

RECOMMENDATIONS FOR BUDGET 2014

featuring

Subsidy Reform in the Extractive Industries

National Conservation Plan

Protecting Canada's Fresh Water



BIRD STUDIES CANADA | CANADIAN ENVIRONMENTAL LAW ASSOCIATION | CANADIAN PARKS AND WILDERNESS SOCIETY
DAVID SUZUKI FOUNDATION | DUCKS UNLIMITED CANADA | ECOJUSTICE CANADA | ECOLOGY ACTION CENTRE
FRIENDS OF THE EARTH | GREENPEACE CANADA | INTERNATIONAL INSTITUTE FOR SUSTAINABLE DEVELOPMENT
NATURE CANADA | NATURE CONSERVANCY OF CANADA | PEMBINA INSTITUTE | WWF-CANADA



Who We Are

The Green Budget Coalition (GBC), founded in 1999, brings together fourteen leading Canadian environmental and conservation organizations, which collectively represent over 600,000 Canadians, through our volunteers, members and supporters.

Our Mission

The mission of the Green Budget Coalition is to present an analysis of the most pressing issues regarding environmental sustainability in Canada and to make a consolidated annual set of recommendations to the federal government regarding strategic fiscal and budgetary opportunities.

Our Vision

The Government of Canada contributes to securing and maintaining the environmental sustainability of Canada through appropriate investments in environmental programs and through the adoption of appropriate policies related to taxation, pricing and subsidies.

Objectives

- To bring together the collective expertise of leading Canadian organizations regarding the important environmental issues facing Canada;
- To prepare and promote prioritized recommendations annually to the federal government on policies, actions and programs whose implementation would advance environmental sustainability and which could be reflected in the federal budget; and
- To monitor federal budget decisions and spending estimates and to track GBC recommendations with a view to assessing the likely effect of budgetary and fiscal decisions on the environment and to evaluating the GBC’s impact on fiscal policy and budgetary actions.

The GBC makes its decisions on a consensus basis.

Nature Canada hosts the Green Budget Coalition.

George Finney, President of Bird Studies Canada, is the GBC’s Chair.

The Green Budget Coalition sincerely thanks the Echo, McLean, George Cedric Metcalf and Salamander Foundations for their generous financial support. The GBC’s efforts are largely funded by its members and these foundations.



EXECUTIVE SUMMARY

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Canada's environment is central to Canadians' prosperity.

Canada's upcoming 150th anniversary in 2017 gives Canada a unique opportunity to make transformative progress towards an environmentally sustainable, prosperous Canada, that ensures Canadians have:

- Clean air and water for our day-to-day health,
- Natural resources to cleanly power our economy and our lives far into the future,
- Unique wild spaces and species, healthy living systems and biodiversity,
- Strong green infrastructure to facilitate healthy lives and a vibrant economy amidst increasingly tumultuous weather events, and
- Played an effective responsible role in advancing the global effort to minimize dangerous climate change.

As the recent 2013 Speech from the Throne emphasized, "We must seize this moment to secure prosperity, for Canadians now, and the generations to follow."¹

Smart measures to advance environmental sustainability can simultaneously improve Canadians' health and wellbeing, create quality jobs, reduce government expenditures, and make Canada the envy of the world, while leaving a legacy for our children and the next one hundred and fifty years of which we can all be proud.

The **Green Budget Coalition (GBC)**, active since 1999, brings together fourteen of Canada's leading environmental and conservation organizations, representing over 600,000 Canadians, to present an analysis of the most pressing issues regarding environmental sustainability in Canada and to make recommendations to the federal government regarding strategic fiscal and budgetary opportunities.

The Green Budget Coalition has welcomed the Government of Canada's progress over recent years on subsidy reform, nature conservation, fresh water, and green infrastructure, particularly for First Nations communities. However, more is needed to complete these efforts, and to address other

important opportunities and threats. Waiting to act will increase both the urgency and the costs of action.

Budget 2014 is a prime opportunity to take strategic action.

The Green Budget Coalition's feature recommendations for Budget 2014 address:

- 1) Subsidy Reform in the Extractive Industries: Supporting Responsible Resource Development,**
- 2) National Conservation Plan: Securing Canada's Natural Advantage, and**
- 3) Protecting Canada's Fresh Water.**

The above three recommendations together – in addition to creating notable environmental, economic, and human health benefits – would create direct and ongoing financial savings for the Government of Canada.

Importantly, many of the recommendations in this document address the requirements for responsible resource development in Canada.

¹ 2013 Speech from the Throne (16 October 2013), <http://www.speech.gc.ca/eng/full-speech>

At the same time, Canada has a crucial role to play in the global effort to tackle climate change, beginning with the achievement of our national 2020 emission reduction target – a goal we share with the United States; and making science and science capacity a priority is fundamental to the Government of Canada’s ability to advance Canadians’ economic prosperity, health, and quality of life.

The Green Budget Coalition also recommends these complementary actions:

1) Principles and Strategies for a Green Economy and a Sustainable Canada

2) Strengthening Canada’s Science Capacity

for Energy Sustainability and Climate Action

3) Sustainable Energy for Canada: Strategic Opportunities

4) Getting on Track for Canada’s Climate Target: Designing a Technology Fund that works for 2020

5) Supporting Global Climate Action: Providing Canada’s Fair Share for Developing Countries

6) Hidden Liabilities in the Arctic Offshore and Nuclear Power: Protecting Taxpayers and the Environment

7) Levelling the “Fiscal Playing Field” for Natural Resources: Using Subsidy Reform and Environmental Pricing

for Healthy Communities

8) Resilient Infrastructure for a Prosperous Canada: Maximizing Potential of new Building Canada Fund

9) Green Infrastructure for First Nations Communities

10) Sustainable Transportation: Electric Vehicles

The GBC’s recommendations are chosen for their environmental importance and political timeliness. They represent only a portion of the actions needed to achieve comprehensive environmental sustainability for Canadians.

Fundamental Strategies for a Green Economy and a Sustainable Canada

“Greening” Canada’s economy – i.e., advancing Canada’s economy towards being truly sustainable, while preserving and growing our “natural capital” – is both a prime opportunity and a central requirement for making progress towards a sustainable Canada.²

Four fundamental strategies for effectively “greening” the Canadian economy, while increasing Canadians’ prosperity, are:

1) Deepening our understanding of domestic and global ecological limits, and adapting government policy to ensure we operate within those limits, particularly relating to non-renewable resources and the limited ability of air, water and soil to absorb pollution – including greenhouse gases – without notable harm;

2) Incorporating the value of natural capital into the economy and into government decision-making process, including by:

a) Levelling the “fiscal playing field” for natural resources using subsidy and pricing reform (*see detailed section, later in document*); and

b) Ensuring that “national capital” - the sum of natural, human, social, produced and financial capital from which countries draw their wealth – is tracked, preserved and grown, and made central to fiscal and economic policy;³

² Other key elements for achieving a sustainable Canada include (but are not limited to): preserving clean air, water and soil; ensuring access to healthy, affordable food; protecting wild spaces and species; strengthening and greening public infrastructure to withstand a more tumultuous climate and operate more in harmony with the cycles of nature; smart land use and transportation planning; strategic investments by all levels of governments, business and public institutions, including in energy efficiency, renewable energy, intra- and inter- city transit, and water and wastewater infrastructure; and respecting our international environmental commitments.

³ See Sustainable Prosperity (April 2012), “National Capital”, Issue Summary, <http://sustainableprosperity.ca/dl801&display>

- 3) Increasing our understanding of what forms and levels of economic growth can be harmonious with sustainability (domestically and globally), and integrating that knowledge into economic policy;⁴ and
- 4) Playing a responsible role towards achieving a global green economy and a sustainable global society, understanding that sustainability can only truly be achieved on a global scale (see, for example, *Supporting Global Climate Action*, later in this document).

Adherence to the “polluter pays” principle⁵ is central to levelling the “fiscal playing field” for natural resources. The GBC was pleased to hear of the Government of Canada’s intention to “enshrine the polluter-pay system into law”⁶ as part of its efforts to update Canada’s offshore liability regime,⁷ and encourages the government to apply the polluter pays principle consistently across all relevant legislation and contexts.

The Green Budget Coalition has commended measures in the Government of Canada’s recent budgets for making important progress towards aligning federal fiscal policy with sustainability, including actions to phase out subsidies to fossil fuels and/or mining in *Budgets 2007, 2011, 2012* and *2013*. This document highlights leading opportunities to build upon that progress.

Summary

The Green Budget Coalition strongly believes that the recommendations in this document will be invaluable for providing Canadians with a healthy environment, a thriving, sustainable economy, and the opportunity to live healthy lives today and for the next one hundred and fifty years. For this reason, we expect to continue refining and promoting these recommendations until they are adopted. Feedback and suggestions are welcome.

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⁴ For insightful discussions of related issues, see: Peter A. Victor (2008), *Managing Without Growth: Slower by Design, Not Disaster*, Edward Elgar, Northampton, MA; and Tim Jackson (2011), *Prosperity Without Growth: Economics for a Finite Planet*, Routledge.

⁵ 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 House of Commons Standing Committee on the Environment and Sustainable Development that the government “believes that the polluter should pay.” <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=2977081&Language=E&Mode=1>

⁶ Speech from the Throne (16 October 2013), <http://www.speech.gc.ca/eng/full-speech>

⁷ See Natural Resources Canada (18 June 2013): Federal-Provincial Cooperation Modernizing Liability for Offshore Petroleum Drilling Operators, news release, <http://www.nrcan.gc.ca/media-room/news-release/2013/7202>; and background, Federal-Provincial Cooperation Modernizing Liability for Offshore Oil and Gas Exploration and Operations, <http://www.nrcan.gc.ca/media-room/news-release/2013/7204>



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This document will also be available at www.greenbudget.ca/2014/main.html

www.greenbudget.ca

FEATURE RECOMMENDATIONS



FEATURE RECOMMENDATION

SUBSIDY REFORM IN THE EXTRACTIVE INDUSTRIES: SUPPORTING RESPONSIBLE RESOURCE DEVELOPMENT

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Recommendation Summary

The Government of Canada continues to enhance the neutrality of the tax system and further rationalize inefficient fossil fuel subsidies⁸ by phasing out tax preferences for the oil and gas sector in three of the last seven federal budgets. Important commitments were contained in Budgets 2007, 2011, and 2012, likely resulting in increased federal revenue in the order of \$400 million annually.⁹

The Green Budget Coalition strongly supports efforts by the Government of Canada to remove tax expenditures to the fossil fuel extraction industry, and therefore supports the continued commitments to reduce fossil fuel subsidies.

Budget 2012 moved to enhance the neutrality of the tax system by also phasing out tax preferences to the mining sector. Removing the Atlantic Investment Tax Credit for mining and phasing out the Corporate Mineral Exploration and Development Tax Credit were steps oriented to contribute to both tax neutrality and responsible resource development.

Budget 2013 moved to further align tax expenditures or deductions available for expenses in the mining sector with those available to the oil and gas sector. Two measures were contained in Budget 2013 to reduce tax preferences in the mining sector:

- Pre-production mine expenses that were previously treated at a 100% write-off under the Canadian Exploration Expense are brought in line with the oil and gas sector with a lower 30% deduction rate under the Canadian Development Expense; and,
- The accelerated capital cost allowance for certain assets acquired for use in new mines or eligible mine expansions is to be phased-out from 100% to 30% by 2020. This reduction in tax preferences aligns with changes made for oil sands producers in Budgets 2007 & 2011.

These measures will reduce annual tax preferences for the mining sector, including coal, in the order of \$45 million by 2018. If extrapolated past 2020, when both measures will be fully implemented, the annual savings would be in the order of \$75 million.¹⁰

With Budgets 2012 and 2013 bundling fossil fuel subsidy reform with responsible resource development, there is positive movement to better align tax policy with sound environmental policy. With solid economic growth in the resource sector, lowered corporate income tax rates, and policy to streamline federal environmental assessment procedures, the level of resource extraction will likely continue to increase in Canada. With increased economic activity, tax expenditures will rise as an expanding resource

⁸ In support of Canada's G-20 commitment to phase-out inefficient fossil fuel subsidies over the medium-term.

⁹ Based on analysis from: Sawyer, Dave and Seton Stiebert, 2010, Fossil Fuels: At What Cost? Government support for upstream oil activities in three Canadian provinces: Alberta, Saskatchewan and Newfoundland and Labrador, http://www.iisd.org/gsi/sites/default/files/ffs_awc_3canprovinces.pdf; and Budget 2011, <http://www.budget.gc.ca/2011/home-accueil-eng.html>

¹⁰ Budget 2013, Annex 2: Tax Measures: Supplementary Information and Notices of Ways and Means Motions. Table A2.1, p.331, 354-355.

sector accesses federal tax provisions. To the extent these tax provisions increase economic activity and lead to adverse environmental outcomes, further enhancing the neutrality of the tax system is a priority recommendation for the Green Budget Coalition.

While these are important first steps, Canada can continue to advance responsible resource development while improving the neutrality of the federal tax system. The Green Budget Coalition offers two priority recommendations for tax reform to the Department of Finance Canada:¹¹

1. Enable Canadian Exploration Expenses (CEE) only for unsuccessful exploration:

The CEE allows companies to deduct 100% of their exploration expenses from their income tax each year (in the coal sector this includes the intangible costs of mine development). Recognizing that some expenses could be legitimate search costs similar to research and development, the deductible rate could be reclassified to only apply to unsuccessful exploration expenses. If exploration leads to development then the less preferential Canadian Development Expenses (CDE) rate of 30% could be applied, at least until this CDE is brought more in line with capital cost allowance rates that reflect the useful life of the asset. For oil and gas, exploratory and dry wells are a fraction of total developed wells,^{12,13} indicating that current exploration expenses rates could be better aligned with the wells that are not brought into development.

Annual savings: Over \$240 million per year¹⁴

2. Do not renew the Mineral Exploration Tax Credit (METC) for flow-through shares (mining). Originally introduced in October 2000 to help moderate the effect of a global downturn in exploration in the 1990s, the METC has been renewed every year since. The METC complements flow-through shares,¹⁵ enabling individuals who invest in flow-through shares to claim an amount equal to 15% of specified mineral exploration expenses incurred in Canada and renounced to flow-through share investors.¹⁶

Annual savings:

Budget 2013 projected \$100 million per renewal (over two fiscal years),¹⁷

Budget 2014 savings are likely to be much smaller, given downturn in the sector.

Total Savings: Maximum \$340 million per year, likely smaller due to lower METC use in 2014-15

¹¹ Each of these recommended subsidy reforms was listed in a Memorandum from Finance Canada Deputy Minister Michael Horgan to the Minister of Finance, 18 March 2010, Subject: G-20 Commitment – Fossil Fuel Subsidies, <http://pubs.pembina.org/reports/department-of-finance-subsidies-memo.pdf>

¹² In 2007, exploratory wells were 12% of total well completions. Statistics Canada, Oil and gas extraction, Catalogue no. 26-213-X, Ottawa: Government of Canada, 2009. Table 2: Drilling Completions. <http://www.statcan.gc.ca/pub/26-213-x/2007000/t007-eng.htm>

¹³ Between 2007 and 2012, dry wells that did not produce averaged 10% of total oil and gas wells completed. The Canadian Association of Oilwell Drilling Contractors. http://www.caodc.ca/statistics/wellcounts_wc_annual.html

¹⁴ The 2010 report entitled “Fossil Fuels – At What Cost?” estimated that federal government support through the CDE and CEE to the oil sector in Newfoundland and Labrador, Saskatchewan and Alberta was \$711 million in 2008. While this estimate has been useful, it is incomplete, as it does not cover all of Canadian oil production and omits support to the natural gas sector. Adopting the lump sum comparison approach (see Fossil Fuels – At What Cost?, Appendix 2, page 133) but applied to all oil and gas activity in Canada, federal support through the CDE and CEE averaged \$1.34 billion (CDN \$2010) annually over the 2004 to 2009 period. This value is prorated by Statistics Canada data on well success (Catalogue no. 26-213-X).

¹⁵ “Flow-through shares allow companies to renounce or “flow through” tax expenses associated with their Canadian exploration activities to investors, who can deduct the expenses in calculating their own taxable income”. (Budget 2012, Annex 4).

¹⁶ Budget 2012, Annex 4.

¹⁷ Budget 2013, Table A2.1, page 331.

Benefits for Canadians

There are both economic and environmental benefits of these proposed measures. First, increased economic activity attributable to tax expenditures can have a negative impact on environmental outcomes even when provincial and federal regulations are respected. This decreases Canada's natural capital, putting into jeopardy the net benefit of the tax expenditure.

Second, capital spending distortions can be attributed to preferential tax treatment, resulting in economic losses. Enhancing the neutrality of the tax system by bundling fossil fuel subsidy reform with other extractive sectors supports Canada's long-term global competitiveness.

Background and Rationale

The identification and removal of subsidies to the extractive sector is an important and necessary component of Canada's transition to sustainable economic growth and to maintaining our global competitiveness. During this time of fiscal restraint, subsidies to the extractive sector represent an added strain on public finances and an inefficient use of taxpayer dollars.

Many of these tax preferences and accelerated deductions recommended for reform date back to the 1970s and have since outlived their original objectives.¹⁸ Phasing out these tax preferences would support Economic Action Plan 2013 by improving the integrity of the tax system.

Mineral Exploration Tax Credit

The Mineral Exploration Tax Credit (METC) was introduced as a temporary measure to promote investment in mineral exploration during a decline in exploration activity caused by a low period in the metal commodities cycle. However, this temporary measure has been repeatedly extended, despite subsequent increases in both metal prices and exploration investment.

In addition, it is uncertain whether the METC has had any significant impact on mineral exploration expenditures, in increasing metal reserves, or in the creation of sustained economic activity. The 2009 update of *Taxation Issues for the Mining Industry*¹⁹ found that, in periods of higher metal prices, tax incentives did little to increase exploration. It also noted that in 2008, when exploration investment dropped 46% due to the recession and low mineral prices, the use of flow-through shares (the investment vehicle to which the METC is tied) also decreased by 42%. This data calls into question the ability of the METC to boost exploration investment during lows in the commodity cycle.

Alternative and Complementary Measures

The Commissioner of Environment and Sustainable Development in February 2013 indicated that, "Although the federal government provides a significant amount of financial support to the fossil fuel sector through tax expenditures, data capture and availability of data remain problematic."²⁰ This meant the Department of Finance was unable to estimate tax expenditures support to the sector. The Commissioner also noted that past studies by Finance Canada did include estimates of accelerated deductions. Given that methods exist to collect the necessary data and publish the size of the tax expenditure, the GBC recommends that Finance Canada begin to collect data and routinely publish accelerated tax expenditure estimates for the mining and oil and gas sectors.

The GBC would also recommend that no new tax subsidies be adopted for oil, gas or mining, including liquefied natural gas for export.

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¹⁸ Sawyer, Dave and Seton Stiebert, 2010.

¹⁹ Natural Resources Canada, Intergovernmental Working Group on the Mineral Industry, 2009, *Taxation Issues for the Mining Industry: 2009 Update*, <https://www.nrcan.gc.ca/minerals-metals/business-market/mineral-exploration-tax-credit/2009/3140>

²⁰ Commissioner of Environment and Sustainable Development (February 3, 2012). 2012 Fall Report of the Commissioner of the Environment and Sustainable Development, Chapter 4—A Study of Federal Support to the Fossil Fuel Sector. Ottawa, Canada.

