ALUS

Canadian Environmental Law Association

CPAWS

Canadian Wildlife Federation

David Suzuki Foundation

Ducks Unlimited Canada

ecojustice

Ecology Action Centre 50 Years of Action

équiterre

Les Ami(e)s de la Terre | Friends of the Earth

Greenpeace

IFC where nature needs us most

IISD International Institute for Sustainable Development

MiningWatch Canada

Nature Canada

Nature Conservancy Canada

Nature United

Pembina Institute

SeedChange

Fondation Sierra Club Canada Foundation

West Coast Environmental Law

Wildlife Habitat Canada / Habitat faunique

WWF

GREEN BUDGET COALITION

RECOMMENDATIONS FOR BUDGET 2022

FEATURING

Net Zero Emissions by 2050

- Renovation Wave
- Fossil Fuel Subsidies and Public Finance

Full Nature Recovery by 2050

- Freshwater Management
- Protected Areas

Environmental Justice

- Office of Environmental Justice and Equity

Contents

Cover photo: Bryce Evans

This document will be available, in English and French, at www.greenbudget.ca.

Department and Agency Acronyms

AAFC	Agriculture and Agri-Food Canada
CFIA	Canadian Food Inspection Agency
CIB	Canada Infrastructure Bank
CMHC	Canada Mortgage and Housing Corporation
CSC	Correctional Services Canada
DFO	Fisheries and Oceans Canada
DND	Department of National Defence
ECCC	Environment and Climate Change Canada
ESDC	Employment and Social Development Canada
FIN	Finance Canada
GAC	Global Affairs Canada
HC	Health Canada
INFC	Infrastructure Canada
ISC	Indigenous Services Canada
ISED	Innovation, Science & Economic Development Canada
NRCan	Natural Resources Canada
PC	Parks Canada
PCO	Privy Council Office
PHAC	Public Health Agency of Canada
PS	Public Safety Canada
PSPC	Public Services and Procurement Canada
StatCan	Statistics Canada
TBS	Treasury Board of Canada Secretariat
TC	Transport Canada

INTRODUCTION & EXECUTIVE SUMMARY

As hopeful signs appear that Canada is emerging from a painful year beset by the COVID-19 pandemic, it is now critical to focus more attention on addressing the related climate and biodiversity crises, and shaping a world that is equitable, carbon-neutral and nature-positive, for current and future generations of Canadians and people worldwide.

Amid the COVID-19 crisis and its impacts on us all, Canada and the world face ever-worsening climate and biodiversity crises. We are already experiencing floods, fires, ecological disruption, dramatic loss of wildlife populations, and a rapidly warming Arctic. Science tells us that these and other impacts will intensify if climate change and ecosystem destruction remain unchecked.[1] Until we transform our society to operate within our planetary limits, the climate and biodiversity crises will worsen.

1 See for example, the UN's International Panel on Climate Change 2021 report, "AR6 Climate Change 2021: The Physical Science Basis, Summary for Policy Makers", at https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf/, and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) May 2019 report at https://www.ipbes.net/news/Media-Release-Global-Assessment

Photo: Thomas Lardeau

The **Green Budget Coalition (GBC)**, comprising 23 of Canada's leading environmental organizations, much appreciates the major federal funding announcements for climate and nature progress over 2020-2021, and **urges the government to continue to act** to seize this opportunity to transform society to address the twin climate and biodiversity crises, create sustainable jobs and ensure enduring prosperity and well-being for all.

The Green Budget Coalition welcomed the federal government's unprecedented multi-billion dollar investments over 2020-2021 that were aligned with the Coalition's recommendations, particularly for building retrofits, clean transportation, nature-based climate solutions, and protected areas involving Indigenous leadership. However, without effective use of this funding and further investments, Canada will not hit our targets for net zero emissions by 2050 and protecting 30% of Canada's land and water by 2030, nor achieve full nature recovery.

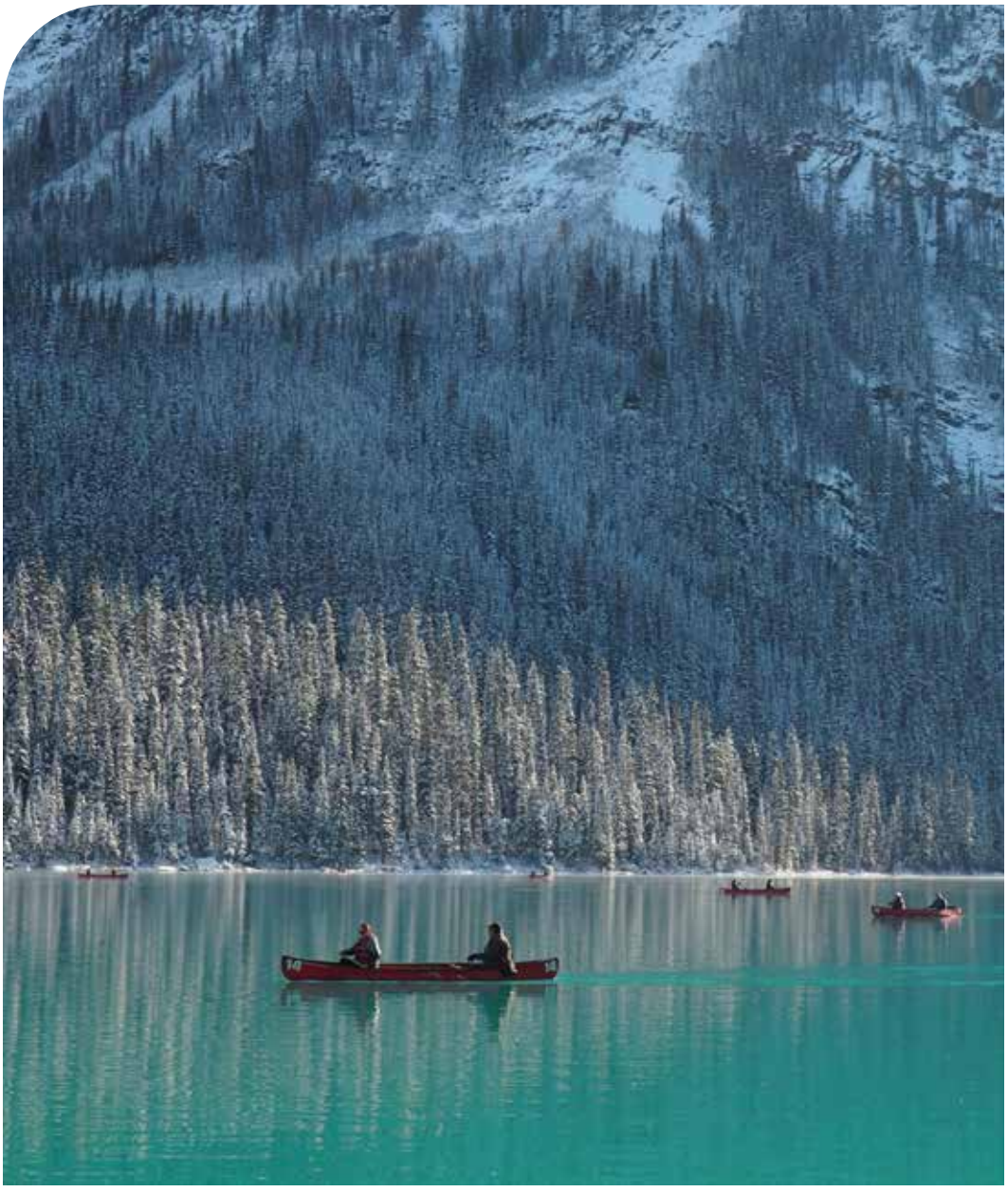

Photo: Guille Martinez

Countries such as France, Germany, and the UK[2,3] have made historic investments to ensure that they meet these climate targets. The Government of Canada must ensure its investments and actions meet or exceed the ambition being set by our global peers. Such investments will be amply repaid, with environmental, economic, and health benefits.

