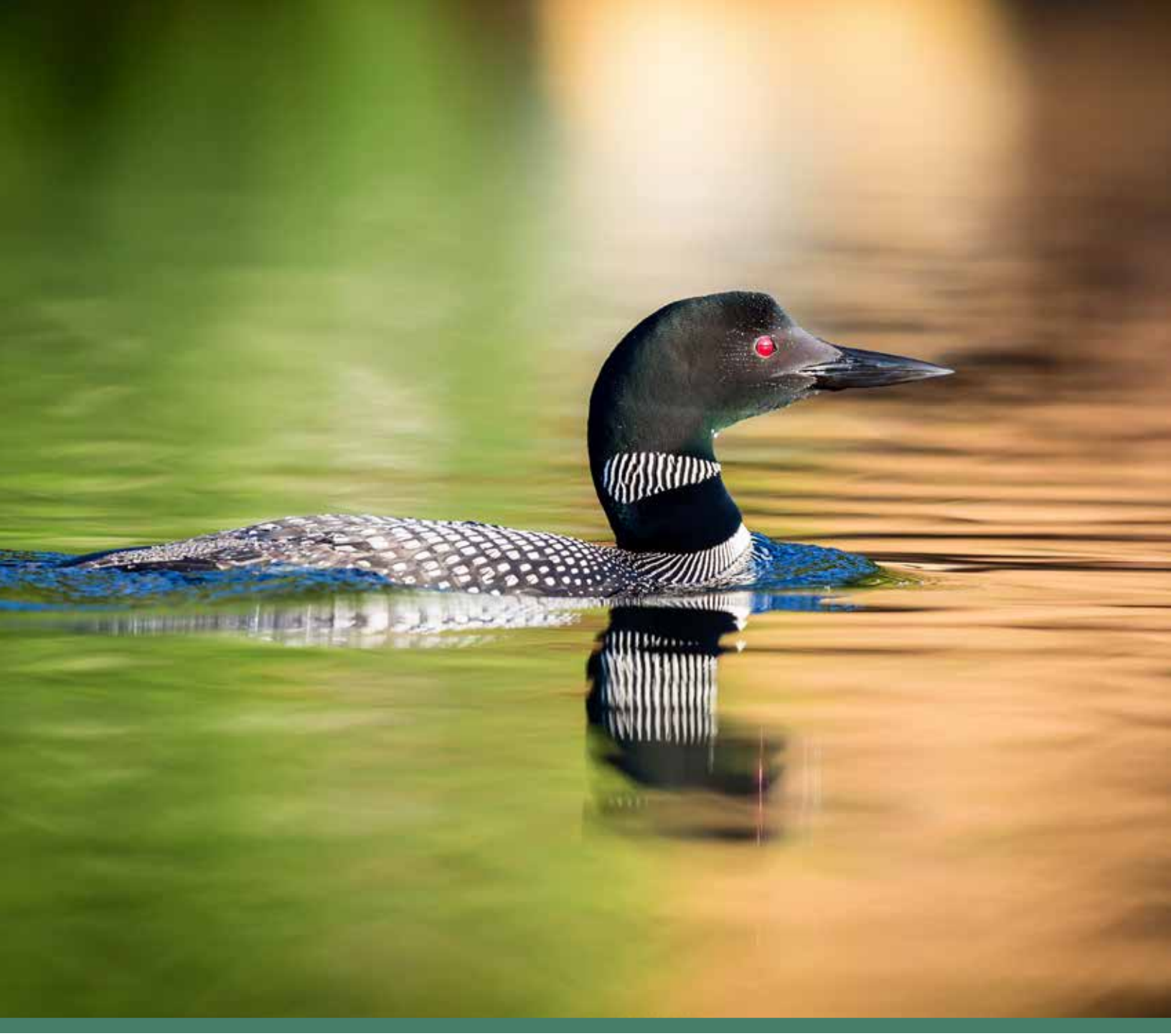

GREEN BUDGET COALITION

Recommendations for Budget 2017

Bird Studies Canada / Études d'oiseaux Canada
Canadian Environmental Law Association
CPAWS-SNAP
David Suzuki Foundation
Ducks Unlimited Canada
ecojustice
Ecology Action Centre
environmental defence
Les Amis de la Terre / Friends of the Earth
Greenpeace
IISD
Nature Canada
Nature Conservancy Canada
Fondation Sierra Club Canada Foundation
Wildlife Habitat Canada / Habitat faunique
West Coast Environmental Law
WWF

Contents

This document will be available, in English and French, at www.greenbudget.ca. See page 47 for department acronyms.

EXECUTIVE SUMMARY AND INTRODUCTION

Canada's environment is central to Canadians' prosperity.

The Green Budget Coalition (GBC), active since 1999, brings together seventeen of Canada's leading environmental and conservation organizations (listed on front cover), 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 GBC appreciated the funding provided in Budget 2016 for many of its priorities, including the Low-Carbon Economy Fund, marine protected areas, green infrastructure in First Nations communities, social housing retrofits, low-emission vehicle infrastructure, and accelerated capital cost allowances for electricity storage technologies. However, much more is still needed to put Canada on a solid path towards environmental sustainability and playing a responsible role in addressing climate change.

In Budget 2017 and fiscal announcements in the preceding months, the GBC recommends that the Government of Canada emphasize a suite of fiscal measures to achieve its climate change mitigation and adaptation goals and related nature conservation objectives, and renew important freshwater programs.

In particular, the GBC recommends Budget 2017 ensure action to:

- **Implement a well-designed, pan-Canadian carbon price,** starting at a price level that respects the social cost of carbon, with appreciable annual increases for several years, and revenues directed towards: compensating low-income and other vulnerable individuals and families; supporting emission reductions and clean economic growth; and supporting adaptation to climate change, including natural solutions,
- **Phase-out exploration and development subsidies to the fossil fuel industry**,
- **Direct 30% of green infrastructure funding to natural infrastructure options**, and 10% of annual funding from the Pan-Canadian Framework on Clean Growth and Climate to help Canada's ecosystems adapt to climate change,
- **Take strategic, nation-wide, multi-year conservation action in three areas**:
  - **Terrestrial protected areas** –Expand and better protect our terrestrial protected areas system,
  - **Working landscapes** – Expand measures to conserve unique and ecologically significant wildlife habitat, and to ensure ecological connectivity,
  - **Oceans and fisheries** – Fulfill Canada's commitments to reach and exceed international marine protection targets, and to ensure ocean health and sustainable fisheries, and
- **Renew important freshwater programs sunsetting in March 2017**, and invest in improving the quality, comprehensiveness and accessibility of freshwater monitoring data.

This document also outlines a number of complementary recommendations across issues of climate change mitigation and adaptation, energy, transit, green and natural infrastructure, nature conservation, freshwater resources, radon mitigation, and supporting evidence-based decision-making, including ecosystem monitoring and measuring ecological goods and services.

WHO WE ARE

The Green Budget Coalition (GBC), founded in 1999, brings together seventeen leading Canadian environmental and conservation organizations (logos below), 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. The GBC's Co-Chairs are Theresa McClenaghan, Executive Director of the Canadian Environmental Law Association, and James Brennan, Director of Government Affairs for Ducks Unlimited Canada. Nature Canada hosts the GBC.

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

Image: Karsten Würth -- Unsplash

Climate Change & Energy Sustainability

GREEN BUDGET COALITION

CARBON PRICING

Recommendation Summary

The federal government has committed to working with the provinces, First Nations, and stakeholders to introduce a climate change framework for Canada, including a pan-Canadian carbon price. Successfully pricing carbon across Canada would involve policy that adheres to certain principles — most notably that it be broad-based and effective at reducing emissions — and a price that reflects the social cost of carbon. Revenue from pricing carbon should be used, at least in part, for protecting low-income households, further reducing GHG emissions, and investing in the natural and built environment to adapt to climatic impacts.

Prime Minister Trudeau's announcement that the federal government would ensure that there was a pan-Canadian carbon price by 2018 is certainly a step forward. However, there are elements of the announcement that should have been stronger, and others that lack clarity but that we hope will be ambitious when they are finalized. First, a $10/tonne carbon price starting in 2018 means that it will take many years before the carbon price starts to create significant emission reductions. Second, the default should have been that the carbon price continues to ramp by $10/tonne per year until 2030, with a review after five years to evaluate whether that ramp is the appropriate one. We have seen with the example of B.C. that when a carbon price stops rising, it can lead to inertia. This means that the federal government will have to be very aggressive with complementary policies — its legislative agenda and spending programs — in order to fill the gap and meet or beat the existing 2030 target.

With respect to revenue recycling, we recommend that the federal government ensure that the money that is returned to the provinces from which it originated is put towards climate change solutions. Those would include investing in clean technologies, energy efficiency programs, and adaptation measures. The federal government should also ensure that a portion of the revenue is returned to low-income households so that they do not spend a disproportionately higher share of their income on carbon pricing.

Background and Rationale

Economists and climate change experts have long recognized that pricing carbon pollution can be a cost-effective policy tool for reducing greenhouse gas emissions. While a full suite of policies (e.g., regulatory measures, incentives, emissions and energy performance standards, government procurement, etc.) are required to tackle greenhouse gas emissions in a comprehensive way, a price on carbon sends a signal to both consumers and businesses to reduce fossil fuel consumption, use energy more efficiently, and increase the use of cleaner forms of energy.

A carbon price has already been introduced by a number of jurisdictions, both within Canada and internationally. In Canada, at their meeting in March 2016, First Ministers committed to transitioning to a low carbon economy "by adopting a broad range of domestic measures, including carbon pricing mechanisms."[1] The Honourable Catherine McKenna, Minister of Environment and Climate Change, has described carbon pricing measures as the "most efficient mechanisms" to reduce greenhouse gas emissions.[2] Canadian businesses across economic sectors have also indicated their support for carbon pricing, including those that have joined the Carbon Pricing Leadership Coalition.[3]

1) Principles

A carbon pricing policy could be implemented in a number of ways that would be effective. If rigorously designed, either a carbon tax or a cap-and-trade system could effectively reduce emissions in Canada. Given that a number of provinces have implemented different carbon pricing systems, the challenge for the federal government is to implement a framework that is generally cohesive across Canada and that, over time, converges towards a single, pan-Canadian carbon pricing system. The federal

1 Canadian Intergovernmental Conference Secretariat. (2016). "Vancouver Declaration on clean growth and climate change." Accessed at http://www.scics.gc.ca/english/Conferences.asp?a=viewdocument&id=2401

2 O'Neil, P. (2016). "McKenna to B.C.: Great job on climate, don't rest on laurels." Vancouver Sun. April 11. Accessed at: http://vancouversun.com/news/local-news/mckenna-to-b-c-great-job-on-climate-dont-rest-on-laurels

3 Government of Canada. "Joint Statement on the Carbon Pricing Leadership Coalition". July 15, 2016. Accessed at: http://news.gc.ca/web/article-en.do?nid=1099259

government should seek to implement a carbon pricing system that:

- Sends a broad, relatively equal signal across the Canadian economy by anchoring market-based approaches to carbon emissions reductions linked to international Paris market mechanisms;
- Results in carbon emissions reductions in the near-term and the achievement of Canada's Paris Agreement targets by 2030;
- Encourages increasing ambition in emission reductions, designed with a view toward achieving a maximum 1.5ºC temperature increase;
- Generates predictability for business and industry in the near-term, and/or aids corporate planning by clarifying the long-term trajectory;
- Creates revenue streams that can be harnessed to finance other carbon reduction strategies;
- Incentivizes development, manufacturing, export, and use of cleaner technologies, as well as energy efficiency improvements in existing technologies;
- Minimizes leakage and competitiveness concerns; and
- Includes reinvestment considerations in consultation with First Nations, Métis and Inuit peoples of Canada.

2) Level of the carbon price

In order for a pan-Canadian price on carbon to be effective and allow Canada to achieve or surpass the Paris targets, it must be set at a level that at least matches the full social cost of burning fossil fuels. Putting a price on carbon emissions that is equivalent to the full costs of those emissions — including the costs of mitigating both climate and air pollution impacts — provides benefits that are many times the macroeconomic cost of applying that carbon price. It is also important to price carbon on a predictably escalating scale at a rate that will provide long-term economic and regulatory certainty, helping to drive emissions reductions over the long-term.

Environment and Climate Change Canada estimates the social cost of carbon—the cost of climate change impacts caused by those emissions at a 3% discount rate—at $40/tonne and rising.[4] (The U.S. Environmental Protection Agency's estimate is higher.) The cost of local air pollution is, on its own, even higher than the social cost of climate change.[5] An appropriate carbon price could therefore start at a level equivalent to at least the social cost of carbon, and increase annually to reach the price needed to fully account for environmental externalities and achieve climate objectives.

3) Revenue

The GBC recommends directing revenues generated by pricing carbon to a few key purposes:

- Reinvesting proceeds into measures that stimulate clean economic growth while maintaining continued downward pressure on carbon emissions, such as modal shifts, decarbonization of the transportation sector, and emissions reductions and efficiency improvements in the buildings sector
- Ensuring that low-income and other vulnerable individuals and families are compensated for the extra costs they face as a result of carbon pricing, and have employment opportunities to participate in the transition to a low-carbon economy;
- Financing adaptation measures, including investments in upgraded infrastructure and nature conservation solutions; and
- Reinvesting in conservation measures on public and private lands as a means of increasing the resiliency and adaptability of the Canadian landscape to a changing climate.

Complementary policies

Carbon pricing should never be expected to achieve significant emission reductions on its own, since there are significant sources of GHGs that are not sensitive to carbon pricing or have other barriers to tackling them. Especially in the first few years of its implementation, when the carbon price is likely to be below a level that would achieve significant emission reductions, a full suite of policies is required to get Canada on track to deep emission reductions in line with the Paris goal of limiting warming to 1.5 degrees Celsius. These policies would include, for example:

- Legislation and regulations (e.g., accelerated coal phase out, regulations to cut methane emissions, zero-emitting vehicle legislation),
- Spending programs (green infrastructure, Low Carbon Economy Fund, getting remote communities off diesel),
- Incentive programs (deep building retrofit programs), and
- Other fiscal tools (eliminating fossil fuel subsidies).

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4 Environment and Climate Change Canada. (2016). "Technical Update to Environment and Climate Change Canada's Social Cost of Greenhouse Gas Estimates." Accessed at: http://www.ec.gc.ca/cc/default.asp?lang=En&n=BE705779-1

5 Sawyer, D. (2015). "The Benefits of Climate Action to Hard Working Canadian Families." EnviroEconomics. Accessed at: http://www.enviroeconomics.org/#!The-Benefits-of-Climate-Action-to-Hard-Working-Canadian-Families/c1uze/55380e170cf21fee1339c111

GREEN BUDGET COALITION

FOSSIL FUEL SUBSIDY REFORM

Recommendation Summary

The Green Budget Coalition (GBC) recommends that the Government of Canada phase-out, through a legislated schedule in Budget 2017, all tax provisions that provide preferential treatment to the fossil fuel sector, including the:

- Accelerated Capital Cost Allowance (ACCA) provided to Liquefied Natural Gas projects that was introduced in Budget 2015[6];
- Flow-through Share Deductions available to investors in the oil and gas sector through the acquisition of shares and through limited partnerships; and,
- Canadian Exploration Expenses immediate write-offs.

