute sources of drinking water, close beaches and threaten the ecosystem. Furthermore, this exerts a significant burden on society in terms of health costs, lost productivity and negative impacts on tourism.

The Government of Canada needs to support upgrades to wastewater infrastructure in Ontario's AoCs and in the Zones d'intervention prioritaire (ZIPs) along the St. Lawrence River in Quebec. The 2008 Auditor General's report assessed progress towards addressing the treatment of municipal sewage in AoCs as "unsatisfactory."⁴⁵ Information from this report and others suggests that the cost of addressing municipal sewage issues in AoCs will be about \$2.6 billion.⁴⁶ In addition, the Green Budget Coalition estimates that \$600 million is required to begin to address wastewater infrastructure issues along the St. Lawrence River near Montreal. The federal government should contribute a minimum of one third of

this \$3.2 billion total, thus \$1.1 billion, to be matched by provincial and municipal governments under a shared funding model. In the case of municipalities whose finances have been severely weakened by the loss of tax generating industries, or that do not have sufficient tax bases to pay for upgrades to sewage and storm water treatment infrastructure, the federal government and provinces must cooperate to assume a greater financial responsibility.

Furthermore, when considering Canada's freshwater resources and sources of pollution outside Great Lakes AoCs, upgrading water and wastewater infrastructure must be a focus of federal resources to protect public health and the basin ecosystem from damage, such as the abundance of near shore algae. Figures from Ontario's Ministry of Public Infrastructure Renewal indicate that there is an additional water and wastewater infrastructure deficit, for Ontario sites beyond the AoCs, of approximately \$15.5 billion.⁴⁷ The Green Budget Coalition suggests that these costs be equally shared with the provincial and municipal governments, and calls on the federal government to provide \$5.2 billion over the next 10 years to the Canada Strategic Infrastructure Fund, earmarked specifically for waste water infrastructure projects in the Great Lakes – St. Lawrence basin for the protection of public health in this important and threatened region.

In order to maximize benefits to Canadians, funding should only be provided where certain conditions and assurances are met. Firstly, funds should not be used to facilitate transfers of water between watersheds within the Great Lakes basin ("intra-basin transfers").⁴⁸ Secondly, funds should not be used for combined sewer systems, the overflow of which contributes to pollution in our waterways. Lastly, municipalities must exercise demand side management and provide an effective, independently-monitored water conservation plan. The pumping and treatment of water are considerably high expenditures for municipalities, and managing the demand for water can reduce these costs. Maximizing the efficiency of current water usage demands will also reduce the need for federal

⁴⁴ Ecojustice, *Great Lakes Sewage Report Card* (November 2006), available at <http://www.ecojustice.ca/publications/reports/the-great-lakes-sewage-report-card>.

⁴⁵ Office of the Auditor General of Canada. *2008 March Status Report of the Commissioner of the Environment and Sustainable Development*. "Chapter 7—Ecosystems—Areas of Concern in the Great Lakes Basin", Exhibit 7.7—Progress in addressing our 2001 recommendations and finding is unsatisfactory. Available online at: http://www.oag-bvg.gc.ca/internet/English/parl_cesd_200803_07_e_30133.html#ex7 [retrieved August 20, 2009].

⁴⁶ The *2008 Status Report of the Commissioner of the Environment and Sustainable Development to the House of Commons* – Chapter 7: Areas of Concern in the Great Lakes Basin, page 3, estimates this cost to be \$2.4 billion. The Coalition expects the cost to be closer to \$2.6 billion, based on discussions with other knowledgeable sources on this issue.

⁴⁷ The Ministry of Public Infrastructure Renewal, in *Watertight, The Case for Change in Ontario's Water and Wastewater Sector*; Ministry of Public Infrastructure Renewal, Ontario (May, 2005), estimated that Ontario has an investment deficit of \$34 billion over the coming 15 years for water and wastewater infrastructure, of which \$25 billion is required for capital renewal (including \$11 billion for deferred maintenance) and \$9 billion for growth. The Green Budget Coalition further estimated that 80% of this funding is required for the Great Lakes Basin, that 2/3 of this funding would be required in the next ten years, and that these costs would be equally shared between the federal, provincial and municipal governments. The Green Budget Coalition also took into consideration the \$2.6 billion already discussed for the AoCs' wastewater. The \$15.5 billion figure was thus calculated as follows: $34b \times 80\% \times 2/3 = 18.1b - 2.6b = 15.5b$. Furthermore, $15.5b / 3 = \$5.2b$ per government.

⁴⁸ The US Government and the 10 Great Lakes States and Provinces have now largely protected the Great Lakes from large diversions and bulk water removals, by passing legislation to implement the Great Lakes St. Lawrence River Basin Sustainable Water Resources Agreement and in the States the companion Great Lakes St. Lawrence River Basin Water Resources Compact. Canadian federal approval is not required.

grants for future water infrastructure expansion, allowing for greater focus on renewing and repairing existing infrastructure.

Further resources should be allocated to support upgrades in water and wastewater infrastructure in the St. Lawrence River region, as these requirements become more clearly identified.

Budget:

These levels of required new funding could be substantially reduced by utilising portions of previously-announced infrastructure and gas tax funding.

Ontario Areas of Concern:

\$180 million per year for 5 years

St. Lawrence River sites near Montreal:

\$40 million per year for 5 years

Ontario (non-AoCs):

\$520 million per year for 10 years

b) Ensuring and coordinating the clean up and de-listing of the Canadian Areas of Concern (AoCs) and implementation of Zones d'intervention prioritaire (ZIP) Ecological Rehabilitation Action Plans (ERAPs) — *Budget 2007* provided a modest and interim commitment of \$11 million over two years,⁴⁹ in addition to the existing \$4.8 million annual funding (from 2007 to 2010),⁵⁰ to clean up contaminated sediment in Great Lakes sites. While important, these commitments are only minor compared to Environment Canada's estimate that an investment of \$150 million is required to clean up contaminated sediment in Canadian AoCs⁵¹ (significantly less than estimates for the US side of the lakes — US \$1.5 billion to US \$4.5 billion).

Stratégies Saint-Laurent, the government-supported NGO that manages the ZIP program in Québec, estimates that an additional \$1.1 million per year is required to maintain the operations of the 14 ZIP committees along the St. Lawrence River.⁵² Each ZIP committee partners with other organizations in order to deliver projects that implement aspects of each ZIP's Ecological Rehabilitation Action Plan (ERAP). The ERAPs address a wide range of issues, from invasive species and biodiversity to wastewater issues and restoration of riverbanks for public use.

A portion of federal funding to address these issues must be directed to coordinate a network of the AoCs, ZIPs, Watershed committees and Marine Protection Zones so that resources and experiences can be shared between government and non-governmental groups carrying out related projects, creating value-added partnerships and maximizing cost efficiency.

Budget: \$31.1 million per year for 5 years

2. Freshwater Ecosystems

a) Fostering healthy biodiversity through the preservation and protection of ecologically sensitive wetland habitat in the watershed, particularly near shore areas — The creation of Canada's first National Marine Conservation Area⁵³ was a good step towards protecting biodiversity and habitat in the Great Lakes, but more must be done to ensure that critical wetlands and other habitat are protected elsewhere in the ecosystem. The pressures on biodiversity within the basin are intense and habitat loss and degradation are widespread.

Wetlands provide a huge variety of benefits, often referred to as "ecological goods and services," for all Canadians, including: storage of floodwaters, water filtration, recreation, carbon storage, and mitigation of the impacts of climate change. The value of such services provided by the wetlands in the Lake Simcoe Watershed ecosystem was recently estimated at \$11,172 per hectare.⁵⁴ Ontario's Great Lakes coastal wetlands contain some of the most valuable wetland ecosystems in Canada, but as much as two thirds of pre-settlement wetlands in Southern Ontario have already been lost.

In the heavily impacted landscapes of the basin, a \$200 million investment over 5 years in the restoration and enhancement of coastal and headwaters wetlands in the Great Lakes and St. Lawrence would deliver significant short- and long- term benefits to water quality and quantity, to fisheries, and to wetland-dependant species at risk. This can be achieved through easements and acquisition of highest priority habitats, partnerships with private landowners and other stakeholders, educational outreach, monitoring, and cooperative initiatives with the U.S.

⁴⁹ Finance Canada (March 19, 2007): *Budget Plan 2007*. <http://www.budget.gc.ca/2007/bp/bpc3e.html>.

⁵⁰ Funding under the Great Lakes Sustainability Fund, from 2007 to 2010. 2008 Status Report of the Commissioner of the Environment and Sustainable Development to the House of Commons – Chapter 7: Areas of Concern in the Great Lakes Basin.

⁵¹ 2008 Status Report of the Commissioner of the Environment and Sustainable Development to the House of Commons – Chapter 7: Areas of Concern in the Great Lakes Basin.