Canada must also strive to advance and embed climate and biodiversity goals across government, using tools such as "green strings" (environmental, social, and financial conditions) on new funding transfers, climate and biodiversity lenses on spending and policy measures, hardwiring the new quality of life framework in budget decision-making, and ensuring permanent funding for ongoing environmental governance functions.

Photo: Derek Sutton

2 Lucile Dufour, Tom Moerenhout, Angela Picciariello, Estan Beedell, "Cleaning up their act? G7 fossil fuel investments in a time of green recovery." https://learn.tearfund.org/-/media/learn/resources/reports/2021-tearfund-consortium-cleaning-up-their-act-g7.pdf

3 Vanessa Corkal, Estan Beedell, Philip Gass, "Investing for Tomorrow, Today: How Canada's Budget 2021 can enable critical climate action and a green recovery." https://www.iisd.org/system/files/2021-03/canada-budget-2021-climate-action-green-recovery-en.pdf

Recommendations for Budget 2022

Building on the Green Budget Coalition's expertise, this document provides a **comprehensive package of timely budget and fiscal recommendations whose adoption would advance progress on climate, nature, and equity, while creating jobs and protecting individual and collective health.**

The Green Budget Coalition is **featuring the following five recommendations for Budget 2022**, focused on advancing three overlapping objectives:

Net Zero Emissions by 2050

1. CANADA'S RENOVATION WAVE — A PLAN FOR JOBS AND CLIMATE
2. PHASING OUT FOSSIL FUEL SUBSIDIES AND RE-ORIENTING PUBLIC FINANCE

Full Nature Recovery by 2050

3. FRESHWATER MANAGEMENT FOR THE 21ST CENTURY
4. PERMANENT FUNDING FOR PROTECTED AREAS

Environmental Justice

5. OFFICE OF ENVIRONMENTAL JUSTICE AND EQUITY

For all of these areas, we emphasize the importance of effective implementation, monitoring, and evaluation to ensure successful outcomes from new and ongoing programs.

Implementing these Green Budget Coalition recommendations would lead to transformative progress in advancing enduring environmental, economic, and social prosperity for all people in Canada from coast to coast to coast.

Who We Are

The **Green Budget Coalition (GBC)**, founded in 1999, brings together twenty-three leading Canadian environmental and conservation organizations (*logos at side*), which collectively have over one million Canadians as members, supporters, and volunteers.

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 Green Budget Coalition's Co-Chairs are David Browne, Director of Conservation, Canadian Wildlife Federation, and Doug Chiasson, Senior Specialist, Marine Ecosystems and Government Engagement, WWF-Canada.

The Green Budget Coalition sincerely thanks the Metcalf, Echo, McConnell, McLean, Catherine Donnelly, Gosling, Ivey, and Willow & Grace Foundations for their generous financial support. The Green Budget Coalition's efforts are funded by its members and these foundations.

Photo: Justin Kauffman

FEATURE RECOMMENDATIONS

CANADA'S RENOVATION WAVE: A PLAN FOR JOBS AND CLIMATE

Meeting Canada's climate targets requires eliminating carbon emissions from Canadian homes and buildings before mid-century. Achieving this entails phasing out on-site combustion of fossil fuels and connecting to clean energy, mainly electricity from wind, solar, and hydro. This fuel-switching needs to be combined with upgrades to insulation and ventilation systems to conserve energy, improve air quality, and protect occupants and housing infrastructure from extreme weather and earthquakes.

To meet this target, Canada must develop a retrofit industry able to decarbonize 600,000 dwellings and more than 30 million square meters of commercial space each year to 2040. This will **require owners to invest approximately $20 billion per year on top of normal maintenance costs, generating an additional $48 billion in GDP each year, creating 200,000 long-lasting well-paid jobs across Canada, and reducing scope 1 and 2 emissions from buildings by nearly 90% by 2050**.

Photo: Bruno Soares

Photo: Manifesting Lucidity

Background

- The Canada Green Homes Grant program, launched in May 2021, allocates $2.6 billion over seven years to provide up to 700,000 grants of up to $5,000 to help homeowners make energy-efficient improvements to their homes;
- Budget 2021 makes available $4.4 billion over five years to help homeowners and landlords do home retrofits with interest-free loans of up to $40,000. This program includes a dedicated funding stream for low-income homeowners and rental properties serving low-income renters including cooperatives and not-for-profit housing;
- The 2020 budget included $2 billion to finance commercial retrofits though the Canadian Infrastructure Bank;
- Launched in 2017, The national Housing Strategy included a co-investment fund providing $4.7 billion over ten years to repair existing rental housing and develop new affordable housing; however these renovations require only a 25% reduction in GHG emissions, setting a bar too low for our climate targets.

Recommended Investment:

The federal government, in partnership with the provinces, should invest **$10-15 billion per year for ten years** to enable the renovation wave, including:

- **$10 billion per year** to fund deep retrofits for residential and commercial buildings, with programs covering 50-75% of the incremental cost of the upgrades needed (above normal replacement costs) to decarbonize and climate-proof buildings and homes [CMHC, NRCan, CIB, HC];
- **$2 billion per year** to fund no-cost deep retrofits for low-income households[4] and top-up for the renovation of social housing through the National Housing Strategy, including climate adaptation measures[5] [CMHC, HC];
- **$540 million per year** for deep retrofits and improved energy efficiency in new construction projects in Indigenous communities[6] [ISC, CMHC, CIB];
- **$300 million per year** for skill development, capacity building and recruitment,[7] with funds earmarked to increase diversity in the retrofit economy and additional support for roll out in Northern and Indigenous communities [NRCan, ISED, HC, ISC];
- **$100 million per year** to fund market development initiatives to resolve systemic barriers to deep retrofits and facilitate large-scale roll out of new integrated retrofit offerings[8,9] [NRCan, ISED]; and
- The federal government should also capitalize a loan guarantee program to reduce the risk to private financing of building retrofits.[10] [CMHC, CIB, NRCan]

4 Brendan Haley, "Low-income households should be a priority for federal energy efficiency funding." *Policy Options* (2021). https://policyoptions.irpp.org/magazines/february-2021/low-income-households-should-be-a-priority-for-federal-energy-efficiency-funding/

5 Currently, renovations funded through the NHS must only reach a 25% reduction in carbon reductions, making it difficult for cash-strapped housing societies to justify spending more to achieve deeper emissions reductions and integrate climate adaptation measures.

6 Based on the costs estimate of Indigenous Clean Energy in their Energy Foundations report: https://icenet.work/attachment?file=qrecQf4HdFgB4OHm6gR5yQ==

7 This mirrors the recommendations of the Canada Green Building Council and Efficiency Canada: see https://www.cagbc.org/News/EN/2020/20200513_News_Release.aspx and https://www.efficiencycanada.org/wp-content/uploads/2020/09/EffCan-2020-Advocacy-federal-Pre-budget-submission.pdf

8 This echoes The Atmospheric Fund's 2021 Budget recommendations (TAF). TAF, "2021 Federal Budget Recommendations." https://taf.ca/wp-content/uploads/2021/02/TAF-fedbudgetsubmission-2021-02-19.pdf

9 In the Netherlands, the "Energiesprong" (energy leap) is a successful example of such a market development approach (https://www.pembina.org/blog/gef-energiesprong), which is now being incorporated in initiatives across Canada (https://tinyurl.com/DeepRetrofitMap), including Pembina's Reframed Initiative. See also the upcoming paper by Efficiency Canada on mission-driven innovation.