In addition to the above, the GBC recommends that the Government of Canada phase-out before 2020 the fossil fuel component of all federal tax provisions, production subsidies, and fiscal instruments, including the:

- Canadian Development Expense;
- Duty Exemption for Imports of Mobile Offshore Drilling Units in the Atlantic and Arctic;
- Canadian Oil and Gas Property Expense; and,
- Foreign Resource Expense (FRE), and Foreign Exploration and Development Expense (FEDE).

Financial Savings: Approximately $1.5 billion in annual savings

The GBC further calls on the Government of Canada to:

- Announce a comprehensive review to quantify and publicly report the costs of all federal direct spending, production subsidies, tax deductions and all other public support available to coal, oil and gas, and the natural gas industry. We recommend this information be provided to the Parliamentary Budget Office and the Department of Finance in time for the pre-budget economic and fiscal outlook and in order for anticipated revenues to be included in Budget 2018 and subsequent federal budgets.
- Initiate work with partner countries, in the context of the G7 and G20 commitments, to define efficient fossil fuel subsidies.

6 Despite the fact that the new ACCA for the liquefied natural gas sector is set to expire in 2025, the Green Budget Coalition recommends that it be revoked immediately in Budget 2017.

Background and Rationale

Many of these tax preferences and accelerated deductions recommended for reform date back to the 1970s and have since outlived their original objectives.[7] These measures were historically premised on factors such as exploration risk, spillover benefits of exploration to third parties (similar to R&D), large capital requirements, price volatility, and a desire to be competitive. Today, however, it is not clear that these factors are unique to the mining and fossil fuel sectors, or that these sectors merit preferential treatment.

The Government of Canada has reiterated its commitment to phase out inefficient fossil fuel subsidies including in the G7[8], G20 [9] and APEC[10] communiqués. At the North American Leader's Summit (NALS) in Ottawa in June 2016, the Government of Canada restated its commitment to phase out such subsidies by 2025.[11]

7 Sawyer, Dave and Seton Stiebert, 2010, http://www.iisd.org/gsi/sites/default/files/ffs_awc_3canprovinces.pdf

8 G7. 2016, 26-27 May. G7 Ise-Shima Leaders' Declaration, available at: http://www.mofa.go.jp/files/000160266.pdf

9 IISD. 2015. Fossil fuel subsidy reform in Canada: A post-partisan issue, available at: https://www.iisd.org/blog/fossil-fuel-subsidy-reform-canada-post-partisan-issue

10 APEC. 2015, 19 November. 2015 Leaders' Declaration, available at: http://www.apec.org/Meeting-Papers/Leaders-Declarations/2015/2015_aelm.aspx

11 NALS. 2016, 29 June. Leaders' Statement on a North American Climate, Clean Energy, and Environment Partnership,

The GBC commends these commitments in principle. However, policy clarity is needed on what governments consider as "efficient" subsidies and its implication on the timely phase out of fossil fuel subsidies. The GBC recommends that all direct subsidies, preferential tax treatment, other fiscal instruments, and all other public support provided to producers of coal, oil, and natural gas (including liquefied natural gas) be removed by 2020, ahead of the G7 and NALS timeline.

Eliminating fossil fuel subsidies falls within the purview, and is referenced in the mandate letters, of the Minister of Finance[12] and the Minister of Environment and Climate Change.[13] It can support the Government's efforts related to the pan-Canadian framework for clean growth and climate change. Fossil fuel subsidies can distort the market and undermine Canada's climate objectives. Furthermore, the Government of Canada has committed to introducing a national price on carbon by 2018. It is important to note that fossil fuel subsidies act as a negative price on carbon and can undermine the principle objectives of carbon pricing.

Furthermore, Canada has supported the Friends of Fossil Fuel Subsidy Reform communiqué,[14] along with 83 other countries and major corporations. The Communiqué recognizes that the elimination of fossil-fuel subsidies would make a significant contribution to reducing global greenhouse gas emissions and that "accelerating the reform of fossil-fuel subsidies is therefore an urgent priority." The GBC's recommendations would allow Canada to meet the principles agreed to in the Communiqué related to communication and transparency and ambition in the scope and timeframe for implementing subsidy reform.[15]

The federal government should also work with other levels of government to identify opportunities and encourage the phase out of subnational fossil fuel subsidies. In addition to the GBC recommendations below, the pan-Canadian framework should include an agreement on a set of common fiscal principles to reform federal and provincial tax systems to encourage investment in clean and low carbon sources of energy.

Recommendations

The GBC recommends that the following measures for the fossil fuel sector be eliminated:

The Accelerated Capital Cost Allowance (ACCA) provided to Liquefied Natural Gas projects.
Budget 2015 introduced a new ACCA treatment for assets used in facilities that liquefy natural gas, and Budget 2016 locked in the tax expenditure until 2025.[16] This new ACCA allows investments in eligible equipment used for natural gas liquefaction to be written off from taxable income at a substantially higher rate: a 22 percent allowance that brings the CCA rate up to 30 percent for those eligible expenses. For non-residential buildings used at a facility that liquefies natural gas, the ACCA was increased to 10 percent.
Estimated Savings: $9 million per year[17]

Flow-through Share Deductions available to investors in coal, oil, and gas projects.
This tax benefit enables corporations to pass on (renounce) certain amounts of their CEE and CDE to shareholders, who can then claim the resulting tax deductions themselves.[18]
Estimated savings: $133 million[19]

Exploration Limited Partnerships.
Profit gains from exploration limited partnerships are taxed as capital gains, for which the tax rate is 50 percent.[20]
Estimated savings: Unknown

The Canadian Exploration Expense (CEE) tax deductions.
The CEE allows for further deductions, at a rate of 100%, for costs incurred for geological, geophysical, and geothermal (G3) surveys and exploratory drilling. CEE are expenses incurred for the purpose of determining the existence, location, extent, or quality of petroleum, natural gas or a mineral resource in Canada. Until 2018, CEE also included expenses incurred for the purpose of bringing a new mine into production, including clearing,

available at: http://pm.gc.ca/eng/news/2016/06/29/leaders-statement-north-american-climate-clean-energy-and-environment-partnership

12 Canada, Office of the Prime Minister. 2015. Minister of Finance Mandate Letter, available at: https://pm.gc.ca/eng/minister-finance-mandate-letter

13 Canada, Office of the Prime Minister. 2015. Minister of Environment and Climate Change Mandate Letter, available at: https://pm.gc.ca/eng/minister-environment-and-climate-change-mandate-letter

14 Friends of Fossil Fuel Subsidy Reform. 2016. Fossil-Fuel Subsidy Reform Communiqué, available at: http://fffsr.org/communique/

15 Friends of Fossil Fuel Subsidy Reform. 2016. Fossil-Fuel Subsidy Reform Communiqué, available at: http://fffsr.org/communique/

16 Budget 2016, Chapter 8, p.221: http://www.budget.gc.ca/2016/docs/plan/budget2016-en.pdf.

17 Budget 2015 projected the deferral of tax associated with this measure would reduce federal tax revenue by $45 million over the 2015–16 to 2019–20 period. Strong Leadership, a balanced budget, low tax plan for jobs, growth and security, tabled in the House of Commons on April 21, 2015 p.212. http://www.budget.gc.ca/2015/docs/plan/toc-tdm-eng.html

18 Oil Change International, Overseas Development Institute, International Institute for Sustainable Development, November 2015: https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9988.pdf.

19 OECD, 2016. OECD analysis of budgetary support and tax expenditures: Canada. Data extracted on 13 Sept 2016. http://stats.oecd.org/Index.aspx?DataSetCode=FFS_CAN

20 International Institute for Sustainable Development, September 2016. Estimate based on 2013-2015 data. http://www.iisd.org/faq/ffs/canada/

removing overburden and stripping, and sinking a mine shaft.[21]
Estimated savings: $148 million per year[22]

The Canadian Development Expense tax deductions (CDE).
At present, oil and natural gas producers and mining companies can claim up to 30% of expenses against taxable income for a wide range of drilling, development and excavation expenses. After 2017, mining pre-production development expenses will be fully transitioned from being considered exploration expense to falling under the purview of the CDE as well. The cost of any Canadian mineral property, or of any right to or interest in any such property also qualifies as a CDE. CDE are accumulated in a pool called Cumulative Canadian Development Expenses (CCDE), from which the company can deduct up to 30% of the unclaimed balance at the end of each year; unclaimed balances may be carried forward indefinitely.[23]
Estimated Savings: $1.018 billion per year[24]

Duty Exemption for Imports of Mobile Offshore Drilling Units in the Atlantic and Arctic.
This tax break was originally designed to promote offshore oil and gas exploration in the Atlantic and Arctic. The duty exemption was rendered permanent in Budget 2014.
Estimated savings: Unknown

The Canadian Oil and Gas Property Expense (COGPE).
The COGPE allows oil and gas companies to claim a 10 percent deduction from taxes for the costs of acquiring oil and gas wells and rights.
Estimated savings: $36 million per year[25]

The Foreign Resource Expense (FRE), and Foreign Exploration and Development Expense (FEDE).
These credits currently enable Canadian mining companies to deduct 30% of exploration expenses incurred overseas. Data is not available to estimate the amount of foregone federal tax revenues for these two measures.
Estimated savings: Unknown

The GBC also recommends that the Department of Finance undertake a comprehensive review to quantify and publicly report the cost of all production subsidies and tax credits to coal, oil and gas, including the fuel transport and refining sectors. This will require that tax expenditures specific to fossil fuels be disaggregated from those available to the mining sector.[26] In addition, categorizing the tax expenditures available within the energy sector (i.e. to oil, gas, coal, wind, geothermal, solar etc.) will be necessary to determine the impact of the tax system on investments in clean energy, and to enhance existing tax measures to generate more clean technology investments.

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21 Budget 2011 proposed that development expenses incurred for the purpose of bringing a new oil sands mine into production in reasonable commercial quantities be treated as Canadian Development Expenses (CDE) rather than CEE as in the past. Budget 2013 further proposes that pre-production mine development expenses be treated as Canadian Development Expenses (CDE) which are deductible on a 30% declining-balance basis. (Source, Natural Resources Canada, 2014)

22 International Institute for Sustainable Development, September 2016. Estimate based on 2013-2015 data. http://www.iisd.org/faq/ffs/canada/

23 Natural Resources Canada. 2014. 'Mining-specific Tax Provisions'. Ottawa. Government of Canada. http://www.nrcan.gc.ca/mining-materials/taxation/mining-taxation-regime/8892#lnk11

24 International Institute for Sustainable Development, September 2016. Estimate based on 2013-2015 data. http://www.iisd.org/faq/ffs/canada/

25 International Institute for Sustainable Development, September 2016. Estimate based on 2013-2015 data. http://www.iisd.org/faq/ffs/canada/

26 The costs of the following tax deductions are particularly difficult to accurately and reliably estimate: the Canadian Development Expenses, the Canadian Exploration Expenses, the Canadian oil and gas property expense, the Foreign Resource Expense, and Foreign Exploration and Development expense. These are deductions of capital costs that can be pooled each year and then claimed whenever the owner chooses to, and the data specific to these tax deductions does not appear to be readily available. The most recent analysis for this from Finance Canada appears to be Part 2 of the Tax Expenditures and Evaluations 2012, Tax Expenditures for Accelerated Deductions of Capital Costs. Mostly, the document explains why it may be too difficult to come up with accurate figures in such cases, due in part to the intricate relationship with other tax deductions. Flow-through Share deductions present a similar challenge of being reported in an aggregate fashion.

GREEN BUDGET COALITION

INTERNATIONAL CLIMATE FINANCING

Recommendation Summary

Canada and other industrialized countries have committed themselves in the Paris Agreement to mobilize US$100 billion per year to developing countries to assist them in addressing climate change. Canada's 2020 public contribution remains at least CAN$2 billion short of Canada's fair share.

Investment Required:
At least CAN$2 billion over the next three years, to be added to the $800 million already committed by the federal government for 2020, all of which will leverage additional investment by the private sector. Between 2021 and 2025, Canada's annual public contribution should total CAN$2.8 billion to CAN$3.7 billion (using an appropriate leverage ratio for private sector financing, and depending on the US-Canada exchange rate).

Background and Rationale

A vital part of all international climate negotiations and agreements is international climate financing. Industrialized countries have acknowledged that they are largely responsible for creating climate change and have the greatest capacity to address its challenges. As such, Canada and other industrialized countries have agreed to provide financing to developing countries to address the impacts they are already facing and to assist them in undertaking low-carbon development. In the Paris Agreement, that commitment was to mobilize at least US$100 billion per year in financing between 2020 and 2025.[27]

1) Level of commitment
A study that investigated a number of methodologies for calculating Canada's fair share of climate financing found that the amount being mobilized should be 3-4% of the total for industrialized countries.[28] Climate Action Network-Canada pegs Canada's fair share at 4% of the total mobilized by industrialized countries.[29] That was the ratio used by the previous federal government when it extended $1.2 billion of the $30 billion required for climate financing in 2010 to 2012.[30] According to The Globe & Mail, Minister of Foreign Affairs Stéphane Dion referenced Canada's $4 billion annual share when he announced that his government was extending $2.65 billion to climate financing in November 2015.[31]

Using the 3-4% range as Canada's fair share, starting in 2020 Canada will need to mobilize US$3-4 billion per year from public and private sources for climate financing (CAN$3.8-CAN$5.1 billion, based on the average 2015 exchange rate). While the public contribution announced in November 2015 is welcome, the 2020 total of $800 million would be insufficient to leverage enough private sector financing to reach Canada's fair share. An OECD report estimated that $1 in public financing for climate change leverages an additional $0.38 in private sector investment.[32] Using that ratio, the federal government has now committed to mobilizing approximately CAN$1.1 billion in 2020, not the minimum of CAN$3.8 billion required.

Year	Announced contribution from federal government	Estimated commitment of public funds (supplemented by private financing)*
2016	CAN$300M	
2017	CAN$400M	
2018	CAN$500M	
2019	CAN$650M	
2020	CAN$800M	CAN$2.8B – $3.7B
2021-2025	$0	CAN$2.8B – $3.7B annually

27 Paris Agreement. Article 54. Accessed at https://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf
28 Demerse, Clare. (2009). "Our Fair Share: Canada's Role in Supporting Global Climate Solutions." Pembina Institute. Accessed at https://www.pembinafoundation.org/reports/our-fair-share-report.pdf
29 CAN-Rac. (2015). "Canada's Fair Share: The Story Behind the Numbers." Accessed at: http://climateactionnetwork-28b0.kxcdn.com/wp-content/uploads/2015/04/INDCBackgrounderFinalMarch2015.pdf
30 Environment Canada. (2011). "Minister Kent Announces International Climate Funding." Press Release. Dec. 5. Accessed at: http://www.ec.gc.ca/default.asp?lang=En&n=714D9AAE-1&news=B37E3BE6-5D04-4566-B674-677A20213456
31 Clark, C. (2015). "Canada commits $2.65-billion to climate-change funding." The Globe and Mail. Accessed at: http://www.theglobeandmail.com/news/politics/canada-commits-265-billion-to-climate-change-funding/article27507453/
32 OECD and Climate Policy Initiative. (2015). "Climate Finance in 2013-14 and the USD 100 billion goal." Accessed at: http://oecd.org/env/cc/oecd-cpi-climate-finance-report.htm

**Will depend on the fair share percentage chosen by the Canadian government, the private sector leverage factor, and US-Canada exchange rate.*

2) Principles for climate financing

Canada's climate financing also needs to heed important principles to be most effective and meet our commitments. Financing needs to be:

- New and additional: Raiding international development funds to finance climate change puts developing countries no further ahead.
- Balanced between mitigation and adaptation: Many poor countries need adaptation assistance most, given their level of development and significant impacts they face.
- In the form of grants, not loans: Extending loans that must be paid back makes often indebted countries even more financially vulnerable.
- Predictable: It is commendable that the Canadian government announced its international climate finance contributions for the next five years well in advance. In the future, earmarking part of the federal carbon pricing revenue for this purpose would allow the international community to know what financing totals to expect from Canada in 2020 and beyond.