⁵² Each ZIP Committee currently receives \$75 000 per year, but this figure has not changed in the past 15 years, despite increases in operational costs.

⁵³ Lake Superior National Marine Conservation Area of Canada, October 2007. http://www.pc.gc.ca/amnc-nmca/on/super/index_E.asp.

⁵⁴ Lake Simcoe Basin's Natural Capital: The Value of the Watersheds Ecosystem Services, Natural Capital Research & Consulting, June 2008. Friends of the Greenbelt Foundation Occasional Paper Series. http://www.lsrca.on.ca/PDFs/Lake%20Simcoe%20Final%20June%202008_2_.pdf.

These initiatives would be complementary to water and wastewater infrastructure investments as well as to specific actions within AoCs, and could also store carbon and mitigate the impacts of climate change. (See *Protecting Ecosystems and Biodiversity: A Necessity in the Face of Climate Change*, elsewhere in this document).

Budget: \$40 million per year for 5 years

b) Protection from Invasive Species — In its 2008 Status Report on the Control of Aquatic Invasive Species, the Auditor General of Canada found that “unsatisfactory” progress had been made towards assessing the economic and social risks of invasive species and described the efforts to prevent and control existing invasive species as “inadequate”.⁵⁵ To improve understanding and prevention of the introduction and proliferation of alien aquatic species in the Great Lakes, and to protect the entire ecosystem and the variety of important economic resources it contains, Canada needs to increase financial support for existing international institutions in the Great Lakes region. The US Great Lakes Regional Collaboration estimates that an effective invasive species program would cost \$693.5 million over 5 years.⁵⁶ The Great Lakes Fishery Commission conducts research and administers the international Sea Lamprey programme in the Great Lakes at a cost of \$15 million annually, of which Canada currently contributes 31% (and the US 69%). Using that cost-sharing basis, Canada must contribute roughly \$43 million annually to advance research and improve efforts to protect against invasive species, as well as to ensure that Canada is meeting its international obligations.

Budget: \$43 million per year for 5 years

Alternative and Complementary Policies

Respecting the regulatory development initiative being taken under the auspices of the Canadian Council of Ministers of the Environment, a national strategy for the treatment of wastewater is required and would protect bodies of water nationwide. The CCME estimates that the range of capital and non-capital costs needed to implement such a strategy would total from \$9.9 billion to \$12.1 billion over 20 years.⁵⁷ The Green Budget Coalition recommends that a national sewage treatment standard incorporate secondary and tertiary treatments.

To complement this effort, federal legislation including the *Canadian Environmental Protection Act* (CEPA) must facilitate stronger implementation of the multi-barrier protection approach, which includes preventing contaminants from entering the wastewater stream, by regulating chemicals in consumer goods whose manufacturing, use or disposal can have potential impacts on the environment and human health. As a long-term goal, municipal governments must be provided with the tools to ensure that water and wastewater services are fiscally sustainable through measures such as conservation and cost recovery programs.

Stronger water conservation efforts are needed to protect water resources, habitat, and quality, and to respond to the impacts of climate change. National water conservation programmes, public education, and incentives and standards for industry, agriculture, and homes all need to be strengthened. A labelling standard should be created for water efficient technologies similar to the U.S. Environmental Protection Agency program *WaterSense*,⁵⁸ and a Water Efficiency Act could be modelled on Canada’s Energy Efficiency Act.

Model bylaws and building codes that facilitate water conservation should be created as guidelines for provincial and municipal governments. Funds should also be dedicated to enable municipal water conservation measures. Efficient means of delivering these funds would include providing financial assistance to municipalities to implement universal residential water metering and full-cost water pricing, and increasing existing investment in the Green Municipal Fund⁵⁹ administered by the Federation of Canadian Municipalities. These actions would spur innovation and market growth in water efficiency technologies and would extend the life of existing water supplies, thus decreasing the need for infrastructure expansion and reducing the energy required to pump and treat water, reducing costs for governments and residential and commercial water users, and reducing greenhouse gas emissions. These efforts would also support provincial commitments to implement the Great Lakes-St Lawrence River Basin Sustainable Water Resources Agreement of 2005.

⁵⁵ Office of the Auditor General of Canada. 2008 March Status Report of the Commissioner of the Environment and Sustainable Development. “Chapter 6—Ecosystems—Control of Aquatic Invasive Species”, Exhibit 6.5- —Progress in addressing our recommendation on managing the risks of aquatic invasive species is unsatisfactory, Available online at: http://www.oag-bvg.gc.ca/internet/English/par_cesd_200803_06_e_30132.html#ex5 [retrieved August 20, 2009].

⁵⁶ Aquatic Invasive Strategy Team of the Great Lakes Regional Collaborative, October 2005. Appendix A - Aquatic Invasive Species Strategy Team Implementation Actions and Milestones. Available online at: <http://glrc.us/documents/strategy/AIS-Appendix.pdf> [retrieved September 2, 2009].

⁵⁷ CCME. (2008). Canada Wide Strategy for the Management of Municipal Wastewater Effluent, Summary and Recommendations, p.15. http://www.ccme.ca/assets/pdf/mwwe_techsuppl1_economic_plan_e.pdf.

⁵⁸ <http://www.epa.gov/WaterSense/>.

⁵⁹ See <http://gmf.fcm.ca/Home/>.

Protecting headwaters, wetlands and coastal habitats as natural heritage sites would not only preserve the natural beauty of the Great Lakes and St-Lawrence River for future generations, but also safeguard the health of those whose drinking water comes from the Great Lakes and St-Lawrence River, and protect critical habitat for numerous endangered species.

Supporting Documentation

Gordon Water Group of Concerned Scientists and Citizens, *Changing the Flow: A Blueprint for Federal Action on Freshwater* (October 2007); Pollution Probe, *A New Approach to Water Management in Canada* (March, 2008); Canadian Water Resources Association, *Toward a National Water Strategy for Canada* (April 2008); National Conference Board of Canada, *Navigating the Shoals: Assessing Water Governance and Management in Canada* (April 2007); Council of Canadians, *Canada needs*

a National Water Strategy (October 2007). Priorities for federal leadership on water are also included in *Tomorrow Today: How Canada can make a world of difference* (March 2008), published jointly by Canadian Parks and Wilderness Society, David Suzuki Foundation, Ecojustice, Environmental Defence, Équiterre, Greenpeace, Nature Canada, Pembina Institute, Pollution Probe, WWF-Canada, and Sierra Club Canada.

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Renewable Energy:

Attracting Investment, Creating Jobs

RECOMMENDATION SUMMARY:

2010 is an important time for the government of Canada to increase its support for renewable power, to enable Canada to meet its target of 90% non-emitting electricity by 2020, and to create new economic development opportunities while keeping pace with major growth in the sector both in the United States and overseas. While renewable energy includes electricity, heat and fuels, this fiscal year is an important time to focus on renewable electricity⁶⁰ in order to be prepared for the necessary replacement of many of Canada's power plants that are reaching the end of their working lives and for potential increased demand from electric and plug-in hybrid cars, while reducing the impact and emissions from the current portfolio of power stations.

The Government of Canada should start by seizing the opportunity to invest in clean electricity by:

1. Replacing the fully allocated ecoENERGY for Renewable Power (eERP) program with a capital grant program including a specific set-aside for northern and remote communities,
2. Establishing "Green Energy Bonds" as a mechanism that will ease access to capital and reduce borrowing costs for renewable energy developers, while enabling individual Canadians to directly support the development of renewable electricity, and
3. Unlocking Canada's geothermal potential by developing a national geothermal data and classification system to assess, quantify and characterize Canada's national geothermal resources.

Program	Results	Annual Cost (average)	Period
Renewable Power Production Incentive	8,000 MW of new capacity by 2014	\$450 million	4 years
Green Energy Bonds	Creation of a \$5 billion fund to ease capital access	\$100 million	10 years
Geothermal Resource Assessment	A national geothermal data and classification system	\$5 million	1 year

⁶⁰ "Renewable electricity" refers to electricity generated by renewable energy sources.