10 Équiterre and the Pembina Institute, "Federal Policies for Low-Carbon Buildings: A blueprint to implement the PanCanadian Framework buildings strategy." https://www.pembina.org/pub/federal-buildings-blueprint

Photo: Ayman Hallak

These are fiscally sound investments: energy retrofit programs more than pay for themselves through revenues generated by taxation**, returning $2 to $5 to public coffers per program dollar spent.**[11,12] They can also generate savings in health care costs due to improvement in indoor air quality and thermal comfort.[13,14] To this end, Health Canada should be involved in designing these programs to ensure integration of relevant health standards and considerations, such as climate adaptation, radon remediation, asbestos removal, air filtration, fire safety, and seismic upgrades.

11 Modelling by Dunsky and the Center for Spatial Economics in 2018 estimates the spending cost for the PCF+ scenario at $154.7 billion over 13 years, and the resulting net additional provincial and federal tax revenue to be $348.7 billion over that period: 2.3 times the program spending. See Table 15, Table 27, Table 28 of Dunsky Energy Consulting, "The economic impact of improved energy efficiency in Canada." https://cleanenergycanada.org/wp-content/uploads/2018/04/TechnicalReport_EnergyEfficiency_20180403_FINAL.pdf

12 A 2011 study compared the costs of the program to the public revenues generated by Germany's KfW development bank's "energy efficiency renovation" program through taxes concluded that the program returned nearly four times more to the public coffers than it costs; more than five times if reduction in unemployment benefits were included. https://www.pembina.org/reports/passive-house-report-2016.pdf (page 124) based on KfW Bankengruppe, "Impact on Public Budgets of KfW Promotional Programmes in the Field of 'Energy-Efficient Building and Rehabilitation.'" https://www.buildup.eu/en/practices/publications/impact-public-budgets-kfw-promotional-programmes-field-energy-efficient

13 A 2015 study found that retrofitting residential buildings in Toronto to comply with minimum building code regulations can save US$2.3 billion/year in health care. M.S. Zuraimi, and Z. Tan, "Impact of residential building regulations on reducing indoor exposures to outdoor PM2.5 in Toronto." *Building and Environment*, (2015). https://doi.org/10.1016/j.buildenv.2015.03.010

14 Federation of Canadian Municipalities and the Insurance Bureau of Canada, "Investing In Canada's Future." https://fcm.ca/en/resources/investing-in-canadas-future

Funds for retrofits should be disbursed through a small number of large programs, to minimize market confusion and ensure efficacy of public investments. This could include channeling funds through established programs (municipal, provincial, utility). Program implementation should be supported by a comprehensive building data strategy combining open-data policies, data quality standards, and data exchange protocols, so that homeowners and companies have access to user-centred digital tools to inform their investment decisions.

To deliver the renovation wave, these investments must be accompanied by strong policy measures.

The federal government should partner with provinces to accelerate regulatory commitments towards a zero-carbon building sector, including: Carbon intensity limits for new and existing buildings;[15] energy performance standards requiring all heating equipment to have a coefficient of performance greater than 100% by 2025 (i.e., well ahead of the 'aspirational' target set for 2035);[16] and, benchmarking, labelling, and public disclosure policies to inform real estate market assessment of performance, comfort, climate risks, and carbon risks. Given the crucial role that provincial policies will play in meeting targets in the building sector, the federal government should make some of the funds contingent on provinces committing and implementing regulatory roadmaps for a zero-carbon building sector.

Contacts

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Tom Green – tgreen@davidsuzuki.org

15 Steven Nadel and Adam Hinge, "Mandatory Building Performance Standards: A Key Policy for Achieving Climate Goals." https://www.aceee.org/sites/default/files/pdfs/buildings_standards_6.22.2020_0.pdf
16 Energy and Mines Ministers' Conference, "Market Transformation Strategies for Energy-Using Equipment in the Building Sector." http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/emmc/pdf/Market-Transformation-Strategies_en.pdf

PHASING OUT FOSSIL FUEL SUBSIDIES & RE-ORIENTING PUBLIC FINANCE

It has been more than eleven years since Canada first committed to phase out inefficient fossil fuel subsidies under the G20. Since then, the subsidy file has shifted substantially. International leaders and experts, such as the Executive Director of the International Energy Agency (IEA)[17] and the Secretary-General of the UN,[18] have stressed that net-zero is not possible without removal of fossil fuel subsidies *and* an end to public finance for fossil fuels. Both are critical to ensure a climate-safe future, avoid undermining positive climate policies, and free up capital to transition to a low-carbon economy. Full progress on

17 Fiona Harvey, "No new oil, gas or coal development if world is to reach net zero by 2050, says world energy body."
https://www.theguardian.com/environment/2021/may/18/no-new-investment-in-fossil-fuels-demands-top-energy-economist

18 UN News, "End Fossil Fuel Subsidies, Bolster Funding for Renewable Energy Particularly in Africa, Secretary-General Tells Round Table on Clean Power Transition." https://www.un.org/press/en/2021/sgsm20530.doc.htm

Photo: Adrien Aletti

this file will require collaboration and work with the provinces and territories to address fossil fuel subsidies at the subnational level.

About 50,500 jobs in the Canadian oil and gas industry have been lost since 2014 and the industry is no longer a stable source of employment, pointing to an urgent need to support workers through economic diversification and just transition [*see recommendation on Just Transition, later in this document*], from which subsidies hold us back.[19] Subsidies that may appear to have environmental or social benefits can still distort the market, prolong fossil fuel production, worsen pollution, and create significant opportunity costs (including for just transition)—which is why it is critical that the government transparently assess subsidies against robust economic, social and environmental criteria.

Despite progress on phasing out several tax measures,[20] Canada remains the slowest to phase out overall support for fossil fuels among G20 OECD countries.[21] Canada's progress on the G20 subsidy peer review with Argentina is significantly behind schedule and approaching the three year mark; past peer reviews have taken 12-18 months. The Department of Finance has not yet provided details on which tax measures are being assessed and ECCC has not yet provided an update on the results from the 2019 consultations on non-tax subsidies.[22]

Subsidy levels

In the context of the pandemic, federal fossil fuel subsidies jumped threefold from $600 million in 2019[23] to $1.9 billion in 2020, not including tax provisions, subsidies for the Trans Mountain project, or credit support such as through Export Development Canada (EDC).[24] While the largest of these measures (for well clean-up) had links to environmental and employment benefits, the government must ensure future clean-up costs are borne by industry in order to respect the polluter pays principle and not lock taxpayers into covering costly future liabilities.

Public finance

A recently released report and scenario from the IEA demonstrates that if we are to achieve net-zero, no new investments can be provided for fossil fuels starting this year.[25] Currently, Canada is the second largest provider of public finance to oil and gas in the G20.[26] From 2016-2020, EDC provided an average of $13.3 billion in government-backed

19 Jim Stanford, "Employment Transitions and the Phase-Out of Fossil Fuels." https://centreforfuturework.ca/wp-content/uploads/2021/01/Employment-Transitions-Report-Final.pdf

20 Environmental Defence, "#StopFundingFossils: New poll shows Canadians want to end public subsidies for oil and gas companies." https://environmentaldefence.ca/report/stopfundingfossils/

21 Anna Geddes et al., "Doubling Back and Doubling Down: G20 scorecard on fossil fuel funding." https://www.iisd.org/publications/g20-scorecard

22 Office of the Auditor General of Canada, "2019 Spring Reports of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada: Report 4—Non-Tax Subsidies for Fossil Fuels—Environment and Climate Change Canada." https://www.oag-bvg.gc.ca/internet/English/parl_cesd_201904_04_e_43310.html

23 Vanessa Corkal, Julia Levin, & Philip Gass, "Canada's Federal Fossil Fuel Subsidies in 2020." https://www.iisd.org/library/canada-fossil-fuel-subsidies-2020

24 Vanessa Corkal, "Federal Fossil Fuel Subsidies in Canada: COVID-19 edition." https://www.iisd.org/publications/fossil-fuel-subsidies-canada-covid-19

25 International Energy Agency, "Net Zero by 2050: A Roadmap for the Global Energy Sector." https://www.iea.org/reports/net-zero-by-2050

26 Page 20 of Bronwen Tucker, Kate DeAngelis, "Still Digging: G20 governments continue to finance the climate crisis." http://priceofoil.org/content/uploads/2020/05/G20-Still-Digging.pdf, with 2019 and 2020 data added.

financial support to oil and gas companies each year.[27] EDC's updated 2021 climate change policy seeks a 40% decrease of its exposure to the most carbon-intensive sectors by 2023.[28] There is significant concern about the lack of exclusionary policies for fossil fuel investments, particularly given EDC's history in financing the industry domestically.