Complementary policies

- Shifting fossil fuel subsidies to international climate financing,
- Supporting innovative climate financing mechanisms such as applying taxes on bunker fuels from international aviation and international shipping, or financial transaction taxes.

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GREEN BUDGET COALITION

RENEWABLE ENERGY AND ENERGY EFFICIENCY

Renewable Energy

The Green Budget Coalition recommends that the Government of Canada renew funding of $1 billion annually to Natural Resources Canada for the Clean Energy Fund to finance renewable energy demonstration projects, and to fund renewable energy research, deployment and transmission across the country.

Investment required:

For 2017/18: $1 billion
Ongoing: $1 billion/year for 4 years

Background and Rationale

In Budget 2016, the federal government committed to fund green infrastructure projects as part of an historic 10-year infrastructure investment plan. However, investment in modernizing Canada's electricity grid to get the most out of our country's resources and limit climate-altering carbon emissions remains lacking. By providing funding for clean electricity generation, interconnection of provincial electricity grids, energy storage, the electrification of end uses, and community-scale renewable energy projects, the government of Canada can grow the middle class, provide meaningful outcomes to benefit First Nation's communities, strengthen Canada's economy, and make significant progress toward achieving Canada's GHG emissions reduction targets.

In 2010 the Government of Canada committed $12 million over five years to the PEI-based Wind Energy Institute of Canada to support research into renewable energy and the creation of a small wind farm[33]. As the need for renewable energy solutions grows across the country in accordance with the increasingly ambitious emissions reductions targets called for by the Paris Agreement, independent, not-for-profit renewable energy research initiatives of this kind have a key role to play in driving Canada's clean energy transition.

The Government of Canada must seize the opportunity now to fund research organizations and initiatives across the country to make optimal use of Canada's diverse and abundant clean energy resources. These investments could support the study of solar power in the Alberta, energy storage in Saskatchewan, and geothermal energy in B.C., to cite only a few examples.

Investing in renewable energy at the local level would not only help reduce Canada's greenhouse gas emissions, but would also provide jobs and investment opportunities for Canadians in remote areas, and assist in the phase-out of fossil fuel-based electricity generation. The Government of Canada can support community-scale renewable energy projects by expanding access to federal grants for demonstration projects. Previous investments by the federal government in this area have made a meaningful difference in communities like the Cowessess First Nation in Saskatchewan, where nearly half of the community's $5.5 million wind generation and energy storage project was funded by Natural Resources Canada's Clean Energy Fund[34].

In instances where funds can be directed to off-grid communities, renewable energy can reduce GHG emissions by significantly reducing the need to regularly burn diesel for power. In instances where local projects can feed clean energy into the electricity grid, security of supply is enhanced, and participating communities may be eligible for economic returns from feed-in-tariffs or net-metering programs.

To complement small-scale renewable energy projects and leverage the growth of renewable energy in Canada, the federal government must also invest in enhancing interconnection of provincial electricity grids[35]. A major obstacle to providing Canadians with low-cost, low-emissions energy is the present lack of infrastructure for transmitting surplus electricity to markets outside the province where it is generated. Allowing responsibly developed hydropower resources in B.C. and Manitoba to support a transition away from coal power in Alberta and Saskatchewan, for example, would accelerate the reduction of Canada's total GHG emissions, enhance economic productivity in the exporting provinces, and provide substantial public health and environmental benefits for hydroelectricity importers. Building and maintaining the infrastructure needed to support this exchange of electricity would create jobs, expand utilities' access to markets, and enhance the security and sustainability of Canada's energy supply.

33 The Guardian. August 20, 2010. http://www.theguardian.pe.ca/News/Local/2010-08-20/article-1688066/12-million-project-will-study-the-storage-of-wind-power/1

34 Natural Resources Canada. http://www.nrcan.gc.ca/energy/funding/current-funding-programs/cef/4983

35 Trottier Energy Futures Project. 2016. http://www.davidsuzuki.org/publications/downloads/2016/Trottier-Energy-Futures-Project-March31.pdf

Energy Efficiency

To support energy efficiency, the Green Budget Coalition recommends that the Government of Canada provide $400 million per year for the next five years to re-establish an energy efficiency home retrofit program, similar to the ecoENERGY Retrofit program, starting with the north and low income housing.

Investment required:

For 2017/18:	$400 million
Ongoing:	$400 million/year for 5 years

Background and Rationale

Buildings account for 12 percent of Canada's total GHG emissions[36], largely due to the use of natural gas for heating and cooling, and the use of outdated and inefficient insulation materials.

The federal ecoENERGY Retrofit program, introduced in April 2007, provided homeowners and commercial landlords with grants of up to $5,000 toward renovations targeted at improving the energy efficiency of their properties. The program was discontinued in 2012, well before its $400 million budget was fully allocated[37]. Re-establishing a similar program would create jobs, reduce GHG emissions, and put money back into the pockets of Canadians – both at the time of reimbursement for renovations, and for years to come as they reduce their energy consumption.

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36 Environment and Climate Change Canada. https://www.ec.gc.ca/indicateurs-indicators/default.asp?lang=en&n=F60DB708-1

37 Toronto Star. January 30, 2012. https://www.thestar.com/news/canada/2012/01/30/federal_government_pulls_plug_on_ecoenergy_retrofit_program.html

GREEN BUDGET COALITION

CLEAN ENERGY DEPLOYMENT IN INDIGENOUS COMMUNITIES

It is imperative that Canada's Indigenous Peoples share the economic and social benefits of the nation's transition to a low-carbon future. The Green Budget Coalition encourages Indigenous and Northern Affairs Canada, with the support of other Ministries including Natural Resources Canada and Environment and Climate Change Canada, to prioritize the deployment of renewable energy in northern and remote Indigenous communities that currently depend on expensive and polluting diesel electricity generation. This would be in alignment with the *Leaders' Statement on a North American Climate, Clean Energy, and Environment Partnership*, and the federal government's stated commitments to taking action on climate change and improving the economic and social wellbeing of Canada's Indigenous communities. The opportunities are significant, especially in the face of a federal price on carbon and fluctuating import prices and long-term availability of diesel fuel.

Reducing diesel-dependence in these communities results in a number of benefits, including improved air quality, increased energy security, job creation, Indigenous entrepreneurship and equity participation in clean energy projects, cost savings which can then be directed to other economic development opportunities, and a reduction in greenhouse gas emissions.

The Green Budget Coalition is therefore supportive of the recent submission from the Assembly of First Nations (AFN) to the Clean Tech working group of the Pan-Canadian Framework on Climate Change, which called for '**A Trifecta of First Nations Greenhouse Gas Reduction Targeted - Sustainable Infrastructure-Oriented Funds**' in the range of $1.4 billion - $2.3 billion over 10 years. The proposed funds would be utilized to reduce diesel in 140 Indigenous Northern & remote off-grid communities by 50% using a suite of tools including infrastructure investments. This AFN recommendation is consistent with the GBC's previous recommendations for a targeted renewable energy fund for Northern and remote communities, paired with residential and commercial energy efficiency incentives.

Spotlight on Arctic Indigenous Communities

Indigenous communities in the Arctic face unique challenges due mainly to differences in weather conditions and governance structures.

At WWF-Canada's Arctic Renewable Energy Summit in Iqaluit (Sept 15-17, 2016), the Waterloo Institute of Sustainable Energy presented the findings of a recent study that identified the Nunavut communities of Iqaluit, Sanikiluaq, Rankin Inlet, Arviat and Baker Lake as among those communities where hybridized electricity, including wind and solar energy, is projected to be less expensive than using diesel alone

For instance, in Arviat close to 60 percent renewable energy penetration will result in a cost reduction of approximately $2.5-million over 10 years (approximately 10 percent savings, in terms of overall costs) and an almost 40 percent reduction in diesel use. In Sanikiluaq, wind and solar energy could provide 50 percent of the community's energy needs and lead to a 35 percent reduction in diesel use, resulting in a projection of close to $2 million in savings over 10 years (taking into account the cost of maintenance, transportation and installation of new renewable energy technologies).

The Summit also highlighted Alaska's success in deploying community-scale renewable energy systems via the creation of a Renewable Energy Grant Fund. This fund, since its creation by the Government of Alaska in 2008, has appropriated $259 million USD for 287 qualifying projects. In 2015, 54 projects displaced an estimated 22 million gallons of diesel fuel worth $61 million USD. The amount of displaced diesel is anticipated to increase to 30 million gallons in 2016 as new projects are completed.[38]

Based on the Alaskan experience, the GBC recommends the Government of Canada create a Canadian Arctic Renewable Energy Fund (AREF) of $840 million CAD over 14 years, or $60 million CAD per year. Such a fund will enable a 40% reduction in diesel consumption from the electricity generation sector in 117 Arctic indigenous communities by 2030.

The Arctic Renewable Energy Fund should support:

- Reconnaissance and feasibility studies
- Design and construction projects covering a wide range of technologies, including, most significantly, high penetration wind-solar-battery integration
- Funding (grants, loans and loan guarantees) for capital expenditures of wind-solar-battery integration up to 50% of the existing load.
- Funding for human and local capacity building. Training local people to ensure newly deployed renewable energy systems are maintained and remain operational is crucially important.

38 Renewable Energy Atlas of Alaska, Alaska Energy Authority. April 2016.

Providing funded training opportunities will enhance direct benefits to communities through the creation of local employment opportunities.

The AREF fund will enable investment into renewable and clean energy, which will not only help northern remote indigenous communities mitigate climate change but also save millions of dollars which can be redirected towards other economic development opportunities.

Investment Required

For 2017/18: $60 million
For ongoing: $60 million/year over 13 years

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Image: Matthew Henry-- Unsplash

Infrastructure, Ecosystems and Climate Change Adaption

GREEN BUDGET COALITION

NATURAL INFRASTRUCTURE AND ECOSYSTEM ADAPTATION

Recommendation

The Green Budget Coalition recommends that in Budget 2017 the Government of Canada allocate 30% of planned phase-2 Green Infrastructure funding for investments to protect and enhance Canada's vital natural infrastructure, which provides services such as clean water, flood mitigation, coastal sea surge protection, and many other important services. Much of this natural infrastructure has been lost or degraded. Existing natural infrastructure assets urgently need to be protected and/or restored for the health and safety of Canadians. The funding would promote activities such as:

- Protection and enhancement of urban and suburban natural areas, including urban reforestation;
- Restoration of lost or degraded natural habitats and connectivity enhancements in agricultural/natural resource working landscapes; and
- Protection and restoration of coastal buffers, headwaters and wetland basins in areas prone to flooding or other extreme weather events, nutrient loading, and/or other events that impact water quantity and quality and/or harm human health or safety.

The GBC estimates that $242 million per year will be required to fulfill the first three commitments, and a further $250 million per year will be required to restore wetland basins in regions of the country that are prone to severe flooding, and in coastal areas that are susceptible to rising sea levels and storm surges.

In addition, we recommend that as part of the *Budget for a Cleaner, More Sustainable Future*, a specific fund should be developed to help Canada's ecosystems adapt to climate change. This is to address the urgent need to protect Canada's natural assets, such as our biodiversity, that provide important services for all Canadians and are threatened by human activity including climate change.

Investment Required

For 2016/2017	30% of Green Infrastructure funding for natural infrastructure investments
For 2016/2017	10% to the budget allocated from supporting the Pan-Canadian Framework on Clean Growth and Climate Change for helping Canada's ecosystems adapt to climate change
Ongoing	30% of Green Infrastructure funding per year over 10 years
Ongoing	10% to the budget allocated to support the Pan-Canadian Framework for helping ecosystems adapt to climate change

Summary

The GBC applauds the commitment to invest $21.9 billion over 11 years to projects that propose to strengthen the resilience of communities and built public infrastructure to the impacts of climate change; to ensure these hard public assets are climate resilient and provide adaptation benefits including clean water for communities, and upgraded green municipal projects.

However, without clear federal support for the protection and enhancement of natural infrastructure, the federal government will be missing a significant opportunity and public good to ensure that such projects are brought forward. Therefore, in addition to ensuring that climate change mitigation and adaptation, as well as biodiversity criteria, are integrated into all new federal infrastructure decisions, the GBC is calling on the federal government to make a clear commitment to nature-based infrastructure in the 2017 budget.

This should be done in three ways:

- the creation of a specific natural infrastructure fund which would include at least half of the proposed natural infrastructure funding (15% of the total recommendation), that would be guided by an oversight committee comprised of public, private and NGO experts.
- request that jurisdictions consider alternative natural solutions to any investments they are making; and
- ensure that a specific percentage of green infrastructure funding be earmarked in every jurisdiction specifically for natural solution approaches, with clear criteria and measurable outcomes to ensure that biodiversity and climate related considerations are achieved.

Nature-based infrastructure investments consist of protecting, restoring, or enhancing natural ecosystems in order to provide and/or retain ecological services that would otherwise be achieved with technological solutions.

Nature-based infrastructure investments are directly relevant to Green Infrastructure, and have a role to play in developing Canada's social infrastructure. These investments can provide cost-effective climate adaptation and health benefits in urban and suburban areas, as well as water quality and quantity benefits and coastal protection for communities across Canada.

There are many scales of nature-based infrastructure. At the smallest scale, trees are nature-based infrastructure because they filter water and prevent heat islands. Wetland complexes are also natural infrastructure because they trap and hold chemicals, sediments and nutrients, sequester carbon and filter water. Retention and restoration of wetlands and riparian buffers throughout whole watersheds reduces downstream flooding, property damage and threats to human life. Depending on the scale of the activity, impacts on biodiversity, microclimate, and other ecosystem services will also differ, with large landscape-level projects providing additional co-benefits such as supporting protected area and Species at Risk goals and objectives, while also helping to fulfil Canada's climate change mitigation and/or adaptation commitments.

Given the potential scales of projects that could be funded, including the diversity of outcomes and the capacity for stakeholders other than governments to act on this work, is why the GBC recommends that at least half of the proposed *natural infrastructure fund* be kept separate from the broader Green Infrastructure fund, and be guided by an oversight committee comprised of public, private and NGO experts. This method will provide transparency and drive innovative undertakings rooted in evidence and science. It will also ensure that projects are managed effectively and leverage funding from other sources to the greatest extent possible.