Investment Required: \$551 million/year (average) for 4 years, and **\$100 million/year** (average) for the subsequent 6 years

Benefits for Canadians:

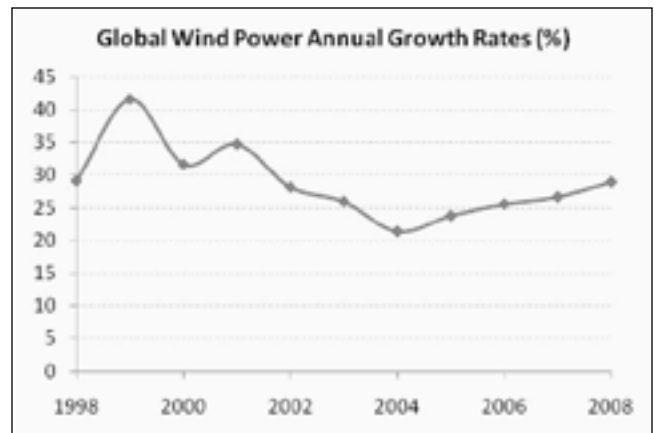
- Economic benefits across the country:
 - Over 8,000 new jobs in manufacturing, installation and maintenance,
 - Leveraging \$22 billion of private sector investment (through replacing eERP),
 - \$24 million in annual lease payments to rural landowners across Canada, and
 - Opportunity for Canadians to invest in the development of clean power projects.
- Energy benefits:
 - Creating a stable cost energy supply,
 - Diversifying the energy supply mix for Canadians,
 - Helping capitalize on Canada’s geothermal power potential that could provide up to 5,000 MW of installed capacity by 2015.
- Environmental benefits:
 - Reducing the harmful air, water and greenhouse gas pollution caused by our current reliance on fossil fuels.

The Vision

Immediate investments in renewable energy are part of a longer-term transition towards a sustainable and competitive energy future. Future investments in clean energy will be needed in renewable heat, transportation, energy efficiency as well as integrated community design, without which Canada will become uncompetitive in the global clean energy market both for production and manufacturing. By 2015, all new power plants in Canada should be non-emitting, and overall at least 10 per cent of Canada’s power supply should come from low-impact renewable sources.

Background and Rationale

In 2008, investment in new renewable energy outpaced investment in new nuclear, natural gas and coal electricity combined,⁶¹ attracting over US\$148 billion of investment worldwide.⁶² **The lowest global growth rate for wind power in the past 10 years has been over 21%.** Given the significant investments in renewable energy and energy efficiency in global stimulus packages, this industry is expected to continue to grow.



Source: World Wind Energy Association

Given its abundant renewable energy resources, Canada has the potential to become a global leader in renewable energy. While eERP has been successful in assisting the development of renewable power to date, Canada has the ability and the need to go much further. As a comparison, Germany, having a land mass less than that of Newfoundland and Labrador, has roughly ten times the amount of installed wind power as Canada, despite both countries having almost identical annual electricity demands.

On a per-capita basis, the American Recovery and Reinvestment Act of 2009 invested almost fourteen times as much in renewable energy as Canada’s 2009 budget.⁶³ Canada urgently needs to make significant investments in renewable energy to become an attractive market and to prevent investment from being attracted elsewhere, particularly to the United States.

In addition to the economic opportunities available by pursuing clean energy systems, they are critical to achieving a sustainable, healthy future for Canadians. Canada’s federal Environment Commissioner reported to Parliament in 2006 that a “massive scale up” of effort is needed to effectively address climate change,⁶⁴ including significant federal and provincial action on energy conservation and efficiency, and the rapid deployment of renewable sources of energy.⁶⁵ Moreover, renewable energy is expected to be a trillion dollar industry globally before 2020. Canada needs to rapidly increase the deployment of renewable energy systems in order to be a part of this huge economic opportunity while reducing emissions resulting from current electricity generation, and preparing

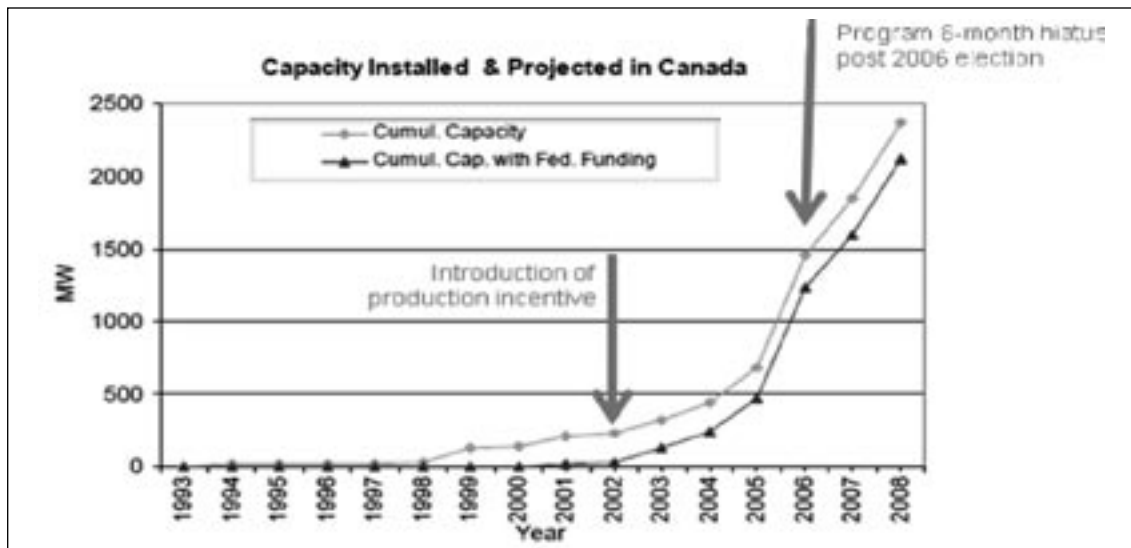
⁶¹ United Nations Environment Programme and New Energy Finance (2009). *Global Trends in Sustainable Energy Investment*. <http://sefi.unep.org/english/globaltrends22009.html>.

⁶² Renewables Global Status Report, 2009 Update (http://www.ren21.net/pdf/RE_GSR_2009_Update.pdf).

⁶³ Weis, Tim, & Matthew Bramley (2009). *Backgrounder: Canada vs. U.S. Investments in Renewables and Energy Efficiency*. Pembina Institute. <http://re.pembina.org/pub/1786>.

⁶⁴ http://www.oag-bvg.gc.ca/internet/English/parl_cesd_200609_00_e_14982.html.

⁶⁵ National Round Table on the Environment and the Economy (2007) “Getting to 2050: Canada’s Transition to a Low-emission Future”.



Source data: Natural Resources Canada presented at CanWEA 2008 (green arrows added by the Pembina Institute for illustration)

for increases in electricity consumption for transportation and heating. Realistic minimum national renewable energy goals are 10% of Canadian demand by 2015 (19,000 MW) and 20% by 2020 (40,000 MW).

Continued federal support for renewable power is crucial to ensure Canada becomes a leading player in the rapidly expanding global marketplace for clean, renewable power.

The best next step for Canada to meet its renewable energy potential is to fund the following three practical policies, all of which can be implemented in 2010-11 and would create immediate impacts. These recommended policies are all important near-term steps in a longer-term strategy for Canada. A failure to act would risk missing out on investment and jobs in a burgeoning industry that reduces greenhouse gas emissions while meeting Canada's energy needs.

1. Replacing the ecoENERGY for Renewable Power

The ecoENERGY for renewable power program (eERP) has been very successful and achieved its target over a year ahead of schedule. Federal renewable energy production incentives will have resulted in almost 5,000 MW of new renewable power projects in Canada since 2002. Supporting the development of an additional 8,000 MW of renewable power by 2014 (total 12,000 MW) is urgently required to ensure that the industrial momentum that has been built is not lost. This would put Canada on a trajectory to provide a minimum of 15 per cent of Canadian electricity needs from low impact renewable sources by 2020. Changing the program structure from

a production incentive to an up-front capital grant will facilitate project developers to secure financing, and ensures the incentive is equally applicable in jurisdictions such as Ontario that are offering specific renewable energy tariffs.

In the past, federal support has been provided through a production incentive. The current eERP program will expire in the fall of 2009⁶⁶ — almost a year and a half in advance of its original intended date. Losing federal support for renewable power deployment would have serious implications for Canada's renewable electricity industries, particularly given the priority that has been placed on developing renewables as an energy source and a new industry in the United States. At least 2,000 MW of Canadian renewable energy projects are already contracted between now and 2011, many of which would be jeopardized by the lapsing of the eERP program - either by making their financing more difficult to secure and/or by damaging or eliminating the anticipated financial returns.

Federal incentives have been critically important in spurring the development of renewable electricity. Their importance is illustrated by the fact that over 90% of wind power development in Canada to date has occurred since their inception, as can be seen in the graph above. While wind power projects have made up approximately 75% of the projects to date, the importance of these programs goes beyond wind power and includes other renewable sources such as biomass, run-of-river hydro and geothermal. There are over 11,000 MW of projects already

⁶⁶ Honourable Lisa Raitt, Minister of Natural Resources, at the House of Commons Standing Committee on Natural Resources (April 23, 2009).

positioned in the queue for the eERP program in spite of its anticipated lack of funds. While not every project that subscribes at an early stage will necessarily be built, there is clearly sufficient interest in Canada to build clean energy projects if there is sufficient support in place to make them economically viable.