Potential for emerging subsidies

Lastly, as the government rolls out its national hydrogen strategy, decisions about Canada's future role in the emerging hydrogen economy must be made. The oil and gas sector continues to push for governments to invest in fossil fuel derived hydrogen as a way to search for a new market for their products as the world transitions away from oil. So-called "blue" hydrogen is not free of carbon emissions and relies on carbon capture and storage (CCS) technology, which is still immature and prohibitively expensive. Emphasis on blue hydrogen delays the urgent transition to renewable (green) hydrogen. The urgency of the climate crisis and the need for rapid emissions reductions means new government investments must be focused on carbon-free energy systems. It is critical that newly announced funding measures, such as the $1.5 billion for the Low Carbon and Zero-Emissions Fuels fund, prioritize renewable hydrogen, to remain competitive in global markets and avoid lock-in of emissions-producing assets.[29]

In Budget 2021, the government also introduced a tax credit for capital invested in CCS, to come into effect in 2022. At minimum, under the new tax credit, we support an approach that ensures no credit is given for enhanced oil recovery projects. It is crucial that the tax credit for CCS does not incentivize fossil fuel production by lowering its production cost.

Photo: Sebastien Cordat

27 Karen Hamilton, Julia Levin, & Bronwen Tucker, "Export Development Canada's role in bailing out the oil and gas sector." https://environmentaldefence.ca/report/exportdevelopmentcanada_oil_bailout/

28 EDC "Background: EDC Net Zero 2050." https://www.edc.ca/content/dam/edc/en/non-premium/edc-net-zero-emissions-2050.pdf

29 For examples, see: Agora Energiewende. (2020). Towards a climate-neutral Germany. https://www.stiftung-klima.de/app/uploads/2020/10/KNDE_Executive-Summary_EN_WEB.pdf

Recommendations:

1. Commit to not introducing any new subsidies for fossil fuels, which includes ensuring that financial support for hydrogen is prioritized for renewable (green), not fossil fuel-based (blue or grey) hydrogen. [FIN, NRCan, ISED, ECCC]
2. Phase out fossil fuel subsidies on an ambitious timeline with robust definitions:
   a. Complete a transparent G20 peer review with Argentina, using internationally agreed upon definitions and robust criteria for "efficiency" that align with Canada's climate commitments. If completing the review is delayed due to the partner country, Canada should publish the results of its self-review by fall 2021. [FIN, ECCC]
   b. Develop and publish a roadmap in 2021-22 to exceed Canada's commitment to phase out inefficient fossil fuel subsidies by 2025. [FIN, ECCC]
   c. Release clear, detailed information on amounts of all federal fossil fuel subsidies on an annual basis. Provide transparent and detailed data on COVID-19 support provided to fossil fuel producers, including that from federal credit agencies. [FIN]
3. Re-orient public finance, particularly from Export Development Canada [FIN, GAC]:
   a. End Export Development Canada's support for fossil fuels in the short term (including through the Canada Account) by developing robust exclusionary policies;
   b. Align EDC's entire portfolio with Canada's climate commitments and a 1.5 degree scenario. Substantially improve EDC's target for reducing carbon-intensive investments;
   c. Create robust targets for climate-focused investments in order to support the transition to clean energy; and
   d. Increase transparency on transactions, including COVID-19 related spending, conditions applied, and GHG emissions associated with investments.

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FRESHWATER MANAGEMENT FOR THE 21ST CENTURY

The Green Budget Coalition recommends that Canada invest in freshwater management and protection to support shoreline resilience, ensure sustainable water supply, improve water quality, maintain and restore freshwater fisheries and ecosystems, and generate community benefits. The management and stewardship of Canada's freshwater environments is one of the great challenges of our time. Pressures on freshwater environments are mounting and compounding due to growing populations, increasing demand for food and energy, expanded natural resource extraction, growing urban areas, and the changes in precipitation and temperature resulting from climate change.

Photo: Abben

Effective management of freshwater ecosystems is critical to sustaining biodiversity, the economy, and the people of Canada. Unpredictability has become the new normal, particularly in water management. The water

Photo: Chloe Leblanc

cycles that wildlife and people expect or rely on are becoming disrupted. Habitat loss and alteration due to land conversion and resource extraction, from sectors such as agriculture, urban development, and forestry, is having extensive impacts on freshwater ecosystems. Across Canada, 56% of freshwater fish species or unique populations are at risk.[30] Climate change is altering the abundance, growth, and recruitment of culturally and economically important fish species due to changes in water temperature and flow,[31] with particularly severe impacts on coldwater and migratory species such as Pacific and Atlantic Salmon.

Stewardship and management of fresh water to sustain biodiversity and people into the future must address three interconnected dimensions – water quantity, water quality, and aquatic habitat. Due to shared jurisdiction and multiple overlapping interests, the management of freshwater environments requires a shared responsibility approach between all levels of government that sets out a holistic management framework.[32] This shared, pan-Canadian approach needs to strengthen cooperative federalism, advance reconciliation, cultivate a watershed approach, and support knowledge creation.

The federal government is well positioned to take a leadership role in building a pan-Canadian approach to freshwater that shares responsibility with the provinces, territories, and Indigenous governments, and integrates across federal programs for water quality, transboundary water management, fish habitat, and aquatic species at risk. The ongoing work to establish a Canada Water Agency, update the *Canada Water Act*, and modernize the fish and fish habitat protection program presents a unique opportunity to bring Canada's management of freshwater environments into the 21st century.

The Green Budget Coalition recommends investing in a **Pan-Canadian Approach to Fresh Water** that includes the following investments:

30 Steven J. Cooke, Nicolas W. R. Lapointe & John P. Smol, "Canada is failing its freshwater fish populations." https://www.theglobeandmail.com/canada/article-canada-is-failing-its-freshwater-fish-populations/

31 A.J. Lynch et al.,, "Climate Change Effects on North American Inland Fish Populations and Assemblages." *Fisheries* (2016). https://doi.org/10.1080/03632415.2016.1186016

Special Issue: SI and Chu, Cindy, et al., "An updated assessment of human activities, the environment, and freshwater fish biodiversity in Canada." *CJFAS* (2015). https://doi.org/10.1139/cjfas-2013-0609

32 Oliver M. Brandes, Merrell-Ann Phare, John W. Pomeroy, "A Canada Water Agency is the first step to modernizing water management." https://policyoptions.irpp.org/magazines/april-2020/a-canada-water-agency-is-the-first-step-to-modernizing-water-management/

Total Recommended Investment:

$1.256 billion over five years, plus additional funds required for Indigenous peoples and governments to meaningfully engage in freshwater protection and management.

1. Funding for ECCC and DFO to develop a Pan-Canadian Approach to Fresh Water in collaboration with the provinces, territories, and Indigenous peoples. The Pan-Canadian Approach would establish a framework for collaboration on the management of water quality, water quantity, and aquatic habitat.

   $25 million over two years [ECCC, DFO]

2. Capacity for Indigenous peoples to engage in watershed planning, integrated planning for fish habitat protection, and water governance, building on models such as DFO's Aboriginal Aquatic Resource and Oceans Management program.

   Necessary funding to be determined in consultation with Indigenous peoples and governments. [ECCC, DFO, ISC]

3. Funding for DFO to work with other federal departments, provinces, territories, Indigenous governments, and stakeholders such as resource industries and fishing organizations to establish a Fish Habitat Strategy that sets out the shared goals, objectives, responsibilities, and management framework to protect fish and fish habitat.