If 15% of the Green Infrastructure allocation is kept in a segregated fund, it must support larger landscape scale projects which may be overlooked by jurisdictions seeking to address smaller scale and local projects. Irrespective of funding management, we recommend that a) jurisdictions be asked to consider natural solutions to any investments they are making; and b) that a specific percentage of green infrastructure funding be earmarked in every jurisdiction specifically for natural solution approaches, with clear criteria to ensure increasing biodiversity and climate related considerations are achieved.

Further, the GBC recommends that as part of the *Budget for a Cleaner, More Sustainable Future*, funding should be allocated that enables Canada's ecosystems to adapt to climate change, including:

1. Maintaining and enhancing biodiversity and ecosystem services (e.g. water protection, carbon storage potential)
2. Protecting wildlife populations facing climate-related habitat loss and degradation
3. Ensuring connectivity of wildlife habitat at a whole-landscape scale

While enabling climate change adaptation, this funding would directly support a number of the federal government's other environmental commitments, including meeting and exceeding Aichi biodiversity targets and protecting critical habitats including those that support Species at Risk.

In addition, the Green Budget Coalition recommends the following:

- Integration of climate change adaptation or resilience objectives into all new infrastructure expenditures, including consideration of its impact on existing natural assets such as habitat loss or functional impairment and negative impacts to biodiversity. This would require the systematic use of strong climate change adaptation criteria in the identification, design and construction of all federally-funded infrastructure investments.
- Enabling Canadian non-governmental organizations (NGOs) to serve as a full project partner proponent under Phase 2 of the Green Infrastructure program, and be permitted to apply directly to the Government of Canada for funding. This would be contingent on the NGO identifying conservation opportunities, providing evidence and arguments as to how they would generate critical infrastructure services, and contributing a minimum of one third (33%) of the required program dollars towards the completion of the project.
- Assigning meaningful green performance measures and incentives for all proponents. These should include expenditure targets, conserved acres (particularly within areas prone to natural disasters, like flooding) and biodiversity enhancement.
- Providing fiscal incentives that will promote natural infrastructure expenditures by private parties, both in the buildings and green infrastructure sectors.
- Providing financial support for municipalities to:
  - Identify natural capital assets that help deliver desired municipal services;
  - Determine the condition and value of their natural asset(s);
  - Develop and cost plans for the long-term management of their natural asset(s);
  - Monitor, measure and evaluate the efficacy of municipal natural capital approaches

Background and Rationale

Investing in Natural Infrastructure

Over the coming decades, Canadians will face many new challenges as a result of climate change. The infrastructure we build today will play a central role in determining how we confront these challenges.

At present, there are numerous opportunities across Canada for investment in nature-based infrastructure that will be cost-effective, and will deliver multiple benefits over and above the specific service they provide.

The GBC recommends that infrastructure planners and policymakers take a regional or landscape-level approach to addressing flooding and water quality issues, proactively focusing their approach upstream at the watershed level before the full impacts of climate change further exacerbate existing challenges. Some coastal communities have already started to consider the values of restoring coastal areas to deal with storm surges, but further promotion of these activities can provide services at a much reduced cost and on a broader scale. Other municipalities are pioneering natural capital strategies by measuring and managing it within existing asset and financial management business processes, to reduce risk, capital and operating expenses, and improve their climate change resilience. Funding for increased pilots of this approach are needed.

Finally, criteria for green infrastructure projects should be easy to quantify and demonstrate: (e.g. number of hectares protected, number of riparian strips restored, number of trees planted, etc.) Criteria must also reflect the reality that smaller and more rural municipalities have a much higher chance of having valuable areas to protect, and may also face higher development pressures compared to already highly developed urban areas.

Helping ecosystems adapt to climate change

Climate change is a significant additional stressor on ecosystems, and scientists estimate that it may cause the loss of up to 30% of the world's biodiversity. This loss has both immediate and far-reaching consequences for our life support system. Healthy ecosystems provide people with food, clean air and water, and many other important services. Maintaining Canada's biodiversity is fundamental to ensuring that ecosystems and human communities are resilient to climate change.

There is a scientific consensus building that at least half of our planet's ecosystems should be protected from industrial activity in an interconnected way. In some cases, achieving this objective will mean protecting areas that have not yet been significantly impacted; in other cases, restoration of environmentally degraded areas will be key.

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GREEN BUDGET COALITION

PUBLIC TRANSIT FUNDING

Recommended investment:
2017/2018: $2 billion
Ongoing: $2 billion/year for 10 years

The Green Budget Coalition recommends that the Government of Canada invest $2 billion per year for the next 10 years in public transit. Because each dollar invested by Ottawa in transit generates, on average, at least two dollars in additional funding from other levels of government[39], the proposed $20 billion investment could leverage an additional $40 billion over the next decade.

The GBC commends the federal government for the $3.4 billion in transit funding over three years announced in Budget 2016, and applauds the commitment to provide up to 50 percent of transit-project costs. These actions indicate that the federal government is serious about improving Canada's transit systems.

To maintain momentum, the federal government must now raise its transit spending to $2 billion per year. To ensure this money is used wisely, we urge the government to follow spending principles put forth by the Canadian Urban Transit Association (CUTA). CUTA recommends that transit investments be:
1. Ongoing, not merely project-by-project
2. Additional to previous funding
3. Flexible enough to accommodate the diverse needs of large, medium and small communities[40]

We also support CUTA's suggestion that federal dollars should help transit fleets upgrade to low-carbon vehicles and their supporting infrastructure.[41] As the GBC fully endorses a transition away from fossil fuels, we favour vehicles that run on electricity as opposed to those powered by natural gas or so-called "clean diesel."

Rationale
Giving people transportation options beyond cars is vital for a range of reasons, not least because automobile traffic costs Canada's workforce time and money, and reduces our economic productivity. Canadian commuters spend an average of 32 working days a year travelling to and from work.[42] Congestion in Metro Vancouver costs up to $1.2 billion annually[43], and up to $11 billion annually in the metro Toronto area.[44] CUTA research indicates that every dollar spent on transit generates $3 in economic activity.[45]

A recent study suggests public-transit investment is an exceptionally strong job-creator, especially compared with other infrastructure projects, with a billion dollars invested in road expansion creating 12,638 direct and indirect jobs, compared to 17,784 jobs for the same investment in mass transit.[46]

Finally, getting Canadians out of cars contributes to public health. The Canadian Association of Physicians for the Environment says, "Each additional hour spent in a car per day is associated with a 6% increase in the likelihood of obesity."[47]

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39 Canadian Urban Transit Association, 2015
40 "Harnessing the Power of Transit Infrastructure Investment", Canadian Urban Transit Association, 2016
41 Ibid.
42 "Stuck in Traffic", Maclean's magazine, 2011
43 C.D. Howe Institute, 2015
44 C.D. Howe Institute, 2013
45 Canadian Urban Transit Association, 2015
46 James Heintz et al. 2009. The Political Economy Research Institute, University of Massachusetts, Amherst.
47 "The Cardio-Commute", Canadian Association of Physicians for the Environment, undated.

Image: Thomas Lefebvre-- Unsplash

Nature Conservation

GREEN BUDGET COALITION

MEETING CANADA'S COMMITMENTS ON TERRESTRIAL PROTECTED AREAS

Recommendation Summary

The GBC recommends that the federal government invest $10 million per year for five years for Parks Canada to lead the development, and coordinate implementation, of a pan-Canadian action plan to protect at least 17% of land and inland waters by 2020, and to identify long-term priorities for protection beyond 2020. This initiative should be conducted in collaboration with Canadian Wildlife Service, provincial, territorial and Indigenous governments, and non-governmental organizations.

The GBC also recommends a further investment of $85 million per year, on-going, plus a one-time $50 million investment to Parks Canada and Environment Canada to:

- Create at least six new national parks and three new national wildlife areas by 2020, and identify additional new areas for protection through science and traditional knowledge-based plans; and
- Strengthen management of all national parks, national wildlife areas and migratory bird sanctuaries to better protect their ecological integrity.

Investment Required:

For 2017/18:	$145 million/year
From 2018/19 to 2021/22:	$95 million/year
Ongoing, from 2022/23:	$85 million/year

Background and Rationale

In 2010, Canada endorsed a 10-year strategic plan under the UN Convention on Biological Diversity (CBD) to achieve 20 biodiversity targets by 2020 (the Aichi Targets) as a next step towards the much larger-scale protection needed to achieve the goal of living in harmony with nature. Target 11 commits countries to protect at least 17% of land and inland waters by 2020, and improve the quality of protected areas systems by ensuring they are well-designed, well-managed, well-connected and well-integrated into broader landscapes.[48] Currently, Canada is lagging well behind most other countries, with only 10% of our landscape protected, versus the global average of 15%. To make matters worse, the transfer of federally managed grasslands in Saskatchewan initiated in 2012 will likely reduce Canada's protected areas by 800,000 hectares. Canada urgently needs a roadmap and action plan to achieve this 2020 target.

The target of protecting at least 17% of land and inland waters by 2020 is now embedded in Canadian policy through *Canada's Biodiversity Goals and Targets*, which were formally adopted by the federal, provincial and territorial governments in 2015.[49] The current government's 2015 election platform supported achieving the Aichi Targets, and Environment and Climate Change Minister McKenna re-affirmed the government's commitment to the targets earlier this year. The federal Standing Committee on Environment and Sustainable Development is currently examining this issue, and a federal-provincial-territorial working group has recently been established by the Canadian Parks Council to coordinate work towards the targets.

To deliver on Canada's commitment to achieve the Aichi Targets, the GBC recommends that the federal government support the immediate development of a pan-Canadian action plan, with Parks Canada as the lead federal agency, that engages provincial, territorial and Indigenous governments and non-governmental organizations to expand Canada's protected areas system to include at least 17% of Canada's landscape by 2020, focusing on protecting areas of particular importance for biodiversity and ecosystem services. The federal government should contribute directly to this goal by creating new national parks and national wildlife areas, and strengthening protection of existing ones.

The federal government also has a tremendous opportunity to enable and support the creation of protected areas controlled and managed by Indigenous governments and communities, or co-managed, as partnerships with Indigenous peoples and through nation-to-nation discussions. One immediate opportunity to support Indigenous-led conservation initiatives is to invest in a National Indigenous Guardians Network (*see recommendation later in this document*).[50]

48 see Conserving Our Oceans recommendation, later in this document, regarding the marine component of this target.

49 http://biodivcanada.ca/default.asp?lang=En&n=9B5793F6-1

50 https://edgenorth.ca/article/1341-the-guardian-project

Since 90% of Canada's landscape is in the public domain, managed by federal, provincial, territorial, Indigenous and regional governments, coordinated government action is critical to successfully conserve nature in this country. Privately owned lands can also make an important contribution to achieving the 2020 target, particularly in southern Canadian landscapes, where they qualify as protected areas or "other effective area-based conservation measures" (OECMs) according to standards currently being finalized by the international community and Canadian governments[51] (see *Working Landscapes recommendation, later in this document*.)

It is still possible for Canada to achieve the target of at least 17% protection of land and freshwater by 2020, with renewed political will and coordinated action by all governments, civil society and the private sector.[52] To start, all jurisdictions should complete existing protected area proposals and commitments by 2020, while at the same time identifying additional areas that need protection by 2020, and beyond through science and traditional knowledge-based conservation planning.

Recommendations

A Pan-Canadian Protected Areas Action Plan

The federal government should invest **$10 million per year** for five years for Parks Canada to lead development and coordinate implementation of a pan-Canadian action plan to protect at least 17% of land and inland waters by 2020, and identify science-based post-2020 targets and plans based on what's needed to effectively conserve nature. This work should be done in collaboration with the Canadian Wildlife Service, provincial, territorial and Indigenous governments and non-governmental organizations; and should include systematic conservation planning to identify priority areas for protection by 2020 and beyond to safeguard Canada's biodiversity.

Creating National Parks

The federal government should invest **$25 million per year**, ongoing, to create and manage new national parks, plus a **one-time $50 million investment** to support land acquisition and other park establishment costs. This funding would enable the creation of five new parks by 2020, including Thaidene Nene, NWT; South Okanagan Similkameen, BC; Manitoba Lowlands, MB; northern BC/ southern Yukon (Parks Canada region 7); and Flathead Valley, BC.

In addition, the long-standing National Park System Plan requires updating to reflect current scientific understanding. This update should include expanding or creating parks where needed to protect their ecological integrity or improve representation of natural regions, and working with partners to improve ecological connectivity between national parks and other protected areas to address the needs of nature in the face of climate change.

Strengthening protection of National Parks

The federal government should invest **$25 million per year**, ongoing, to restore science capacity for ecological monitoring and public reporting, research, and restoration, all focused on maintaining and restoring national park ecological integrity.
According to Parks Canada's most recent "state of protected areas report", more than half of all national park ecosystems that have been assessed are in fair or poor condition, while ecological integrity is declining in one third of these ecosystems[53]. The *Canada National Parks Act* mandates that maintaining or restoring ecological integrity is the first priority for national park management, yet Parks Canada's science and conservation capacity has been reduced by one third in recent years[54]. The impact of these cuts was highlighted in the Fall 2013 Report from the Commissioner on Environment and Sustainable Development, which noted that: *There is a significant risk that the Agency could fall further behind in its efforts to maintain or restore ecological integrity in Canada's national parks.*

The Commissioner's report concluded that the Agency has developed a solid framework to manage for ecological integrity, but has failed to complete a fully functional and scientifically credible monitoring and reporting system, including basic inventories of park ecosystems.

The federal platform commitment to "*increase science spending in our National Parks by $25 million per year to allow for early identification of ecological stresses and avoid permanent degradation*" is critically important to enable Parks Canada to deliver on their mandate.

Creating new National Wildlife Areas

The federal government should invest $5 million per year to create at least three new national wildlife areas, and to create a clear plan for further expanding and managing Environment and Climate Change Canada's protected area system.

This system currently includes 54 national wildlife areas (NWAs) and 92 migratory bird sanctuaries (MBS's). No new ECCC protected areas have been created since 2010, despite the urgent need to protect more wildlife habitat in Canada.

51 At the international level there is an IUCN Task Force developing guidance on OECM's, while in Canada the Canadian Council on Ecological Areas has developed guidance.

52 See list of existing protected area proposals on p. 91 of Woodley et al (2015) Protecting Canada: Is it in our nature? CPAWS. 96 pp. http://cpaws.org/uploads/CPAWS_Parks_Report_2015-Single_Page.pdf

53 2013 Fall Report of the Commissioner on Environment and Sustainable Development, Chapter 7: Ecological Integrity in National Parks, page 25. http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201311_07_e_38677.html

54 Ibid and CPAWS (2016) Protecting Canada's National Parks: A Call for Renewed Commitment to Nature Conservation. http://cpaws.org/uploads/CPAWS-Parks-Report-2016.pdf

There are three immediate opportunities to establish new NWAs: a vast boreal area called Edéhzhíe, NWT, in partnership with Dehcho First Nations; and two large areas of endangered prairie grassland -- Antelope Coulee, SK and OneFour Research Farm, AB[55], both in partnership with ranchers.