Based on the success of these incentive programs, the capital support should be the equivalent value (1¢/kWh for first 10 years of production), awarded as the net present value of the amount. Based on past experience, an additional 8,000 MW of renewable electricity systems would require a total of \$1.8 billion over a 4-year period. Such capital grant investments would leverage over ten times as much private capital⁶⁷ and result in the creation of over 8,000 jobs by 2014.

A small portion of this program (\$6 million annually) should be set aside at higher incentive levels for remote communities that have notably higher energy costs, and for whom the equivalent of 1¢/kWh is not significant enough to encourage development.

Unlike the American production incentive, which is indexed to inflation, Canadian incentives have remained at 1¢/kWh since 2002 and, under the proposed expansion, would effectively continue at that level to 2024. Adjusting for an average inflation rate of 2%, the “real” level of support will therefore decline by approximately 35 per cent since the first incentives were awarded.⁶⁸

Countries that have been most successful in deploying renewable energy systems — and in creating jobs by doing so — have ensured that long-term and stable support is in place. Because the Government of Canada did not expand the eERP program in the 2009 budget, it has created a great deal of market uncertainty. Acting immediately is therefore crucial to create a stable Canadian market. Market stability is a key element in reducing costs and risks while enabling investment decisions about local manufacturing opportunities. *Delays, uncertainty and policy gaps will drive investment elsewhere.*

Until a fully functioning carbon market is established, direct incentives for renewable power development will continue to be an important part of the federal government’s ability to foster the development of renewable power and the accompanying industry. Increasing use of low-impact renewable energy will also

reduce the harmful air, water and greenhouse gas pollution caused by our current reliance on fossil fuels.

2. Establishing Green Energy Bonds

Access to capital can be an on-going challenge to developing many renewable energy projects that are typically in the “high capital cost, low operating cost” category. This challenge has become particularly pronounced in the recent economic downturn, but it is not limited to the current financial landscape. The creation of government-backed “Green Energy Bonds” would be used to finance renewable energy projects and would not only reduce the cost of capital but also reduce the risks and difficulties of accessing it.

By setting the program up as a public bond, it reduces the capital investment required by the government and also offers the opportunity for the public, which in poll after poll consistently shows very high levels of support for renewable power, to be directly engaged.

“... in order to accelerate the adjustment to an economy where carbon is not treated as a free good, the Conference Board of Canada believes that a range of financial policy instruments, from green bonds to new tax incentives, will need to be developed to foster investment in environmental technologies and processes.”

— Glen Hodgson, Chief Economist, Conference Board of Canada⁶⁹

Canadian Green Bonds could be offered in parallel to other support mechanisms such as the ecoENERGY for renewable power program, and/or be targeted at projects that do not fall under this program such as solar photovoltaic projects or small-scale projects such as residential systems.

Green bond programs already exist in Europe and the United States. A detailed concept paper for how Green Energy Bonds could be set up in Canada is available at www.greenbonds.ca. It is estimated that a maximum of 20% of raised funds would be required for administration and default, such that annual government spending to implement such a policy would be on the order of \$100 million per year. This level of ambition would create a revolving fund of \$5 billion over 10 years to assist in reducing capital risks for the development of renewable power.

⁶⁷ To date, eERP investments have leveraged approximately nine dollars for every dollar of federal incentives. As the federal support under this proposed program would be equal to the net present value of the traditional incentive flow, the actual federal cash outlay would decrease, increasing this proportion for the same overall private investments.

⁶⁸ 1 ¢ in 2024 dollars is worth approximately 0.65 ¢ in 2002 at 2% inflation.

⁶⁹ <http://www.greenbonds.ca/endorsements.html>. Accessed August 28, 2009.



Preliminary map of Alberta's enhanced geothermal system potential adapted from Moore and Majorowicz (2008)

3. Unlocking Canada's Geothermal Potential

Geothermal power has been used successfully by many countries all over the world, from Italy to Malaysia to the United States. The United States is the largest producer of geothermal electricity, with over 3,000 MW of installed capacity. There are no geothermal electricity stations operating in Canada. While geothermal systems traditionally have focused on areas with high levels of tectonic activity, research is showing that enormous potential could exist by drilling to depths of 10 km or less,⁷⁰ which is not uncommon in Canada's oil and gas industry. A National Geothermal Data System, Resource Assessment and Classification System would be an important tool to help scope the resource potential for geothermal energy, just as Environment Canada's "wind atlas"⁷¹ has been an important tool in assisting the development of wind energy projects in Canada. An update to the existing American geothermal resource assessment is being conducted this year at an estimated cost of US\$30 million.⁷² In order to begin a serious effort to understand Canada's potential, a \$5 million investment would be required in the current budget.

Alternative and Complementary Policies

Other variations on the structure of eERP, such as an expansion of the existing program that is based directly on production, would provide the same benefits. A capital grant may facilitate access to capital, while expanding the current program is simpler as it is a well known policy in the industry, however in either case, providing medium-term investment certainty is key. In addition, a complementary measure to support renewable energy deployment is to broaden the applicability of Class 43.2 in the *Income Tax Act* to enable more developers in Canada,

notably smaller Canadian companies who cannot currently make immediate use of this incentive.

A fully functional carbon market in Canada would reduce the need for direct federal financial support for renewable power. However, as it is currently proposed, in addition to many other shortcomings, the greenhouse gas offset system will fall well short of this objective as carbon prices will be prevented from reaching the levels they otherwise would in a fully functioning carbon market.

As noted, Canada must take greater steps to achieve its potential role as a global leader in renewable energy. Infrastructure investments in inter-provincial electricity transmission, as well as "smart grid" technologies, should be considered as complementary and priority areas for infrastructure funding going forward. In addition, programs supporting renewable power, and investments in residential renewable energy systems such as sustainable biomass heating and solar hot water collectors, will be important in future budgets.

Opportunity to End Nuclear Subsidies

To further level the playing field between sustainable and environmentally risky energy sources, and to offset the costs of supporting renewable energy, the Green Budget Coalition recommends the federal government end its fifty years of financial support and backstopping of Atomic Energy of Canada Limited (AECL). The federal government's current plan to privatize AECL could make a positive contribution to transiting Canada towards a more sustainable economy by better internalizing nuclear power's costs and shifting federal policy and financial support to more sustainable energy sources.

Total historic subsidies to AECL top \$20 billion⁷³ and ongoing subsidies continue to divert public funds from sustainable energy options. Since 2003-2004, for example, the federal government has provided \$433 million in subsidies to AECL for the design of the Advanced CANDU Reactor (ACR)⁷⁴ – a new reactor design that was promised to be cost competitive with other energy options. Ontario, however, has asked the federal government to subsidize the construction of two prototype ACRs and also assume significant risk transfer.⁷⁵

⁷⁰ Enhanced Geothermal Systems (EGS) Potential in the Alberta Basin, ISEEE Research Paper, Jacek Majorowicz, Michal C. Moore, 2008 July, http://www.aeri.ab.ca/sec/new_res/docs/Enhanced_Geothermal_Systems.pdf.

⁷¹ www.windatlas.ca.

⁷² www.energy.gov/news2009/7427.htm.

⁷³ Tom Adams, *Federal Government Subsidies to Atomic Energy of Canada Limited*, Energy Probe, January 11, 2006.

⁷⁴ Briefing Note, "Atomic Energy of Canada Limited," in response to an Access to Information Request for "A copy of the briefing book that was left at CTV's studios," September 25, 2009.

⁷⁵ Tyler Hamilton, "26B cost killed nuclear bid," *Toronto Star*, July 14, 2009.

The federal government's backstopping of AECL's contractual performance guarantees for reactor life-extension projects also exposes the federal taxpayer to significant liabilities and distorts provincial electricity markets. In 2009, the federal government was forced to allocate \$300 million in subsidies to pay for cost overruns at reactor refurbishment projects in Ontario and New Brunswick.⁷⁶

Privatizing AECL could be both financially and environmentally beneficial for Canadians, but only if it ensures an end to federal subsidies as well as to federal backstopping of contractual performance guarantees.

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⁷⁶ Tyler Hamilton, "Atomic 'challenges' prompt Ottawa to shell out another \$200 million," *Toronto Star*, November 6, 2009.