   $20 million over two years, then $2 million annually ongoing [DFO]

4. Permanent funding for the Canada Water Agency to carry out its stated objective of ensuring federal policies and programs promote effective management and protection of freshwater resources and ecosystems in Canada for 21st century challenges and beyond, including adapting to climate change.

   $70 million in new funding annually, ongoing [ECCC]

5. Ongoing funding to establish, enhance, and integrate a monitoring and reporting system for the state of freshwater and the status of fish habitat to guide and monitor outcomes of regulatory and non-regulatory programs to protect freshwater ecosystems.

   - **$7 million annually ongoing** for fish habitat status assessment and reporting. [DFO]
   - **$10 million annually ongoing** for water quality and quantity monitoring in addition to existing allocations. [ECCC]

6. Establish the **Canada Freshwater Fund** to improve water quality and restore fish habitat through watershed and in water actions. The Fund could be structured similar to Canada's Nature Legacy Fund with programs for priority places, priority species, and priority threats. The Fund would include renewed funding for the Freshwater Action Plan to improve water quality and restore habitat in the Great Lakes-St. Lawrence and Lake Winnipeg. It would support actions in other priority places and for priority species through collaborative funding programs similar to the Lake Winnipeg Basin Fund or the British Columbia Salmon Restoration and Innovation Fund (BCSRIF).

Freshwater protection and restoration projects deliver environmental benefits by preventing nutrient pollution, protecting and restoring habitat, remediating contaminated and toxic sites, and controlling invasive species. They also inform regulatory decision-making on development projects by, for example, identifying important areas for protection and addressing cumulative watershed impacts. On-the-ground projects can create 13-17 jobs per million dollars and, based on evidence from the U.S. Great Lakes Restoration Initiative, create a return on investment of 300%.[33] Freshwater recreational and commercial fisheries generate over $8 billion annually in economic activity and support rural communities.[34]

$670 million over five years with the following components:

a) **$470 million over five years** in new funding to address key water quality, biodiversity, and ecosystem concerns for the Great Lakes, St. Lawrence River, and Lake Winnipeg:

- **$200 million** in new investments to address nutrient loading and reduce harmful algal blooms in the Great Lakes by implementing actions prioritized in the Great Lakes St. Lawrence Collaborative's Action Plan 2020-2030[35] [ECCC];
- **$110 million** to restore habitat and address key ecosystem threats to the Great Lakes and St. Lawrence River to benefit commercial and recreational species and species at risk [DFO];
- **$80 million** to reduce nutrient loading from the Red River and South Saskatchewan River Basins to Lake Winnipeg [ECCC]; and
- **$80 million** to strengthen aquatic invasive species control through expanded early detection and rapid response, enhanced control and eradication programs, research into prevention and control methods, and meeting Canada's treaty obligation to fund the Great Lakes Fishery Commission by increasing funding from $9.5 to $19.4 million. [DFO, GAC]

b) **$200 million over five years** to implement watershed and fish habitat enhancement and restoration projects for priority watersheds and priority species outside the Great Lakes-St. Lawrence through a national fish habitat partnership program. This is additional to recent commitments of $100 million to the BCSRIF and $29 million to the Canada Nature Fund for Aquatic Species at Risk. [DFO]

33 The Council of Great Lakes Industries and the Great Lakes Commission, "Assessing the Investment: The Economic Impact of the Great Lakes Restoration Initiative." https://www.glc.org/wp-content/uploads/GLRI-Project-Summary-Report-20180924.pdf and Edwards et al, "Investing in nature: Restoring coastal habitat blue infrastructure and green job creation." *Marine Policy* (2013). https://doi.org/10.1016/j.marpol.2012.05.020

34 Fisheries and Oceans Canada, "Survey of Recreational Fishing in Canada 2015." https://www.dfo-mpo.gc.ca/stats/rec/can/2015/index-eng.html#1-2 and Fisheries and Oceans Canada, "Commercial Landings and Production by fishing activity, Canada, 2012-2016." https://www.dfo-mpo.gc.ca/stats/cfs-spc/tab/xls/cfstab1-e.xls?

35 https://westbrookpa.com/glslcollab/

7. Funding for provincial, territorial, and Indigenous-led **community-based monitoring** (CBM) to contribute data to the integrated monitoring and reporting system for the status of fish habitat and the state of freshwater described above. The program should support integration of CBM non-government groups into government monitoring programs and priorities, building on experience from past federal programs such as the Atlantic Coastal Action Program.

   $25 million over five years [ECCC, DFO]

8. New investments in infrastructure for freshwater science are needed to support the mandate of the Canada Water Agency and the modernization of DFO's Fish and Fish Habitat Protection Program. Federal research facilities play a critical role in supporting regulatory programs and guiding ecosystem stewardship and management actions. New investments of $75 million are needed in key federal facilities including: Canada Centre for Inland Waters, Watershed Science Bioassessment Centre, Centre St. Laurent, National Hydrology Research Centre, Freshwater Institute, and Experimental Lakes Area (ELA). This includes $32 million over five years for new infrastructure and expanded science capacity at the ELA.

   $75 million over five years [ECCC, DFO]

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Photo: Debbie Pan

4

PERMANENT FUNDING FOR PROTECTED AREAS

Budget 2021 included the largest-ever nature conservation investment in Canadian history, meant to deliver on Canada's target of protecting 25% of land and ocean by 2025, and work towards 30% by 2030. Without long-term funding, this five-year investment may not achieve these targets, effectively conserve nature, or deliver its desired benefits to Canadians. Long-term investments must prioritize Indigenous-led conservation initiatives, including Indigenous Guardians, and must respect Indigenous rights.

Protected areas are, by definition, permanent designations, but permanent protection cannot be achieved with temporary funding. The scientific evidence is clear that protected areas are effective in conserving nature when they are well-managed, not just created as lines on maps. Similarly, securing long-term cultural, economic and health benefits for communities and Indigenous Peoples requires long-term investments.

Photo: Derek Sutton

Photo: Dave Meckler

The experience of the Canada Nature Fund has demonstrated that the lack of ongoing management funding is often a barrier to the establishment of new protected areas. Indigenous, provincial, and territorial governments, and many other partners, are seeking assurances that long-term funding will be available for management and stewardship of protected areas.

Permanent funding is required to reach our targets, effectively manage terrestrial and marine protected areas, and support Indigenous-led conservation and stewardship, as well as local conservation-focused economies. This would include support for protected areas established and/or managed by the federal government as well as by Indigenous, provincial, territorial, and municipal governments, and other partners.

Recommended Investment:

$1.4 billion per year in A-Base funding increasing to $2.8 billion per year by 2030-31

- **$750 million per year increasing to $1.5 billion per year by 2030-31** to support the long-term management and monitoring of terrestrial protected areas. [ECCC, PC]
- **$650 million per year increasing to $1.3 billion per year by 2030-31** to support long term management and monitoring of marine protected areas. [DFO, ECCC, PC]

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5

OFFICE OF ENVIRONMENTAL JUSTICE AND EQUITY

The Green Budget Coalition recommends that the Government of Canada provide funding to ECCC to establish a new high-level Office of Environmental Justice and Equity tasked with:

- Improving understanding of the burden of preventable environmental health hazards faced by racialized and/or disadvantaged communities;
- Assessing possible interventions; and
- Ensuring that all Canadians have the opportunity to enjoy the same level of protection from environmental health hazards and access to environmental health benefits.

Bill C-230,[36] a private Member's bill reported by the House of Commons Standing Committee on Environment and Sustainable Development in the second session of the 43rd Parliament, would require the Minister of Environment and Climate Change to develop and report regularly on a strategy to assess, prevent and address environmental racism and advance environmental justice; the Office of Environmental Justice and Equity could

Photo: James Wheeler

36 Bill C-230, *An Act respecting the development of a national strategy to redress environmental racism.* https://parl.ca/DocumentViewer/en/43-1/bill/C-230/first-reading

support this task.