FEATURE RECOMMENDATION



Recommendation Summary

A commitment in the 2011 and 2013 Speeches from the Throne,²¹ the National Conservation Plan (NCP) provides the Government of Canada an opportunity to conserve Canada's remarkable natural heritage and to celebrate significant conservation achievements by Canada's 150th anniversary in 2017. To be effective, Canada's National Conservation Plan should focus on completing terrestrial and marine protected areas networks, ensuring sustainable management of working land and seascapes, maintaining or restoring healthy populations of all species of wild plants and animals, and building a conservation ethic in Canada by better connecting Canadians with nature.

Developing the NCP will require strong federal leadership to bring together federal departments and agencies, along with provincial, territorial, and Aboriginal governments, conservation groups, industry, scientists, and individual Canadians to create a roadmap to effectively conserve nature in Canada. Done right, this is an opportunity to position Canada as a conservation leader, and to meet our 2020 international biodiversity conservation targets.

The federal government has several key roles to play in developing and implementing the National Conservation Plan: providing nation-wide leadership, implementing the plan in areas of federal responsibility, ensuring the plan is knowledge-based (using science and traditional knowledge), and leveraging conservation outcomes by supporting partnership initiatives.

To effectively fulfil these roles, the Green Budget Coalition recommends that the federal government invest in:

- *Supporting healthy oceans:* **\$35 million per year**, ongoing, plus **\$15.7 million per year** for three years
- *Completing and protecting Canada's national parks system:* **\$40 million per year**, ongoing, plus a **\$50 million** one-time investment
- *Conserving nature on Canada's private lands:* **\$250 million over five years**
- *Conserving Canada's grasslands:* **\$3 million per year** for five years
- *Conserving and restoring wetlands:* **\$20 million per year** for five years
- *Conserving migratory birds:* **\$30 million per year**, ongoing
- *Connecting Canadians with nature:* **\$10 million per year**, ongoing

²¹ The October 16, 2013 Speech from the Throne commits the federal government to "protect Canada's rich natural heritage by unveiling a new National Conservation Plan to further increase protected areas, focusing on stronger marine and coastal conservation", and to complete three national parks by 2015. <http://www.speech.gc.ca>

Background and Rationale

As Canadians we are proud stewards of much of the world's remaining wilderness, rich wildlife, vast freshwater lakes and rivers, and the world's longest coastline. But in spite of this remarkable natural heritage, our wild species and spaces face unprecedented threats from an expanding human footprint and changing climatic conditions. There are now 650 species of plants and animals assessed as being at risk of extinction in Canada²² and most ecosystems are in a state of declining health.²³ As pressures on our lands and waters intensify, we must step up our conservation efforts to maintain our "natural advantage".

While there is considerable conservation work being done in Canada, our programs are largely disconnected across and within jurisdictions, and we have no way of assessing the overall impact and effectiveness of our efforts across the country.

The Opportunity:

The national conservation plan is an opportunity to put in place cost-effective "natural solutions" to support a sustainable resource economy, ensure food and water security, build resilience to the impacts of climate change, reduce the risk from natural disasters, support local economies through nature-based tourism, and enhance human health.²⁴

Done right, the National Conservation Plan could result in real conservation outcomes on the ground, healthy people and communities, jobs and a healthy economy, now and into the future.

The National Conservation Plan is also an opportunity for Canada to create a road map to achieve our agreed-to international conservation targets.²⁵ The 2020 Aichi biodiversity targets, endorsed in 2010 by Canada and the international community under the auspices of the United Nations Convention on Biological Diversity, provide a comprehensive framework for action to conserve nature, including a commitment to protect at least 17% of land and 10% of the oceans by 2020.

Recommendation:

To be effective, the National Conservation Plan needs to be based on a strong foundation of science and traditional knowledge, and facilitate "on-the-ground" conservation outcomes – both terrestrial and marine – in all regions of Canada, in a way that respects the rights and interests of indigenous peoples.

It should set clear, measurable shared goals for conservation Canada-wide, and create a framework under which all parties can work in a coordinated way to achieve these goals. A more coordinated approach to conservation in Canada will improve the efficiency, accountability and effectiveness of our collective efforts.

²² COSEWIC (October 2012), Canadian Wildlife Species at Risk. Committee on the Status of Endangered Wildlife in Canada, http://www.cosewic.gc.ca/eng/sct0/rpt/csar_e_2012.pdf, p.2.

²³ Federal, Provincial and Territorial Governments of Canada. 2010. Canadian Biodiversity: Ecosystem Status and Trends 2010. Canadian Councils of Resource Ministers. Ottawa, ON, http://www.biodivcanada.ca/A8E1EFFD-FCC0-4502-832A-359A50BAB5A3%5CEN_CanadianBiodiversity_PRINT_FRIENDLY.pdf

²⁴ For example, see: IUCN Natural Solutions reports at: http://www.iucn.org/about/work/programmes/gpap_home/gpap_solutions/gpap_natsolflyer/; Convention on Biological Diversity. 2008. Protected Areas in Today's World: Their Values and Benefits for the Welfare of the Planet, <http://www.cbd.int/doc/publications/cbd-ts-36-en.pdf>; TEEB –The Economics of Ecosystems and Biodiversity in National and International Policy Making – Responding to the Value of Nature 2009, <http://www.teebweb.org/publication/teeb-for-policy-makers-summary-responding-to-the-value-of-nature/#.UkXhH4Z6bGE>

²⁵ See Convention on Biological Diversity Strategic Plan for Biodiversity 2011-2020, including the Aichi Biodiversity Targets, at <http://www.cbd.int/sp/>

The National Conservation Plan should work towards a future where Canada has:

- A network of core protected habitat areas that sustain healthy wildlife and ecosystems in all regions of the country,
- Sustainably managed land/seascapes that allow plants and animals to move freely as required between protected habitats in order to support their full life cycle and respond to changing conditions,
- Healthy populations of all species of wild plants and animals, and
- A culture where citizens understand, appreciate and support the conservation of nature for its intrinsic value and the benefits it provides to all humanity.

The federal government has several key roles to play in developing and implementing the National Conservation Plan:

- Providing nation-wide leadership,
- Implementing the Plan in areas of federal responsibility,
- Ensuring the Plan is knowledge-based (using both science and traditional knowledge), and
- Leveraging conservation outcomes by supporting partnership initiatives.

Detailed Recommendations for National Conservation Plan

Economic Opportunities of Healthy Oceans:

Protecting Habitat, Managing Development, Supporting International Management and Transforming Fisheries

Recommended Investment:

\$35 million per year, ongoing, for:

- Marine protected areas, and

\$15.7 million per year for three years, for:

- Marine management tools: \$5M/year
- Regional fisheries management: \$2M/year
- Transforming fisheries: \$7.2M/year
- Ecosystem-based aquaculture research: \$1.5M/year

Protecting Ocean Habitat

Establishing a network of Marine Protected Areas (MPAs) to protect marine biodiversity, help recover fish stocks, boost nature-based tourism, and maintain stable jobs for the future.

MPAs contribute to Canada's \$39 billion a year ocean economy.²⁶ Bioregional planning should be conducted to identify an ecologically representative and well-connected network of MPAs through the National Framework for Canada's Network of Marine Protected Areas.²⁷ Canada has committed to protecting 10% of our oceans by 2020, however currently only slightly over 1% is protected.²⁸ To ensure Canada is on track to achieve this international commitment, the Green Budget Coalition recommends that Canada designate new marine protected areas covering at least 5% of Canada's waters within the next three years. This increase will ensure Canada is half way towards its 2020 commitment, and has done more than any previous government by doubling the current area protected.

Recommended Investment:

\$35 million per year, ongoing (\$25 million for Parks Canada to create and manage National Marine Conservation Areas, \$9 million for Fisheries and Oceans Canada to designate and manage Oceans Act marine protected areas and \$1 million for Environment Canada to establish and manage Marine Wildlife Areas).

Managing Ocean Development

Investing in marine management tools to ensure intertwined economic and ecological health through bioregional marine planning. These tools will support responsible resource development, providing certainty and a stable investment climate for industry stakeholders, and identify thresholds and ecological limits of the ocean ecosystem. The tools should include:

- **Cumulative effects and risk assessment** – a whole-of-ocean approach that establishes thresholds is essential to maintaining the long-term health of the ocean ecosystem and the communities that depend on it. Cumulative effects should be evaluated through environmental impact assessments and risk assessments in all bioregions and special consideration should be given to areas described as ecologically and biologically significant areas (EBSAs) and sensitive benthic areas.
- **Human use mapping to ensure the highest and best use of our oceans** – those critical to local and regional livelihoods and economies – are happening without conflict, and operators and regulators have the information they need for decision-making.
- **Valuing biodiversity and ecosystem services** (e.g., climate regulation, seafood provision, water filtration) and integrating these values into decision-making. Ecological mapping will be an important tool to identify nature's services critical for long-term human and economic well-being.

²⁶ <http://www.dfo-mpo.gc.ca/oceans/industries/index-eng.htm>

²⁷ <http://www.dfo-mpo.gc.ca/oceans/publications/dmpaf-eczpm/framework-cadre2011-eng.asp>

²⁸ <http://blog.wwf.ca/blog/2013/09/10/canada-ocean-nation-needs-marine-protected-areas/>

Tie these foundational elements together and implement **Marine Spatial Planning** to help ensure an integrated, ecosystem-based approach to the planning, protection, management and responsible use of marine areas and their resources.

Recommended Investment:
\$5 million per year for three years

Supporting International Ocean Management

Contributing to Regional Fisheries Management. Canada is engaged in several international fisheries management and marine biodiversity related projects. These range from the federal government's involvement in Regional Fisheries Management Organizations (RFMOs), most notably the Northwest Atlantic Fisheries Organization (NAFO), the International Commission for the Conservation of Atlantic Tunas (ICCAT), the North Pacific RFMO and cooperating states at several other RFMOs that manage straddling stocks and highly migratory species. Canada has also played a significant role in the Convention on Biological Diversity process around Ecologically or Biologically Significant Areas (EBSAs) and the 2010 Aichi Targets.²⁹ In the past, Canada has taken a lead role in international governance instruments including the Law of the Sea Convention, the UN Fish Stocks Agreement and the process to discuss biodiversity beyond national jurisdiction and current governance gaps.

The Green Budget Coalition recommends that the federal government:

- Invest in science and policy that ensure protection of fisheries and biodiversity on the high seas;
- Maintains an active commitment to applying the precautionary principle and ecosystem approach, RFMO modernization, and proactive, responsible governance in international fora.

Investment needed:
\$2 million/year for three years

Transforming Fisheries

Canada boasts one of the most diverse fisheries in the world, sourced from three oceans and the Great Lakes. These fisheries are economically important, both in terms of value and employment. In 2012, Canada's fish and seafood exports were valued at \$4.1 billion.³⁰ Canada's commercial fishing and aquaculture sectors provide more than 80,000 direct jobs to Canadians.³¹ Managing Canada's fisheries sustainably and equitably is vital to the livelihoods of rural Canadians and can provide enhanced food security for all Canadians. Improved fisheries management requires continued investments, including the following:

Implementing existing fisheries conservation policies and laws, specifically the Sustainable Fisheries Framework which includes the Policy for Managing the Impact of Fishing on Sensitive Benthic Areas, Policy for Managing Bycatch, and the Guidance for the Development of Rebuilding Plans under the Precautionary Approach Framework.

Recommended Investment:
\$3 million per year for three years to DFO to implement these policies through the Integrated Fisheries Management Process (IFMP).

Rebuilding fisheries by establishing and implementing science-led conservation plans and rebuilding strategies, with targets and timelines for all depleted fish. Ensuring sustainable fisheries into the future is vital for the livelihood of tens of thousands of rural Canadians.

Recommended Investment:
\$2.5 million per year for three years to establish meaningful harvest control rules and precautionary reference points.

²⁹ <http://www.cbd.int/sp/targets/>

³⁰ <http://www.ats-sea.agr.gc.ca/sea-mer/ind-eng.htm>

³¹ Ibid.

Investing in the capacity of fisheries associations to develop co-management plans. Supporting capacity to manage processes such as supplying lobster tags, on-line licensing, at sea monitoring, electronic logbooks, video monitoring, etc. will in the long run result in stronger and more independent fishing communities.

**Recommended Investment:
\$1.7 million per year for three years.**

Funding should be application-based and require matching funds from the community, private sector and other levels of government.

Total recommended investment for transforming fisheries: \$7.2 million per year for three years

Ecosystem based Aquaculture Research

Research open-net pen aquaculture improvement measures to reduce impacts on wild salmon, and other commercial species, particularly related to the transfer of disease and parasites from farmed salmon to other fish populations. Research should include developing monitoring thresholds that relate to ecosystem states as well as models to assess siting and recovery times. Dedicated research should also be conducted on the impact of pesticides and medicated food on the surrounding marine diversity, potentially in partnership with Health Canada. The DFO should apply revised siting criteria to all licensed salmon farm sites. Farms that no longer comply with siting criteria should be promptly removed or relocated to sites that comply with current siting criteria.

**Recommended Investment:
\$1.5 million per year for three years** through DFO for research by DFO scientists or partnerships with academics and to begin implementation of key recommendations of the Cohen Commission Inquiry.³²

For more background and details on the GBC's fisheries and oceans recommendations, please see Annex 1: Canada's Oceans, online at http://www.greenbudget.ca/2014/oceans_annex.html.

Protecting Ecologically Significant Natural Areas:

Globally, protected natural areas are recognized as cornerstones of conservation strategies. For example, in 2010 the World Bank noted that,

An ecologically representative, diversified and well-managed protected areas system is the most effective way to safeguard biodiversity.

World Bank (2010)³³

So far only 10% of Canada's land and 1% of our oceans are protected, far less than what is required to protect healthy ecosystems and to achieve the internationally agreed upon targets of protecting at least 17% of land and freshwater, and 10% of marine and coastal areas by 2020. With 90% of Canada's lands and all of our oceans in the public domain, federal, provincial and territorial governments all have a critical role to play in meeting these targets, by creating public protected areas and supporting the protection of ecologically significant areas of private land in southern Canada.

The federal government has important protected area responsibilities including:

- Completing the national park system and ensuring all our national parks are effectively protected;
- Completing a network of marine protected areas (see preceding Oceans section for detailed recommendation); and
- Creating national wildlife areas (NWAs).³⁴

The federal government also plays a major role in private land conservation initiatives. A successful example of this type of initiative is the Natural Areas Conservation Program.

³² <http://www.cohencommission.ca/en/>

³³ World Bank (2010), *Valuing protected areas*. World Bank GEF Operations, Washington DC, <http://siteresources.worldbank.org/GOALENVIROENVIRONMENTFACILITYGEFOPERATIONS/Resources/Publications-Presentations/ValuingProtectedAreas.pdf>

³⁴ There are currently funded NWA proposals moving through the establishment process as part of the NWT Protected Areas Strategy that need completing. The GBC is also proposing the creation of several new NWAs to conserve grasslands. See later section on *Conserving Canada's Grasslands*, within this NCP recommendation, for details.

National Parks

Recommended investment:

**\$40 million per year on-going,
plus a \$50 million one-time investment**

National parks are the federal government's primary terrestrial protected areas program, and are beloved by Canadians as iconic symbols of our national identity.

The objective of national parks is:

“to protect for all time representative natural areas of Canadian significance in a system of national parks, to encourage public understanding, appreciation and enjoyment of this natural heritage so as to leave it unimpaired for future generations.”³⁵

Our national parks system provides enormous benefits to Canadians by, for example, sustaining ecosystem services such as clean water and carbon storage, and supporting human health and well-being by providing spectacular places where Canadians can connect with nature and enjoy a healthy, active lifestyle.

National parks are also important economic engines. A 2011 study conducted for Parks Canada found that Canada's national parks have a significant and recurring positive economic impact. In 2008-09, Parks Canada spending of \$383 million on national parks generated \$2.4 billion of Canada's GDP, and supported 33,000 jobs, many of which were in rural and remote communities. It also resulted in significant tax revenues. Forty percent (\$162 million) of Parks Canada's annual budget is returned to governments through tax revenues.

Investing in national parks is a win-win opportunity to support the long term health of Canada's environment, communities and economy.

Canada has a long-standing goal of protecting examples of each of the country's diverse natural regions in our system of national parks, but to date significant gaps remain in the system. With development rapidly encroaching on areas proposed for national parks, we may be the last generation of Canadians to have the opportunity to complete our national parks system and to leave this important legacy for future generations.

While work is well advanced on creating several new national parks, completing these proposals requires renewed federal investment to support continued good faith negotiations with indigenous peoples, local communities and provincial, territorial and municipal governments.

Recommendation:

New National Parks: \$20 million per year, ongoing, plus a \$50 million one-time investment for land acquisition and other establishment costs. This would support the creation of six new national parks.³⁶

Conserving our National Parks: \$20 million per year, for supporting science-based conservation outcomes. This would sustain projects like reintroducing caribou and bison to Banff, managing fire, tracking and reporting on the state of park ecosystems, and managing invasive non-native species that threaten the health of park ecosystems.

³⁵ Parks Canada Guiding Principles and Operational Policies, <http://www.pc.gc.ca/eng/docs/pc/poli/princip/sec2/part2a/part2a2.aspx>

³⁶ New national park proposals include: Thaidene Nene (East Arm of Great Slave Lake), NT, Bathurst Island, NU, the South Okanagan-Similkameen, BC; Flathead Valley, BC; Northern BC (Region 7); and Manitoba Lowlands, MB.

Conserving nature on Canada's private lands: Natural Areas Conservation Program

Recommended investment: \$250 million over five years

Private land conservation measures complement Canada's national system of parks and protected areas, as well as helping to protect some of the most vulnerable habitats in the country. More than 80% of terrestrial and freshwater species at risk are located in southern Canada,³⁷ where private land ownership dominates the landscape.

Privately conserved lands often allow for compatible land use and recreational activities. Their close proximity to major population centres provides opportunities for connecting urban Canadians to nature. These lands also provide valuable environmental goods and services to those same communities, including clean water and air. Conservation measures on the private landscape therefore serve to bolster Canada's responsible resource development.

One of the most successful federally-led private land conservation initiatives has been the Natural Areas Conservation Program. Established in 2007 by the Government of Canada, the program is delivered by the Nature Conservancy of Canada in partnership with Ducks Unlimited Canada and to date, seventeen local and regional land trusts across Canada. The program is designed to accelerate the pace of conservation of natural and working landscapes through negotiated land purchases and donations, or restrictive covenants, with private landowners across southern Canada.

Since 2007, more than 3,600 sq. km of ecologically significant lands and waters have been conserved, providing natural habitat for more than 160 species at risk.³⁸ To date, the federal government's investment of \$225 million has been leveraged through matching funds and land donations from the private sector and other governments for a total conservation investment of more than \$600 million. In Budget 2013,

the program was extended for another year with an additional \$20 million, which will generate another \$60 million in habitat conservation funding.

An independent program evaluation³⁹ completed in June 2012 concludes that: 1) the program has been run effectively and efficiently, 2) it is aligned with the Government of Canada's priorities, 3) expected program outcomes have been met with significant progress, and 4) the program remains relevant to the protection of ecologically significant areas.

The continuing challenge of preserving Canada's natural heritage in southern Canada requires sustained investment by the federal government in private land conservation. The success of the Natural Areas Conservation Program in achieving its deliverables and in leveraging government funding makes the case for the long-term renewal of the program.

Recommendation:

Renewal of the Natural Areas Conservation Program: \$250 million over five years.

A multi-year renewal of the Natural Areas Conservation Program at a level similar to the federal government's initial investment in 2007, adjusted for inflation, would sustain the program through 2020. This investment would continue to be matched by the Nature Conservancy of Canada and partner land trusts to effectively double the government's investment. A renewed Natural Areas Conservation Program would maintain an emphasis on the accelerated pace of private land conservation across Canada to achieve a total level of securement of 7,000 sq. km over the span of the entire program. The program would also be enhanced by implementing critical stewardship actions on lands conserved under the program and by establishing an engagement program in preparation for Canada's 150th anniversary in 2017.