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Energy Efficiency:

Creating Monthly Savings for Canadians

RECOMMENDATION SUMMARY:

A government program that helps individuals and business improve their energy efficiency is the equivalent to a tax cut, as it reduces their monthly energy costs, thus increasing their disposable income or ability to grow their business. Implementing efficiency measures also creates jobs in retrofits, equipment manufacturing and retail sales of efficiency equipment and installation materials. As the next steps leading to longer-term targets and programs, the following actions should be taken immediately:

1. **CREATING A ZERO-INTEREST LOAN PROGRAM FOR HOMEOWNERS TO INSTALL GROUND SOURCE AND AIR SOURCE HEAT PUMPS.** Heat pumps are much more efficient ways of providing both heating and cooling for homes, while reducing emissions from fossil fuels.⁷⁷ Capital costs for heat pumps can be relatively high for many homeowners in spite of the ecoENERGY home retrofit program. Target: 15% of Canadian homes install heat pumps by 2020 by providing access to a \$2 billion revolving fund created over 5 fiscal years.
2. **INVESTING AT LEAST \$350 MILLION/YEAR OVER THE NEXT 2 YEARS IN SMART GRID TECHNOLOGIES** to keep pace with the American investment of \$7.75 billion from 2009-2011. Smart grids not only help operators control the electric system better, but can reduce electricity losses and enable an increased uptake of emerging variable power sources onto the electricity system.
3. **PROVIDING TAX CREDITS FOR NEW GREEN BUILDINGS AND RETROFITS TO MULTI-UNIT APARTMENTS,** responding to international recommendations on green buildings. Target: All new Canadian buildings are net zero energy by 2030. \$100 million/year over 5 years.
4. **IMPLEMENTING AN ELECTRIC/HYBRID FLEET VEHICLE INCENTIVE PROGRAM.**
The program would catalyze the adoption of hybrid vehicles into Canadian commercial fleets. \$66.7 million/year over 3 years.
5. **IMPLEMENTING A NATIONAL ENERGY EFFICIENCY ADVERTISING CAMPAIGN** that includes television and radio advertising to increase the visibility and accessibility of efficiency programs to Canadians. Target: \$2.5 million/year over 2 years.

⁷⁷ Provinces with coal-based electricity systems, including Alberta, Saskatchewan and Nova Scotia, will see little improvement in emissions by moving heating onto their electricity systems until emissions from such systems are reduced through the use of carbon-capture and storage and/or the increased use of renewable power systems.

Total investment: \$1.4 billion over 5 years,
plus \$2 billion in capital (over 5 years)
for the revolving loan fund.

Benefits to Canadians

In addition to providing economic advantages, energy efficiency and conservation are widely acknowledged to be the most cost effective, fastest to implement and most environmentally beneficial means of securing our energy supply, while improving air quality and reducing greenhouse gas emissions. Taking action immediately not only provides greater environmental benefits, but also helps strengthen the position of Canadian manufacturers and developers, particularly as the American market for energy-efficient products ramps up after the major investments that were made in the 2009 stimulus.

Background and Rationale

Canada's energy use grew more rapidly than its population in 2007-08, according to Natural Resources Canada's report to Parliament under the Energy Efficiency Act.⁷⁸ Canada will need to stabilize and begin to reducing energy consumption in order to increase energy security while reducing environmental impacts.

Governments can play a vital role in advancing energy efficiency, as investors in programs that stimulate actions and as policymakers and regulators that help shape the marketplace.

Council of Energy Ministers, Moving Forward on Energy Efficiency in Canada (2007)

Canada already has some very successful energy efficiency programs, but much more is needed. A recent McKinsey & Company study illustrates that government programs can result in over twice the return on investment in energy savings⁷⁹ and echoes many other studies that show how dollars invested in energy efficiency result in multiple dollar savings.

The Green Budget Coalition's energy efficiency recommendations (*above*) are all examples of such cost-effective programs that the federal government could implement quickly and that would rapidly create tangible benefits for Canadian households, consumers and

businesses, while making progress towards accomplishing long-term targets and reductions.

However, there is still a fundamental requirement for a long-term strategy that sets short and long-term targets, and implements programs to achieve them. This process has begun under the Council of Energy Ministers (CEM), but needs to be committed to in earnest.

Working papers prepared for the CEM show that major improvements in all sectors are both possible and cost effective, but only if action is taken by governments to remove barriers to market transformation and to aggressively regulate efficiency of equipment, buildings and vehicles. These CEM papers recommended short-term targets for the built environment, including 2012 and 2020 milestones and need to be moved into action by federal and provincial governments. Future federal budgets need to include financial support programs for efficiency in the industrial sector and for all modes of transportation and freight movement.

In addition, the Green Budget Coalition urges the federal government to develop and implement a comprehensive public transit strategy including both intercity and urban transit. The Federation of Canadian Municipalities' Big City Mayors' Caucus developed a national transit strategy⁸⁰ that could serve as a starting point for an expanded federal initiative in coordination with provinces and municipalities.

The federal government can provide leadership by implementing and communicating to the public its energy efficiency programs, but this needs to be supported by complementary regulatory actions in the industrial and transportation sectors, as well as by continually increasing the minimum efficiency standards for energy-using products.⁸¹

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⁷⁸ Natural Resources Canada (2009), Improving Energy Performance in Canada. *Report to Parliament Under the Energy Efficiency Act For the Fiscal Year 2007-08*. <http://oe.nrcan.gc.ca/publications/statistics/parliament07-08/pdf/parliament07-08.pdf>.

⁷⁹ McKinsey & Company (July 2009), Unlocking Energy Efficiency in the U.S. Economy. http://www.mckinsey.com/client-service/electricpowernaturalgas/US_energy_efficiency/.

⁸⁰ Federation of Canadian Municipalities (March 5, 2007). *National Transit Strategy*. <http://www.fcm.ca//CMFiles/transitsub1LUT-8282008-1885.pdf>.

⁸¹ Minimum energy efficiency standards should meet or exceed the best levels in North America, be extended to cover all energy-using equipment (and those that influence energy use), and be upgraded to the best in North America every four years.



Metal and Mineral Recycling

Closing the Loop

RECOMMENDATION SUMMARY⁸²

Support innovation and the development of environmentally sound closed-loop metal and mineral recycling through the following taxation and fiscal measures:

1. Harmonizing the tax benefits between primary extraction and recycling by eliminating the 100% accelerated capital cost allowance (ACCA) for primary mineral extraction projects (or, alternatively, extending the 100% ACCA to metal recycling facilities).
2. Creating a new metal and mineral recycling and stewardship initiative within Natural Resources Canada with funding of \$2 million per year over 5 years.
3. Supporting innovation and sustainable materials stewardship by funding interdisciplinary research for “cradle to cradle” design and manufacturing, and on recycling systems technology with an investment of \$2 million per year for 5 years.

Total Investment

\$4 million/year for 5 years, and \$2 million/year thereafter, minus any annual tax gains due to eliminating the 100% ACCA (or plus any tax losses due to extending the 100% ACCA).

Benefits for Canadians

- Development of a more efficient and sustainable manufacturing sector better able to compete in a carbon-constrained marketplace,
- Development of expertise relevant to sustainable metals management and sustainable manufacturing,
- Reduction in energy consumption, greenhouse gas emissions and other pollutants, and
- Increased domestic supply of metals and minerals.

Background and Rationale

Despite record spending on mineral exploration, economically viable Canadian mineral reserves have declined dramatically in recent years.⁸³ Few large, high grade deposits are being discovered, leaving the industry to rely on lower grade deposits and deposits in increasingly remote and challenging areas. Exploitation of these reserves is more costly both financially and ecologically. They create more solid wastes, effluent, and greenhouse gases, and are more susceptible to fluctuating commodity prices.

In order to ensure a secure, sustainable, domestic source of minerals for Canadian metal processing industries and downstream manufacturing, Canada needs to invest in

⁸² This recommendation has been vetted and supported by Len Shaw, President of the Canadian Association of Recycling Industries.

⁸³ Paul Stothart, 2007. Canada’s Mineral Reserves Crisis. Mining Association of Canada <http://www.republicofmining.com/2008/09/24/canada%E2%80%99s-mineral-reserves-crisis-by-paul-stothart/>.

closing the loop of mineral stewardship. Developing expertise and technologies in this sector will also place Canada in a position to be a leader in the international marketplace for these in-demand systems.

It is estimated that Canadian households discard between 116,000 and 232,000 tonnes of scrap metal a year, much of which could be recycled.⁸⁴ Substantial opportunities are also to be found in the construction and demolition, and institutional commercial and industrial sectors.

Recycling of metals and minerals has significant environmental benefits over primary extraction. Mining and metal processing is an energy intensive industry. For the period of 2001 to 2006, greenhouse gas emissions from twelve base metal mining operations reporting to the Towards Sustainable Mining initiative increased on average 5% a year.⁸⁵ In contrast to these growing emissions from primary extraction, promoting improved recycling of metals has potential to achieve substantial greenhouse gas reductions.

Natural Resources Canada's website notes that for every tonne of ferrous metal recycled, the GHG emission reductions are 1 tonne of equivalent carbon dioxide (eCO₂); for every tonne of aluminium recycled, the GHG emission reductions are 6 tonnes of eCO₂; and that for every tonne of copper recycled, the GHG emission reductions are currently estimated at 4 tonnes of eCO₂. The amount of water pollution and other sources of air pollution are also greatly reduced by recycling, as are the impacts on wildlife and landscapes that are caused by construction and operation of new mines.