Increasing evidence confirms that racialized and/or disadvantaged communities bear a disproportionate burden from the effects of climate change and preventable environmental health hazards, such as pollution, toxic substances in consumer products, and environmental degradation. According to PHAC, significant health inequities exist among Canadians living on low incomes, Indigenous people, racial and sexual minorities, immigrants, and people living with physical or mental impairments.[37] While climate change will affect everyone, federal government reports repeatedly confirm that it will exacerbate these existing inequities.[38]

Government programs, policies and regulations that address environmental health hazards rarely address population-level inequities. Canada currently lacks coordinated capacity to ensure racialized and/or disadvantaged communities have the opportunity to enjoy the same level of environmental protection as other Canadians.

A federal Office of Environmental Justice and Equity would support ongoing assessment of preventable environmental health hazards affecting racialized and disadvantaged communities, and identify opportunities to advance environmental justice. The new Office would champion efforts to integrate environmental health equity in all relevant government programs, policies, and activities, and assist with coordination. Benefits will manifest as reduced health inequities and a healthier population overall, health care savings and increased productivity.

A model has existed in the United States since the early 1990s in the Office of Environmental Justice, mandated to protect and promote environmental and public health in minority, low-income, tribal, and other vulnerable communities. A complementary Executive Order issued in 1994 established a high-level Interagency Working Group on Environmental Justice and required every federal agency to make achieving environmental justice part of its mission. Under the Biden administration, a January 2021 Executive Order[39] on "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis," directs government agencies to prioritize and advance environmental justice in multiple areas.

The Green Budget Coalition recommends a Canadian Office of Environmental Justice and Equity at ECCC also support a whole-of-government approach, mirroring the governance structure in the U.S., working actively to coordinate with other departments.

37 Public Health Agency of Canada/Pan-Canadian Public Health Network,"Key Health Inequalities in Canada: A National Portrait." https://www.canada.ca/content/dam/phac-aspc/documents/services/publications/science-research/key-health-inequalities-canada-national-portrait-executive-summary/key_health_inequalities_full_report-eng.pdf

38 Peter Berry, Kaila-Lea Clarke, Manon D. Fleury, & Stephen Parker, "Chapter 7: Human Health" in *Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation.* https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/assess/2014/pdf/Chapter7-Human-Health_Eng.pdf

39 Presidential Actions, "Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis." https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/

Photo: Sean Lee

Recommended Investments [ECCC]:

- **$25 million over two years** in start-up funds for a new Office of Environmental Justice and Equity, including the development of a national strategy on environmental racism and environmental justice, and then **$15 million per year ongoing** in annual operating funding; and
- **$7 million per year ongoing** (starting in 2022-23) to expand the Canadian Environmental Sustainability Indicators to support the data collection needed to enable environmental justice analysis for these indicators and an equity lens within the Federal Sustainable Development Strategy.

Recommendation endorsed by the Centre for Environmental Health Equity.[40]

See also Chemicals Management Plan Top-Up, later in this document, regarding additional recommended investments to enable assessment of cumulative effects and risks to people in vulnerable situations.

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Photo: Susan Flynn

COMPLEMENTARY RECOMMENDATIONS

CLIMATE ACTION: ROAD TO NET ZERO

Introduction

In 2021, as COVID-19 was wreaking hardships on communities, Canadians came together to plan for the recovery and to address the shortcomings in our economy exposed by the pandemic. Business, community, Indigenous, academic, and non-profit climate leaders across the country have shared their visions and recommendations for a better, more inclusive future.

Reflecting the prevailing notion that "climate-positive policies also offer superior economic characteristics,"[41] the federal government made unprecedented investments that aimed to seize important opportunities to generate jobs while tackling climate change through building retrofits, clean transportation, and clean grids. With the immense funds put towards recovery, *how* each dollar is used will make or break our net zero success. All

41 Cameron Hepburn et al., "Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change?" *Oxford Review of Economic Policy* (2020). https://doi.org/10.1093/oxrep/graa015

Photo: Hector Periquin

stimulus and recovery spending – whether announced in recent months and currently being implemented, or whether being considered for Budget 2022—must:

- Support the evolution and creation of the sectors and infrastructure of tomorrow;
- Contribute to both increased equity and well-being more broadly, leaving no one behind; and
- Ensure transparency and accountability.

Canada has made strong progress on climate investments, particularly through the enhanced climate plan and Budget 2021. Ample opportunities remain, however, to raise the bar to align with the ambition of other G7 peers and ensure Canada's competitiveness in a low carbon economy.[42] As described in the Green Budget Coalition's recommendations in this document, these opportunities include:

- Reducing emissions from buildings and transportation by truly launching Canada's renovation wave;
- Building cleaner, safer energy production to unlock decarbonization opportunities in other sectors; and
- Charting a path to a future beyond fossil fuels by supporting workers and communities.

That said, continued investments need to be made in parallel with the timely and robust implementation of the new climate plan and efforts to increase climate ambition, so that both strategies work synergistically to propel the Canadian economy toward net zero. Of critical importance is protecting, following, and strengthening climate change-related regulations and policy frameworks during recovery.

After enduring the toll of the COVID-19 pandemic, Canadians are emerging with a new respect for science and renewed awareness of how closely we are all connected. Over the coming months, at COP26, Canada is called upon to show other nations how it will do its part to conserve the precious remaining carbon budget to keep the 1.5 degree goal within reach. Budget 2022 must put Canada in a position to do more to reduce emissions and continue the important work of building an equitable, carbon-neutral, nature-positive world, providing a healthier, just, and prosperous future for all.

For the Green Budget Coalition's feature recommendations for climate action, please see earlier in this document for:

- *Canada's Renovation Wave – A Plan for Jobs and Climate; and*
- *Phasing Out Fossil Fuel Subsidies & Re-Orienting Public Finance.*

Photo: Jason Grant

42 Vanessa Corkal, Estan Beedell, Philip Gass, "Investing for Tomorrow, Today: How Canada's Budget 2021 can enable critical climate action and a green recovery." https://www.iisd.org/system/files/2021-03/canada-budget-2021-climate-action-green-recovery-en.pdf

Green Strings

Since the pandemic onset, the Canadian climate and energy NGO community, among other stakeholders, has engaged with and informed governments on how to support economic recovery in a way that maximizes employment, investment, and emissions reductions. To continue to support increased climate ambition and align with Canada's net zero by 2050 goal, government funding must be tied to green strings (environmental, social, and financial conditions).[43]

To that effect, the recommendations below offer a lens through which to consider all new and ongoing government economic funding programs and other fiscal assistance, including those that may not be "climate-specific". Given that it represents a sizable share of Canada's total green economy investment portfolio, particular attention should be given to the application of green strings to access the Net Zero Accelerator fund.

Background

- The December 2020 enhanced climate plan committed to launching a **Net-Zero Challenge** to encourage large industrial emitters to develop net-zero plans;
- The climate plan also introduced the Strategic Innovation Fund – **Net Zero Accelerator** ($3 billion over five years). This fund has 3 focus areas: 1) development and adoption of clean technology in all industrial sectors (with an emphasis on solutions to help industrial emitters move to net-zero); 2) support clean technology development in aerospace and automobile manufacturing sectors; and 3) support a battery innovation and industrial ecosystem;
- In Budget 2021, the federal government proposed to invest $17.6 billion towards a green recovery, an amount that included an additional $5 billion for the Net Zero Accelerator fund (over seven years starting in 2022).

Photo: Eelco Bohtlingk

43 Vanessa Corkal, Philip Gass, Aaron Cosbey, "Green Strings: Principles and conditions for a green recovery from COVID-19 in Canada." https://www.iisd.org/publications/green-strings-recovery-covid-19-canada/

Photo: Shutterstock

Recommendations:

The following recommendations should be implemented by ISED, Finance and NRCan in particular although, depending on the program, other departments may also have an important role in implementing green strings (for example, AAFC).