NWAs and MBS's are federal tools that could be used to protect much more habitat in Canada, particularly for species at risk. Fulfilling this potential, however, requires the federal government to strengthen and better support this protected area program, including creating a clear plan for expanding and managing the system.

Better protect existing NWAs and MBSs

The federal government should invest $30 million per year, ongoing, to better manage the existing system of NWAs and MBS's, including up-to-date management plans, science-based ecological monitoring and public reporting, enforcement, and public education.

While the current system of NWAs and MBSs encompasses vital habitats across the country, including for many endangered species and migratory birds, these sites have been woefully under-resourced for over two decades, which is jeopardizing their conservation effectiveness and their accessibility to Canadians. As of 2011, 90 percent of NWAs did not have adequate management plans. As of 2013, more than 70 percent of NWAs and 55% of MBS's had less than adequate ecological integrity. A 2014 internal audit found that enforcement staff only visited some sites once or twice a year, and some not at all.

This program urgently requires attention and capacity. Upgrading management and protection for NWAs and MBS's is an important way the federal government can contribute to delivering on our 2020 commitment to strengthen protected area management.

Benefits

Expanding and better protecting Canada's parks and protected areas will:

- Safeguard Canada's amazing natural heritage, which is at the heart of our national identity;[56]
- Provide clean air and water, pollinators for crops, and spaces for healthy outdoor activities;
- Help to prevent natural disasters by stabilizing soils, reducing flooding and storing carbon;
- Support Indigenous peoples' efforts to sustain their cultural and spiritual values; and
- Support resilient ecosystems and people in the face of a destabilizing climate.

Parks and protected areas also deliver significant economic benefits to Canadians. Canada's federal, provincial and territorial parks support 64,000 full time equivalent jobs across Canada, many of them in rural and remote communities, generate $6 for Canada's GDP for every dollar spent by parks agencies, and return 44% of total government expenditures on parks back to governments through tax revenue.[57]

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55 The Antelope Coulee proposal includes over 700 sq km of federally owned endangered native grassland on the former Govenlock, Naslyn and Battle Creek Prairie Farm Rehabilitation Area (PFRA) community pastures in southwest Saskatchewan. The OneFour Research Farm proposal in southeast Alberta covers 170 sq km of dry mixed grass prairie that is leased from Alberta by the federal government.

56 Public opinion polling shows national parks are among the top four symbols of national identity in Canada. See Environics "Focus Canada" polling at: http://www.environicsinstitute.org/uploads/institute-projects/environics%20institute%20-%20focus%20canada%202012%20final%20report.pdf

57 The Outspan Group Inc. (2011) The Economic Impact of Canada's National, Provincial and Territorial Parks in 2009. A technical report prepared for the Canadian Parks Council. Available at http://www.parks-parcs.ca/english/pdf/econ_impact_2009_part1.pdf

GREEN BUDGET COALITION

NATIONAL INDIGENOUS GUARDIANS NETWORK

Recommendation

The GBC supports the Indigenous-led proposal to the federal government to invest in a national Indigenous Guardians Network.[58]

Required Investment

For 2017/2018	$26 million
Ongoing	$500 million over five years (including 2017/2018 expenditures) to support a National Indigenous Guardians Network and create an associated funding program for community-based Indigenous guardians.

Rationale

A National Indigenous Guardians Network represents a powerful opportunity for the Government of Canada to fulfill its 2015 Speech from the Throne promise to forge renewed, Nation-to-Nation and Inuit-to-Crown relationships with Indigenous Peoples. It also fits squarely within federal mandates to promote and create training opportunities and good quality jobs, particularly among youth; to promote reconciliation with Indigenous Peoples; and to address key priorities such as climate change and getting products to market sustainably.

Indigenous Guardians are employed to manage and steward their lands and waters in a way that allows for cultural vitality. Guardians monitor ecological health, maintain cultural sites, protect sensitive areas and species, interpret culture and heritage aspects for visitors, contribute to land and marine planning and management, and promote intergenerational sharing of Indigenous knowledge. They also help build capacity to engage with other land users, development proponents, and governments, thus strengthening decision-making at all levels.

There are approximately 30 Indigenous Guardians programs in place across Canada. The proposal for a national initiative is inspired in part by Australia, where the federal government is investing $618 million AUD over ten years to create a network of 109 Indigenous Ranger groups managing more than 1.7 million square kilometers of land and sea across the country.

Outcomes:

Within five years, it is anticipated that more than 200 community-based Guardian programs employing over 1500 Guardians could be in place across the country. Associated outcomes would include: increased employment and employability, particularly in remote areas; increased health outcomes for Indigenous communities; enhanced environmental stewardship; and a greater sense of confidence and well-being in Indigenous communities.

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58 See http://www.ilinationhood.ca/our-work/guardians/ for more details.

GREEN BUDGET COALITION

CONSERVATION INVESTMENTS ON WORKING LANDSCAPES

Some of Canada's most unique and ecologically valuable wildlife habitat exists on working landscapes, which are comprised of wetlands and associated uplands, grasslands, southern forest ecosystems and other threatened habitats, particularly on privately owned lands.

Working landscapes in Canada make up over 80% of Canada's land base. They include some of the most unique and ecologically valuable wildlife habitat on the North American continent. These habitats provide critical ecological goods and services to Canadians, including carbon sequestration and floodwater attenuation. They are also home to a disproportionate number of threatened or endangered species, which reside in southern grasslands, wetlands and unique forestland ecosystems. Most of these lands are not under direct federal jurisdiction; and many particularly important and threatened habitats are found on privately-owned land.

Habitat and biodiversity conservation on working landscapes is essential for the federal government to meet Canada's commitments under the UN Convention on Biological Diversity (i.e. Aichi targets). Adopting an ecosystem approach to working landscapes will contribute to all four goals adopted by Canada and other Parties to the Convention on Biodiversity in 2010 and at least 10 of the 19 Targets (i.e. Targets 1,2,3,5,7,11,13,14, and 17). In particular, the Target 11 commitment to protect 17 percent of lands and freshwater by 2020 can be met in part by investing in privately owned land. Furthermore, these conservation investments will assist Canada in achieving its national objectives for climate change adaptation and mitigation, public safety and sustainable development.

The various ecological goods and services that result from habitat and biodiversity conservation (i.e. carbon sequestration, flood attenuation) make conservation projects good candidates for funding under existing programs such as the emerging Low-Carbon Economy Fund or the $5 billion Green Infrastructure Fund. Federal infrastructure and climate funds should also support tools and approaches designed to help municipal and regional governments make better use of natural ecosystems as an infrastructure asset, and allow ecosystems to provide critical services like flood control and carbon sequestration in an environmentally-friendly and cost-effective manner.

The Green Budget Coalition is recommending that the federal government continue to invest in conservation on working landscapes, including allocating funds for new programs in land management & stewardship and biodiversity conservation, while enhancing existing highly successful programs, particularly the Natural Areas Conservation Program (NACP), the National Wetland Conservation Fund (NWCF), the Habitat Stewardship Program (HSP), the Aboriginal Fund for Species at Risk (AFSP), and the North American Waterfowl Management Plan (NAWMP).

1. **Land management and stewardship** - this program includes incentives to donate, maintain or restore lost or degraded habitats to provide long term ecological goods and services. This includes matching financial supports for particularly threatened ecosystems such as wetlands, grasslands, and threatened southern forest ecosystems.

   Investment Required:

For 2017/18	$75 million
Ongoing	$75 million for 4 years ($375 million total)

2. **Biodiversity conservation**, including areas of federal responsibility such as migratory bird conservation, freshwater fisheries, invasive species management, and pollinator conservation

   Investment Required

For 2017/18	$21 million ($5 million bird conservation, $4 million invasive plant management, $12 million pollinator conservation
Ongoing	$17 million/year over 4 years ($5 million/year migratory bird conservation, $12 million pollinator conservation

3. **Enhancing and Improving Existing Federal Conservation Programs** – The GBC recommends that the Government of Canada enhance existing conservation programs by providing additional funding for the Natural Areas Conservation Program, the Habitat Stewardship Program, the Aboriginal Fund for Species at Risk, the National Wetland Conservation Fund, and the North American Waterfowl Management Plan.

Natural Areas Conservation Program

Additional Investment Required:

For 2017/18	$22.5 million committed plus $10 million new
For 2018/19	$22.5 million committed plus $10 million new
Ongoing	$185 million over 5 years ($205 million total over 7 years)

Habitat Stewardship Program and Aboriginal Fund for Species at Risk

Additional Investment Required:

For 2017/18	$7 million/year ($5 million HSP, $2 million AFSR)
Ongoing	$7 million/year for 4 years ($35 million total)

National Wetland Conservation Fund

Additional Investment Required:

For 2017/18	$8 million
Ongoing:	$8 million/year for 4 years ($40 million total)

North American Waterfowl Management Plan

Additional Investment Required:

For 2017/18	$2 million
Ongoing	$2 million/year for 4 years ($10 million total)

1. Land Management and Stewardship

Recommendation

The GBC recommends the establishment of a new National Land Management and Stewardship program, to provide incentives to donate, maintain or restore lost or degraded habitats to capture long term ecological goods and services on private land.

Investment Required:

For 2017/18	$75 million
Ongoing:	$75 million/year for 4 years ($375M total)

This program would be administered by Environment and Climate Change Canada in conjunction with Agriculture and Agri-Food Canada, and be implemented in collaboration with other levels of government and non-government partners, who would be required to match federal government contributions on a cost-shared basis, i.e. at a 1:1 match ratio.

Background and Rationale

Incentivizing private landowners to restore and maintain lost or degraded habitats and their associated ecological goods and services remains a recurring challenge for governments and conservation organizations alike.

This program will help to address this challenge by offering new incentives and tools that would further encourage conservation-minded actions on private land. Recent economic analysis indicates that every $1 invested in the conservation and management of critical habitat generates $22 of benefits in terms of economic, ecological and societal well-being. Based on this analysis, a $375 million investment, when matched at a 1:1 rate by non-federal government funds, will generate $1.6 Billion worth of benefits to Canadians, including carbon capture and sequestration, flood and drought attenuation, better resilience to a changing climate, and biodiversity. [59]

This program would be focused on wetland and riparian habitats, because of the high economic return on investment associated with the conservation of these habitats[60] [61], but funds should be made available to support other threatened terrestrial ecosystems and habitat values.

Working with landowners to maintain these vital ecosystems, the federal government would reduce the need for investment in built infrastructure and costly natural disaster recovery, while at the same time supporting biodiversity and species at risk. Habitat restoration would also increase economic activity in rural communities, creating new jobs and supporting sustainable agriculture practices.

59 Anielski, M., J. Thompson, and S. Wilson. 2014. A genuine return on investment: The economic and societal well-being value of land conservation in Canada. Anielski Research for Ducks Unlimited Canada, Stonewall, Manitoba, Canada.

60 Wilson, Dr. Thomas A 2013. Net Fiscal Costs of Federal Funding of Ducks Unlimited Canada. Wilson Economic Research Inc. for Ducks Unlimited Canada.

61 Anielski, M., J. Thompson, and S. Wilson. 2014. A genuine return on investment: The economic and societal well-being value of land conservation in Canada. Anielski Research for Ducks Unlimited Canada, Stonewall, Manitoba, Canada.

Funds would be used for:

- Restoring lost or degraded habitats on working landscapes, namely wetlands and associated uplands, prairie grasslands, southern forest ecosystems and other threatened habitats located on private lands throughout Canada
- Compensating landowners who secure and restore additive habitats (which benefit the broader public interest) on their property through financial supports and long-term conservation easements through a funding formula based on its assessed market value.

Landowners would retain full legal rights to their property, including land identified under the conservation easement, and would be able to continue making productive use of their land in accordance with the terms of the conservation agreement – a perpetual legal encumbrance that would be held by a third party such as an NGO, a conservation authority, or other level of government, and that is registered on title. Similar approaches have been employed with great success in other jurisdictions, such as the Agriculture Conservation Easement Program in the USA.[62]

2. Biodiversity Conservation

Recommendation

The Green Budget Coalition recommends that the Government of Canada provide funding for migratory bird conservation, invasive species management, and pollinator biodiversity conservation.

Investment Required

For 2017/18: $21 million
($5 million Bird Conservation, $4 million Invasive Plant Management, $1million Pollinator Conservation)

Ongoing: $17 million/year over 4 years
($5 million/year Bird Conservation, $12 million Pollinator Conservation)

Background and Rationale

Migratory bird conservation funding to support scientific research and conservation efforts, identified as an urgent need in the 2016 State of North America's Birds Report, which was co-led by Environment Canada and Climate Change.

The federal government has legal responsibility for migratory bird management under the Migratory Birds Convention Act (1917). The 2016 State of North America's Birds Report, co-led by Environment Canada and Climate Change, concluded that there is an urgent need for investment in migratory bird conservation and science. The report points to dramatic declines in many migratory bird populations such as shorebirds, grassland birds, and birds like swallows that feed on flying insects. Some species populations have declined by over 80% in the 40 years of measurement.

The ongoing transfer of 1.8 million acres of ecologically important federal community pastures to Saskatchewan is an important time-limited opportunity to conserve grassland bird populations, some of which are species at risk. The 2012 agreement to transfer management of these lands did not ensure that public values such as biodiversity conservation, ecosystem protection and carbon storage would continue to be managed post-transfer. Ranchers and nature groups are jointly proposing that a fund be established to support conservation work (e.g., bird conservation, species at risk recovery, invasive species management) on these community pastures, making use of the $5 million in annual resource rents currently being collected primarily from oil and gas operations on the pastures

Invasive Species Management funding to tackle the spread of aquatic invasive plants in key areas of Canada, as part of the government's commitment to watershed health.

Aquatic invasive plants are a growing ecological concern in Canada and threaten ecosystem health, function and biodiversity. In collaboration with other government and non-government partners, the federal government has a key role to play in tackling the spread of several key invasive plant species of national concern, including Spartina grass, non-native Phragmites, Water Chestnut, and Water Soldier.

Pollinator Conservation funding to conserve pollinator biodiversity and increase food security, resilience of agricultural sector, and sustainability of natural ecosystems.

Canada has hundreds of native insects which contribute to the pollination of agricultural crops and native plant communities, including bees, birds, butterflies, and moths. Land use change, climate change, disease and pesticide exposure all threaten the integrity of natural ecosystems, food and field crops, and vital pollinators. While some efforts are underway to address managed pollinators' health, the federal government effectively abandoned its coordinated effort to engage leading pollination science experts in 2014 with the termination of federal support for CANPOLIN.

The following recommendations are designed to provide policy coherence for Canada's approach in the context of global challenges, to acquire current empirical data that exists in other jurisdictions, to provide needed resources to support basic research in areas unique to Canada, and to build necessary capacity to provide policy makers, stakeholders and the wider public with information and tools to better protect and conserve pollinators. Under a joint program, Environment and Climate Change Canada and Agriculture and Agri-Food Canada would address the need for monitoring data so that progress to protect

62 http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/easements/acep/

pollinators and their services could be measured, and programs adapted as new threats and conditions arise.