The market price for secondary metal and mineral resources is the key driver for successful implementation of recycling. Currently, federal financial policies provide substantial tax benefits uniquely to the mining industry, helping make the prices of primary metals and minerals artificially low, and thus disadvantaging resource recovery and recycling.

The Canadian Government's bias to primary extraction over recycling is also seen in Natural Resources Canada's 2009–2010 Report on Plans and Priorities,⁸⁶ which does not mention nor refer to any aspects of secondary resources, recycling or lifecycle stewardship of minerals and metals. Natural Resources Canada currently has two

individuals dedicated to metals and minerals recycling but lacks a clear policy direction and budgetary commitment to improving Canada's performance in this strategic sector.

Given appropriate levels of funding there are several key areas in which the federal government could engage with regards to advancing mineral and metal stewardship including:

- Supporting and facilitating improved data collection of diversion and recycling volumes throughout Canada,⁸⁷
- Reviewing and reporting on effective regulatory measures to promote enhanced recycling including landfill bans, deposits/levies and extended producer responsibility, and
- Promoting research and innovation, and shared learning across design, engineering, economic and environmental fields.

Integrating recycling into product design and manufacturing is possibly the key opportunity to reducing the costs and increasing the efficiency of recycling. Progress in this area will require innovative, creative and cross-disciplinary approaches. Through support for research and innovation the Government of Canada can support the Canadian manufacturing sector to develop new approaches to efficiently use secondary resources, increasing their competitiveness in a carbon-constrained marketplace while improving their environmental performance.

At the same time, eliminating subsidies to primary extraction would help Canada fulfil its commitment under the OECD's recent Declaration on Green Growth, in which all OECD member countries declare that they "[e]ncourage domestic policy reform, with the aim of avoiding or removing environmentally harmful policies that might thwart green growth, such as subsidies [...] that promote the unsustainable use of [...] scarce natural resources; or which contribute to negative environmental outcomes. We also work towards establishing appropriate regulations and policies to ensure clear and long-term price signals encouraging efficient environmental outcomes."⁸⁸

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⁸⁴ Natural Resources Canada. 2009. What is Scrap Metal, <http://www.nrcan-rncan.gc.ca/mms-smm/busi-indu/iar-iltr/wis-wis-eng.htm>.

⁸⁵ Calculated with data from Towards Sustainable Mining Initiative.

⁸⁶ <http://www.tbs-sct.gc.ca/rpp/2009-2010/inst/rsn/rsn01-eng.htm#s15>.

⁸⁷ Recommendation of Recycling Council of Alberta et al. in 2004 report *Scan of Metals and Minerals Recycling Programs and Associated Climate Change Impacts*.

⁸⁸ OECD (June 25, 2009). Declaration on Green Growth. Meeting of the Council at Ministerial Level, 24-25 June 2009, C/MIN(2009)5/ADD1/FINAL, p. 2-3. [http://www.oalis.oecd.org/olis/2009doc.nsf/LinkTo/NT00004886/\\$FILE/JT03267277.PDF](http://www.oalis.oecd.org/olis/2009doc.nsf/LinkTo/NT00004886/$FILE/JT03267277.PDF).

Ending Chrysotile Asbestos Subsidies

RECOMMENDATION SUMMARY

End the federal government's annual \$250,000 contribution to the Chrysotile Institute.

Financial Savings: \$250,000 Annually

Background and Rationale

Asbestos was once widely used in Canada and the asbestos industry represented an important part of Canadian mining and export. However, by the 1960s there was widespread recognition that asbestos fibres were incredibly harmful if inhaled and could cause a variety of severe and lethal health conditions. The World Health organization now states that asbestos "is one of the most important occupational carcinogens causing about half of the deaths from occupational cancer."⁸⁹

Recognition of the dangers of asbestos resulted in regulations and out-right bans on its use in most developed nations. Most of the asbestos mines in Canada have closed but there is still one operating mine in Quebec, producing chrysotile asbestos, over 90% of which is exported.⁹⁰ Chrysotile asbestos is a known carcinogen and it is often contaminated with even more dangerous amphibole asbestos fibres.⁹¹

The Chrysotile Institute, based in Montreal, promotes the use of chrysotile asbestos internationally, and the federal government provides one-third of its annual budget. Canada's support for the industry hinges on the belief that chrysotile can be used safely, but evidence from Quebec and India (the world's largest chrysotile importer) shows that safe use policies are not sufficiently protective.⁹²

Elimination of this annual \$250,000 subsidy to the Chrysotile Institute would send an important signal that the Canadian Government will not support economic development dependent on the export of toxic substances, nor on the creation of severe human health risks to workers, wherever they may be.

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⁸⁹ World Health Organization. 2006. *Elimination of Asbestos Related Diseases*.

⁹⁰ Natural Resources Canada. 2009. Main Minerals and Metals Produced in Canada. <http://www.nrcan-rncan.gc.ca/mms-smm/busi-indu/mmp-mmp-eng.htm#asbestos>.

⁹¹ Expert Panel on Chrysotile Asbestos. 2008. *Chrysotile Asbestos Consensus Statement and Summary*. Report to Health Canada.

⁹² Institut National de Santé Publique de Québec. 2004. *The Epidemiology of Asbestos Related Diseases in Quebec*; CBC – The National. 2009. Canada's Ugly Secret, http://www.cbc.ca/video/#/News/TV_Shows/The_National/Health/ID=1304445584.



Conserving our Migratory Birds

RECOMMENDATION

Invest additional resources in migratory bird conservation through programs managed by Environment Canada and by its partners, who contribute complementary skills, resources and opportunities. These investments will support additional monitoring and research, particularly in the Arctic and in support of incidental take regulations. Funds will also support programs in Latin America and the Caribbean, where Canadian birds over-winter, and direct conservation programs in Canada.

Total investment: \$150 million (total) over 5 years and, thereafter, \$35 million annually

Background and Rationale

Birds represent not only an important part of our environment in their own right but are a cost effective tool to monitor the health of our entire environment. They also provide billions of dollars in ecological services from pest control to seed dispersion. For example, a healthy forestry sector depends on healthy bird populations.

The decline of birds in Canada represents a literal “canary in the coal mine” for our environment. For many reasons, birds are effective bioindicators of the health of their, and our, physical, chemical and biological environment. We know more about birds and have better systems to monitor their populations than any other group. They occur broadly in Canada and beyond our borders, and thus integrate the effect of environmental stressors. Yet 25% of the 350 species of birds that occur regularly in Canada are in decline or are otherwise of concern.

The federal government’s recognized migratory bird responsibilities and accountabilities, which derive from the Migratory Birds Convention signed with the United States Government, mean these concerns should be incorporated into all policies, programs and actions affecting nature in Canada, for terrestrial, freshwater and marine areas.

However, Canada’s commitment to migratory bird science and conservation has been eroding over the past 30 years, notwithstanding some notable exceptions (investments in the North American Waterfowl Management Plan which helped lead to the largest combined conservation effort on the continent, and in birds at risk through the Species At Risk Act).

Bird conservation programs need to be enhanced to help those species that are in decline, before they are put on the critical list. Once species are on the critical list, they must be addressed through the onerous and expensive auspices of Species at Risk programs. Keeping common birds common is a much more effective strategy.

Canada can capitalize on the existence of broad coalitions of willing partners, with mature plans, to help advance migratory bird conservation. An important example is the North American Bird Conservation Initiative which consists of federal and provincial/territorial agencies, conservation NGOs and industry associations in Canada, as well as counterparts in the United States and Mexico. Furthermore, there are tens of thousands of Canadians interested in actively supporting bird conservation through private funds and countless thousands of volunteer hours.

A fundamental underpinning of migratory bird conservation is monitoring and research. Monitoring tracks changes in abundance and distribution of bird species, and research is often required to understand which stressors are affecting the populations, and to design possible solutions. Research will provide input to modeling which will help predict the future of bird populations.

Enhanced monitoring and research is necessary for the following specific purposes, for which the federal government has responsibility, among many others.

- Incidental take of migratory birds arising from forestry, agriculture and other industries. This is a difficult policy and regulatory issue for the federal government. Central to developing and implementing any solutions will be information on the status and trends of species affected within and outside of the affected areas.
- Ensuring adequate environmental assessments for proposed developments that fall within its jurisdictions. Again adequate monitoring information is essential.
- Hunting regulations for migratory game birds. The federal government sets the hunting seasons for migratory game birds, and it is imperative that it monitors the impact of its regulations on the hunted species and on the hunters.
- Reporting to Canadians on the status and trends of the migratory birds that it is charged with protecting.
- Climate change and other broad scale stressors are causing significant changes to landscapes and species, which need to be understood in order to try to develop adequate adaptation strategies. Among species most affected will be those in Canada's Arctic where our stewardship responsibilities are that much more poignant because of sovereignty implications.