³⁷ Nature Conservancy of Canada (2010), internal research.

³⁸ Nature Conservancy of Canada (2013), reporting to Environment Canada as of June 30, 2013.

³⁹ Stratos (June 2012), Evaluation of the Natural Areas Conservation Program. <http://www.natureconservancy.ca/assets/documents/nat/Evaluation-of-the-Natural-Areas-Conservation-Program-Final-Report-June-2012.pdf>

Conserving Canada's Grasslands: Supporting biodiversity and resilient ranching communities

Recommended investment:

\$3 million per year for five years

Grasslands are the most threatened ecosystems in the world with the highest concentration of species at risk. In the March 2012 budget, the federal government decided to transfer responsibility for managing one million hectares of federally managed community pastures (composed of natural and semi-natural grasslands) to their three respective provincial governments and to close the federal Prairie Farm Rehabilitation Administration (PFRA). Saskatchewan and Alberta propose to lease or sell these lands to ranchers or private interests.

PFRA community pastures contain important habitat for many threatened grassland species and are hot spots for species richness. The recommended funding would retain federal capacity to protect threatened grassland species, conserve biodiversity, and increase the resilience of ranching communities.

First, the Green Budget Coalition recommends that funding be provided to establish and maintain the Govenlock Community Pasture in southwestern Saskatchewan and OneFour Research Farm in southeastern Alberta as National Wildlife Areas.

Govenlock comprises 186 sq. km. of short grass prairie providing habitat for pronghorn antelope as well as threatened species such as greater sage grouse, ferruginous hawk, burrowing owl and swift fox. Govenlock differs from other PFRA community pastures in that it is federally owned as well as federally managed. Govenlock, Naslyn and Battle Creek (two adjacent PFRA community pastures that also could be included in the NWA) together comprise the largest regional block of native grassland (706 sq. km.)

OneFour Research Farm comprises 170 sq. km of dry mixed grass prairie, of which 70% is native grassland. OneFour supports one of the highest densities of rare species occurrences in the Prairie Ecoregion, has high value to endemic grassland songbirds as breeding habitat, and has high value for at least twenty-three federally listed species at risk.

The costs of establishing and operating these two proposed National Wildlife Areas are modest. Land acquisition costs for Govenlock would be nil, as it is federal land, and OneFour is partly composed of federal lands with the remainder under long-term lease. Grazing fees charged to ranchers should be sufficient to cover operating costs of these NWAs.

Second, funding should be provided to ensure that important habitat for grassland species in the eighty-two other PFRA community pastures in Saskatchewan, Manitoba and Alberta is conserved following transfer to the provinces and private interests. Although some conservation assessment work has been done, this work should be completed in consultation with pasture patrons and other stakeholders before any are transferred by the federal government. Once assessments and consultations are completed, the federal government should provide incentives to conserve lands being transferred, as well as impose legally binding conditions on such transfers.

Third, the federal government should provide financial support in promoting sustainable ranch land management to benefit grassland biodiversity as well as ranching communities. The government should support the North American Grasslands Alliance, which is composed of ranchers, governments and non-government organizations in Canada, United States and Mexico. This alliance is working to achieve North American grasslands that are environmentally healthy and productive ecosystems that sustain working landscapes, conserve biodiversity, and support vibrant rural economies.

The government should also provide funding to improve the economic sustainability of ranches, first by communicating that economically sustainable ranches and ranching communities are a key to conservation success. Ranch profitability can also be improved through outcome-based beneficial management practices (BMPs); incentive tools that help achieve economic parity with alternate land uses; and improved competitiveness of conservation incentives, risk insurance and other programs for ranchers.

Conserving and restoring Canada's wetlands: Supporting biodiversity, water quality and quantity and the working landscape.

Recommended investment:

**\$20 million per year for five years
(\$100 million total investment)**

The Green Budget Coalition recommends that the Government of Canada invest twenty million dollars per year for the next five years in wetland conservation and restoration. This federal investment would be matched at a minimum ratio of 1:1 by funds other than those from the Government of Canada, creating a 'doubling effect' of conservation benefit. Funding would support projects and programs that:

1. Restore drained and/or degraded wetlands on public and private land, in areas where wetland drainage has been or continues to be high, and where further risk of wetland habitat loss is elevated.
2. Support wetland conservation on the working and settled landscapes.
3. Increase the inventory of "green infrastructure", functionally restored habitats that mitigate or offset the effects of major natural weather events (e.g., flooding) while providing a full suite of ecological goods and services to all Canadians.

The Conservation Opportunity:

Canada is host to approximately 25 percent of the world's wetlands and over half of the wetlands in North America. Canada has over thirteen million hectares of wetlands of international significance – more wetland area than any other of the 160 countries signatory to the Ramsar Convention on wetland conservation (1971).

Wetlands contribute significantly to Canada's social, environmental and ecological well-being and prosperity. Not only do they provide critical habitat for wildlife, including numerous species at risk, they provide recreational opportunities, support tourism, sequester atmospheric carbon, clean and filter our water, regulate water supply, moderate the effects of flooding and drought and support sustainable industry in Canada by supporting a consistent supply of clean water.

Despite the host of values and services that wetlands provide, they continue to be lost at an alarming rate. At a global level, the planet has completely lost over 50 percent of its wetlands. Rates of loss and degradation in Canada vary regionally. For example, over 72 percent of wetlands in southern Ontario have been lost and converted to other uses and wetland loss in many urban and agricultural areas of the country exceeds 80 percent.⁴¹ Wetland loss of this magnitude creates significant risk and liability for Canadians based on the wetlands' lost values and functions and the expenses associated with human-made infrastructure cost necessary to compensate for their loss.

Investing in Canada's wetlands makes financial sense. It is estimated that a one-dollar investment in wetlands in Canada translates into over \$28 in net social return on investment.⁴² This includes direct benefits such as job creation and tax revenues, as well as induced benefits such as forgone infrastructure costs associated with ecological goods and services.

See also Protecting Canada's Fresh Water, later in the document.

⁴¹ Nancy Olewiler, 2004, *The Value of Natural Capital in Settled Areas of Canada*, Ducks Unlimited Canada and the Nature Conservancy of Canada..

⁴² Mark Anielski, John Thompson, and Sara Wilson, 2013, *A Genuine Return on Investment: The Economic And Societal Well-Being Value of Land Conservation in Canada*, Ducks Unlimited Canada (forthcoming – contact a_barnett@ducks.ca for details).

Conserving Migratory Birds

Recommended investment:

\$30 million per year, ongoing

To deliver on Canada's responsibilities to conserve migratory birds, a renewed investment is needed to support enhanced research and monitoring as well as conservation action in Canada, and throughout the Western Hemisphere.

The federal government's significant migratory bird responsibilities and accountabilities derive from the *Migratory Birds Convention* signed with the United States. Over the past thirty years, Canada's investment in migratory bird science and conservation has eroded, with some notable exceptions (which include investments in the North American Waterfowl Management Plan and in birds at risk through the *Species At Risk Act*).

In June 2012, the North American Bird Conservation Initiative (Canada) published the first *State of Canada's Birds* report.⁴³ Led by Environment Canada, Bird Studies Canada, Ducks Unlimited Canada, Nature Canada, the Nature Conservancy of Canada and Wildlife Habitat Canada, the report points to the strong influence, both positive and negative, of human activity on bird populations, as well as the need for urgent action for bird conservation.

The report shows that some groups of birds in Canada are doing well. For example, waterfowl across the country are modestly increasing in response to the collective efforts of government and non-government agencies through the North American Waterfowl Management Plan. On the other hand, shorebirds, grassland birds and birds that feed on flying insects are doing very poorly, with some species having declined by over 80% in the forty years of measurement.

Given dramatic declines in many migratory bird populations, the following investments are needed to understand and remedy the problem:

Research and monitoring (\$10 million per year) is a fundamental underpinning of successful migratory bird conservation. Monitoring tracks changes in abundance and distribution of bird species, and research is required to understand which stressors are affecting the populations and to design possible solutions.

Conservation action (\$10 million per year) is required in parallel to research and monitoring. Keeping common birds common through pro-active conservation action is a more effective and inexpensive strategy than recovering birds once they are declared "at risk of extinction". But to prevent vulnerable species from further decline, Canada's pro-active bird conservation programs need to be enhanced. Canada should capitalize on the existence of broad coalitions of willing partners, with well-developed plans, to help advance migratory bird conservation.

Individual Canadians also have an important role to play. Tens of thousands of individual Canadians are actively supporting bird conservation through private funds. And citizens are also contributing valuable bird monitoring data. *The State of Canada's Birds* report, for example, was only possible because of the efforts of thousands of Canadian volunteer observers.

Partnerships in Canada and abroad (\$10 million per year) are also critically important. Canada shares its species with many other nations. In some provinces, over 90% of bird species leave the country each fall for destinations as far south as Tierra del Fuego. What 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 in other Western Hemisphere countries, many of which are working to improve their relatively weak conservation infrastructure. Canada could help by playing a much more significant role in monitoring, research, conservation planning and capacity building in other countries. This needs to be a central element of an effective Canadian Migratory Bird Conservation Program.

⁴³ North American Bird Conservation Initiative Canada. 2012. *The State of Canada's Birds*, 2012. Environment Canada, Ottawa, <http://www.stateofcanadasbirds.org/>

Connecting Canadians to Nature

Recommended Investment:

\$10 million per year, ongoing

Today, Canada faces a paradox: Canadians rank environmental issues near the top of the national agenda, yet fewer Canadians than ever have a personal connection to nature, probably due, at least in part, to increasing urbanization. Further, there is evidence that Canadians who engage in outdoor nature-oriented recreation are healthier than those who do not.

The National Conservation Plan could address this paradox by working with partners to better connect Canadians to nature in order to support healthy ecosystems and healthy people.

Every child and every adult should have access to wild nature – whether a ravine, a wetland, a woodlot, or a seashore – in their neighbourhood.

Considerable work is already underway by governments and non-governmental organizations that could provide a foundation on which to build. For example, Parks Canada and other parks agencies are working to encourage more people to connect with nature through Canada's parks system.

Many non-governmental organizations have long been involved in offering nature-based experiences and are now focusing more and more attention on connecting people with nature. For example, Young Naturalist Clubs across Canada have provided young people of ages 5 to 12 with opportunities to discover nearby nature for over a half a century. *My Parks Pass* is a partnership between Parks Canada and Nature Canada that provides Grade 8 students with a pass for free daily access to over two hundred Parks Canada destinations for a full year. The Canadian Parks and Wilderness Society (CPAWS) is working with partners, including Mountain Equipment Co-op and The Child and Nature Alliance Canada, to build a nation-wide

peer-to-peer youth leadership program called "Get Outside". The Child and Nature Alliance Canada is a network of organizations and individuals who are working to connect children to nature through education and other means, through projects such as Forest School Canada and Natural Leaders Alliance. Other programs conducted by national not-for-profit organizations to connect young Canadians to nature include: *Naturehood*, focused on connecting Canadians in urban places (Nature Canada), *Go Wild*, curriculum-linked experiential and education programs (CPAWS), *Bike for Wildlife* (Canadian Wildlife Federation), *Project Webfoot* and *Wetland Centres of Excellence* (Ducks Unlimited Canada), *Schools for a Living Planet* (WWF Canada), and *My Parks Pass* (led by Parks Canada). Programs focusing on connecting new and adult Canadians include *Fall Family Challenge* (David Suzuki Foundation).

Encouraging citizen science is another way to connect Canadians to nature and directly contribute to conservation knowledge. Successful citizen science initiatives in Canada include ebird, managed in Canada by Bird Studies Canada, and Nature Watch, a collaboration between Nature Canada, David Suzuki Foundation, the University of Ottawa and Wilfred Laurier University.

What is needed is national leadership to support greater effectiveness and coordination in delivering these programs. As a first step, the National Conservation Plan could leverage greater results by providing support for partnership initiatives that connect Canadians to nature and encourage their involvement in stewardship and citizen science initiatives.

Recommended Investment:

\$10 million per year, ongoing, for a leveraged fund to support partnerships that connect Canadians with nature.

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FEATURE RECOMMENDATION

PROTECTING CANADA'S FRESH WATER

StockXCHNG

Recommendation Summary

Canada's fresh waters are of national and regional importance and a tremendous resource on a global scale. They contribute extensively to the social, ecological and economic well-being of our country. The federal government has important jurisdiction and many significant roles to play in fresh water restoration and protection across the country. While Canadians generally exhibit concern and an ethic of stewardship towards our freshwater resources, there are increasing risk factors calling into question the long-term sustainability of the resource given our current land use and management practices. As we continue to rely upon our freshwater to advance our economy and our social well-being, we must also make wise investments in the management of this resource so that we can continue to derive benefit from it into the future. Looking forward to 2017, Canada's 150th anniversary, we have an opportunity to lay the foundation of healthier water systems as we look forward to our next 150 years of health and prosperity as a nation.

The Green Budget Coalition recommends that the Government of Canada set up a five year "Canadian Water Fund", building on the success of its Action Plan for Clean Water, to create a cohesive framework in which to understand the support the Government of Canada is already committed to providing, as well as the gaps we as a nation still need to fill.

The Green Budget Coalition recommends that the new Water Fund invest in:

- 1) Alleviating land based run-off of pollutants and nutrients in areas specific to federal jurisdiction: *\$60 million per year for five years.*
- 2) Greater progress in implementing the Great Lakes Water Quality Protocol: *an additional \$25 million per year for five years*
- 3) Implementing the Great Lakes – St. Lawrence River Adaptive Management Plan: *\$5.5 million per year for five years* in the Great Lakes and St. Lawrence River
- 4) Additional funding for combating aquatic invasive species: *\$25 million per year for five years.*

**Total Recommended Investment:
Canadian Water Fund – \$115.5 million per year for five years.**

See also the National Conservation Plan recommendation, earlier in this document, for further recommendations regarding fresh water wetlands and salmon fishing.

Benefits for Canadians

- Fisheries will be healthier for the longer term.
- Recreation based industries will be more sustainable.
- Drinking water will be improved. Communities and citizens will benefit from water that is safeguarded for drinking and investment in long term usability.
- Resource industries will cause less impact to the surrounding natural environment and ecosystems. Resource extraction sectors and their communities will also benefit from research and management of freshwater impacts on those activities in their regions.
- Economic and job opportunities will be created by fulfilling the need for research, application of research, monitoring, implementation of best practices, and development of treatment technologies.
- The residents, businesses, tourism, fishing and recreational industries in priority regions will benefit from management of pollution loadings to threatened water basins, including in relation to both nutrients and chemicals.
- Agricultural and other businesses will benefit from assistance in managing impacts on waterways from those activities.
- Governments, water managers and providers of drinking water will benefit from increased science.

Background and Rationale

While the value of our natural fresh-water systems is priceless, we continue to see troubling deterioration of this resource. Some of the key problems associated with our freshwater resources in Canada include: pollution and issues of water quality, eutrophication, invasive species, and issues of decreased water supply and quantity. These result from a variety of human and non-human impacts.

Some attempts have been made to assess the economic contribution of regional freshwater resources in Canada. These include Environment Canada's estimates that the Great Lakes are responsible for \$7 billion annually toward Canada's economy⁴⁴ and that the Lake Winnipeg Basin ecosystem supports freshwater fishing of \$50 million per year and recreation and tourism of \$110 million per year,⁴⁵ and other studies highlighted in section 3, below.

This Green Budget Coalition recommendation is presented in the context of three areas of concern relevant across the country. In each case we highlight examples where those issues are being manifested and causing high impacts.

1. Alleviating land based run-off of pollutants and nutrients
2. Aquatic invasive species
3. Supporting adaptive management plans to protect water levels and water quality in a changing climate

This recommendation also highlights opportunities to address other important freshwater concerns, regarding mining effluents, unconventional oil and gas, and water and wastewater infrastructure.

1. Alleviating land based run-off of pollutants and nutrients

There are significant impacts resulting from land based run-off of pollutants and nutrients in many waters that are under federal jurisdiction or impacted by federal decision-making and institutions. Examples of these include nutrient (both phosphorous and nitrogen) run-off with resulting eutrophication and ecosystem health impacts in Lake Erie and Lake Huron in the Great Lakes; Lake Simcoe in Ontario; Lake Winnipeg in Manitoba; Lake Diefenbaker in Saskatchewan; Lake St. Augustin in Quebec;⁴⁷ Lac la Biche in Alberta;⁴⁸ Tabor Lake in Northern BC;⁴⁹ lakes in the Carleton and Meteghan River watersheds in Nova Scotia and others. Other examples include other types of pollutants, such

⁴⁴ Environment Canada, Cleaning up the Great Lakes (webpage), http://www.ec.gc.ca/doc/eau-water/grandslacs-greatlakes_e.htm (page accessed July 19, 2013.)

⁴⁵ Environment Canada, Cleaning up Lake Winnipeg http://www.ec.gc.ca/doc/eau-water/winnipeg_e.html

⁴⁷ Trophic Status Evaluation for 154 Lakes in Quebec, Canada: Monitoring and Recommendations, Rosa Galvez-Cloutier* and Michelle Sanchez, Water Qual. Res. J. Canada, 2007 · Volume 42, No. 4, 252-268.

⁴⁸ Natural Resources Canada, 2008, The cultural eutrophication of Lac la Biche, Alberta, Canada: a paleoecological study D.W. Schindler, Alexander P. Wolfe, Rolf Vinebrooke, Angela Crowe, Jules M. Blais, Brenda Miskimmin, Rina Freed, and Bianca Perren.

⁴⁹ Chlorophyll a seasonality in four shallow eutrophic lakes (northern British Columbia, Canada) and the critical roles of internal phosphorus loading and temperature, Todd D. French & Ellen L. Petticrew; *Hydrobiologia* (2007) 575:285-299.

as pesticides run-off, as well as deposition of toxic contaminants in the lakes from air emissions.

Many of these above areas are lakes, which are recipients of large drainage basins, with multiple jurisdictions and political boundaries in those basins. For example, Lake Winnipeg's drainage basin includes three provinces and two U.S. states and crosses the U.S. - Canada international boundary. Lake Erie and Lake Huron are both divided by the international boundary and covered by the provisions of the Great Lakes Water Quality Protocol just re-negotiated between Canada and the U.S., as well as by the provisions of the Boundary Waters Treaty.

The federal government has provided welcome resources to regionally significant fresh water resources in past years under its Action Plan for Clean Water. The January 2013 announcement of a \$29 million fund for Lake Simcoe and South-Eastern Georgian Bay⁵⁰ followed the 2007-2012 \$30 million Lake Simcoe Clean Up Fund; these funds were aimed at a range of issues that include phosphorous reduction and wildlife habitat. The federal government also provided funding in Budgets 2012 and 2013 for Lake Winnipeg through an \$18 million fund for phase II actions between 2012 and 2017, which built on the prior phase I funding of \$17.7 million for 2008 to 2012.⁵¹ In addition the federal government states its Great Lakes funding is at the level of \$48 million per year across the government, \$22 million of which is through Environment Canada programs. The Great Lakes Sustainability Fund was renewed to March 2015 and covers investments to meet Canada's commitments under the Great Lakes Water Quality Agreement (GLWQA) and the Canada-Ontario Agreement (COA), including investments in Areas of Concern and Remedial Action Plans. At the same time, many of the landscape activities that contribute to the issues affecting these lakes are covered by provincial or state level and municipal decision-making.