The Green Budget Coalition recommends that the Government of Canada invest $12 million per year for the next five years in pollinator conservation and protection:

- $8 Million per year for 5 years to establish a national research consortium modelled on the CANPOLIN experience to coordinate, support and leverage independent, unbiased scientific research and technological development for managed and wild pollinators. This funding would also include support for innovation in current farming practices, and support for the Canadian apiculture industry to reduce diseases within hives and minimize spillover to wild bees.

- $4 Million per year for 5 years to support national policy development and monitoring/reporting programs on wild and managed pollinators including:

  1) resources for Canada-OECD linkages and formal working relationships among North American agencies, research institutes and stakeholders (e.g., data sharing, joint research); 2) the development of a monitoring/reporting program on pollinator community intactness that includes all pollinators that contribute to agricultural pollination; and 3) establishing a tracking and reporting system and requirement for movement of managed native bees.

3. Enhancing Existing Conservation Programs

The GBC recommends that the Government of Canada enhance existing conservation programs by providing additional funding for the Natural Areas Conservation Program, the Habitat Stewardship Program, the Aboriginal Fund for Species at Risk, the National Wetland Conservation Fund, and the North American Waterfowl Management Plan.

Investment Requirements:

NACP:	
For 2017/18	$22.5 million committed plus a $10 million new investment
For 2018/19	$22.5 million committed plus a $10 million new investment
Ongoing	Additional $185 million over 5 years to 2024
HSP:	Additional $5 million annually for 5 years
AFSAR:	Additional $2 million annually for 5 years
NWCF:	Additional $8 million annually for 5 years
NAWMP:	Additional $2 million annually for 5 years

Background and Rationale

As a signatory to the Convention on Biodiversity (Aichi Biodiversity Targets), Canada has committed to protecting 10% of our marine and coastal areas and 17% of our terrestrial and freshwater habitat by the end of this decade. Only by working together — government, private sector and civil society — can we ensure that Canada exceeds its international obligations and becomes recognized as the world leader in conservation.

Natural Areas Conservation Program (NACP)

The GBC proposes an expanded and enhanced NACP conservation partnership with the Government of Canada, supported by an additional federal contribution of $205 million over seven years to conserve more than 500,000 hectares (1.2 million acres) of habitat and support the establishment of millions of more acres of federal and provincial protected areas. Under this expanded NACP framework, conservation partners would leverage and match the federal government's contribution to achieve the largest public-private investment ever for nature and a cumulative investment of $750 million in conservation action.

The NACP is a public-private partnership, led by the Nature Conservancy of Canada, which to date has conserved more than 418,000 hectares (1 million acres). Along with other partners – including 38 local land trusts - more than half a billion dollars in matching contributions has been raised to secure conservation outcomes. NACP projects conserve habitat for more than a quarter of COSEWIC-listed species at risk. More than half of the projects are within 25 km of federally protected areas. The NACP directly complements federally protected areas with conservation lands that contain samples of the full range of existing ecosystems and ecological processes.

An expanded and enhanced public-private partnership program will conserve important natural habitats across Canada, connect more Canadians to nature, and inspire communities to care for our natural infrastructure.

Goals of this enhanced public-private partnership program include:

- Continuing to protect our natural infrastructure and a full suite of ecological goods and services, including clean water, carbon storage and sequestration, flood protection, pollination services, and drought mitigation.
- Implementing critical stewardship actions to protect and restore natural habitat, including increased connectivity within the greater protected area ecosystem.
- Conserving habitat for at least a third of Canada's terrestrial and freshwater species at risk.
- Building more partnerships with Indigenous peoples across Canada to realize conservation objectives for the lands and waters of ecological importance in their own territories.

- Supporting work with industry to facilitate the relinquishment of mineral rights, to remove roadblocks and accelerate the establishment of federally and provincially protected areas.

Habitat Stewardship Program (HSP) and Aboriginal Fund for Species at Risk (AFSAR)

The Habitat Stewardship Program has been instrumental in protecting Canada's wildlife and species at risk. In recent years, the prevention stream focused on preventing species from becoming a conservation concern has been oversubscribed. Protecting these species and their habitats from becoming at risk will be essential if Canada is to fulfil its Aichi commitments. The GBC recommends that the Government of Canada provide additional funding of $5 million to the HSP prevention stream and $2 million to the Aboriginal Fund for Species at Risk.

National Wetland Conservation Fund (NWCF)

This is an effective and important program for supporting wetland restoration and conservation activities to maintain or enhance wetland ecosystem goods and services. The conservation activities supported by this program make a vital contribution to the federal Government's climate adaptation efforts. The GBC recommends additional funding of $8 million annually be allocated to enhanced complementary programming that delivers climate adaptation services to Canadians.

North American Waterfowl Management Plan (NAWMP)

NAWMP continues to be a leading North American and multi-stakeholder conservation partnership dedicated to the protection and restoration of critical habitat for waterfowl and other wildlife. While the accomplishments under the NAWMP are significant, waterfowl habitat is increasingly threatened by human development activities. The GBC recommends that the Government of Canada enhance the NAWMP program by providing additional funding of $2 million per year.

Recreational Fisheries Conservation Partnerships Program (RFCPP).

Recreational fishing is an exceptionally popular outdoor activity in Canada – According to the 2012 Canadian Nature Survey, approximately 21% of Canadians over age 18 participate in angling. According to the 2010 Recreational Fishing Survey coordinated by the Fisheries and Oceans Canada, anglers spend $8.3 billion annually, creating jobs in tourism, transportation, retail goods, boating, vehicle sales and other sectors.

The RFCPP is a highly successful federal program, and its guidelines should be enhanced to emphasize a broader landscape approach to fisheries management, with the aim of protecting fisheries habitat, combating invasive species and protecting aquatic ecosystems from threats (including climate change, biodiversity loss and poor watershed management) that impact the health of aquatic ecosystems and the benefits they provide.

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GREEN BUDGET COALITION

CONSERVING OUR OCEANS

Recommendation Summary

Long-term, stable funding is necessary to support fulfillment of Canada's domestic and international commitments to ocean conservation, and to restore federal leadership for integrated, ecosystem-based ocean management. Achieving successful co-management of Canada's oceans requires investment in governance structures and marine planning, while the completion of Canada's national network of marine protected areas is in need of funding across relevant departments and agencies. Recently restored science funding must be upheld, and additional funding is recommended to fully implement Canada's suite of fisheries management policies and legislation.

Investment Required:

For 2017/18:	$146 million
Ongoing:	$146 million per year for five years

Background and Rationale

Healthy marine ecosystems are the foundation for economically prosperous maritime sectors, communities, and fisheries. However, there is increasing evidence in Canada and globally that our oceans are suffering as a result of climate change and harmful human activities. A comprehensive, ecosystem-based approach to integrated ocean management that guides marine spatial planning is needed to ensure that conservation and sustainable human uses are appropriately managed.

Ocean co-management, guided by new governance structures involving all levels of government – federal, provincial, territorial and indigenous – as well as marine stakeholders, will ensure that a wide variety of values and needs are considered in ocean planning as we work toward achieving Canada's marine conservation targets. Such an approach must be supported over the long term, with ongoing funding that ensures stability and certainty for government departments and stakeholders.

Evidence from around the world demonstrates that marine protected areas (MPAs) are an essential tool for conserving marine biodiversity and increasing the resilience of ocean ecosystems in the face of climate change. When designed as part of an overall bioregional approach to ocean management, MPA networks support the many ecosystem services upon which our coastal communities depend. Improving fisheries management by fully implementing existing tools will benefit both fishermen and ocean ecosystems.

The ministerial mandate letters for the Minister of Fisheries, Oceans and the Canadian Coast Guard and the Minister of Environment and Climate Change specify that the ministers were mandated to:

- Work together to increase the proportion of Canada's marine and coastal areas that are protected – to five percent by 2017, and ten percent by 2020 – supported by new investments in community consultation and science.

Additionally, the Minister of Fisheries, Oceans and the Canadian Coast Guard was mandated to:

- Restore funding to support federal ocean science and monitoring programs, to protect the health of fish stocks;
- Use scientific evidence and the precautionary principle, and take into account climate change, when making decisions affecting fish stocks and ecosystem management; and
- Work with the provinces, territories, Indigenous Peoples, and other stakeholders to better co-manage our three oceans.

The budgetary measures described below would contribute to the implementation of these commitments and restore federal leadership for ocean conservation and management in Canada.

1. Ocean Co-Management

Achieving real success in efforts to develop and implement marine use plans and marine protected areas networks will depend on effective, collaborative work with the provinces, territories, Indigenous Peoples, and other stakeholders through co-management arrangements for Canada's oceans. Clear commitments to co-management were made through both the current government's 2015 election platform and the Mandate Letter for the Minister of Fisheries, Oceans and the Canadian Coast Guard. Investments in co-management will directly support the Ministerial mandate for marine conservation in Canada.

1a. Co-management governance
Co-management should involve the formation of new decision-making bodies, trilateral governance structures, and supporting administrative structures based in a renewed Oceans Act. Co-management will also require greater transparency, communication, engagement, and outreach with the full range of ocean interests, particularly with coastal communities.

In order to develop plans that make the best use of our marine resources and give coastal communities a central role in managing local ocean resources, additional federal funding is needed to support the creation and operation of these structures and processes beginning with each of the five priority bioregions (Northern Shelf, Western Arctic, Newfoundland-Labrador Shelves, Scotian Shelf, and Gulf of Saint Lawrence).

Budget: $60 million per year, for five years

1b. Marine planning
Marine planning can provide certainty and a more stable investment climate for industry stakeholders, and can define thresholds and ecological limits within ocean ecosystems.

Successful marine planning requires all relevant agencies with a mandate in Canada's ocean environments to support integrated planning initiatives under a common legislative framework that also includes provincial and Indigenous government partners and accommodates a wide range of stakeholders. Participation in marine planning helps to ensure effective implementation of plans across agencies and departments. The following are examples of collaborative marine planning efforts currently underway in Canada's ocean territory:

- BC's Marine Planning Partnership (MaPP), and Pacific North Coast Integrated Management Area (PNCIMA);
- Atlantic's Regional Oceans Plan (ROP);
- Beaufort Sea Partnership's community conservation planning; and
- Nunavut's Land Use Plan.

Investing in a suite of tools to facilitate better marine planning will set the foundation for achieving both ecological conservation and sustainable resource use goals. These tools include: cumulative effects and risk assessment (with special consideration given to areas described as ecologically and biologically significant (EBSAs), sensitive benthic areas, and valued ecosystem components), Marxan analysis, human-use mapping, and valuing biodiversity and ecosystem services for incorporation into decision-making. These tools, used together, will help ensure an integrated, ecosystem-based approach to the planning, protection, management, and responsible use of marine areas and their resources.

Budget: $9 million per year, for five years

2. Marine Protection

The Prime Minister mandated two ministers, of Environment and Climate Change and of Fisheries, Oceans and the Canadian Coast Guard, to work together to increase protection of Canada's marine and coastal areas to 5%by 2017, and 10% by 2020. The Prime Minister also signaled the federal government's commitment to "achieve and substantially surpass" this 2020 goal in the US-Canada Joint Statement on Climate, Energy, and Arctic Leadership released in March 2016. The Government of Canada has previously committed to protecting at least 10% of our ocean territory by 2020, in accordance with the UN Convention on Biological Diversity.

2.a National network of marine protected areas
Marine protected areas make a vital contribution to Canada's $39 billion a year ocean economy. Establishing MPA networks will help fish stocks to recover, boost nature-based tourism, buffer the impacts of climate change and ocean acidification by ensuring resiliency, and ensure that fisheries sector jobs are maintained for the future.

To enable the creation of an effective MPA network, bioregional planning should be conducted to identify an ecologically representative and well-connected network of MPAs in the broader context of ecosystem-based management. Upholding the funding allocated for marine protection in Budget 2016 ($81.3 million over five years) is a critical base for achieving Canada's commitments; however, additional funding is needed to ensure that all federal agencies (Fisheries and Oceans Canada, Parks Canada, and Environment Canada) can fully contribute to building an effective national MPA network.

Budget: $60 million per year, for five years
Note: ($30 million per year to Parks Canada for the creation and management of National Marine Conservation Areas; $30 million to Environment Canada for the creation and management of marine National Wildlife Areas)

2.b Impact Benefit Agreements
While there is both great potential and need for marine conservation efforts in Canada's Arctic ocean, respecting Indigenous rights and upholding the government's commitment to reconciliation must be paramount in the establishment of MPAs in this region. Canada needs an equitable, consistent, and transparent financing formula for impact benefit agreements (IBAs) across all four Inuit land claim regions. These should be negotiated well in advance with Inuit representative organizations. In addition to the budgetary recommendations included here for negotiating these agreements, significant long-term financing must be secured for the settlements associated with each agreements. Long-term, stable funding is necessary to ensure progressive investment in community infrastructure, to enable communities to manage and fully benefit from marine conservation.

Budget: $20 million (total) over five years, for IBA negotiations

3. Science

The funding restored to science in Budget 2016 ($197.1 million over five years) was a positive and necessary step to rebuilding the scientific research capacity required for Canada to responsibly and proactively manage its ocean resources. However, Fisheries and Oceans Canada faced more than $150 million in cuts in annual budgets in the decade between 2006 and 2015.[63] Annual spending on management of fisheries and ecosystems was cut by $87 million and annual spending used to manage ecosystems and oceans science was cut by $39.5 million. These cuts also resulted in the loss of 1900 staff members across the country. In order to realize the government's ocean mandate, it is critical that the funding committed in Budget 2016 be upheld.

Restored science funding should be directed toward the following urgent needs: applying an ecosystem approach to integrated ocean management; developing advice for addressing impacts of climate change on fish stocks and developing rebuilding trajectories over the long term; filling data gaps for MPA network planning and analysis; undertaking science to support spatial plans and decision-making under co-management frameworks; and developing a transparent system for public access to fisheries and aquaculture data.

Budget: Budget 2016 funding upheld

4. Transforming Fisheries Management

Canada boasts one of the most diverse and valuable fisheries in the world, sourced from three oceans, the Great Lakes, and many other inland lakes. These fisheries contribute an estimated $7.9 billion annually to the Canadian economy, (accounting for commercial and freshwater fisheries, aquaculture and seafood preparation, and packing revenues)[64] and provide over 76,000 direct jobs. Managing Canada's fisheries sustainably and equitably is vital to the livelihoods of rural communities, and can provide enhanced food security for all Canadians.

4.a Implementing existing sustainable fisheries policies

Improved fisheries management requires continued investments, including for improved implementation of 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. It will also require restoring lost protections and introducing modern safeguards into the Fisheries Act.

Implementation of these policies and laws is currently hindered by the lack of adequate catch monitoring. In addition, many species that are implicated in commercial fisheries (including Atlantic cod, American plaice, redfish, and porbeagle shark) are also currently within the listing process under the Species at Risk Act (SARA). These species require additional protections through SARA listing and by greater monitoring and enforcement of existing regulations.

Additional funding is required for DFO to implement Canada's existing sustainable fisheries policies and specific measures for at-risk marine fish through the Integrated Fisheries Management Process (IFMP).