- In Canada, 597 globally and nationally significant Important Bird Areas have been identified and reported to BirdLife International. Canada needs to develop a monitoring framework to assess the ecological integrity of these sites and to design strategies for protection where these are found to be wanting.

Another important reality of migratory bird conservation is that Canada shares its species with many other nations. In some provinces, over 90% of the species leave the country each fall for destinations as far south as Tierra del Fuego. Whatever we do in Canada may be of little import if conservation is not strong in other nations. Canada has historically played a small but important leadership role in conservation efforts in other nations of this Hemisphere. Many of those countries have relatively weak wildlife conservation infrastructures but they are improving and Canada is in a position to play a much more important role in monitoring, research, conservation planning and capacity building. This should be a central element to a responsible Migratory Bird Program in Canada.

Given dramatic declines in many migratory bird populations, an investment in understanding and remedying the problem nationally and internationally is urgent. A reinvestment in migratory bird conservation is necessary in order for the federal government to meet its accountabilities under the Migratory Bird Convention and enabling Act in Canada.

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Extending Ecogift Tax Incentives to Inventory Lands

RECOMMENDATION

Amend the Income Tax Act to extend the tax incentives provided under the Ecological Gifts Program to apply to donations of ecologically significant lands held by corporations or individuals and not considered capital property (e.g. lands held as inventory). Such donations of inventory lands would, however, need to satisfy all of the existing criteria for an ecological gift.

Background and Rationale

In *Budget 2006*, the Government of Canada took important steps to help Canadian landowners and conservation groups preserve Canada's natural heritage through the reduction of the capital gains inclusion rate on ecological gifts to zero. This measure had long been advocated by the conservation community and its enactment is seen as a very positive step in encouraging private landowners to donate land for conservation purposes. The Green Budget Coalition fully recognizes the importance of this measure and is highly appreciative of the Government's support for conservation as demonstrated through this initiative.

Notwithstanding this measure, certain donations of ecologically significant lands — specifically lands held as inventory rather than as capital property — nonetheless still do not qualify for this preferential form of tax treatment under the Ecological Gifts program. Such lands are often in close proximity to urban areas and face tremendous development pressures that threaten their ecological values. Conservation of such lands is critical to the goal of preserving Canada's natural heritage. The disposition of lands held as inventory typically generates an income profit rather than a capital gain (because inventory lands are not considered to be capital

property). Unlike the gift of capital property, one hundred per cent of the fair market value of donated inventory land must be included in income, although the cost of such land may be deducted for the purposes of determining profit. The result is that the more favourable tax benefits of the Ecological Gifts program therefore do not apply to these types of inventory lands, thereby creating a disincentive to donations of such types of non-capital property, important as these may be. Since the purpose of the Ecological Gifts Program is to offer incentives to preserve significant ecological areas, it is strongly recommended that the benefits of this excellent program be extended equally to all people and companies owning qualified lands which meet the criteria necessary for the determination of an Ecogift, regardless of the basis under which these lands are held. In so doing, the Government will create a powerful incentive to landowners to donate lands of significant ecological value, for the benefit of all Canadians.

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Natural Capital Indicators:

Supporting Smart Policy

RECOMMENDATION

Renew and expand existing indicators of Canada's natural capital, building upon federal progress to date, in order to provide better information to federal decision-makers and to advance implementation of the Federal Sustainable Development Act. Provide funding for:

1. Renewing Canada's current natural capital indicators and providing greater temporal and spatial consistency of the data: air quality, freshwater quality, and greenhouse gas emissions. \$10 million/year for 5 years.
2. Reporting annually on the extent and quality of forest cover, and the extent of wetlands, to finish addressing the NRTEE's five recommended national-level indicators of natural capital.^{93,94} \$15 million/year for 3 years.
3. Municipal, provincial and federal governments to collect the necessary data to undertake priority natural capital valuation assessments related to water in Canada. \$3 million for one year.⁹⁵
4. Establishing a national research, education and training agenda focused on the valuation of natural capital for policy-making in Canada. This agenda could be facilitated by a number of national organizations that currently work on natural capital indicators. \$3 million/year for 3 years.⁹⁶
5. Instituting a national initiative to develop and measure critical indicators related to the environmental implications of human behaviour in Canada, including: sustainable energy and household material consumption, the flows of key materials through the economy, commuting and green-collared jobs. \$1.5 million/year for 3 years.

Benefits for Canadians

- Provide the necessary information for parliamentarians, government officials and citizens to make and support policy decisions that preserve and grow our natural capital simultaneously with our financial capital,
- Help safeguard our natural capital, which is central to our economy, our health, and our lives, and upon which the well-being of future generations depends,
- Establish Canada as a global knowledge centre related to natural capital valuation for policy-making.
- Enable the development of new policy instruments to safeguard Canada's environment, including market-based instruments.

⁹³ National Round Table on the Environment and the Economy (2003): *Environment and Sustainable Development Indicators for Canada*. <http://www.nrtee-trnee.com/eng/publications/sustainable-development-indicators/sustainable-development-indicators.pdf> (accessed August 24, 2009). Three of the recommended natural capital indicators have already been implemented by the federal government: air quality, freshwater quality, and greenhouse gas emissions. The most recent suite of reports, Canadian Environmental Sustainability Indicators 2008, published by Environment Canada, with support from Statistics Canada and Health Canada, is available at <http://www.ec.gc.ca/indicateurs-indicators/> (accessed August 21, 2009). While the NRTEE recommended reporting on only the extent of forest cover, the Green Budget Coalition recommends tracking both the extent and the quality of forest cover, as industrial forestry practices that replace natural forests with managed forests often diminish diversity by destroying old growth ecosystems and regrowing single species.

⁹⁴ The NRTEE also recommended a sixth indicator, of human capital (educational attainment).

⁹⁵ It is expected that in each watershed examined the data gathering, analysis and research costs are approximately \$150,000. This funding assumes the provision of funding for an initial pilot program in 20 cities and towns in Canada.

⁹⁶ This funding is based on a similar national research initiative like the Sustainable Forest Management Network.

Investment Required: \$32.5 million for the first year, then **\$29.5 million/year** for the next 2 years, and **\$10 million/year** for the subsequent 2 years

The Vision

“The Government of Canada ... acknowledges the need to integrate environmental, economic and social factors in the making of all decisions by government.”

- Federal Sustainable Development Act⁹⁷

Background and Rationale

Countries around the world have learned that there are great potential benefits to integrating social, environmental and economic considerations when making policy decisions, and that the best economic, environmental, and social policy decisions create benefits in all three spheres, maximizing the use of public funds. At the same time, Canadians have learned from experience, including the East Coast cod fishery and the Walkerton water crisis, that the costs of making economic decisions in isolation from environmental and social concerns can be very high, requiring significant public funds to remediate environmental and social damage.

As the OECD notes, building capacity to measure the progress of societies is one of the key opportunities to improve the quality of decision-making and accountability.⁹⁸ The Green Budget Coalition commends the Government of Canada for its progress to date in implementing natural capital indicators, including their one-year renewal in *Budget 2009*, and in adopting the Federal Sustainable Development Act.

Federal Sustainable Development Act

Canada has a great opportunity to lay the groundwork for comprehensively integrated policy by effectively implementing the new Federal Sustainable Development Act, whose structure builds upon lessons learned in Canada and around the world.⁹⁹

This important Act encourages the federal government to consider the interconnections between the economy, environment and human well-being every time it makes a major decision. It embeds environmental and

sustainability priorities at the highest level of decision-making by legislating a cabinet committee on sustainable development, only the second legislated cabinet committee in Canada’s history, to oversee the development and implementation of a Federal Sustainable Development Strategy. The Act requires the federal government to set “measurable” targets for protecting Canada’s environment, to set out a clear strategy for meeting those targets, and to assign specific Ministers the responsibility for meeting respective targets.

The Path Forward in 2010

The success of this Act in advancing integrated sustainability for Canadians will depend substantially on the information available to federal decision-makers and to the Canadian public.

To this end, the Government of Canada should make a longer-term and more comprehensive commitment to tracking the changing value of Canada’s natural capital, as well as the known factors influencing these changes. The Green Budget Coalition believes the best next steps are to fund the five measures recommended above, which will maintain and expand upon Canada’s current natural capital indicators. Implementing these recommendations will help the Government of Canada to measure progress towards achieving environmental and social objectives, and to gauge the effectiveness of different strategies.

Importantly, the realization of the full potential benefits from such indicators will also depend on the federal government providing leadership, coordination and support to improve the quantity and quality of environmental information monitored and shared by all levels of government in Canada.