The federal role in alleviating land based run-off of pollutants and nutrients includes: implementation

of the international agreements where applicable; participating in and providing leadership in inter-jurisdictional approaches to solving these problems; conducting research; gathering baseline data; monitoring; analyzing trends; exchanging information; and consulting with and reporting to the public on how these issues are being addressed.

A variety of legislative and program tools are available to the federal government, including the provisions of the GLWQP, the COA for the Ontario Great Lakes, the Boundary Waters Treaty (BWT), the International Joint Commission (IJC), the provisions of the *Canadian Environmental Protection Act* (CEPA), and others. However, what is still required is an over-arching approach that utilizes the various tools, engages the respective jurisdictions and the public, and targets resources to ensure that these land-based run-off issues are addressed.

The GBC's proposed Canadian Water Fund would analyze the areas of highest loadings of pollutants to these fresh-waters, and assist with implementation of best management practices and other strategies on the landscape to dramatically reduce these pollution volumes.⁵² Examples of such projects include: implementation of Environmental Farm Plans; nutrient management; diversion of bio-solids from land application; upgrading of sewage treatment plants; alteration of agricultural drains; upgrading of rural septic systems or installation of alternative systems in high priority areas; implementation of natural infrastructure in urban development that diverts land-based run-off loadings from the lakes and watercourses feeding those lakes; and restoration of natural features and functions on the coastlines of the lakes and riparian zones of the watercourses in their basins. If desired by the respective provinces in which lakes exist, this fund could be established and operated in a coordinated manner in order to leverage any available provincial and municipal financial contributions.

**Recommended Investment:
\$60 million per year for five years**

⁵⁰ News Release, Harper Government Announces Funding for Lake Simcoe and South Eastern Georgian Bay Clean-Up Project <http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=9FE89EF8-835F-4DBD-9DEB-D6921ECDD0B7> January 7, 2013, page accessed July 19, 2013

⁵¹ Environment Canada, Cleaning Up Lake Winnipeg Basin Initiative, http://www.ec.gc.ca/doc/eau-water/winnipeg_e.html, <http://www.ec.gc.ca/eau-water/default.asp?lang=En&n=4E8DF48A-1>, page accessed October 25, 2013.

⁵² CCME, June 2010, Review and Identification of Research Needs to Address Key Issues Related to Reactive Nitrogen (RN) Deposition and Eutrophication in a Canadian Context, Prepared for: Acid Rain Task Group Canadian Council of Ministers of the Environment, Prepared by Judi Krzyzanowski, http://www.ccme.ca/assets/pdf/rn_eutrophication_1450.pdf

2. Continuing implementation of the Great Lakes Water Quality Protocol

Looking forward, the Green Budget Coalition emphasizes the importance of renewing, in 2015, the Government's current \$48 million (total annual) funding for the Great Lakes.

The GBC also recommends investing an additional \$25 million per year in Budget 2014 for implementation of the recent Great Lakes Water Quality Protocol (GLWQP of 2012; amending earlier versions of the Great Lakes Water Quality Agreement),⁵³ Areas of Concern (AOCs), environmental monitoring, a climate change impact strategy, and continued investment in the Canada-Ontario Agreement (Great Lakes). While the current level of federal funding is important, Canada lags far behind the annual investment in Great Lakes protection made by the U.S., its partner in the GLWQP. To achieve greater progress in Canada under the Protocol such as more robust action on nutrients and contaminants, faster AOC delisting, setting of lake ecosystem targets and contaminant targets, and implementation, the GBC recommends increasing the current level of federal Great Lakes program funding.

Recommended Investment:

An additional **\$25 million per year for five years**

3. Supporting adaptive management plans to protect water levels and water quality in a changing climate

The Great Lakes provide a powerful engine to the Canadian economy. Cargo shipments on the Great Lakes-Seaway system generate \$34.6 billion of economic activity and 227,000 jobs in Canada and the U.S.⁵⁴ Shoreline property in the Great Lakes is estimated at between \$39 and \$66 billion (U.S.) in terms of property values and taxes to local, state/provincial and federal governments. Coastal tourism in

the Great Lakes was estimated at between \$55-\$60 billion, supporting over 650,000 jobs, in 2007, while recreational boating on the Great Lakes generates up to \$3.8 billion in direct spending and supports up to nearly 50,000 full-time jobs in Canada and the U.S.⁵⁵ Studies have shown for every dollar invested in Great Lakes restoration we can expect double the long term economic benefit.⁵⁶

A Brookings Institution report⁵⁷ provided a benefit-cost analysis of a major infrastructure program to improve water quality in and around the Great Lakes: the federal-state Great Lakes Regional Collaboration (GLRC) Restoration Strategy. The report summed the best available estimates of the various individual benefits that the GLRC Restoration Strategy could be expected to generate – additional tourism, fishing and recreation, benefits to property owners from cleaning up “areas of concern,” reduced water operations costs for municipalities, benefits from new technology developed because of the cleanup program, and other often-unquantified benefits – and concluded that the benefits could reach as high as \$50 billion. The Great Lakes are key to the Canadian economy and investment in this resource has been clearly shown to have a high return on investment.

Water quantity is continually impacted by natural cycles of wet and dry periods, as well as by human activities such as dams, diversions, removals, dredging, and other activities. In addition, the predictability of water quantity levels is being reduced by a changing climate, including through reduced ice cover on the lakes (in terms of both depth and length of season) with increased evapo-transpiration. Droughts may be more frequent, and the precipitation that does fall may be more intermittent with higher quantities over short time frames resulting in unpredictable and severe impacts on water quantities and water levels. The costs of uncertain and changing water levels are rising and it is increasingly important to invest in adaptive approaches and technologies that mitigate the risk of reactive damage control costs.

⁵³ For the full text, see http://www.ec.gc.ca/Publications/9DD80B8C-7E7A-4131-8055-D47B0B3E004F/EN-Canada-USA-GLWQA-FINAL_web.pdf

⁵⁴ Martin Associates, 2011, *The Economic Impacts of the Great Lakes – St. Lawrence Seaway System*, http://www.greatlakes-seaway.com/en/pdf/eco_impact_full.pdf, p.5.

⁵⁵ International Upper Great Lakes Study (2012). *Lake Superior Regulation: Addressing Uncertainty in Upper Great Lakes Water Levels*, Final Report to the International Joint Commission, March 2012.

⁵⁶ Brookings Institution (2007), *America's North Coast: A Benefit-Cost Analysis of a Program to Protect and Restore the Great Lakes*, found a present value investment of \$26 billion in Great Lakes restoration would result in a long term economic benefit of at least \$50 billion, in addition to short-term benefits of between \$30 billion and \$50 billion primarily for the U.S. Great Lakes Region. http://www.healthylakes.org/site_upload/upload/America_s_North_Coast_Report_07.pdf

⁵⁷ Brookings Institution (September 2007), *Great Lakes Economic Initiative, Healthy Waters, Strong Economy: The Benefits of Restoring the Great Lakes Ecosystem*, http://www.brookings.edu/metro/pubs/20070904_gleiecosystem.pdf

For over ten years the International Joint Commission has studied and worked with the public and stakeholders across the Great Lakes – St. Lawrence River System. In the Lake Ontario and St. Lawrence system, Plan 2014 has been developed which recommends regulating the Moses-Saunders dam (on the St. Lawrence River) in a manner that reflects a more natural flow regime, creating environmental benefits on Lake Ontario while retaining current levels of protection and benefits downstream in the lower river. This plan has the potential to be one of the largest aquatic habitat restoration projects in the country supported by an innovative adaptive management framework. The International Joint Commission informed governments of its intention to implement a new regulation plan for the outflows of Lake Superior known as Lake Superior Plan 2012. The new plan incorporates the concept of balancing Lake Superior and Lake Michigan-Huron levels from the existing plan, but is more robust during plausible extreme climatic conditions. Both regulation plans are centred around the notion that we need to adapt to a changing climate and dovetail with the adaptive management plan for the entire Great Lakes – St. Lawrence River system, designed to ensure the management of this great system can endure for years to come.

Recommended Investment:

\$5.5 million per year for five years in the **Great Lakes**, to be administered by the International Joint Commission, to implement the Great Lakes – St. Lawrence River Adaptive Management Plan, including monitoring and reporting, and to support a multi-stakeholder adaptive management advisory board. This funding would also address a hydroclimate network, risk assessment and performance indicators network, decision tools network, information management network, and outreach network.

4. Aquatic invasive species

Among the most critical of issues threatening the ecosystem of many of Canada’s most significant water systems is that of aquatic invasive species.⁵⁸

Introduced, invasive Asian Carp is threatening the Great Lakes from its presence in neighbouring waterways. In addition to the massive threat to the

ecosystem, estimates of the threatened economic impact of these invasive species range from \$13 billion to \$35 billion. The GBC recommends that the Government of Canada invest in research, monitoring, coordination, and enhanced border protection to address the threat of aquatic invasive species.

This funding should be used for the following purposes:

- **Research** – Funding to continue developing and testing other methods of catching, killing and controlling unwanted fish and other aquatic invasive species.
- **Monitoring** – Expand water sampling areas in the Great Lakes and likely invasion spots
- **Coordination** – Prioritize action on aquatic invasive species, including Asian carp, in the Canada-Ontario Agreement. COA will likely be important in establishing the roles and responsibilities for the federal and provincial governments related to invasive species control and management in the Great Lakes.
- **Enhance border protection** – Better training and education for Canadian Border Services Agency staff to identify aquatic invasive species and to enforce existing laws and regulations.

The United States is already contributing \$200 million over four years solely on its ongoing work to keep Asian carp out of the Great Lakes.

Recommended Investment:

An additional \$25 million per year for five years.

See also the National Conservation Plan recommendation, earlier in this document, for further information and recommendations regarding freshwater wetlands and fisheries.

⁵⁸ See, for example, Environmental Defence (July 2013), Tipping the Scales: A report about how Canada and Ontario can prevent an Asian carp invasion of the Great Lakes, <http://environmentaldefence.ca/asiancarp>

Alternative and Complementary Measures

1. Mining effluents

Canada is in the process of reviewing its metal mining effluents regulation. If these regulations are expanded in their application to non-metal mines, then many of Canada's lakes are at greater risk in the event they are added to Schedule II so as to permit tailings impoundment in those lakes. This would effectively extend an inappropriate subsidy to the mining industry (which is profitable and does not need such subsidies). These regulations amount to a subsidy because they avert the expenditures the companies would otherwise have to undertake to build proper engineered tailings management systems - essentially "saving" the companies millions of dollars per mine, but destroying the lake ecosystems in the process. Any lakes impacted by these regulations by way of tailings impoundment will have their ecosystem functions irreversibly and adversely reduced or even eliminated. Any fish and aquatic species, in addition to water fowl and other species that frequent those waters, will lose habitat and risk exposure to contaminated waters. The GBC encourages the Government to stop allowing mining companies to put potentially impacted lakes and rivers on Schedule II, and to thus reduce or prevent such damage and end this unjustified subsidy.

2. Unconventional Oil and Gas

There is a need for national oversight and regulation of unconventional oil and gas. To the extent that there is off-shore natural gas fracking occurring, this should be dealt with by a federal regulatory scheme. In addition, the National Energy Board should be asked by the federal government to undertake a science based research project with respect to: the processes and impacts of natural gas fracking; the risks to water systems; and recommendations regarding approaches to avert those risks. There is also a need for a cross-Canada review of groundwater and waste water resources potentially impacted by fracking processes across the country.⁵⁹

3. Water and wastewater infrastructure

It is also critical to strengthen Canada's water and wastewater infrastructure to be able to withstand the impacts of climate change and to meet the improved federal sewage effluent standards. See Resilient Infrastructure for a Prosperous Canada, later in this document.

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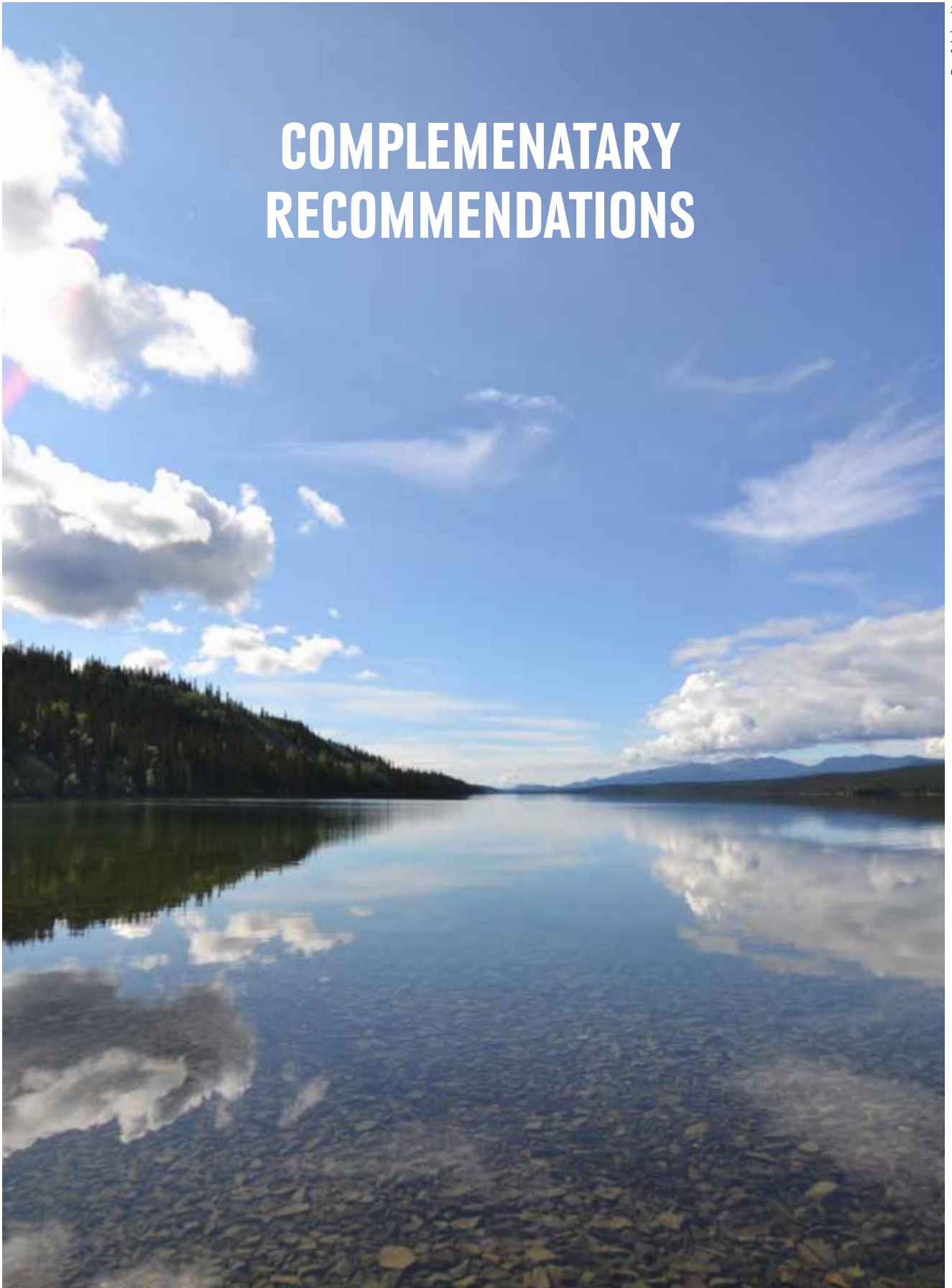
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⁵⁹ See, for example Parfitt, Ben (2010), Fracture Lines: Will Canada's Water be Protected in the Rush to Develop Shale Gas?, Monk School of Global Affairs, University of Toronto, http://munkschool.utoronto.ca/wp-content/uploads/2012/07/Parfitt_FractureLines_POWI_2010.pdf; and Parfitt, Ben (2011), Fracking Up our Power - BC's Reckless Pursuit of Shale Gas, Canadian Centre for Policy Alternatives - BC office & Wilderness Committee, <http://www.policyalternatives.ca/fracking>

COMPLEMENTARY RECOMMENDATIONS





PRINCIPLES AND STRATEGIES FOR A GREEN ECONOMY AND A SUSTAINABLE CANADA

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Canadians' prosperity – for current and future generations – depends on successfully making the transition to a sustainable Canada, one that:

- 1) Provides the opportunity for many generations of Canadians – present and future – to live happy, healthy lives;⁶⁰
- 2) Preserves Canada's biodiversity, wild spaces and species, and living systems; and
- 3) Plays a responsible role in advancing a global green economy and a sustainable global society, including towards preventing and mitigating dangerous climate change, while acknowledging the global implications of many actions by Canadian institutions, businesses and individuals, and the greenhouse gas emissions that resulted from our past actions.

"Greening" Canada's economy – i.e., advancing Canada's economy towards being truly sustainable, while preserving and growing our "natural capital" – is both a prime opportunity and a central requirement for making progress towards a sustainable Canada.⁶¹

Four fundamental strategies for effectively "greening" the Canadian economy, while increasing Canadians' prosperity, are:

- 1) Deepening our understanding of domestic and global ecological limits, and adapting government policy to ensure we operate within those limits, particularly relating to non-renewable resources and the limited ability of air, water and soil to absorb pollution – including greenhouse gases – without notable harm;
- 2) Incorporating the value of natural capital into the economy and into government decision-making process, including by:
 - a) Levelling the "fiscal playing field" for natural resources using subsidy and pricing reform (*see detailed section, later in document*); and
 - b) Ensuring that "national capital" – the sum of natural, human, social, produced and financial capital from which countries draw their wealth – is tracked, preserved and grown, and made central to fiscal and economic policy;⁶²
- 3) Increasing our understanding of what forms and levels of economic growth can be harmonious with sustainability (domestically and globally), and integrating that knowledge into economic policy;⁶³ and
- 4) Playing a responsible role towards achieving a global green economy and a sustainable global society, understanding that sustainability can only truly be achieved on a global scale (*see, for example, Supporting Global Climate Action, later in this document*).

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⁶⁰ This itself likely requires many factors, including access to clean air, water, and soil, and healthy food, quality employment and infrastructure, clean energy, safety and security, and healthy recreational opportunities.

⁶¹ Other key elements for achieving a sustainable Canada include (but are not limited to): preserving clean air, water and soil; ensuring access to healthy, affordable food; protecting wild spaces and species; strengthening and greening public infrastructure to withstand a more tumultuous climate and operate more in harmony with the cycles of nature; smart land use and transportation planning; strategic investments by all levels of governments, business and public institutions, including in energy efficiency, renewable energy, intra- and inter- city transit, and water and wastewater infrastructure; and respecting our international environmental commitments.

⁶² See Sustainable Prosperity (April 2012), "National Capital", Issue Summary, <http://sustainableprosperity.ca/dl801&display>

⁶³ For insightful discussions of related issues, see: Peter A. Victor (2008), *Managing Without Growth: Slower by Design, Not Disaster*, Edward Elgar, Northampton, MA; and Tim Jackson (2011), *Prosperity Without Growth: Economics for a Finite Planet*, Routledge.

STRENGTHENING CANADA'S SCIENCE CAPACITY

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Recommendation Summary

Making science and science capacity a priority is fundamental to the Government of Canada's ability to advance Canadians' economic prosperity, health, and quality of life, by understanding the underlying building blocks of the ecosystems and natural resources on which they depend. Adequate science must remain the basis for informed decision-making in addition to effectively supporting the Government of Canada's statutory obligations. Knowledge generated through peer-reviewed science is a vital element that will enable Canada to lead the international community in climate change related initiatives and to develop and implement a highly effective National Conservation Plan.