1. Access to funding, across all streams and programs should be conditional on:

- A commitment by the recipient to develop a net zero target and develop a plan to meet it based on a robust and agreed upon framework;
  - To increase accountability at the corporate level, corporate net zero commitments should set milestone targets in alignment with, or exceeding, the federal government's targets. A robust framework must set limits on the percentage of milestones that can be met through offsets and include all emissions scopes.
- A commitment to disclose climate-related risks based on a robust and agreed upon framework;
  - Incentivizing the reporting of climate-related financial information based on the standards developed by the Task Force on Climate-Related Financial Disclosures (TCFD) and/or other recognized reporting frameworks would ensure companies are making resilience a key part of their plans while leading to strategic competitive advantage. As such, the federal government and provincial securities commissions should formally adopt TCFD disclosure requirements.
- A demonstration that the project will lead to job creation or reduce job loss; and
- A commitment to deploying best in class technology.

2. To provide transparency in how programs are managed and deliver on their intended outcomes:

- Recipients should have an obligation to disclose information on actual investments made and outcomes achieved in terms of GHG reductions and job creation/ retention (and other environmental benefits);
- Participation should come with penalties and corrective actions if conditions are not met (e.g., grants are converted into loans if the commitment to net-zero has not been developed within a reasonable time period);
- The government should make information publicly available on how fund recipients were selected and obligations that were placed on recipients, as well as how those obligations were met; and
- The government should initiate timely monitoring and evaluation of programs within the first year in order to assess that funds are reaching the right types of applicants and projects to contribute to net-zero goals.

3. We also strongly encourage the federal government to consider the following criteria when establishing funding eligibility and selecting recipients:

- Establishing prioritization criteria to maximize outcomes:
  - Projects with largest absolute GHG reduction and GHG reduction potential per dollar invested; and
  - Support should be based on a critical assessment of needs for proven solutions to achieve near-term reductions to reach Canada's 2030 target versus strategically investing in those emerging technologies that makes most sense to reach Canada's 2050 goal—or safe bets and wild cards as put forward by the Canadian Institute for Climate Choices.[44]
- Ensuring alignment with robust just transition principles [*see recommendation on Just Transition, later in this document*] to minimize and address negative impacts to workers.
  - In particular, gaps for Indigenous engagement and inclusion have been identified in current federal climate and energy policies, programs, procurement, and infrastructure investment. Government spending in clean energy programs (such as the Net Zero Accelerator) should leverage opportunities for Indigenous participation and leadership in order to advance reconciliation, as recommended by Indigenous Clean Energy.[45]

44 The Canadian Institute for Climate Choices, "Canada's Net Zero Future: Finding our way in the global transition." https://climatechoices.ca/reports/canadas-net-zero-future/

45 Indigenous Clean Energy. (2021). Briefing Note for Federal Government Officials: Indigenous Engagement & Inclusion in Clean Energy.

Photo: Matthew Henry

- Considerations per stream of the Net Zero Accelerator and other targeted funding programs:
  - Automobile & aerospace: to accelerate transition to an emissions-free vehicle fleet, funding should be prioritized for zero-emission vehicles, rather than hybrids or plug-in hybrids;
  - Battery innovation: research has shown that the Net Zero Accelerator may not be the best funding for battery supply chain development, including due to project eligibility thresholds and pace of funding availability.[46] Canada will need to take additional measures to promote "clean" battery supply chains, and can look to the EU's proposed battery regulation for inspiration;[47]
  - If the fund supports fuel switching projects for industrial processes that require high temperature, it should only support projects that adopt best in class carbon capture and storage technology. Coal with carbon capture projects should not be eligible. These investments should be accompanied by investments in renewable heat programs; and
  - Support should not be provided for projects and industries that are clearly incompatible with a net zero trajectory. Support should not create or lock in brown infrastructure, such as new infrastructure that increases capacity for emissions-intensive fossil fuel production.

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46 Clean Energy Canada, "Turning Talk into Action: Building Canada's Battery Supply Chain." https://cleanenergycanada.org/report/turning-talk-into-action/
47 See page 6 of: https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/689337/EPRS_BRI(2021)689337_EN.pdf

TRANSPORTATION

Accelerating the Low-Carbon Transition of Medium and Heavy-Duty Vehicles [MHDVs]

Recommended Actions:

1. Offer incentives for fuel-saving devices
2. Increase financial incentives for zero-emission commercial MHDVs
3. Raise fleet capacity (skills training)

1. Offer incentives for fuel-saving devices

Heavy-duty vehicles (HDVs) currently account for nearly one-third of total Canadian transportation GHG emissions.[48] With truck activity increasing and fewer vehicle efficiency gains compared to light-duty vehicles, emissions from freight are expected to exceed those from passenger transport in Canada by about 2030.

To improve fuel efficiency, trucking fleets across Canada can outfit their vehicles with fuel-saving devices such as aerodynamic add-ons or low-rolling-resistance tires. A recent survey of trucking fleets across Canada, however, demonstrated that adoption of most fuel-saving devices is low. Access to funding would encourage the adoption of additional fuel-saving devices for HDVs.

Recommended Investment:

$200 million over five years to establish financial incentives for fuel-saving devices on heavy-duty trucks, administered through the SmartWay program. [NRCan]

48 Environment and Climate Change Canada, "National Inventory Report 1990-2019: Greenhouse Gas Sources and Sinks in Canada – Part 3." https://unfccc.int/documents/271493

Photo: Matthew Rader

2. Increase financial incentives for zero–emission commercial MHDVs

Financial incentives are crucial for reducing one of the main barriers to electric vehicle adoption—high upfront purchase prices. The initial purchase price of a zero-emission truck can be two to three or more times that of conventional diesel options across a wide range of vehicle classes and use-cases. Hence, financial incentives are needed.

How effective would financial incentives be? In 2017, it was estimated that current ZEV financial incentives in Canada could increase the light-duty ZEV domestic new market share by 1.5 – 5 percentage points in 2040; however, stronger financial incentives[49] could increase the new market share for light-duty ZEVs by an estimated 15-20 percentage points. Financial incentive policies were viewed as the most effective demand-focused policy in encouraging ZEV uptake.[50] In addition, a recent study by the U.S. Department of Energy found that total cost of ownership was a key factor in purchase decisions, with industry feeling that high battery costs make electric commercial vehicles exceedingly expensive.[51]

If Canada set a target of, for example, 25,000 new zero-emission medium- and heavy-duty vehicles by 2025, an estimated $5 billion would be required to cover the cost of vehicle procurement alone. This is a cost that could be shared and distributed across public and private sectors to accelerate the ZEV transition. Given the significant contribution of commercial vehicles to GHG emissions, public subsidies are merited.

It is expected that ZEV technological readiness in the freight sector will advance in waves. As ZEV technologies are accepted in their early market applications, this encourages additional market applications. For example, the success of zero-emission transit buses has served as a launch point for shuttle and school buses, delivery vehicles, drayage trucks (which move bulk and containers to and from ports and other locations)[52], and regional trucks.[53]

49 Stronger policy was defined as point-of-sale incentives of $6,000 per vehicle sale offered between 2018 and 2038. Source: Noel Melton, John Axsen, Suzanne Goldberg, Barbar Moawed and Michael Wolinetz, "Canada's ZEV Policy Handbook." https://sfustart.files.wordpress.com/2017/12/zev-policy-handbook_web.pdf

50 Noel Melton, John Axsen, Suzanne Goldberg, Barbar Moawed and Michael Wolinetz, "Canada's ZEV Policy Handbook." https://sfustart.files.wordpress.com/2017/12/zev-policy-handbook_web.pdf

51 U.S. Department of Energy, "Medium- and Heavy-Duty Vehicle Electrification: An Assessment of Technology and Knowledge Gaps." https://info.ornl.gov/sites/publications/Files/Pub136575.pdf

52 California Air Resources Board, "Drayage Trucks at Seaports & Railyards." https://ww2.arb.ca.gov/our-work/programs/drayage-trucks-seaports-railyards

53 California Air Resources Board, Proposed Fiscal Year 2019-20 Funding Plan for Clean Transportation Incentives Appendix D: Heavy-Duty Investment Strategy (2019), D-21-22. https://ww2.arb.ca.gov/sites/default/files/2019-09/fy1920fundingplan-appd.pdf

Currently the federal government offers a tax write-off for zero-emission vehicles—including medium- and heavy- duty vehicles—to support adoption by businesses.[54] This write-off excludes vehicles which have received an incentive under the iZEV program. Similar restrictions could apply to vehicles which have received funding under this proposed financial incentive program for commercial ZEV MHDVs, ensuring the new program is complementary.