It should be noted that the Federal government currently collects some of the necessary information to capture an understanding of Canada’s natural capital through the Canadian System of Environmental and Resource Accounts. Currently, these data sets are incomplete in their ability to capture the stock of natural assets and the flow of ecosystem services and would constrain establishing their economic value. Immediate attention should be focused on developing a framework for collecting these data sets.

⁹⁷ Bill C-474. Received Royal Assent, and thus came into Force, in June 2008. <http://www2.parl.gc.ca/HousePublications/Publication.aspx?DocId=3576210&Language=e&Mode=1&File=42>. Accessed August 21, 2009.

⁹⁸ http://www.oecd.org/document/5/0,3343,en_40033426_40037349_40038469_1_1_1_1,00.html.

⁹⁹ For example, Mexico has integrated sustainable development principles explicitly into its national development planning structure, while the Philippines National Economic Development Authority chairs the Philippine Council for Sustainable Development. Switzerland and the United Kingdom have been leaders in using integrated environmental, economic and social frameworks for evaluating policy proposals. International Institute for Sustainable Development (2003): *National Strategies for Sustainable Development*. p. x-xii. This document provides useful examples, and analysis, of how 19 countries have implemented sustainable development strategies.

Further Complementary Measures

There are many other steps required to fully and effectively integrate environmental considerations into federal policy.

As a means of making market prices tell the environmental truth, the Government should commit to developing additional indicators to measure the integration of life-cycle impacts, costs and benefits into the prices of goods, services, and activities, both at the retail level and throughout the supply chain. Where industry efforts are already under way, the Government should facilitate and support the harmonization of these efforts and ensure that public and private sector measurement efforts fit into a common chain of accountability. The Government should also lead the development of standards or protocols by which to conduct lifecycle assessments to advance the realisation of common metrics. These measures should similarly indicate the correlated cost advantages for goods, services, and activities with more positive life-cycle impacts than their competition; and the competitive advantages for businesses that are environmental leaders in improving the life-cycle impacts associated with their operations. The Government should, further, commit to continuous improvement in these measures, and set targets for doing so.

All of Canada's existing and proposed fiscal and economic policies should be assessed, in a transparent manner, for

their environmental impacts, in order to ensure that these current and proposed policies will not act against society's environmental and broader sustainable development objectives. See *Metal and Mineral Recycling: Closing the Loop*, earlier in this document, for an example of how current tax policies favour extraction of non-renewable resources over recycling.

Success in aligning Canada's economy with societal environmental objectives will also require leadership from the federal government to motivate and support provincial and municipal governments to take complementary actions. Specifically, the federal government should ensure that portions of transfer payments to provinces and of gas tax transfers to municipalities are made conditional on the achievement of specific environmental goals and on the implementation of measures to more fully incorporate natural capital values and pollution costs into market prices, including increased carbon pricing, resource royalties and road user pricing.

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Carbon Pricing:

Revenue Recycling

RECOMMENDATION

With governments in Canada and the U.S. committed to putting a price on greenhouse gas (GHG) emissions, some form of cap-and-trade system in North America appears to be a virtual certainty. The Green Budget Coalition has produced detailed carbon pricing policy design recommendations in its Budget 2008 and Budget 2009 recommendations.¹⁰⁰ For Budget 2010, we focus in on the use of revenue from carbon pricing; we wanted to elaborate our position on an area that has very direct implications for the Government of Canada's revenues.

Once introduced, a carbon price¹⁰¹ will quickly begin to generate substantial amounts of revenue for government. For instance, a carbon price of \$100 per tonne, applied to both combustion and non-combustion GHG emissions,¹⁰² has been projected to generate more than \$45 billion in government revenue annually and a price of \$200 per tonne is expected to generate at least \$70 billion annually by 2020.¹⁰³

Most of that revenue will be quickly reintroduced into the Canadian economy, but with such large financial flows, how the money is reintroduced becomes a critical factor. Targeted revenue recycling is therefore necessary. The Green Budget Coalition recommends the following priority areas:

- Helping to meet Canada's GHG reduction target
- Helping to meet Canada's international climate finance obligations
- Protecting low income Canadians
- Protecting the international competitiveness of trade exposed sectors that are demonstrably at risk of "carbon leakage"¹⁰⁴
- Compensating households in unduly impacted regions
- Reducing personal and corporate taxes

¹⁰⁰ Available from http://www.greenbudget.ca/main_e.html.

¹⁰¹ A carbon price can be implemented through a cap-and-trade system or a carbon tax.

¹⁰² Excluding agricultural, forestry and landfill emissions.

¹⁰³ David Suzuki Foundation and Pembina Institute. *Climate Leadership, Economic Prosperity*. Vancouver, BC. Available at http://www.davidsuzuki.org/Publications/Climate_Leadership.asp.

¹⁰⁴ Where production could be relocated to a jurisdiction with less stringent emission controls.

Background and Rationale

Governments have a number of options for using the revenue generated by a carbon price. One option is to dedicate a portion of the revenue to spending on measures designed to address some of the unintended consequences of a carbon price as well as spending to overcome some of the “market barriers” that prevent an efficient response to the carbon price.

Another option is to maintain “revenue neutrality,” meaning that the government reduces another revenue stream by an amount equivalent to the revenue generated by the carbon price. Typically revenue neutrality is achieved by means of a “tax shift” whereby taxes on carbon are increased by a given amount and other taxes, such as personal or corporate income taxes, are cut by an equivalent amount.

The Green Budget Coalition believes that revenues from the auction of allowances under a cap and trade system (or the revenues raised from a carbon tax) should be allocated, pursuant to legislation, to the following priorities.

Helping to meet Canada’s GHG reduction target

Direct investment by government in GHG reductions can be a valuable way to generate emissions reductions in areas where other instruments (regulatory caps on large emitters or offsets) are of limited effectiveness. For example, a recent study conducted by MK Jaccard & Associates concludes that investing \$1.4 billion annually in electricity transmission infrastructure and \$7 billion annually in public transit infrastructure over ten years would yield an additional 15.5 Mt in incremental GHG reductions.¹⁰⁵ Ecosystem protection to conserve carbon-rich forests and wetlands is also an area in which direct government investment could play a valuable role.

It is also anticipated that the Government of Canada will need to purchase emissions reduction credits on the international market (such as through the Clean Development Mechanism) in order to reach the target it will negotiate in Copenhagen; funding for these investments could also come from carbon pricing revenues. The government’s investment in GHG emissions reductions should be directed at those activities that are most efficient and effective in helping Canada to meet its national emission reduction target.

Helping to meet Canada’s international climate finance obligations

The new climate treaty due to be concluded in Copenhagen in December is certain to include financial commitments by developed countries to support mitigation and adaptation efforts in developing countries. These funds must be over and above current Official Development Assistance (ODA) commitments, and are additional to the purchase of international emission reduction credits to meet Canada’s national target.¹⁰⁶ Negotiations are currently underway to determine the means of generating, managing and disbursing climate financing for developing countries, and the final form of the financing is yet to be resolved. However, innovative means of generating the funds, including auction revenues, offer significant promise and should be fully explored by developed country governments. In Canada, a portion of carbon pricing revenues from a domestic cap-and-trade system could be used to meet these new and additional commitments.

Protecting low income Canadians

The increase in energy costs that accompanies a carbon price will have disproportionate impacts on low income Canadians.

Revenue recycling should be used to compensate low income Canadians for the additional cost that a carbon price will impose upon them, without reducing the incentive for behaviour change.

Protecting the international competitiveness of trade-exposed sectors

The application of an effective carbon price may have a negative economic impact on a handful of trade-exposed sectors if other jurisdictions have a substantially lower price on carbon. The imbalance can lead to the migration of capital to the lower cost jurisdictions, with consequential employment losses and carbon leakage.

The Government should be prepared to use carbon revenue to provide targeted financial assistance to Canadian sectors or facilities that can demonstrate a genuine risk of leakage.

Compensating households in unduly impacted regions

With a carbon price in place, some provinces that rely most heavily on fossil fuel, such as Alberta and Saskatchewan, will experience disproportionate increases in household energy costs as well as net outflows of carbon pricing revenue.

¹⁰⁵ This occurs in the context of a 2020 carbon price of \$120/tonne.

¹⁰⁷ Those purchases are included under the priority above, Helping to Meet Canada’s GHG Reduction Target. Canada’s obligation to assist poorer countries tackle climate change is additional to any offset credits it may purchase to meet its own national target.

Federal revenue recycling in the form of the payment of a fixed amount per person could provide compensation without diluting the incentive to conserve energy.

Corporate and personal tax reductions

A portion of government carbon price revenue should go to tax cuts for individuals and corporations in order to encourage employment and investment in the economy, as well as the uptake of green technology solutions in areas missed by other targeted green incentives.

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