To ensure Canada is poised to fulfill these critical roles effectively, the Green Budget Coalition recommends that Budget 2014 re-commit the Government of Canada to science-based decision-making through a number of initiatives including:

- Maintaining all current federal investment in environmental science capacity;
- Allocating new funds to support the development, implementation and monitoring of measures under the National Conservation Plan (See *National Conservation Plan*);
- Increasing investment in science for fisheries to support recent changes to fisheries management in Canada (See *National Conservation Plan – Economic Opportunities of Healthy Oceans*); and
- Creating more opportunities to partner with industry and environmental non-governmental organizations on joint-venture science initiatives that effectively increase our collective knowledge in a coordinated manner.

Recommended Investment: See *referenced recommendations*

Background and Rationale

Maintaining a healthy environment is a top-rated value for Canadians. Federal science capacity plays a critical role in ensuring that we have adequate information to guide decision-making on environmental protection for Canadians.

In order to effectively protect Canada's environment and Canadians' quality of life, and to guide responsible resource development, the federal government requires a strong, reliable capacity for environmental science, including permanent staff.

Canada's environmental science capacity is critical to ensuring that:

- Environmental programs are delivered and sustained;
- Environmental laws and regulations are adhered to and effectively enforced;
- New and amended legislation and regulation have adequate science to support decision-making;
- Canada continues to meet its obligations under international environmental agreements;

- We continue to conserve our natural capital, including wild spaces and species, and air and water quality;
- We continue to monitor our progress in conserving our natural capital, wild spaces and species, and air and water quality for future generations;
- There is appropriate research to support and improve environmental laws, regulations and operational policies;
- There is effective oversight as to whether laws, regulations and policies are achieving their intended objectives;
- There is appropriate research and education to mitigate the impacts of global environmental change and adapt to those changes where necessary; and
- The federal government's efforts to conserve, protect, restore and reconnect our shared environment complement those of the provinces, territories, and our international partners.

However, federal deficit-reduction measures announced and implemented between 2011 and 2013 have resulted in significant reductions in federal environmental science capacities, including to core staff and the resources that provide those capacities.

While respecting that these deficit-reduction measures have been carried out to encourage greater fiscal responsibility within government, the Green Budget Coalition is concerned that these measures have unduly impacted the federal government's ability to carry out its environmental responsibilities, and have created a substantial risk of these measures' medium- and long-term costs far exceeding their short-term benefits in cost savings.

Acting rapidly to restore the government's science capacity in essential areas could maximize the benefits of such action for Canadians, and minimize the future costs of compensating for the implications of a weakened federal science capacity, and of restoring that capacity down the road.

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SUSTAINABLE ENERGY FOR CANADA: STRATEGIC OPPORTUNITIES

Recommendation Summary

The federal government has set a laudable goal of generating 90 per cent of our electricity from non-emitting sources by 2020.⁶⁴ Achieving this promise will require additional support from the government that builds on its past successful programs. This recommendation includes three strategic opportunities for new targeted support, addressing:

- 1) Northern and Remote Communities**, which are facing the highest and most volatile energy prices in the country;

Recommendation: Create a Sustainable Action Fund for Energy (SAFE) for Northern and Remote Communities with a **\$10-15 million commitment for three years.**

- 2) Energy storage opportunities** which can benefit renewable energy deployment in every province and territory, as well as maximizing the efficient use of existing infrastructure;

Recommendations:

- **Amend Classes 43.1 and 43.2** of the *Income Tax Act* to specify that capital cost allowances also apply to expenditures on tangible stand-alone energy storage assets; and
- **Create a 30% investment tax credit** for emerging energy storage technologies, resulting in about **\$130 million dollars of support over a 5-year time frame;** and

- 3) Supporting Canadian homeowners to reduce their energy demands and costs.**

Recommendation: As an initial part of a Green Homes Strategy, invest **\$250 million per year for five years** to improve the energy efficiency of existing homes, focusing on lower-income households.

Total Recommended Investment:

- **\$15 million in 2014-15** for SAFE,
- **Over \$130 million** in tax expenditures **over five years**, and
- **\$250 million per year over five years.**

Background and Rationale

1. Sustainable Action Fund for Energy (SAFE) for Northern and Remote Communities

Canada's Northern and remote communities span a vast geographic area with very different community circumstances. But in many cases they face a common reality of depending on importing diesel fuel as their primary source of energy.

Continuing to rely on diesel fuel is risky and expensive for these communities and frequently limits their economic opportunities. Furthermore, diesel fuel is expensive and subject to significant price swings, putting heavy draws on already strained budgets. Numerous diesel spills in remote communities have contaminated buildings and local soils, as well as compromising local air quality.

⁶⁴ 2008 Speech from the Throne, <http://www.parl.gc.ca/Parlinfo/Documents/ThroneSpeech/40-1-e.html>

For decades, northern and remote communities have sought to reduce their reliance on diesel power through energy efficiency, local renewable energy sources, and/or transmission connection to main electricity grids. While there have been some notable successes, many communities with potential sustainable energy options have thus far been unable to tap into these alternatives, despite the existence of national renewable energy and energy efficiency programs.

A primary reason for this low adoption rate is that the economic and logistical challenges of remote and off-grid locations have made it much more difficult for these communities to effectively participate in national programs. As a result, these programs have largely failed to begin a market transformation in Canada's remote and northern communities.

Private investment can be an important opportunity for partnerships between Aboriginal communities, natural resource corporations, energy technology firms, energy development companies and utilities. However, this kind of investment can only be unlocked once northern and remote communities' project plans have passed the feasibility stage of development, which validates a project's business case. There are numerous pre-feasibility level studies in northern and remote communities from coast to coast to coast, but the lack of resources available to bring projects to the point of private financing remains a barrier.

A Sustainable Action Fund for Energy (SAFE) for Northern and Remote Communities could help to overcome this bottleneck.

A \$15 million fund would be able to provide feasibility stage funding in the range of \$500,000 to \$2.5 million per project has the potential to catalyze renewable energy, transmission interconnection, large-scale improvements in community energy demand, and major enhancements to promote enhanced home/building/facility energy efficiency for off-grid communities. Selecting a few high potential projects (that have passed the pre-feasibility stage of development) with sufficient resourcing to prove economic and environmental viability will be more effective at realizing sustainable energy projects for northern and remote communities than more fragmented efforts, or minor scale funding contributions. A minimum of three years would enable enough high quality, feasibility-level projects to move towards development stage.

Energy has been a vital component for economic development for the southern and urbanized regions of the country. The 2013 Budget offers an opportunity for sustainable energy infrastructure to be an economic driver for northern and remote regions of Canada.

2. Fostering commercialization in energy storage

Large-scale power storage is one of the most important technological developments that will be required to deliver clean energy at scale.

Energy storage would help to integrate all types of renewable energy technology, and also help to maximize the efficient use of existing assets and infrastructure.

Canada has expertise in leading storage technologies (including power to gas, pumped hydro storage and fuel cells), but there remains a gap between pilot stage and commercialization. With the world's sixth largest electricity system, Canada has a large enough market to be able to play a leading role in commercializing this technology.

An Investment Tax Credit (ITC) would help support emerging storage technologies. The new ITC should target 30% of technology expenditures that are associated with energy storage technologies.

A 30% ITC has a successful track record in supporting the early adoption of solar and fuel cells in the U.S.. The U.S. experience shows that a 30% threshold is large enough to cause industry to accelerate its investment cycle on technologies that are still in the early commercialization stage. It is meaningful enough that industry can better balance the risk of early technology adoption without encouraging free riders.

Another important policy tool to support power storage is amending the definition of Capital Cost Allowance ("CCA") in Class 43.2 of the *Income Tax Act* to include expenditures on tangible stand-alone energy storage assets. Environment Canada described Class 43.2 as having "been created to provide additional incentive for those systems in Class 43.1 that use fossil fuels more efficiently (efficiency = 72 percent), for specified-waste-fuelled electrical generation systems and for renewable energy systems (small-scale hydro-electric, wind, photovoltaic, geothermal, fuel cell, active solar)."⁶⁵

⁶⁵ https://www.ec.gc.ca/financement-funding/sv-gs/search_results_e.cfm?action=details&id=319&start_

Expanding the mandate to all types of electricity storage beyond fuel cells, including “power-to-gas”, would level the playing field for storage systems that are currently excluded from this benefit. This policy change can occur by either adding an additional section to the existing 43.1 CCA class, or by amending the existing Class 43.1 section (d)(xii) which is currently limited to fuel cells, to include both chemical and mechanic energy storage assets. Should the existing Class 43.1(d)(xii) be amended, then the section should eliminate the requirement that the energy stored be generated by photovoltaic, wind, or hydro-electric equipment, since storage can improve the efficiency of all existing forms of generation. This change would enable the deployment of bulk storage systems onto provincial electricity systems without creating the complicating requirement of only sourcing electricity that is substantially “generated by photovoltaic, wind energy conversion or hydro-electric equipment”.⁶⁶

While bulk storage will largely benefit renewable energy integration in the medium- to long-term, the current restrictive requirement to only source electricity from renewable sources will have the unintended consequence of making storage more burdensome for grid operators, thereby impeding its deployment at the scale required to support renewables.

3. A National Green Homes Strategy to build on energy efficiency successes in Canadian houses

Canadians and businesses have huge opportunities to reduce their monthly costs and to cut pollution by becoming more energy efficient. Efficiency is the cleanest, most affordable, and fastest way to make more energy available to our economy. The federal government has taken important steps to improve energy efficiency in the past, but there is much to be done to keep energy bills affordable for Canadians.

An efficient economy depends on the efficient use of energy. At home and at the workplace, Canadians are not as energy efficient as they could be, making household finances and our overall economy vulnerable to price spikes and energy uncertainties. Energy efficiency measures not only reduce the risk exposure to fluctuations in energy prices, but are also some of the most cost-effective ways to reduce pollution. The less energy we use, the fewer fossil fuels we burn, resulting in cleaner air, cleaner water and fewer greenhouse gas emissions. Lowering energy consumption means Canadians will have more capital and discretionary spending power that can be used to invest more productively in the wider economy.

Any program that helps reduce energy costs puts more money in the hands of households and businesses. In other words, it has the same benefit as a permanent tax cut. In a recent study⁶⁷ that included four Eastern Canadian provinces, Environment Northeast found that a \$14.5 billion investment over 15 years in cost-effective energy efficiency programs to reduce electricity, natural gas, and heating oil consumption would increase GDP by over \$84 billion, and create jobs equivalent to 625,000 job years. The increased economic activity primarily occurs as consumers spent their energy cost savings in the wider economy, and industry reduces the costs of doing business, bolstering competitiveness and generating new investment.

These win-win opportunities for both environmental and economic gains have inspired collaboration and consensus, such as the Canadian Premiers’ commitment through the Council of Federation to improve energy efficiency by 20 per cent by 2020 in their respective jurisdictions.

The energy used to heat Canadian homes, run appliances and keep lights on is responsible for about 15 per cent of Canada’s total greenhouse gas emissions. Wasted energy (due to inadequate insulation, inefficient lights and appliances, and insufficient weatherproofing) means that Canadians burn more fossil fuels than necessary to keep our homes comfortable. Yet of the over nine million homes

⁶⁶ <http://canadagazette.gc.ca/rp-pr/p2/2009/2009-05-13/html/sor-dors115-eng.html>

⁶⁷ Environment Northeast, *Energy Efficiency: Engine of Economic Growth in Eastern Canada*, May 2012, <http://www.env-ne.org/resources/detail/energy-efficiency-engine-of-economic-growth-in-canada>. The \$14.5 billion investment, and resulting \$84.0 billion increase in GDP and 625,000 job years represent the “mid-range” cost-effective efficiency investment scenario modeled by the study.

in Canada, only 8 per cent have been retrofitted to improve efficiency as a result of government programs. While these improvements are important, there remains significant work to be done.

Energy costs are particularly challenging for low- and fixed-income Canadians. But while these consumers would see significant benefits from efficiency measures, they are also often least able to afford the initial investment required. (For example, half of all measures for home energy efficiency are directed towards low-income households in the U.K.'s initiative.)

The federal government could play a critical role in leading Canadian energy efficiency efforts, producing tangible benefits that include cost savings for consumers, job creation and economic stimulus. For example, homeowners who conducted retrofits supported by the federal ecoENERGY incentive programs expected to reduce their home energy bills by, on average, 23 per cent.⁶⁸

Looking beyond Budget 2014, a national program should target 15 per cent of existing housing stock retrofitted by 2015, 40 per cent by 2020, and 100 per cent by 2030. This strategy would bring Canada in line with similar efforts in the U.S. and the U.K.

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⁶⁸ Natural Resources Canada, Report on the Review of Clean Energy Initiatives, 25 March 2011.

GETTING ON TRACK FOR CANADA'S CLIMATE TARGET: DESIGNING A TECHNOLOGY FUND THAT WORKS FOR 2020

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Recommendation Summary

If the government gives oil and gas companies access to a technology fund as part of its sector-by-sector regulatory approach for greenhouse gas pollution, the regulation should require that some or all of the revenues raised be invested in near-term emission reductions. Support for deploying clean energy and more efficient technologies – rather than an exclusive emphasis on research and development in the oil and gas sector – is needed to help get Canada on track for its national emission reduction target for 2020.⁶⁹

Revenue Implications

A technology fund like Alberta's is essentially revenue-neutral for the government, as the funds collected from emitters are re-invested in technology projects. The size of the fund depends on the design of the regulation, including the technology fund price, the stringency of the target, and the other compliance options companies have access to.

Background and Rationale

The federal government has chosen sector-by-sector regulations as its main tool to work towards its national greenhouse gas (GHG) reduction target. That target, adopted in early 2010, is to cut Canada's national emissions to 607 million tonnes (Mt) by 2020 – a goal chosen because it matches the commitment that the United States made after international climate negotiations in Copenhagen in 2009.

Environment Canada's most recent public projections conclude that under current conditions, Canada's emissions will instead reach 734 Mt by 2020. Canada would therefore miss its 2020 target by 122 Mt, which is more than the current emissions from all passenger transportation in Canada.

Because the government has already enacted GHG regulations in the transportation sector, and adopted measures for coal-fired electricity generation that take effect in 2015, the oil and gas sector is by far the largest "piece of the puzzle" that remains to be

regulated. The sector accounted for 23 per cent of Canada's total emissions in 2011, and the oilsands in particular are Canada's fastest-growing source of GHG emissions.

Thus, it is no exaggeration to say that the design of these regulations could make or break Canada's ability to achieve its national 2020 target. A weak approach risks locking in "business as usual," while a strong and effective regulation could make a significant difference in the environmental footprint of Canada's oil and gas sector. Improved GHG performance in the oilsands – a sector under intense public scrutiny – would give oilsands companies better answers to their critics and help provide the "social license" they need to operate successfully. Strong regulations would also help the oilsands improve its long-term competitive position as the world makes a transition to lower-carbon sources of energy.

The federal and Alberta governments, as well as the oil and gas industry, have been considering Alberta's approach as they design the upcoming federal oil and gas regulation. Under Alberta's regulation, companies have the option of meeting their target by making payments into a technology fund rather than actually reducing the emissions intensity of their operations. There is no limit on companies' access to this option. As a result, the technology fund effectively caps the price that companies pay per tonne.

Since Alberta's system went into effect in July 2007, the Government of Alberta had collected \$312 million

⁶⁹ Canada's target, adopted in early 2010, is to cut Canada's national GHG emissions to 612 million tonnes (Mt) by 2020.

from companies in technology fund payments at a rate of \$15 per tonne. The funds are turned over to an arms-length agency, which invests them in a portfolio of projects chosen through a competitive application process. As of May 2012, the fund had invested in 43 clean technology projects, with “six projects in the research and development stage, 11 projects in commercialization, 20 projects in market demonstration, and six projects in technology design and development.”

Technology development takes time. Alberta’s fund acknowledges that some of the projects it supports will generate few or no emission reductions over the period where it provides funding; instead, the GHG benefits are expected to occur farther into the future.

Ottawa’s oil and gas sector regulations are not expected to take effect until 2016. If the federal proposal enables companies to comply by contributing to a technology fund (or a number of provincial/territorial funds) structured like Alberta’s, with the same emphasis on longer-term technology development, the fund(s) may not generate significant reductions in time for Canada’s 2020 deadline. Indeed, if it takes time for such funds to be established (Alberta’s fund issued its first call for proposals over two years after its regulation came into effect) and then to decide where to invest, it is even possible that a federal or provincial/territorial technology fund proposal would not generate a single tonne of reductions before 2020.

The technology fund has been a popular compliance option in Alberta. Initial results for 2012 indicate that it was companies’ top choice for attaining their targets that year, accounting for more than three times as much compliance as actual reductions in emission intensity at facilities.⁷⁰

If the federal government adopts Alberta’s model wholesale, companies will likely use the technology fund for a significant fraction of their efforts to meet their targets. Even in a best-case scenario, the fund would generate the vast majority of its emission reductions far into the future. While longer-term technology investments are worthwhile, this specific model has serious implications for Canada’s emissions target, making it even more difficult for Ottawa to meet its 2020 obligations.

Recommendation

To improve its chances of hitting the 2020 target, the federal government should require that some or all of any technology fund revenues be invested in near-term, real and verifiable emission reductions.

For example, the federal government has ended its support for production incentives for new renewable energy projects and its energy efficiency retrofit programs targeting Canadian homeowners due to fiscal pressures. Contributions from oil and gas companies under the sectoral regulation could support these kinds of initiatives, which, if properly designed, stand a far better chance of generating emission reductions before 2020 than an investment in longer-term research and development in the oil and gas sector. The federal government may also wish to consider investing a portion of technology fund revenues to support emission reduction activities in developing countries, as Canada committed to do under the 2009 Copenhagen Accord.

While the Green Budget Coalition understands that the government is currently not considering adopting economy-wide carbon pricing, we continue to believe that a price on GHG pollution is a powerful and effective tool to cut Canada’s emissions. Adopting a well-designed carbon price would help spur Canada’s transition towards a competitive, low-carbon economy and make an important contribution to closing the gap to our national 2020 target.

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For further recommendations about the design of oil and gas sector GHG regulations, please see “Getting on Track for 2020” at <http://www.pembina.org/pub/2427> and “Key Issues to Watch in Federal Oil and Gas Climate Regulations” at <http://www.pembina.org/pub/2456>.

The Green Budget Coalition made detailed recommendations on carbon pricing for Budgets 2008, 2009, and 2011, which are available from <http://greenbudget.ca/prop.html> or http://greenbudget.ca/main_e.html.

⁷⁰ Initial 2012 results show 1.66 million tonnes (Mt) of compliance from improvements to companies’ operations and about 5.7 Mt of compliance through technology fund contributions. See <http://environment.alberta.ca/04220.html> for more information.



SUPPORTING GLOBAL CLIMATE ACTION: PROVIDING CANADA'S FAIR SHARE FOR DEVELOPING COUNTRIES

Recommendation

Climate negotiations under the United Nations have entered a new phase as countries work towards reaching a global agreement in 2015 that would take effect in 2020. As part of that process, developed countries like Canada have committed to provide funds to poorer countries to help them cope with climate change. Canada should build on its 2010–12 track record with a new commitment of funds, of at least \$400 million in each of 2014 and 2015.

Investment Required: At least \$400 million in each of 2014 and 2015

Background and Rationale

Adapting to the consequences of climate change and reducing greenhouse gas pollution requires financial investment from all countries. But for developing countries, particularly those that are most vulnerable to serious impacts, the scale of investment required often goes beyond the resources they have available.

From the beginning of the global effort to tackle climate change, international agreements have called upon richer developed countries to provide financial support to developing countries to help them cope with the consequences of climate change.