Budget: $2 million per year, for five years

4.b Rebuilding fisheries

Fisheries must be rebuilt by establishing and implementing science-led conservation plans and rebuilding strategies, with targets and timelines for all depleted fish populations. This must be done through an ecosystem-level approach, and in consideration of regime changes caused by climate change.

Additional funding is required for DFO to establish meaningful harvest control rules, precautionary reference points, and updated catch monitoring approaches. Funding is also required for Canada to fulfill its obligation to provide accurate and accessible information about the state and population trends of the country's fisheries stocks.

Budget: $9 million per year, for five years

4.c Fisheries co-management

Investing in the capacity of fisheries associations to develop co-management plans and 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. This will enable communities to better manage their resources and ensure smarter co-management of our oceans.

Budget: $1.5 million per year, for five years
Note: Funding should be application-based and require matching funds from the community, private sector, and other levels of government.

63 http://www.nationalobserver.com/2016/02/24/news/exclusive-science-monitoring-atrophied-after-harper-cuts-briefings-tell-tootoo

64 Canada's Fisheries Fast Facts 2015 http://www.dfo-mpo.gc.ca/stats/facts-Info-15-eng.htm

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Healthy Communities

GREEN BUDGET COALITION

FRESHWATER RESOURCES: PROTECTION RANGING FROM INVASIVE SPECIES TO TOXIC POLLUTANTS

Canada's fresh waters contribute extensively to the social, ecological and economic well-being of our country and are a tremendous resource on a global scale.

Canadians recognize freshwater is Canada's most important natural resource, as shown in a recent 2016 RBC Canadian Water Attitudes study.[65] In celebration of Canada's 150th birthday, the Green Budget Coalition recommends that the Government of Canada strengthen its commitment to improving and protecting the nation's freshwater resources by investing in a national **Canada Water Fund**. Such a commitment will strengthen the national framework to achieve long-term watershed health, support and lead in the area of world class science, strengthen capacity and partnerships, and address significant watershed-scale challenges.

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

1. Long-term watershed health:
    - Alleviating land based run-off of pollutants and nutrients through the creation of a national, partnership-based nutrient reduction stewardship strategy, with a focus on inter-jurisdictional watersheds, with Environment and Climate Canada and the agricultural industry: *$100 million per year for five years, matched by government and non-government partners.*
    - Continuing implementation of the Great Lakes Water Quality Protocol with an emphasis on addressing remaining Canadian Areas of Concern and ongoing threats from chemicals of mutual concern:[66] *$60 million per year for five years to implement the GLWQP*
    - Enhancing measures to control and eliminate aquatic invasive species: *$25 million per year for five years*;
2. Building a World Class Freshwater Monitoring Framework - ensuring a national water quality and quantity monitoring framework that is data sufficient, accessible and comprehensible: *$40 million per year over five years*[67][68]

Total Recommended Investment:
Canada Water Fund: $225 million per year for five years

Background and Rationale

Canada's natural fresh-water systems are priceless and irreplaceable, yet 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 without a comprehensive understanding of cumulative impacts or national understanding of water resources. These result from a variety of human and non-human impacts. For example, a lack of strong and effective watershed management policies and legislation, particularly with respect to habitat loss and other detrimental land use management practices, are major drivers of water quality degradation which must be addressed. Unregulated land conversion, including wetland drainage and deforestation are exacerbating threats to human health, such as algal blooms on some of our largest lakes and rivers.

65 2016 RBC Canadian Water Attitudes Study. http://www.rbc.com/community-sustainability/_assets-custom/pdf/CWAS-2016-report.pdf

66 The three "remaining" Areas of Concern, those that are solely Canadian responsibility and have not yet been allocated sufficient funding to remediate them, are Toronto, Port Hope, and Thunder Bay.

67 Canadian Centre for Policy Alternatives, 2014. Striking a Better Balance: Alternative Federal Budget 2014. http://canadians.org/sites/default/files/publications/AFB2014-water.pdf

68 Canadian Centre for Policy Alternatives, 2014. Striking a Better Balance: Alternative Federal Budget 2014. http://canadians.org/sites/default/files/publications/AFB2014-water.pdf

The current trend of increasing pollutants and toxins in our freshwater systems must be reversed. According to the Commission of Environmental Cooperation, the volume of released pollution from Canadian-based facilities to on-site surface water was 127,432,798.33 kg in 2013[69] – a nearly 7% increase since 2009.[70]

Long term investments to protect and restore Canada's freshwater resources benefit Canadians in many ways, including improved drinking water quality, healthier and more sustainable fisheries, and enhanced economic sustainability of freshwater-dependent recreation based industries. Agricultural and other businesses will benefit from assistance in managing pollution impacts on waterways from their operations.

Further details are provided below.

1. Long-term watershed health

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

Land based run-off of pollutants and nutrients have a severely detrimental impact on 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 the Great Lakes; Lake Winnipeg; Lake Diefenbaker (Saskatchewan); Lake St. Augustin (Quebec);[71] Lac la Biche (Alberta);[72] Tabor Lake (BC);[73] lakes in the Carleton and Meteghan River watersheds in Nova Scotia, and others. Other types of pollutants, such as pesticide run-off, as well as deposition of toxic contaminants in lakes from air emissions, also adversely affect aquatic ecosystem health.

In recent years, the federal government has committed some funds to addressing the on-going threats from nutrients and land-based pollution runoff to several key freshwater resources in Canada, including a $29 million investment in the Lake Simcoe/Southeastern Georgian Bay Clean-up Fund, and $37 million invested in the Lake Winnipeg Initiative to address water quality as well as nutrients loading in Lake Winnipeg. Unless renewed, these critically important programs will sunset by March 31, 2017.

The federal role in alleviating land based run-off of pollutants and nutrients includes: implementation of international agreements where applicable; facilitating inter-jurisdictional co-operation; conducting research and gathering baseline data; monitoring and analyzing trends; exchanging information; and consulting with and reporting to the public on how these issues are being addressed.

The GBC's proposed Canadian Water Fund would analyze the areas of highest pollutant loading to these fresh waters and assist with implementation of best management practices and other strategies on the landscape to reduce pollutant volumes.[74]

Recommended Investment:
The GBC recommends initial funding to the Clean Water Fund of $100 million per year for five years, inclusive of continued funding to Lake Winnipeg Basin Initiative of $18 million per year and continued funding of the Lake Simcoe/South-eastern Georgian Bay Clean-up Fund of $29 million per year.

1b. Continuing implementation of the Great Lakes Water Quality Protocol

The Great Lakes Water Quality Protocol remains an important agreement for Canada to restore and protect the Great Lakes Basin. The federal government's renewal of funding for essential work to advance efforts on nutrients and land-based run off pollutants is critical. The Green Budget Coalition urges the Government of Canada to re-commit funds necessary to address contaminated sediments in the Canadian Areas of Concern, and the Great Lakes Nutrients Initiative. In addition, the GBC recommends that additional funds be allocated to advance to the promotion of avoidance and informed substitution of Chemicals of Mutual Concern.

The GBC also recommends investing an additional $60 million per year in Budget 2017 for implementation of the Great Lakes Water Quality Protocol (GLWQP of 2012; which replaced the Great Lakes Water Quality Agreement),[75] Areas of Concern (AOCs), environmental monitoring, a climate change impact strategy, and continued investment in the Canada-Ontario Agreement (Great Lakes). Canada continues to lag behind the U.S., its partner in the GLWQP, on its annual investment in Great Lakes protection. The Canadian government invests $48 million CAD per year towards the Great Lakes, while the U.S. committed $300 million USD per year for five years

69 Commission on Environmental Cooperation (CEC), 2016, Taking Stock Online. http://takingstock.cec.org/Report?AgencyIDs=1&Culture=en-US&IndustryLevel=3&Measure=3&MediaTypes=41&ReportType=4&ResultType=1&WatershedLevel=4&Years=2013,2012,2011,2010,2009)

70 CEC, 2016,Taking Stock Online. Ibid.

71 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.

72 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. http://faculty.eas.ualberta.ca/wolfe/eprints/Schindler2008CJFAS-LLB.pdf

73 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. http://www.unbc.ca/assets/ellen_petticrew/french_petticrew_hydrob.pdf

74 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, Executive summary available at: http://www.ccme.ca/files/Resources/air/acid_rain/pn_1450_rn_eutrophication_smry_en.pdf

75 For the full text see: https://www.ec.gc.ca/grandslacs-greatlakes/default.asp?lang=En&n=A1C62826-1

towards Great Lakes restoration, beginning in 2017.[76],[77] The GBC recommends that the federal government increase its funding commitment to the Great Lakes program to achieve greater progress in Canada under the Protocol particularly in support of implementation action to address nutrients and pollutants, delisting of remaining AOCs, and setting of lake ecosystem and contaminant targets.

Recommended Investment:
The GBC recommends total investments for the restoration and protection of the Great Lakes of $60 million per year for five years, including continued investment in the Great Lakes Nutrients Initiative of $16 million per year.

1c. Aquatic invasive species

Aquatic invasive species are among the most critical threats facing Canada's water systems. Their impacts include declining water quality from increased turbidity, increased concentration of toxic substances in the water system, and changes in the nutrient and energy flows of a particular food web. These changes may have dramatic economic implications for the commercial, agricultural, aqua-cultural, and recreational industries that rely on freshwater resources.

Today, there are approximately 180 invasive and non-native species that have entered the Great Lakes region alone.[78] Current estimates indicate that the economic impact from invasive species in the Great Lakes range from $13 billion to $35 billion. The GBC recommends an increase in federal funding to advance research, monitoring, coordination, and enhanced border protection to combat aquatic invasive species, directed toward the following purposes:

- Research – Funding to continue developing and testing methods of catching, destroying and controlling unwanted fish and other aquatic invasive species.
- Monitoring – Expanding water sampling areas in the Great Lakes and other likely invasion spots
- Coordination – Prioritizing action on aquatic invasive species where the federal and provincial governments' responsibilities and commitments related to the control and management of invasive species in the Great Lakes are well articulated.
- Enhancing border protection – Providing additional training and education for Canadian Border Services Agency staff to identify aquatic invasive species, ensuring the strong enforcement of existing laws and regulations)

In 2012, the federal government committed up to $17.5 million over five years to prevent the introduction and establishment of Asian carp in the Great Lakes. This funding, scheduled to sunset at the end of the current fiscal year, should be renewed and expanded to deal with a broader range of invasive species. Given the level of threat posed by invasive species, Canada should increase its commitment after March 31 2017 to $25 million per year for five years.

Recommended Investment:
$25 million per year for five years.

2. Building a World Class Freshwater Monitoring Framework

Ensuring long-term watershed health can only be accomplished in conjunction with a strong national freshwater monitoring framework that is both available and accessible to all sectors of society including academia, the public, and the non-governmental agencies working on freshwater issues. However, for far too many watersheds, basic water quality information is filed away in the proprietary reports of corporations or at understaffed non-profit organizations, rendering it inaccessible. In other cases, this critical information may not have been collected in the first place.

Water quality is also deteriorating. WWF-Canada is creating the first national assessment of the health to Canada's waters and the threats they are facing. While nine of the nineteen watersheds already assessed score "fair" or lower, none of the watersheds have "good" water quality. The other ten watersheds assessed to date are data-deficient for water quality. Data is particularly lacking for water quality and benthic invertebrate monitoring systems largely managed by Environment and Climate Change Canada.

The GBC recommends:

- Providing dedicated, long-term monitoring funding for data openness and accessibility, to ensure that availability challenges are resolved, and to reduce the loss of data over time due to programs being disrupted or discontinued.
- Further standardizing data collection and reporting (especially at the local level) via hubs, and mitigating hurdles to allow for greater local-regional-national data integration and comparison
- Extending coverage of monitoring stations to historically underrepresented, and in some cases high-risk, areas (e.g. Saskatchewan, Nunavut, Northern Ontario, Northern Quebec); and
- Facilitating information sharing between data collection staff and watershed monitoring staff.

Recommended Investment:
$40 million per year over five years

76 H.R.223 - Great Lakes Restoration Initiative Act of 2016-114th Congress (2015-2016), 2016. https://www.congress.gov/congressional-record/2016/04/26/house-section/article/H1954-1

77 Environment and Climate Change Canada, 2016, Cleaning Up the Great Lakes. http://www.ec.gc.ca/doc/eau-water/grandslacs-greatlakes_e.htm

78 National Oceanic and Atmospheric Administration, Great Lakes Region: Invasive Species. http://www.regions.noaa.gov/great-lakes/index.php/great_lakes-restoration-initiative/invasive-species/

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GREEN BUDGET COALITION

LUNG CANCER PREVENTION: A TAX CREDIT FOR RADON MITIGATION

Recommendation Summary

The GBC recommends providing a federal income tax credit to individuals and small-scale landlords of 15 percent of the cost of radon mitigation work performed by experts certified by the Canadian National Radon Proficiency Program where a three-month test indicates an indoor radon level above the Canadian radon guideline (currently 200 Bq/m3).

Investment Required:

None. This tax measure would result in net tax benefits to federal and provincial governments.

Background and Rationale

Radon, a known carcinogen, is a radioactive gas arising from the natural decay of uranium in soil and rock. It is the second leading cause of lung cancer in Canada after smoking, causing 16% of lung cancer deaths annually and resulting in over $17 million annually in direct health care costs. Invisible, odourless, and tasteless, it is detected via a simple and inexpensive three-month test.

Since 2008, Health Canada's National Radon Program has tested over 19,000 federal buildings and about 18,000 homes across Canada, updated radon measures in the National Building Code, developed a certification program for radon mitigators (the Canadian National Radon Proficiency Program), conducted extensive research as well as education and awareness programs, and repeatedly informed Canadians that all homes should be tested for radon.

Health Canada data indicate that the radon levels in approximately 7% of homes in Canada (over 600,000 dwellings) is above the Canadian guideline of 200 Bq/m3.[79] Parts of Manitoba, New Brunswick, Saskatchewan and Yukon have higher levels. But, some level of radon occurs in all homes with high levels found in all provinces which is why Health Canada recommends that all homes be tested.

Over 600,000 Dwellings Affected

Much new construction in Canada includes radon protection measures. But, an estimated 617,501 dwellings need mitigation, most of them older homes.[80] Public uptake of outreach messages on the need to test is limited. A federal tax credit is a logical next step for the National Radon Program and would send a strong signal to Canadians to take this issue more seriously.

Making Radon Mitigation Affordable

Mitigation techniques include sealing cracks and other openings in the foundation/floor, venting and/or Active Sub-Slab Depressurization (installation of a pipe and fan under the basement floor slab to vent radon and prevent entry to the home). Typical mitigation costs range from $500 to $3,000. The federal government can help make radon mitigation affordable by adding radon mitigation as a tax credit under the Income Tax Act. We estimate that this tax credit will be revenue-neutral and more likely result in a net annual benefit in the order of $1.6M to $9.8M to federal revenues and $8.2M to $49.7M to the provinces.[81]

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79 Bequerels per cubic metre, a measure of the number of radioactive disintegrations per second.

80 Based on tallying Canada Mortgage and Housing Corporation data on occupied housing stock.

81 Based on: 80% of 617,501 homes being mitigated across 5 years; a conservative estimate of the corporate tax rate being 15%; and net HST revenues on 66% of sales of mitigation services. See http://www.cela.ca/publications/radon-tax-credit for detailed calculations.

Supporting Evidence-Based Decision Making

GREEN BUDGET COALITION

SUPPORTING EVIDENCE-BASED DECISION MAKING

Peer reviewed science, data and information, including geographic information and mapping (GIS), form the foundation for public policy and environmental leadership. The government has recognized this in its commitment to "evidence-based decision making", and in its understanding of the role that science plays in informing effective government policy.

The Green Budget Coalition recommends that the federal government continue to rebuild and enhance Canada's ecosystem science capacity and specifically fund 3 important initiatives:

1. **National Ecosystem Monitoring** – provide funding to make significant progress toward developing and implementing a comprehensive national ecosystem monitoring framework to support effective land-use management, climate change adaptation, sustainable resource development and biodiversity conservation
   Investment Required:
   For 2017/18: $30 million
   For 2018 to 2022: $120 million (total)
   Ongoing: $25 million/year

2. **Measuring Ecological Goods and Services** – provide funding for Statistics Canada to support inter-departmental research to track the "stocks" and changes in the ecosystems and ecological goods and services that are fundamental to Canadians' health, economy and natural heritage.
   Investment Required:
   For 2017/18 $1.4 million
   Total: $4.5 million of incremental funding over 3 years

3. **Wetlands Inventory and Monitoring** – provide funding to make significant progress towards completing the Canadian Wetland Inventory to support land-use planning, sustainable development and the creation of climate-resistant communities.
   Investment Required:
   For 2017/18: $10 million
   For ongoing: $10 million/year over 4 years

1. National Ecosystem Monitoring

Recommendation Summary
The Green Budget Coalition recommends that the Government of Canada provide funding of $150 million over five years starting in Budget 2017 to make significant progress towards developing and implementing a comprehensive national ecosystem monitoring framework that would underpin evidence-based decision making in land-use management, climate change adaptation, sustainable resource development and biodiversity conservation. The GBC also recommends that continuous funding of $25 million per year be provided to support effective administration of the proposed framework.

This framework would be jointly led by Natural Resources Canada and Environment and Climate Change Canada, and would be developed in partnership with provincial and territorial governments, along with other core federal departments and agencies, including Agriculture and Agri-Food Canada, Fisheries and Oceans Canada, Canadian Food Inspection Agency, Public Health Agency of Canada, Statistics Canada, Parks Canada and Canadian Space Agency.

Investment Required
For 2017/18: $30 million
For 2018/19 to 2021/22: $120 million (total)
Ongoing, from 2022/23: $25 million/year

Background and Rationale
To support evidence-based policy- and decision-making, Canada must develop a comprehensive, authoritative and multi-sector ecosystem monitoring framework. This monitoring system would provide governments, industry and the general public with timely information critical for climate change adaptation and mitigation actions, sustainable land-use planning, conservation and risk management.

The GBC is aware of the proposed National Ecosystem Early Warning System (NEEWS) and in principle, supports

this initiative. The GBC recommends that the Government use this initiative to effectively remedy critical data gaps in existing national-scale monitoring activities and programs by:

- Increasing the number of ground-plots from 1000 to 10 000, which would ensure statistically robust data;
- Expanding the type of data collected for new elements such as critical habitat for species at risk, carbon sequestration, and potential pathogen sources, to effectively mitigate risks and identify threats to humans and wildlife; and
- Incorporating other ecosystems and lands monitoring (in addition to forests), including wetlands, grasslands, agricultural lands and boreal ecosystems in order to better understand the cumulative effects of land-use and climate change.

Developing and effectively implementing a national ecosystem monitoring network, like the NEEWS, would enable Canadians to measure and evaluate the goods and services provided by terrestrial ecosystems, forecast risks and vulnerabilities associated with cumulative effects of land-use changes and climate change impacts, and subsequently establish evidence-based solutions for climate resiliency and sustainable growth.

2. Measuring Ecological Goods and Services

The Green Budget Coalition recommends that the Government of Canada provide funding of $4.5 million over three years, starting in Budget 2017, to Statistics Canada to allocate seed funding for a second phase of the Measuring Ecosystems Goods and Services (MEGS) project. This phase would support inter-departmental research to track the "stocks" and changes in the ecosystems and ecological goods and services that are fundamental to Canadians' health, economy and natural heritage.

Investment Required:

For 2017/2018: $1.4 million
Total: $4.5 million of incremental fund ing over three years

Recommendation Summary

The interdepartmental project on Measuring Ecosystems Goods and Services (MEGS) was coordinated by Statistics Canada and concluded with the release of some of its findings in the 2013 Human Activity and the Environment report. This two-year project propelled research on ecosystem accounting and the quantification of ecosystem goods and services (EGS). Participating departments included Environment and Climate Change Canada, Fisheries and Oceans Canada, Natural Resources Canada, Parks Canada, Agriculture and Agri-Food Canada, and Policy Horizons Canada. It is strongly recommended that the Government of Canada allocate new funds for the continuation of this project.

Of the total $4.5 million for incremental seed funding to advance development of a system of ecosystem accounting for Canada and start looking at the feasibility of a census of the environment, the GBC recommends $2.4 million be directed to Statistics Canada to support their leadership and coordinating role, and $2.1 million to support the participation of the relevant policy departments.

Background and Rationale

Quality information is vital for understanding and protecting our environment, and for developing effective policies and technologies.

Underpinning the exercise is the concept of natural capital. In simple terms, the concept of natural capital views the natural environment as a collection of assets that provide environmental goods and services. Using wetlands as an example, measuring the economic values generated by the ecosystem services (flood attenuation, tourism, nutrient retention) of this natural cover would enable Canadians to have a more accurate measure of the services/decreased expenditures required to remedy and manage the impacts of climate change, including severe weather events like flood damage and related issues such as declining water quality.

One result of the MEGS project was Statistics Canada's decision to invest in developing annual land cover and land use change statistics and renewable water estimates. These reports provide important base data for researchers and policy-makers, and allow them to integrate environmental considerations into economic and policy decision-making, a priority in the Federal Sustainable Development Strategy.

While these new investments are a start, this additional federal funding could greatly extend the reach of this work.

This investment would allow for a more comprehensive approach to the Human Activity and the Environment Reports. With the emergence of the Natural Capital Framework, this work would clearly define what should be measured with respect to the environment and human interaction with it.

Internationally, EGS measuring and accounting projects are gaining traction across multinational institutions, including the United Nations and the World Bank.

3. Wetlands Inventory and Monitoring

Recommendation Summary

The Green Budget Coalition recommends that the Government of Canada provide funding of $50 million over five years starting in Budget 2017 to make significant progress towards completing the Canadian Wetland Inventory (CWI). The completion of the CWI would be an

important complement to existing wetland conservation programs, and would greatly advance government's climate change mitigation and adaptation objectives. It is also recommended that an additional $4 million is allocated annually over 5 years to develop a Wetland Monitoring component as a core part of the federal Government's national ecosystem monitoring efforts.

This program would be led by Environment and Climate Change Canada in partnership with Natural Resources Canada and Agriculture and Agri-food Canada. This initiative would also be supported by, or complementary to the mandates of, Fisheries and Oceans Canada, the Canadian Food Inspection Agency, the Public Health Agency of Canada, Statistics Canada, Parks Canada and the Canadian Space Agency.

Investment Required

For 2017/18:	$10 million
For ongoing:	$10 million/year over 4 years

Background and Rationale

The federal government is taking steps to restore science, research and information management programs that have been cut over the past decade. The lack of major progress towards a completed national wetland inventory and monitoring program continues to be a significant gap. The Canadian Wetlands Inventory (CWI) is an essential tool for identifying and tracking land use change, particularly the presence of wetlands on the Canadian landscape. Completing this inventory will significantly enhance land-use planning, sustainable development, and the creation of climate-resilient communities.

Once a baseline inventory is set, we recommend that the federal government incorporate this wetland data layer into a national ecosystem monitoring framework designed to track and measure changes on the landscape for better planning and management.

A comprehensive CWI would provide federal, provincial, terrestrial and indigenous governments with vital information that will enable informed decision-making and strategic investments in nature-based infrastructure, critical habitat conservation, climate change adaptation actions and sustainable resource development.

A completed CWI would also provide industry with important information that would guide and shape the implementation of sustainable resource development plans and best management practices.

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SUMMARY TABLE

Lead Departments and Costs (and Savings) Associated with the GBC's Recommendations for Budget 2017
(in millions of dollars; negative figures represent savings or revenues)

Recommendation Sub-Recommendation	Likely Lead Department(s)	Notes on Costs/ Savings	2017-18	2018-19	2019-20	2020-21	2021-22	ongoing	(end-year)
Energy, Climate, and Infrastructure									
Carbon Pricing	ECCC	Revenues dependent on specific carbon pricing policies and price.	0 to -24,000	0 to -24,000	0 to -24,000	0 to -24,000	0 to-24,000	0 to -24,000	
Subsidy Reform in the Extractive Industries									
ACCA for Liquefied Natural Gas	Finance, NRCan		-9	-9	-9	-9	-9	-9	(2024-25)
Duty Exemption-Imports of Mobile Offshore Drilling Units in Atlantic and Arctic	Finance, NRCan		?	?	?	?	?	?	
Canadian Development Expense	Finance, NRCan	Estimates based on past years.	-1,018	-1,018	-1,018	-1,018	-1,018	-1,018	
Canadian Exploration Expense	Finance, NRCan		-148	-148	-148	-148	-148	-148	
Flow-Through Share deductions	Finance, NRCan		-133	-133	-133	-133	-133	-133	
COGPE	Finance, NRCan		-36	-36	-36	-36	-36	-36	
FRE & FEDE	Finance, NRCan		?	?	?	?	?	?	
Exploration Limited Partnerships	Finance, NRCan		?	?	?	?	?	?	
Leadership on Global Climate Finance	ECCC, GAC		667 - 967 per year over 2017-2020			2,800 - 3,700 per year over 2020-2025			
Renewable Energy & Energy Efficiency									
Clean energy fund	NRCan		1,000	1,000	1,000	1,000			
Home retrofits	NRCan		400	400	400	400	400		
Clean Energy Deployment in Indigenous Communities	INAC + NRCan, EC		60	60	60	60	60	60	(2030-31)
Infrastructure, Ecosystems and Climate Change Adaptation	Infc, ECCC + PS, HC, NRCan								
Natural infrastructure	Infc, ECCC		30% of green infrastructure funding						
Fund to help Canada's ecosystems adapt to climate change	ECCC		10% of annual funding from the Pan-Canadian Framework on Clean Growth and Climate Change						
Integrating adaptation into all infrastructure decisions	Infc	*Negligible*	-	-	-	-	-	-	
Public Transit Infrastructure			2,000	2,000	2,000	2,000	2,000	2,000	(2026-27)
TOTALS - Energy, Climate and Infrastructure	Net savings or cost largely dependent on carbon pricing level and policies.		**3,000 to -21,000**	**3,000 to -21,000**	**3,000 to -21,000**	**3,000 to -21,000**	**3,000 to -21,000**	**3,000 to -21,000**	
Nature Conservation									
Terrestrial Protected Areas									
Pan-Canadian PAs Action Plan	PC		10	10	10	10	10		
National Parks									
Establishment	PC		75	25	25	25	25	25	
Conservation science & monitoring capacity	PC		25	25	25	25	25	25	
National Wildlife Areas									
Creating and managing new NWAs	ECCC		5	5	5	5	5	5	
Protecting existing NWAs and MBSs	ECCC		30	30	30	30	30	30	
National Indigenous Guardians Network	ECCC, INAC		500 over five years (2017-2022) including 26 in 2017/18						
Working Landscapes									
Land management and stewardship	ECCC, DFO, AAFC, PC		75	75	75	75	75		
Biodiversity Conservation									
Bird Conservation	ECCC		5	5	5	5	5		
Aquatic Invasive Plant Management	DFO, AAFC		4						
Pollinator Conservation	AAFC, ECCC, HC		12	12	12	12	12		
Enhancing & Improving Existing Conservation Programs									
Natural Areas Conservation Program	ECCC		10	10	35	35	35	40	(2023-24)
Habitat Stewardship Program	ECCC		5	5	5	5	5		
Aboriginal Fund for Species At Risk	ECCC, DFO		2	2	2	2	2		
National Wetland Conservation Fund	ECCC		8	8	8	8	8		
North American Waterfowl Management Plan	ECCC		2	2	2	2	2		
Oceans and Fisheries									
Ocean co-management									
Co-management governance	DFO		60	60	60	60	60		
Marine planning	DFO		9	9	9	9	9		
Marine protection									
National network of marine protected areas	PC, EC		60	60	60	60	60		
Inuit Impact Benefit Agreements	DFO, EC		4	4	4	4	4		
Science	DFO		-	-	-	-	-		
Transforming fisheries management									
Implementing existing sustainable fisheries policies	DFO		2	2	2	2	2		
Rebuilding fisheries	DFO		9	9	9	9	9		
Fisheries co-management	DFO		1.5	1.5	1.5	1.5	1.5		
TOTALS - Nature Conservation			**439.5**	**478**	**503**	**503**	**503**	**125**	
Healthy Communities									
Canada's Fresh Water									
Long-term watershed health									
Alleviating land-based run-off - pollutants/nutrients	AAFC, ECCC		100	100	100	100	100		
Great Lakes Water Quality Protocol, & remaining AOCs	ECCC, GAC		60	60	60	60	60		
Aquatic invasive species	DFO		25	25	25	25	25		
World Class Science, Capacity & Partnership									
Water quality & quantity monitoring framework	ECCC		40	40	40	40	40		
Indoor Air: Radon Remediation as Tax Deductible Expense	Finance, HC		Estimated revenues of $1.6M to $9.8M annually, ongoing					1.6+	
TOTALS - Healthy Communities			**225**	**225**	**225**	**225**	**225**	**1.6+**	
Supporting Evidence-Based Decision Making									
Measuring Ecological Goods and Services	StatCan, ISEDC		1.4	1.5	1.6				
Wetlands Inventory and Monitoring	ECCC		10	10	10	10	10		
National Ecosystem Monitoring	NRCan		30	30	30	30	30	25	
TOTALS - Supporting Evidence-Based Decision Making			**41.4**	**41.5**	**41.6**	**40**	**40**	**25**	

AAFC: Agriculture and Agri-Food Canada *DFO: Fisheries and Oceans Canada* *DFO: Fisheries and Oceans Canada* *Finance: Finance Canada* *GAC: Global Affairs Canada* *HC: Health Canada*
INAC: Indigenous and Northern Affairs Canada *Infc: Infrastructure Canada* *ISEDC: Innovation, Science and Economic Development Canada* *NRCan: Natural Resources Canada* *PC: Parks Canada*
PS: Public Safety *StatCan: Statistics Canada* *TC: Transport Canada*

WHO WE ARE

The Green Budget Coalition brings together 17 leading Canadian environmental organizations, 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.

Contact Us

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