Under the December 2009 Copenhagen Accord, developed countries committed specifically to provide three years of “fast start” climate financing from 2010 to 2012, totalling US \$30 billion, and also committed to jointly “mobilize” US \$100 billion a year by 2020 “from a wide variety of sources.”⁷¹

Several prominent estimates have suggested that far more funding will in fact be needed to meet developing countries’ needs. But the near-term and 2020 financing goals outlined in the Copenhagen Accord represent a crucial starting point in making the investments required to protect some of the world’s most vulnerable people from the impacts of climate change.

Adaptation expenses fund initiatives such as strengthening infrastructure so that it can withstand more violent storms or investing in malaria prevention as the disease spreads to new regions. Financing for greenhouse gas (GHG) emission reductions (“mitigation”) could, for example, cover the extra cost of powering homes with electricity generated from wind energy instead of coal. Funding for GHG emission reductions and climate adaptation overseas is widely recognized as helping to increase economic and social security in a world already experiencing a ramp-up in extreme weather events, which can have destabilizing consequences for communities and countries.

Fulfilling developed countries’ financing commitments is also an essential step in building the trust between countries that is needed to successfully negotiate a fair, ambitious and binding global climate agreement — a task that countries have agreed to complete in 2015 for an agreement that would take effect in 2020.

Fast Start Financing

In June 2010, the Government of Canada announced its first tranche of climate financing under the Copenhagen Accord.⁷² Although the initial announcement provided very few details,⁷³ it took the

⁷¹ Copenhagen Accord, Paragraph 8. Available at <http://unfccc.int/home/items/5262.php>. The Accord states that the potential sources of the \$100 billion in financing in 2020 are “public and private, bilateral and multilateral” and include “alternative sources of finance.”
⁷² Environment Canada News Release, “Government of Canada Makes Major Investment to International Climate Change” (June 23, 2010).
⁷³ The Pembina Institute’s response to the announcement is available at <http://climate.pembina.org/media-release/2039>.

important step of recognizing Canada's "fair share" of climate financing: when developed countries contribute funds to global goals, Canada's traditional share has been just over 4% of the total.⁷⁴ Thus, then-Environment Minister Jim Prentice announced a contribution of \$400 million in 2010, or about 4% of the US\$ 10 billion to be provided each year from 2010 to 2012.

By May of 2013, Canada was able to report to the international community⁷⁵ that it had largely fulfilled its "fair share" commitment, providing just under \$1.2 billion in assistance to developing countries over the 2010 to 2012 period.

Taking the next step

Reaching the goal of US \$100 billion by 2020 requires a significant scale-up of both public and private financing. With the "fast start" period complete, donor countries now need to build on momentum with new financial pledges.

New commitments will allow promising initiatives to continue; ensure that vulnerable people are better prepared for the kind of extreme weather events we are already beginning to experience; and allow developing countries to deploy cleaner energy now rather than locking in to high-carbon choices. For Canada's fast-growing clean technology sector, increasing commitments of climate financing to developing countries would open up new export opportunities. As noted above, new financial commitments are also necessary at this point to build trust and momentum at the UN negotiations.

Unfortunately, Canada has not made new commitments of climate financing since the "fast start" phase ended. In contrast, countries like Germany and the United Kingdom have made preliminary commitments of "interim" financing, building towards the longer-term goal of mobilizing US \$100 billion a year by 2020.

At last year's climate negotiations in Doha, Qatar, Canada signed on to an agreement that called

on developed countries to provide new funding to developing countries "of at least to the average annual level of the fast-start finance period for 2013- 2015."⁷⁶

For Canada, meeting the Doha commitment means providing contributions of at least \$400 million per year from 2013 to 2015.⁷⁷ In fulfilling that commitment, Canada can draw on its successes and lessons learned over the "fast start" period.

Lessons Learned

A 2013 assessment of Canada's fast-start commitments⁷⁸ from thirteen international development and environmental organizations found some promising trends and some areas for improvement as Canada enters the next phase of climate financing. The analysis concluded that:

- While determining whether funding is "new" and "additional" depends on the baseline chosen, Canada invested far more on climate financing after the Copenhagen Accord than it did before.
- However, nearly three-quarters of Canada's commitment was in the form of loans that require repayment to Canada (rather than in revolving funds, where repayments are re-loaned to support new borrowers). This is the first time since 1986 that Canada has required repayment to Canada of loans provided under its Official Development Assistance (ODA) commitments. If Canada accounted for only the "grant element" of its loans rather than their full face value, its commitment would be far smaller than the \$1.2 billion total the government has reported committing.
- Over the three year period, Canada devoted less than one-fifth (18%) of its total financing effort to adaptation. While financing for GHG emission reductions is essential, support for adaptation is the priority for the poorest and most vulnerable countries. The Copenhagen Accord called for a "balanced" allocation between adaptation

⁷⁴ For more details, see Clare Demerse, *Our Fair Share: Canada's Role in Supporting Global Climate Solutions*, at <http://climate.pembina.org/pub/1815>.

⁷⁵ Government of Canada, *Canada's Fast Start Financing: Delivering on our Copenhagen Commitment* (May 2013), available at http://unfccc.int/files/cooperation_support/financial_mechanism/fast_start_finance/application/pdf/1190_canada_fast-start_financing_e.pdf

⁷⁶ UNFCCC Decision 1/CP.18, Paragraph 68, <http://unfccc.int/resource/docs/2012/cop18/eng/08a01.pdf>

⁷⁷ Because Canada did not contribute new funding in 2013, its contributions over the next two years would need to be greater than the \$400 million average to match the total of nearly \$1.2 billion it contributed between 2010 and 2012.

⁷⁸ Canadian Foodgrains Bank et al, *Protecting our Common Future: An Assessment of Canada's Fast-Start Climate Financing*, <http://c4d.ca/publications/policy-briefs/protecting-our-common-future-report>

and emissions reduction efforts, and numerous other developed countries have made significant efforts to achieve that standard, with allocations that represent approximately a 50:50 split. It is important to note that Canada's final year of fast-start climate financing (2012) included stronger support for adaptation initiatives than the previous two years.

Making a stronger contribution

Canada's fast-start financing contribution has laid a foundation that the Government of Canada can build on in the 2013–2015 period.

The Green Budget Coalition recommends that Canada begin making a more effective climate financing contribution **by committing, in Budget 2014, at least \$400 million for each of 2014 and 2015 to support adaptation and mitigation activities in developing countries.**

Canada should also commit to continuing to provide an annual "fair share" contribution of at least that level in the years ahead, en route to the 2020 goal Canada signed on to in Copenhagen. This means providing financing for both adaptation and mitigation annually to 2020 at a minimum, and likely beyond that (pending the outcome of negotiations on the new international agreement, which is to take effect in 2020). While the private sector will play a crucial role in financing a clean energy transition, public dollars from donors like Canada are essential to leverage private sector participation in developing countries. Thus, the federal government should present a plan with specific annual goals to build towards providing Canada's fair share of the US\$100 billion that countries have pledged to mobilize by 2020.

In allocating Canada's next tranche of climate financing, the Government of Canada should:

- Aim for a 50:50 balance between adaptation and emission reduction initiatives;

- Continue the commendable practice of providing adaptation financing only in the form of grants, as Canada did during the 2010–2012 period;
- Build on promising initiatives from the fast-start period by renewing or making multi-year commitments;
- Reduce its reliance on repayable loan financing. While the GBC agrees that a limited use of concessional loans to finance GHG emissions reductions in the energy sector is appropriate, there is also an essential role for grants in emission-reduction activities (e.g. to build capacity and support policies); and
- If Canada does continue to provide loans for emission-reduction initiatives in the 2013–2015 period (and beyond), the government should ensure that this future loan finance be repaid to revolving funds that support further climate financing (rather than back to Canada).⁷⁹

Finally, the Green Climate Fund – a new fund being developed under the UN Framework Convention on Climate Change – currently requires funding for its start-up costs. Canada should consider pledging to support those needs in the near term. Canada could also commit to providing a specific number of dollars to the Green Climate Fund once it is operational, thus signalling support for the Fund's development.

For a more detailed analysis of climate financing requirements, please see the Green Budget Coalition's Recommendations for Budget 2012, from <http://www.greenbudget.ca/2012/main.html>.

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⁷⁹ Accounting for, and reporting on, financing from a revolving fund would need to be done very carefully, as the fund's loans over time would no longer be new and additional.

HIDDEN LIABILITIES IN THE ARCTIC OFFSHORE AND NUCLEAR POWER: PROTECTING TAXPAYERS AND THE ENVIRONMENT

Recommendation Summary

The current design of Canada's Arctic offshore and nuclear liability rules leaves governments, taxpayers, communities and the environment vulnerable in the event of a significant accident or spill. The Green Budget Coalition believes that liability should be commensurate with the entire potential costs of a catastrophic accident and recommends protecting federal taxpayers by:

- 1) Eliminating the absolute liability cap for drilling operations conducted in Canada's Arctic,
- 2) Eliminating the cap for nuclear reactor operator liability, and
- 3) Ending the protection of reactor suppliers and vendors from liability if negligent.

Financial Savings

In the case of an oil spill or nuclear accident, the federal government could be left responsible for damages and clean-up costs in the billions of dollars due to current caps on liability. Removing these caps and modifying the civil liability regime more generally, as other countries have done for nuclear accident liability, would eliminate these off-book liabilities by transferring the respective liabilities to reactor operators and those companies operating offshore.

Background and Rationale

Liability rules are a fundamental budget issue because they speak to: a) the adequacy and availability of offshore and nuclear power industry funds to pay for post-spill and post-accident response clean up and associated damages, including potentially massive environmental damages; and b) the financial incentive structures established by the respective liability regimes, which directly impact the behaviour of the offshore and nuclear power industries.

In 2011, the federal government took an appropriate step in levelling the playing field for green energies by privatizing Atomic Energy of Canada Limited. By committing to no additional direct or indirect subsidies for reactor projects, the federal government protected taxpayers and aligned federal policy with the "polluter pays" principle.⁸⁰

⁸⁰ See footnote in the Executive Summary.

In June 2013 the government further announced that it would raise the absolute liability cap for offshore drilling, including in the Arctic, and for reactor operators to \$1 billion, which begins to protect taxpayers from the financial consequences of a catastrophic spill, but still leaves the federal government with a significant off-book liability.

Arctic Offshore Liability

The liability regime for drilling operations conducted in Canada's Arctic is established pursuant to the Canada Oil and Gas Operations Act (COGOA) and the Oil and Gas Spills and Debris Liability Regulation, SOR/87-331, as well as through the Arctic Waters Pollution Prevention Act (AWPPA). It is important not only because of how it shapes and limits any claims for post-spill compensation, but also because of how it creates an incentive for offshore companies to pursue excessively risky activities, knowing they will only bear the full cost of liability (beyond the absolute liability cap) if negligence is established and upheld in court. Eliminating the liability cap is one major piece among a broader set of required offshore liability reforms that will encourage companies to weigh the full potential liability and make better risk decisions.

Following the BP Deepwater Horizon blowout in the Gulf of Mexico in 2010, the financial cost to BP alone of such a catastrophic spill has been placed at

US\$42.2 billion.⁸¹ The U.S. Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) characterizes the cost as resulting primarily from “(1) Natural resource damage to habitat and creatures, (2) Infrastructure salvage and cleanup operations of areas soiled by oil, and (3) Containment and well-plugging actions plus lost hydrocarbons.” BOEMRE acknowledged that there was a “considerable degree of uncertainty” in estimating the costs of a future spill, given the unknown timing, magnitude, duration and trajectory of such a spill,⁸² and that spill costs “could be much higher if all costs ... could be monetized.”⁸³

BOEMRE’s calculation might provide a suitable starting point for estimating the costs of a major Arctic spill. Indeed, while officials in the Gulf of Mexico had almost immediate access to some of the most sophisticated and extensive spill response equipment and infrastructure in the world, if drilling is authorized in Canada’s Beaufort Sea the costs associated with an Arctic spill could be considerably higher given the additional challenges associated with increased response times to contain a blowout and deal with spilled oil given weather and ice conditions, the reduced local infrastructure, and the increased distances to transport equipment and personnel.

In 2010, the Senate Standing Committee on Energy, the Environment, and Natural Resources issued a report that recommends review of offshore liability limits.⁸⁴ In December 2011, the National Energy Board’s *Review of Offshore Drilling in the Canadian Arctic* committed the National Energy Board (NEB) to “working on a framework that will outline financial responsibility requirements for all matters and regions covered by the *Canada Oil and Gas Operations Act*.”⁸⁵ While this is a positive step, the NEB did not provide any significant policy guidance on broader reform of offshore liability, likely because this is a decision for the Minister of Natural Resources, and not within the NEB’s purview. The GBC acknowledges that Natural Resources Canada announced in June 2013 that the government would raise the absolute liability cap for offshore drilling, including in the Arctic, to \$1 billion.

But, in light of the financial magnitude of the BP Gulf of Mexico spill, this will only begin to protect taxpayers from the financial consequences of a catastrophic spill.

In considering liability reforms, the government must consider Canadians’ exposure pursuant to liability limits that put the public purse at risk. The polluter pays principle should receive full application in the Arctic offshore, with a view to enhancing incentives for industry to avoid spills and to ensure funds are available for full response, cleanup and restoration attempts, and compensation when a spill occurs.

The absolute liability limit under COGOA and the AWPPA must be eliminated. In the same vein, the GBC also recommends the elimination of the absolute liability limit established under the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act* and the *Canada-Newfoundland Atlantic Accord Implementation Act* for offshore operations off Canada’s east coast.

Nuclear Liability

The federal taxpayer also carries a significant contingent liability for damages and clean up costs in the case of a nuclear accident. *The Nuclear Liability Act* (NLA) caps the liability of nuclear operators at \$75 million. Any remaining costs are either incurred by those harmed by an accident or – in the event a claims commission is established – the cleanup costs for a nuclear accident are transferred from the industry to the federal government.

Removing this cap, as other countries have done, would eliminate this off-book liability by transferring the liability to reactor operators.

The Fukushima nuclear accident in 2011 and the Gulf of Mexico oil spill in 2010 have highlighted that catastrophic industrial accidents are a realistic possibility. Indeed, major nuclear accidents are now occurring once a decade somewhere in the world.

⁸¹ Forbes (May 2013), BP Fighting A Two Front War As Macondo Continues To Bite And Production Drops, <http://www.forbes.com/sites/afontevacqua/2013/02/05/bp-fighting-a-two-front-war-as-macondo-continues-to-bite-and-production-drops/>

⁸² BOEMRE Drilling Safety Rule – Benefit-Cost Analysis, September 2010, page 33.

⁸³ BOEMRE Drilling Safety Rule – Benefit-Cost Analysis, September 2010, page 63.

⁸⁴ Senate Standing Committee on Energy, the Environment and Natural Resources (August 2010): *Facts Do Not Justify Banning Canada’s Current Offshore Drilling Operations*, page 5, <http://www.parl.gc.ca/Content/SEN/Committee/403/eng/rep/rep08aug10-e.pdf>

⁸⁵ <http://www.neb-one.gc.ca/clf-nsi/rthnb/pplctnsbfrthnb/rctcfffshrdrlIngrvw/fnlrprt2011/fnlrprt2011-eng.html>

However, like the off-shore oil industry, the nuclear industry in Canada has historically enjoyed a cap on its accident liability in case of an accident. In the event of an accident, the federal government will be pressured to pay for clean up and compensation costs above this liability cap, creating an enormous contingent liability for taxpayers.

Internationally, there has been a move to modernize nuclear liability legislation and to remove caps on reactor operator liability.

The International Atomic Energy Agency (IAEA) has acknowledged unlimited operator liability as an international best practice.⁸⁶ Sweden, Switzerland, Germany and Finland have established unlimited operator liability in their domestic legislation.

In Canada, the Joint Review Panel that assessed the environmental impacts of building new reactors at the Darlington nuclear site effectively recommended that the federal government remove the cap on reactor liability. It noted that Canada's nuclear legislation contravenes the federal commitment to the polluter pays principle, and recommended that the federal government align its nuclear liability legislation with the polluter pays principle. The Panel stated:

The Panel recommends that the Government of Canada update the Nuclear Liability and Compensation Act or its equivalent to reflect the consequences of a nuclear accident. The revisions must address damage from any ionizing radiation and from any initiating event and should be aligned with the polluter pays principle. The revised Nuclear Liability and Compensation Act, or its equivalent, must be in force before the Project can proceed to the construction phase.⁸⁷

The federal government, however, appears to have outright dismissed this recommendation.

In April 2012, the federal government provided a discussion paper to nuclear industry stakeholders seeking input on modernizing the Nuclear Liability Act. The paper focused on what level of liability would

be desirable for reactor operators and did not seek to consider the international best practice of unlimited liability.⁸⁸

Upon learning of the industry-consultations, Greenpeace and the Canadian Environmental Law Association made a formal request in April 2013 through the Commissioner of the Environment and Sustainable Development that the federal government hold a broader public consultation with non-industry stakeholders and consider lessons from Fukushima before it tables revised legislation in Parliament.⁸⁹ The government refused and announced it would table new legislation that would maintain a reactor operator liability limit, but increase it to \$1 billion from \$75 million.⁹⁰

Notably, this proposed liability cap provides more shielding to the nuclear industry than the federal government's proposed liability regime for the offshore oil industry. Nuclear operators would be completely indemnified by the proposed \$1 billion liability limit. For offshore oil operators, they would be "absolutely" liable up to \$1 billion in damages. This means a victim would not be required to prove fault or negligence. Above \$1 billion in damages, victims would need to prove fault, which could take years in court.

The government also announced that it would sign the International Atomic Energy Agency's Convention of Supplementary Compensation, an international treaty that provides transboundary liability protection to reactor suppliers. Documents acquired through the Access to Information Act show that American-based reactor suppliers asked the government for this additional protection to shield themselves in the event of an accident.

This proposal to extend the protection given to reactor suppliers and vendors is contrary to a key lesson from the Fukushima disaster.

Under Canada and Japan's current nuclear liability legislation, liability is "channeled" to the reactor operator even if a reactor supplier's negligence

⁸⁶ IAEA Action Plan on Nuclear Safety – Nuclear Liability, 2012, <http://ola.iaea.org/OLA/documents/ActionPlan.pdf>

⁸⁷ Joint Review Panel, August 2011, *Environmental Assessment Report – Summary, Darlington New Nuclear Power Plant Project*, <http://www.ceaa.gc.ca/050/documents/51695/51695E.pdf>, page 11.

⁸⁸ Department of Natural Resources Canada, *Consultation Paper on the Modernization of Canada's Nuclear Liability Regime*, April 2011, Acquired through Access to Information by Greenpeace Canada.

⁸⁹ Environmental Petition no. 350, May 1, 2013.

⁹⁰ Department of Natural Resources Canada (10 June 2013), "Harper Government to Strengthen Liability Regime for Nuclear Industry", *press release*, <http://www.nrcan.gc.ca/media-room/news-release/2013/7188>

contributes to an accident. This supplier liability protection removes an important incentive for reactor safety and limits the amount of funds available to compensate victims in the event of an accident.⁹¹

Notably, General Electric (GE) was aware of flaws in containment of the Fukushima reactors it designed, which contributed to radiation releases. Protected from liability, however, GE did nothing to address these flaws. As noted, since the Fukushima accident, GE asked the Government of Canada to shield its American parent company from liability – in the event of an accident in Canada caused by its Canadian subsidiary – by signing the Convention on Supplementary Compensation.

India, on the other hand, passed new nuclear liability legislation in 2010 that ends the practice of channelling. It allows reactor operators to sue suppliers if their negligence contributes to an accident. This provides a greater pool of industry funds to compensate accident victims.

The revisions proposed to Canada's nuclear liability regime ignored lessons from the Fukushima disaster and the best practices of other countries.

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⁹¹ Peter Mason, (CEO GE-Hitachi Canada) to David McCauly, (Director Natural Resources Canada), "Re: Consultation Paper on the Modernization of Canada's Nuclear Liability Regime," letter, May 28, 2012. Acquired through the Access to Information Act.

LEVELLING THE “FISCAL PLAYING FIELD” FOR NATURAL RESOURCES: USING SUBSIDY REFORM AND ENVIRONMENTAL PRICING

Levelling the “fiscal playing field” for natural resources entails utilizing subsidy reform and environmental pricing reform to achieve three primary objectives:

- 1) Firstly, to ensure that governments’ fiscal treatment of the exploration, depletion, conservation and recycling of different natural resources is equitable (including consideration of market value, scarcity, and environmental and human health impacts), or else favours resources and processes whose life-cycle impacts are the most positive;
- 2) Secondly, to ensure that Canadians are fairly compensated for any depletion of non-renewable natural resources through royalties or other fiscal tools. While royalties are primarily provincial jurisdiction, they have been implemented in such a weak way for mining, based on calculated profits rather than actual resource value, that mining companies often pay little or no royalties at all; and
- 3) Thirdly, to ensure market prices for goods and services “tell the environmental truth” by accurately reflecting true values – today and in the future – as well as the full life-cycle costs and benefits – financial, environmental, and social – associated with their development, production, transportation, sale, use and disposal.

Adherence to the “polluter pays” principle⁹² is central to these strategies of subsidy reform and environmental pricing reform. The GBC was pleased to hear of the Government of Canada’s intention to “enshrine the polluter-pay system into law”⁹³ as part of its efforts to update Canada’s offshore liability

regime,⁹⁴ and encourages the government to apply the polluter pays principle consistently across all relevant legislation and contexts.

Subsidy Reform

An early step in levelling the “fiscal playing field” should be to remove any existing preferential treatment (“subsidies”) for energy sources which are non-renewable or whose development or use is significantly environmentally-damaging.

The federal government has made important progress in this area in *Budgets 2007, 2011, 2012* and *2013* through a series of commitments addressing the oil sands and mining, and supporting tax neutrality and responsible resource development.⁹⁵

This document outlines the most important next steps in ending such counterproductive subsidies, regarding tax subsidies in *Subsidy Reform in the Extractive Industries*, and regarding off-book accident liabilities in *Hidden Liabilities in the Arctic Offshore and Nuclear Power*.

Ensuring Prices “Tell the Environmental Truth” through Environmental Pricing Reform

Market prices do not currently “tell the environmental truth.” Indeed, as Sir Nicholas Stern has pointed out, “climate change is the greatest market failure the world has seen.”⁹⁶

⁹² 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 House of Commons Standing Committee on the Environment and Sustainable Development that the government “believes that the polluter should pay.” <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=2977081&Language=E&Mode=1>

⁹³ Speech from the Throne (16 October 2013), <http://www.speech.gc.ca/eng/full-speech>

⁹⁴ See Natural Resources Canada (18 June 2013): Federal-Provincial Cooperation Modernizing Liability for Offshore Petroleum Drilling Operators, news release, <http://www.nrcan.gc.ca/media-room/news-release/2013/7202>; and backgrounder, Federal-Provincial Cooperation Modernizing Liability for Offshore Oil and Gas Exploration and Operations, <http://www.nrcan.gc.ca/media-room/news-release/2013/7204>

⁹⁵ See *Subsidy Reform in the Extractive Industries*, earlier in this document, for more details.

⁹⁶ October 30 2006, Press note: *Publication of the Stern Review on the Economics of Climate change*.

The Green Budget Coalition firmly believes that Canada's economy will only maximize benefits for Canadians and be truly sustainable when market prices for goods and services do tell the environmental truth by accurately reflecting true values – today and in the future – as well as the full life-cycle costs and benefits – financial, environmental, and social – associated with their development, production, transportation, sale, use and disposal.

This approach is often called environmental pricing reform (EPR), and could be implemented through a mix of market-based instruments, such as taxes, fees, rebates, credits, tradable permits and subsidy removal.

Such EPR policies create many benefits. By making prices better reflect true values and full costs, they create financial incentives to preserve natural resources for higher value uses and to drive innovation, and rewards those already striving to make more efficient use of resources. These are important steps to developing healthier, more sustainable economies. Furthermore, such policies provide enhanced fairness to citizens and business through the “polluter pays” principle, by forcing polluters to pay for the harm they cause.

In addition, the scale of government investment required for sustainability can often be significantly reduced by implementing such subsidy reform and environmental pricing reform measures. For example, the costs of accelerating energy efficiency and renewable energy can be reduced by implementing a technology fund or a carbon price, while removing the government's existing tax subsidies and off-book liabilities for fossil fuels, mining and nuclear power will make private investments in renewable energy and energy conservation more attractive. Net transit operating costs can be significantly reduced by implementing fair disincentives to driving, particularly a strong carbon price and road user pricing. The need for building expensive new water and wastewater infrastructure can be reduced by raising water usage fees, for industry and residents, to better cover the costs of the related infrastructure.

Canada lags behind most other industrialized countries – including the United States and Australia – in utilizing market-based instruments, particularly financial disincentives, to help achieve environmental objectives. However, the GBC has commended the Government of Canada for some important fiscal actions, including steps towards imposing a price on greenhouse gas emissions through a cap-and-trade system, and the introduction of a modest, temporary carbon tax as part of a revenue-neutral “feebate” structure for new automobile purchases.⁹⁷

The most important environmental pricing actions available to the federal government are:

(1) Implementing a technology fund as a step towards implementing a robust, economy-wide price on greenhouse gas emissions (*see Getting on Track for Canada's Climate Target: Designing a Technology Fund that works for 2020, earlier in this document, and Carbon Pricing recommendations in previous years' GBC Recommendations documents – via http://greenbudget.ca/main_e.html*); (2) Removing liability caps and raising minimum insurance levels for nuclear power and offshore oil operations (*See Hidden Liabilities in the Arctic Offshore and Nuclear Power, earlier in this document*); and (3) Developing and implementing a comprehensive environmental pricing plan, in coordination with provincial, territorial and municipal governments, and making some federal financial transfers to provincial and municipal governments conditional on implementing true-cost pricing measures (such as for road use).

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⁹⁷ See *Green Budget Coalition, 2007, 2007 Federal Budget – Analysis of Environmental Measures*, http://www.greenbudget.ca/pdf/Budget_Analysis_2007.pdf, p. 1-3, 6. Budget 2007 introduced the Vehicle Efficiency Incentive Structure. It used a “feebate” structure that combined a modest carbon tax – a Green Levy of up to \$4,000 on new gas guzzling vehicles - with a rebate of up to \$2,000 for purchases of highly fuel-efficient vehicles and of “E85” flex fuel vehicles. The structure was intended to be roughly revenue-neutral, with the levy revenues exceeding the rebate cost. <http://www.budget.gc.ca/2007/pdf/bp2007e.pdf>, p. 66-70, 436-438. Budget 2007 documents also acknowledged that, “emissions trading will be an important component of a market-driven approach to reducing GHG emissions and air pollutants.” Department of Finance Canada, 19 March 2007, *The Budget Plan 2007 – Aspire: To a Stronger, Safer, Better Canada*, p. 35. Budget 2008 allocated \$66 million to “set up key features of the regulatory regime [for industrial air emissions], including an electronic tracking system for units traded in the carbon market, a single-window reporting system for industry, an industry-supported technology fund to invest in emission reduction projects, an offset system to finance emission reduction projects in non-regulated sectors, and better modelling of air quality.” Department of Finance Canada, 26 February 2008, *The Budget Plan 2008 – Responsible Leadership*, p. 162. <http://www.budget.gc.ca/2008/pdf/plan-eng.pdf>

RESILIENT INFRASTRUCTURE FOR A PROSPEROUS CANADA: MAXIMIZING POTENTIAL OF NEW BUILDING CANADA FUND

Shree XCHING

Recommendation Summary

As highlighted in the 2013 Speech from the Throne,⁹⁸ the Government of Canada's new Building Canada Fund is a unique opportunity to collaborate with provincial, territorial, and municipal governments to strengthen and re-envision Canada's infrastructure to set us on a competitive and resilient path for the twenty-first century and beyond. The Government's preceding Building Canada Plan has created major ongoing benefits for Canadians by expanding and modernizing critical infrastructure from coast to coast to coast, however Canada's municipal infrastructure is still in need of massive reinvestment and upgrading.

Importantly, climate change has the potential to substantially impact the effectiveness and lifespan of infrastructure in Canada, particularly transportation, buildings, marine, water management and natural (green) infrastructure. Adaptive measures can be taken to limit costs and to strengthen the resiliency of infrastructure to protect Canadians' safety and quality of life.

To ensure the new Building Canada Fund maximizes its potential benefits for Canadians, the Green Budget Coalition recommends that the:

1. Building Canada Fund provide, conditional on matching provincial/territorial and municipal funds,⁹⁹ a minimum of:
 - \$735 million per year for water and wastewater management; and
 - \$1.3 billion per year for public transit; and
2. Following criteria be included in the Building Canada Fund's design, particularly the agreements with the provincial and territorial governments to guide its implementation, either through the carve-out of dedicated funds, as eligible categories within funds, or/and as criteria for judging potential projects:
 - Ensuring resilience to more variable and extreme weather due to climate change;
 - Providing access to safe, healthy drinking water;
 - Meeting Canada's new Wastewater System Effluent Regulations;¹⁰⁰
 - Sustainable transportation;
 - Energy sustainability; and
 - Utilising natural infrastructure.

Integrating innovative green and climate resilient solutions into a new era of infrastructure renewal can save energy, leverage nature's services to complement hard infrastructure, and provide co-benefits for communities (e.g., improved outdoor recreational opportunities), all while saving money over the long-term and increasing benefits per dollar spent.

Strong, comprehensive reporting mechanisms on how the funds are spent are also essential.

New Federal Investment Required:

None – funds can be allocated from Budget 2013 announcements.

⁹⁸ The Government re-affirmed in the 2013 Speech from the Throne that it "will invest 70 billion dollars in federal, provincial, territorial and community infrastructure" over the next decade. Speech from the Throne (16 October 2013). <http://www.speech.gc.ca/eng/full-speech>

⁹⁹ The GBC recommends that exceptions to this matching requirement be permitted where local communities clearly do not have the financial capacity or potential to provide those funds.

¹⁰⁰ Announced July 18, 2012. See "Harper Government increases protection for Canada's water quality", <http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=601AD687-480E-4EB9-8FDD-6027B021634A>

Benefits for Canadians

- More efficient use of infrastructure funds (financed by taxpayer dollars) will maximize benefits and minimize requirements for further spending.
- Infrastructure that is designed and built using climate projections data will have enhanced resiliency and longevity, which will reduce costs and aid in disaster mitigation.
- Clean drinking water contributes to the health of Canadians, reducing costs to the healthcare system and economy.
- Upgraded storm and wastewater management systems will meet higher health and environmental standards, increase jobs, and spur technological innovation.
- Public transit investments result in improved lifestyle and productivity for consumers and businesses through reduced congestion, and also help to reduce air pollution and greenhouse gas emissions from transportation.

Background and Rationale

By 2014, the Government of Canada's Building Canada Plan (BCP)¹⁰¹ will have allocated about \$33 billion since 2007 to important public infrastructure from coast to coast. The benefits created by the BCP's funding are numerous, and include – in communities across the country – new jobs, cleaner air and water, improved health and quality of life, reduced costs to the healthcare system, healthier lakes and rivers, improved transit and road infrastructure, and improved economic productivity.

The Green Budget Coalition commends the Government of Canada for announcing a new Building Canada Fund in Budget 2013, to continue to bring such benefits to Canadians.

However, recent extreme weather events have provided insight into what continued climatic change might mean for Canada's built and natural infrastructure: floods affecting management and road systems, degradation of permafrost threatening the integrity of building structures, and more extreme weather events inundating coastlines and disrupting essential services. As climate change impacts continue to be felt

along with other economic, social and environmental stressors, the difficulty of maintaining robust and resilient infrastructure systems is increasing across the country. It is becoming increasingly clear that actions must be taken to not only reduce generation of the greenhouse gases spurring climate change, but also to implement planned adaptation measures that secure the sustainability of critical sectors.

The structure of the Building Canada Fund, particularly the agreements being developed with provincial and territorial governments to guide its implementation, will play a critical role in how well taxpayers' dollars are utilized, and how effectively the Building Canada Fund's potential to underpin the economic, environmental and social prosperity of Canadians is realized.

To support the successful realization of those objectives, the Green Budget Coalition recommends that the following elements be central to the Building Canada Fund.

1. Core Objectives and Criteria

Decisions being made in the coming months, particularly in the development of implementation agreements with provincial and territorial governments, will play a critical role in the success of the Building Canada Fund. The Green Budget Coalition recommends that the following criteria be included in the design and implementation agreements for the Building Canada Fund, through the carve-out of dedicated funds, as eligible categories within funds, or/ and as criteria for judging potential projects (*specific minimum annual allocations are recommended for water and wastewater management and for sustainable transportation, detailed in the following sections*):

- Ensuring resilience to more variable and extreme weather due to climate change;
- Safe, healthy drinking water including source water protection;
- Meeting Canada's new Wastewater Effluent Regulations;
- Sustainable Transportation. This includes public transit (*see below*) and infrastructure to promote active transportation and more sustainable community design;

¹⁰¹ See <http://www.infrastructure.gc.ca/prog/index-eng.html> for details on Infrastructure Canada's programs.

- Advancing energy sustainability through conservation, demand management, renewable energy and energy efficiency;
- Support for capacity-building and municipal planning for energy sustainability; and
- Expanding and strengthening natural infrastructure including wetlands protection and restoration.

Integrating innovative green and climate resilient solutions into a new era of infrastructure renewal can save energy, leverage nature's services to complement hard infrastructure, and provide co-benefits for communities (e.g., improved outdoor recreational opportunities), all while saving money and increasing benefits per dollar spent.

The Green Budget Coalition supports equal cost-sharing between the federal, provincial/territorial, and municipal governments as a central principle of the Building Canada Fund. However, exceptions to this requirement are merited where local municipalities clearly lack the necessary financial capacity or potential.

2. Water and Wastewater Management

Nationally, aging and failing water infrastructure is a persistent challenge for Canadian communities. Much of the water supply infrastructure in Canadian communities is over fifty years old. Outdated wastewater treatment plants and antiquated combined sewer overflow systems allow unacceptably high levels of pollutants to enter Canadian waterways. Further, traditional infrastructure is poorly suited for adaptation to extreme climate events (e.g., flooding and drought).

Replacing and repairing degraded and aging pipes, pumps and treatment systems would ensure Canadian communities are better able to serve growing populations by avoiding flooding, providing safe drinking water, and reducing pollution discharge from waste- and stormwater systems to the nation's rivers and lakes. At the same time, the most cost-effective strategies for water and wastewater management will involve more than just pipes and pumps.

Under Canada's Economic Action Plan and Building Canada plan, some stimulus funding was provided for drinking and wastewater infrastructure. Over the longer-term, sustained funding will be required to help address the estimated \$40 billion cost of upgrading water and wastewater systems across the country.¹⁰²

These investments can also spur innovation and job growth in Canada's water technology sector. According to the Conference Board of Canada, there is a US\$360 billion global industry in water management.¹⁰³

Recommended Minimum: \$735 million/year

3. Sustainable Transportation – Public Transit

Benefits for Canadian Families of Investing in Public Transit

Each year, Canadians drive over three hundred billion kilometres in their cars, trucks and SUVs, with the average Canadian household driving around 26,460 kilometres per year. Much of this driving is commuting, with the average Canadian spending close to an hour getting to and from work by car each day. An average commuter could save \$215/year by commuting to work one day a week by bus, and taking public transit three days a week could save an average of \$646/year.¹⁰⁴

¹⁰² A Federation of Canadian Municipalities (FCM) – McGill University survey in 2007 estimated Canada's municipal infrastructure deficit related to meeting then-current standards for wastewater and stormwater systems to be approximately \$19.9 billion. (FCM, November 2007, *Danger Ahead: The Coming Collapse of Canada's Municipal Infrastructure*, ISBN 978-1-897150-20-7, https://www.fcm.ca/Documents/reports/Danger_Ahead_The_coming_collapse_of_Canadas_municipal_infrastructure_EN.pdf, p. 16. The municipal water supply deficit was also estimated at \$11.1 billion, out of a total municipal infrastructure deficit of \$123 billion.) In addition, the Canadian Council of Ministers of the Environment (CCME) estimated that it will cost \$10 billion to \$13 billion for a Canada-wide strategy to address the new sewage effluent standards. (CCME, February 1 2009, *Canada-wide Strategy for the Management of Municipal Wastewater Effluent*, http://www.ccme.ca/assets/pdf/cda_wide_strategy_mwwe_final_e.pdf, p. iii.) These above costs total roughly \$40 billion. Dividing these costs equally between the federal, provincial/territorial, and municipal governments suggests their respective shares of that total \$40 billion cost is \$13.3 billion each. If the federal government allocated another \$300 million to assist financially-limited municipalities, that \$13.6 billion total would be equivalent to \$1.36 billion/year for 10 years. However, if the Gas Tax Fund continues to provide, on average, 28% of its funds to water and wastewater infrastructure (as it did between 2005 and 2010, per Infrastructure Canada, June 2012, *Building a Better Canada Together*, http://www.infrastructure.gc.ca/alt-format/pdf/FCM_2012-eng.pdf), that would provide an average of about \$625 million annually over the next ten years (incorporating the new 2% annual increase), leaving a further need for \$735 million per year for water and wastewater infrastructure.

¹⁰³ Conference Board of Canada, 2008, *Canada's Pathways Toward Global Innovation Success: Report of the Leaders' Panel on Innovation-Based Commerce*, <http://www.conferenceboard.ca/documents.aspx?did=2762>

¹⁰⁴ Pembina Institute, October 2012, *Behind the Wheel*, <http://www.pembina.org/pub/237>

Realizing these cost savings for families – and the associated benefits of reduced air pollution and greenhouse gas emissions that public transit provides – requires dedicated funding for public transit to be a strong component of the Building Canada Fund. To ensure this opportunity is realized, the GBC recommends that the Government of Canada recognize transit through a carve-out dedicated specifically to transit infrastructure investment, to help ensure the sustainable growth of our communities over the longer term. In Canada’s most congested region – the greater Toronto and Hamilton region – resident groups have called for a greater role for the federal government in transit investment.¹⁰⁵ In the US, for example, the federal government provides a high proportion of transit investment – 41 percent of transit capital funding for municipalities in 2010.¹⁰⁶

In 2013, the federal government partnered with other levels of government by committing nearly one billion dollars towards two rapid transit lines in Scarborough, which amount to at least one-quarter of the capital cost.¹⁰⁷ This partnership should continue for other transit projects, but more so in the form of long term funding for entire transit plans rather than on a project-by project basis.

Increasing Investment in Public Transit

In 2012, the Canadian Urban Transit Association (CUTA) identified that Canadian transit systems require a \$53.5 billion investment over the next five years for infrastructure expansion, replacement and renewal.¹⁰⁸ The federal share of this has been estimated at between \$2 billion to \$2.7 billion annually.¹⁰⁹ CUTA identifies a federal transit funding shortfall of about \$1.3 billion per year. The Building Canada Fund is the right vehicle to fill that cost gap with \$1.3 billion

in new annual investment for five years, beginning in 2014. This would build on the approximately \$600 million per year that communities already dedicate to transit through the Gas Tax Fund, meaning that the total federal investment in transit would total about \$2 billion per year from 2014 onward.¹¹⁰

Recommended Minimum: \$1.3 billion per year

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¹⁰⁵ Metrolinx. *Investing in our Region; Investing in our Future*. May 2013.

¹⁰⁶ Ibid.

¹⁰⁷ The exact amount depends on the final total cost of the Scarborough RT re-route which can range from \$1.4 billion to \$3 billion. The Sheppard line’s cost is estimated at \$1.2 billion.

¹⁰⁸ Canadian Urban Transit Association, 2012, *Transit Infrastructure Needs for the Period 2012 – 2016*.
http://www.cutaactu.ca/en/publicaffairs/resources/CUTA_IS_Report2012_E.pdf

¹⁰⁹ The Toronto Board of Trade identified the federal government share of this as \$2.7 billion annually. Toronto Board of Trade, 2011, *2011 Pre-budget Submission*. CUTA estimates \$2 billion in their most recent report: http://cutaactu.ca/en/publicaffairs/resources/CUTA_IS_Report2012_E.pdf

¹¹⁰ Through the Gas Tax Fund (GTF) and other programs in the Building Canada Plan, the federal government currently invests close to \$1 billion in public transit every year. Since the GTF’s inception in 2005, 34% of GTF allocations went to public transit (which, on a yearly basis would represent approximately \$660 million at present, and – incorporating the new 2% indexing – would equate to an average of \$737 million over the next ten years). Assuming the ratio does stay the same over that period, the new Building Canada Fund should dedicate about \$1.3 billion annually to public transit (on top of GTF allocations). Utilizing data from Canadian Urban Transit Association, 2012, *Transit Infrastructure Needs for the Period 2012 – 2016*.

GREEN INFRASTRUCTURE FOR FIRST NATIONS COMMUNITIES

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Recommendation Summary

There are major opportunities to integrate green infrastructure thinking into the programs and policies that are needed for planning, building, updating, and repairing First Nations communities. While some progress is being made, drinking water systems in many communities are in dire need of improvement and upgrading. A co-ordinated approach that takes advantage of latest technologies, opportunities for First Nations communities to participate in green technology development, training for First Nations youth, and integration of green infrastructure approaches would pay big dividends for First Nations communities.

The **Green Budget Coalition's primary recommendations** to create critical benefits for First Nations communities by utilizing green infrastructure thinking are to invest in First Nations:

- 1. Water and wastewater systems. \$600 million per year for five years**
- 2. Energy efficiency:**
 - a) Deep measures residential energy conservation programs. \$24 million per year for five years**
 - b) Non-residential energy efficiency projects. \$20 million per year for five years**
- 3. Reduced diesel fuel use via green energy. See text below for more details.**

Alternative and complementary measures address drinking water and healthy housing for First Nations.

Total Recommended Investment: \$644 million per year for five years

Background and Rationale

1. Water and Wastewater Systems

Over 1,700 small and rural communities and over 100 First Nations communities across Canada are under boil water advisories in any given year.¹¹¹ A recent assessment commissioned by Aboriginal Affairs and Northern Development Canada (AANDC) found that 39% of First Nations drinking water systems are at high risk of being unsafe.¹¹²

In 2012, the federal government invested \$330.8 million over two years, after dedicating \$2.5 billion in cumulative investments since 2006 for First Nations water systems.^{113,114} However, the number of drinking water advisories (DWAs) remains persistently high, with 121 communities under DWAs as of July 31, 2013, representing about 18% of First Nations communities. There is thus a clear need for further major investments, along with ongoing support for AANDC's efforts to identify and implement lower-cost solutions.

Budget: \$600 million per year for five years

¹¹¹ Water Canada, 2011, *Urgent Delivery*, <http://watercanada.net/2011/urgent-delivery/>

¹¹² Aboriginal Affairs and Northern Development Canada, April 2011, *National Assessment of First Nations Water and Wastewater Systems – National Roll-up Report Final*. http://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-HQ/STAGING/texte-text/enr_wtr_nawws_rurnat_rurnat_1313761126676_eng.pdf

¹¹³ Aboriginal Affairs and Northern Development Canada, Budget 2012 Highlights – Aboriginal and Northern Investments, <http://www.aadnc-aandc.gc.ca/eng/1314815272921/1314816043432>

¹¹⁴ Canada, Budget 2012, Chapter 3.4.

2. Energy Efficiency & Green Energy

Energy efficiency needs in First Nations communities require healthy housing investments since many of the necessary energy improvements require improvements in housing stock. Energy conservation programs address many of the health and comfort issues associated with poorly insulated buildings such as mould, other aspects of poor indoor air quality, and resulting health effects such as asthma.¹¹⁵

It is also important to ensure that energy efficiency and retrofit programs in First Nations communities are creating employment and skills training for youth in those communities. In addition, program development and delivery by the federal government in partnership with First Nations communities is a key requirement.¹¹⁶

Approximately 44% of the housing stock needs repair and an additional 18% requires replacement and is beyond repair, yet remains occupied and overcrowded, causing serious health concerns.

While the need is greater, this recommendation targets deep measures retrofits (retrofits that deal with building envelope, insulation, and major appliances) in 1,000 homes per year with the recognition that capacity for energy efficiency and retrofit delivery needs to continue to be built, especially in remote, rural and northern communities. In future years, the program should aim to provide deep measures energy retrofits in larger numbers of homes annually in First Nations communities across Canada.

Non-residential energy efficiency programs in First Nations communities are also critical for pursuit of energy use reductions, cost savings, and emissions reductions from institutional, commercial and other business facilities. Programs such as those pursued by the past Aboriginal and Northern Community Action Program (ANCAP) and the current EcoENERGY for Aboriginal and Northern Communities Program

(EANCP) are important and should be funded and continued in First Nations communities across Canada.^{117,118,119}

Budget:

- **2,000 homes per year across Canada at \$12,000.00 per home for deep measures retrofits: \$24 million per year for five years.**
- **80 new non-residential energy efficiency projects across Canada per year at \$250,000 each – an investment of \$20 million per year for five years** (*in addition to current EANCP funding averaging \$4 million per year*)

Total: \$44 million per year for five years
(Some of this funding could potentially come from the Budget 2013 allocation of \$155 million to the First Nations Infrastructure Fund.)

3. Reducing Diesel Fuel Use via Green Energy

Many important environmental, health, and energy security benefits can be created by such programs as ANCAP and EANCP that reduce First Nations communities' reliance on diesel fuel.

See Sustainable Action Fund for Energy (SAFE) for Northern and Remote Communities in Sustainable Energy for Canada, earlier in this document, for a promising Green Budget Coalition recommendation in this area.

Alternative and Complementary Measures

Canada needs to fund training and technological development, specifically for small rural communities

¹¹⁵ Canadian Environmental Law Association, 2011, "Healthy Retrofits", <http://www.cela.ca/publications/healthy-retrofits-full-report>.

¹¹⁶ For example, see the example of Five Nations Energy Inc. Conservation Program on the Western James Bay Coast: <http://www.nan.on.ca/upload/documents/energy2012-pr-lucie-edwards-fnei-conservation-program.pdf>

¹¹⁷ Centre for Indigenous Resources, "Reflections on Success, A Sustainable Future in a Changing Climate", 2007, <http://www.aadnc-aandc.gc.ca/eng/1312212959922/1312213056686>

¹¹⁸ The EANCP was renewed in Budget 2011 for 2011-16 with \$20 million (total) over five years and provides funding for clean energy projects in Aboriginal and Northern communities. It first operated from 2007 to 2011, and followed on the Aboriginal and Northern Community Action Program (ANCAP; 2003-2007) and the Aboriginal and Northern Climate Change Program 2001-2003). AANDC, "EcoENERGY for Aboriginal and Northern Communities Program 2011-2016, Information for Applicants", <http://www.aadnc-aandc.gc.ca/eng/1100100034258/1100100034259> AANDC, "Climate Change", <http://www.aadnc-aandc.gc.ca/eng/1100100034249/1100100034253>

¹¹⁹ As of 2012, since 2007 the EANCP has provided support to 160 First Nations projects across Canada, at a maximum eligibility of \$250,000 per project (project eligibility varies).

and First Nations communities. In June 2013, Bill S 8, the *Safe Drinking Water for First Nations Act*, was passed into law in an attempt to establish enforceable drinking water and wastewater regulations on First Nations reserves.¹²⁰ Although improvements still need to be made, enacting this legislation demonstrated that the Government of Canada recognized the need to prioritize the issue of safe drinking water for First Nations.

Healthy Housing

In Canada, 20% of Aboriginal multi-family households live with core housing needs vs. 12.4% of non-Aboriginal households.¹²¹ About 44% of existing on-reserve housing stock requires major repair or replacement.¹²² The 2006 census data estimates that 15% of the First Nations population is living in overcrowded homes, a rate that is five times higher than the non-Aboriginal population.¹²³

A March 2012 report,¹²⁴ based on data from Aboriginal Affairs and Northern Development Canada (AANDC) and the 2006 Census, estimated that between 2010 and 2034, the incremental housing requirements of Registered Indian households on reserve will include:

- “130,197 new units to accommodate household and family growth;

- 11,855 new units to replace units which are lost to the stock or deteriorate to the point where they cannot be economically renovated; and
- the renovation of an additional 8,261 to 10,861 existing dwelling units which are forecast to require major repairs during the period.”

The financial requirement to provide for the housing needs of First Nations is, for on-reserve housing, roughly \$1 billion annually for the next five years, and, for off-reserve housing, roughly \$100 million per year for five years.

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¹²⁰ <http://www.parl.gc.ca/LegisInfo/BillDetails.aspx?Language=E&Mode=1&billId=5409479>; <http://www.aadnc-aandc.gc.ca/eng/1330528512623/1330528554327>

¹²¹ Precarious Housing in Canada, 2010, Wellesley Institute; The Dunning Report: Dimensions of Core Housing Need in Canada. 2nd Ed. The Cooperative Housing Federation of Canada, August, 2009; CMHC, Canadian Housing Observer, 2009 and 2011 reports.

¹²² Michael Shapcott, “Housing”, *Social Determinants of Health: Canadian Perspectives*, 2nd edition, 2004, Dennis Raphael (Ed.), Canadian Scholars’ Press, Toronto.

¹²³ Gionet, L (2009), First Nations people: Selected findings of the 2006 Census. *Canadian Social Trends*, Summer 2009 (87): 54-60.

¹²⁴ Clatworthy, Stewart (March 2012), Four Directions Project Consultants, *Aboriginal Housing Conditions and Needs on Reserves*, p. 17.

SUSTAINABLE TRANSPORTATION: ELECTRIC VEHICLES

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Recommendation Summary

Invest in electric vehicle infrastructure and update income tax rules to remove unintentional barriers to electric mobility.

Investment Required: \$15 million

See also *Resilient Infrastructure for a Prosperous Canada*, earlier in this document, for recommendations regarding funding public transit infrastructure.

Background and Rationale

Transportation is responsible for a quarter of Canada's greenhouse gas emissions and personal vehicle road transportation contributes about 2/3 of these emissions. Electric vehicles (EVs) hold strong potential to revolutionize personal transportation and lead to significant GHG emission reductions. The federal government can play a stronger role in encouraging adoption of EVs by investing in technology, infrastructure and updating tax codes to remove unintentional barriers.

Existing fuel efficiency regulations introduced by the federal government have been effective in reducing greenhouse gas emissions from personal transportation. However, transition to electric vehicles will be necessary to reach Canada's 2020 emissions reduction targets, and the deeper reductions required post-2020.¹²⁵ To spur adoption in Canada, we need to remove specific tax barriers, grow infrastructure nation-wide and also speed public sector leadership in adoption of these vehicles.

Electric Vehicles

Investing in Electric Vehicle Technology and Infrastructure: The government has made some initial first steps to encourage the production of electric vehicles through investment into technology research, including \$11 million to McMaster University¹²⁶ and a repayable \$71 million to Toyota for production of the electric RAV4.¹²⁷ However, despite these investments, range will continue to be a barrier for EV owners who occasionally need to drive longer distances.

To encourage a faster transition to electric vehicles and contribute more to national greenhouse gas emission reduction targets, the Green Budget Coalition recommends that the government establish a new fund to support broader investment in electric vehicle infrastructure with a primary focus on fast charging in travel corridors, as well as support for home and workplace charging stations.

To date, there has been reasonable development of level 2 (240 v) charging in Canada. However, to connect communities and enable longer-distance travel in Canada, fast chargers (DC) are needed along Canadian highways. The expense of these chargers is prohibitive for businesses to install; however, programs

¹²⁵ National Research Council. 2013, Transitions to Alternative Vehicles and Fuels. http://www.nap.edu/catalog.php?record_id=18264.

¹²⁶ Federal Economic Development Agency for Southern Ontario, 2011, Government of Canada Invests in McMaster University's Automotive Resource Centre, <http://www.feddevontario.gc.ca/eic/site/723.nsf/eng/00602.html>

¹²⁷ Industry Canada, 5 August 2011, Minister of Industry Highlights Federal Investment in Toyota to Support Jobs in Canada, <http://news.gc.ca/web/article-eng.do?nid=614649>

in the US and British Columbia have overcome this barrier by offering tax write offs or financial incentives to businesses and organizations.¹²⁸

Electric Mobility Canada (EMC) has previously proposed federal programs calling for \$12 million investment in infrastructure.¹²⁹

This fund should target travel corridors between major urban centres with favourable conditions for electric vehicles, including integration with renewable energy supply, grid readiness and population density. In communities that are suitable for pilot projects, the federal government should work with provincial and municipal governments to develop fast charging infrastructure.

The Green Budget Coalition specifically recommends a total budget of \$15 million in 2014 to commence pilot projects, including key actions outlined previously by EMC: home and workplace charging stations, fast public charging facilities along major travel corridors, and tax reform. The federal government should work with provincial governments and pilot municipalities to determine the most effective use of these funds.

Eliminating Tax Barriers to Adopting Electric

Vehicles: Through conversations with business representatives, the Green Budget Coalition has heard that current rules for taxable benefits in Canada unintentionally penalize employees for choosing a hybrid or electric vehicle as their corporate vehicle. Employees who do opt for a hybrid or electric vehicle are assigned a higher **standby charge** based on the higher price of the new technology. Unfortunately, this higher taxable benefit is not offset by the lower operating costs of the vehicle because the **operating expense benefit** that applies to personal driving is fixed, regardless of whether an employee drives a hybrid or V8 vehicle.

While we appreciate that Canada's corporate car benefit is designed to minimize the number of cars on the road and the distance they are driven, the GBC, along with Electric Mobility Canada (EMC), recommends that the related taxable benefits be examined to remove this penalty.

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¹²⁸ Province of British Columbia. 2013, BC Plugging in to electric vehicle fast charger, http://www2.news.gov.bc.ca/news_releases_2009-2013/2013ENV0002-000067.htm

¹²⁹ Electric Mobility Canada, December 2010, Driving the Rapid Adoption of Electric Vehicles in Canada, http://www.emc-mec.ca/eng/pdf/Rapid_Adoption_of_EVs_in_Canada_December_2010.pdf

SUMMARY TABLE

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Lead Departments and Costs (and Savings) Associated with the GBC's Recommendations for Budget 2014
(in millions of dollars; negative figures represent savings or revenues)

Recommendation <i>Sub-Recommendation</i>	Likely Lead Department(s)	Notes on Costs/Savings	2014-15	2015-16	2016-17	2017-18	2018-19	ongoing
FEATURE RECOMMENDATIONS								
Subsidy Reform in the Extractive Industries								
Canadian Exploration Expense	Finance, NRCan	Estimates based on past years; actual savings may vary.	-240	-240	-240	-240	-240	-240
Mineral Exploration Tax Credit	Finance, NRCan		-135	-100	-100	-100	-100	-100
National Conservation Plan								
<i>Economic Opportunities of Healthy Oceans</i>								
Transforming fisheries	DFO		7.2	7.2	7.2			
Ecosystem-based aquaculture research	DFO		1.5	1.5	1.5			
Marine management tools	DFO		5	5	5			
Marine Protected Areas	DFO, EC, PC		35	35	35	35	35	35
Supporting International Ocean Management	DFO		2	2	2			
<i>Protecting Ecologically-Significant Natural Areas</i>								
<i>National Parks</i>								
Establishment	PC		70	20	20	20	20	20
Supporting science-based conservation outcomes	PC		20	20	20	20	20	20
Private Lands: Natural Areas Conservation Program	EC	For 5-year program.	250					
Conserving Canada's grasslands	EC		3	3	3	3	3	
Conserving and restoring Canada's wetlands	EC		20	20	20	20	20	
Conserving migratory birds	EC		30	30	30	30	30	30
Connecting Canadians to nature	EC		10	10	10	10	10	10
Canada's Fresh Water								
Alleviating land-based run-off of pollutants, nutrients	EC		60	60	60	60	60	
Great Lakes Water Quality Protocol	EC, DFATD		25	25	25	25	25	
Great Lakes-St. Lawrence Adaptive Management Plan	EC, DFATD		5.5	5.5	5.5	5.5	5.5	
Aquatic invasive species	DFO		25	25	25	25	25	
TOTALS (all Feature Recommendations)			194.2	-70.8	-70.8	-86.5	-86.5	-225
COMPLEMENTARY RECOMMENDATIONS								
Strengthening Science Capacity AANDC, DFO, EC, NRCan, PC -- Costs incorporated in referenced recommendations								
<i>Energy Sustainability and Climate Action</i>								
Sustainable Energy for Canada								
SAFE Fund for Northern and Remote Communities	AANDC, NRCan	For 3 year program.	15					
Energy storage								
Accelerated capital cost allowance (Class 43.1 & .2)	Finance, NRCan	Rough estimates.	2	5	10	10	5	2
Investment tax credit - for emerging technologies	Finance, NRCan		5	20	35	35	35	20
National Green Homes Strategy	EC, NRCan		250	250	250	250	250	
Getting on Track for Canada's Climate Target:								
Designing a Technology Fund for 2020	EC	Revenues would match disbursements.						
Supporting Global Climate Action								
Hidden Liabilities in the Arctic Offshore & Nuclear Power	EC, DFATD		400	400				
Arctic offshore	NRCan	Could reduce taxpayer liabilities by billions of dollars.	n/a	n/a	n/a	n/a	n/a	n/a
Nuclear power	NRCan		n/a	n/a	n/a	n/a	n/a	n/a
<i>Healthy Communities</i>								
Resilient Infrastructure for a Prosperous Canada								
Water & wastewater management	Infrc	No new allocations requested.	-	-	-	-	-	-
Public transit	Infrc		-	-	-	-	-	-
Infrastructure resiliency and other purposes	Infrc, PS, EC		-	-	-	-	-	-
Green Infrastructure in First Nations Communities								
Water & wastewater systems	AANDC		600	600	600	600	600	
Residential energy conservation	AANDC		24	24	24	24	24	
Non-residential energy efficiency	AANDC		20	20	20	20	20	
Sustainable Transportation: Electric Vehicles								
	NRCan, TC, Finance		15					
TOTALS (all recommendations *except* hidden liabilities)			1525.2	1248.2	868.2	852.5	847.5	-203

Departmental Acronyms:

AANDC: Aboriginal Affairs and Northern Development Canada
 DFATD: Foreign Affairs, Trade and Development Canada
 DFO: Fisheries and Oceans Canada
 EC: Environment Canada
 Finance: Finance Canada

HC: Health Canada
 Infrc: Infrastructure Canada
 NRCan: Natural Resources Canada
 PC: Parks Canada
 PS: Public Safety
 TC: Transport Canada

NOTES



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