Recommended Investment:

$500 million over five years for financial incentives targeted to medium- and heavy-duty commercial vehicles. [TC]

See also the Transition to Zero-Emission Vehicles recommendation, next in this document.

3. Raise fleet capacity: skills training

Building a labour force with the appropriate competencies, skills and leadership qualities is a critical success factor and driver of Canada's transition to ZEVs. Industry workers, including mechanics, drivers, engineers, electricians and fleet managers, need to adapt to changes in job requirements and may need to acquire new skills in areas such as electrical installation, mechanical installation, maintenance of medium- and heavy-duty vehicles, EV fleet management and fleet-charging infrastructure.

Existing programs include the Electric Vehicle Infrastructure Training Program,[55] which provides training and certification for electricians installing electric vehicle supply equipment in North America, or the Electric Vehicle Maintenance Training program offered at the British Columbia Institute of Technology.[56]

At a minimum, an investment of $36 million over five years is needed to expand and create skills-training programs to support the deployment of zero-emission trucks in high-potential and high-demand markets across Canada.[57] As with existing labour market programs, the cost could be shared between government and employers. Increased skills training for ZEVs, especially for fleet managers, would build awareness of the benefits of electrification—including long-term operational benefits.

Recommended Investment:

At least **$36 million over five years** [ESDC]

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54 Transport Canada, "Zero-emission vehicles." https://tc.canada.ca/en/road-transportation/innovative-technologies/zero-emission-vehicles#/find/nearest?country=CA
55 Electric Vehicle Infrastructure Training Program, "Training." https://evitp.org/
56 British Columbia Institute of Technology, "BCIT Electric Vehicle Maintenance Training Program to Launch in Early 2020." https://commons.bcit.ca/news/2019/12/ev-maintenance-training/
57 This estimate is based on using the same per-capita level of funding that currently exists in British Columbia.

Accelerating the Transition to Zero-Emission Vehicles (ZEVs) through a Feebate System

In June 2021, Canada revised its ZEV sales target to require that all new passenger vehicles be ZEVs by 2035. Currently, ZEVs account for just 3.5% of new vehicle sales in Canada. The country also has the world's dirtiest vehicles,[58] largely due to the popularity of SUVs and other light-duty trucks, which represented 80% of new passenger vehicle sales in 2020.[59] Achieving the new target and reducing carbon emissions from the transportation sector will require a combination of measures to rapidly boost both demand and supply.

On the demand side, the Green Budget Coalition welcomed investments in Budget 2019 and the 2020 Fall Economic Statement to establish and replenish the iZEV program. As of May 31, 2021, this program has supported the purchase of more than 92,000 ZEVs[60] and likely contributed to the uptick in ZEV sales during this period. However, even taking the $5,000 iZEV rebate into account, a price differential remains between most ZEVs and gas vehicles in the same class, and this influences consumer choices.

Photo: Jasper Garratt

58 International Energy Agency, "Fuel Economy in Major Car Markets." https://www.iea.org/reports/fuel-economy-in-major-car-markets

59 DesRosiers Automotive, "Market Snapshot: Total Light Vehicles in Canada." 2021.

60 Transport Canada, "Zero-emission vehicles - Program statistics." https://tc.canada.ca/en/road-transportation/innovative-technologies/zero-emission-vehicles/program-statistics

Photo: Theodor Vasile

To both increase the effectiveness and reduce the costs of the federal government's existing iZEV and Green Levy programs, the Green Budget Coalition recommends introducing an environmental fee, negatively correlated with a vehicle's fuel efficiency, on sales of all internal combustion engine (ICE) vehicles, phased in over time. Revenues would then be recycled to offset federal spending on ZEVs.

The proposed fee would modernize and expand or replace the Green Levy program, which applies primarily to large SUVs and luxury vehicles, and the new luxury vehicle tax announced in the 2021 federal budget for vehicles over $100,000. These existing initiatives cover only a small portion of the passenger vehicle market, involve weak disincentives, and are inefficient in driving emissions reductions.[61] An expanded environmental fee on sales of ICE vehicles must be more than symbolic and designed to complement the iZEV program.[62]

Analysis suggests that an emissions-based fee structure with a maximum fee of $4,000 could finance ZEV purchase incentives of up to $15,000. These fees and rebates should be

61 Horizon Advisors, "The Road Ahead to Low-Carbon Mobility: A Feebate System for Canada's Light-Duty Vehicle Segment." https://www.equiterre.org/sites/fichiers/report_the_road_ahead_to_low-carbon_mobility_low.pdf
62 Matt Bubbers, "The federal budget's new tax on luxury cars is just a smokescreen." https://www.theglobeandmail.com/drive/mobility/article-the-federal-budgets-new-tax-on-luxury-cars-is-just-a-smokescreen/

incrementally adjusted over time as the market adapts. Equity considerations should be taken into account in the design of the program. (*A more detailed analysis is available.*[63])

The Green Budget Coalition recommends that the federal government consider consolidating administration of the environmental fee and iZEV programs. A consolidated "feebate" system would ensure alignment of policy objectives and allow the government to review and adjust both measures in parallel against a shared set of indicators. In addition to influencing demand, we expect that a well-designed feebate system would support other supply-side measures and send a strong market signal to accelerate the decarbonization of light-duty vehicles, while also encouraging investment in domestic ZEV manufacturing.[64]

The United Kingdom, the Netherlands, and France all set 2035 as the year by which ICE vehicles will be banned, while also having a bonus-malus scheme. Partly because of its feebate system, introduced in 2008, France exceeded its targets ahead of schedule, achieving a reduction in average emissions from its light-duty vehicle fleet of 126 g CO_2/km in 2017, and an increase in the market share of new ZEVs to about 10% in 2019.[65]

Sweden, which set 2030 as the year by which it will have phased out ICE vehicles, also has a feebate system and has seen ZEV uptake increase from just above 5% at the end of 2017 to over 25% by the end of 2019.[66]

Recommendation:

Modernize and expand or replace the Green Levy program with a comprehensive, emission-based fee on the purchase of gas passenger vehicles, aligned with Canada's climate policy. Coordinate the fee structure with the iZEV purchase incentive for a revenue-neutral feebate system. [NRCan, FIN, TC]

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63 Horizon Advisors, "The Road Ahead to Low-Carbon Mobility: A Feebate System for Canada's Light-Duty Vehicle Segment." https://www.equiterre.org/en/news/a-feebate-system-to-promote-clean-vehicles-in-canada
64 Ibid.
65 Ibid.
66 Ibid.

Marine Shipping – Reducing Climate and Biodiversity Impacts

The shipping industry is one of the world's largest emitters of greenhouse gases (GHGs). If it were a country, it would be the world's sixth-biggest climate polluter, with global CO_2 emissions greater than Germany. Canada must take steps to address the local and global climate impacts of shipping. In addition, disturbance, oil spills, whale strikes, and pollution from ships can severely impact critical habitat as well as community food security and health. In accordance with the polluter pays principle, the marine shipping industry has a responsibility to contribute to minimizing those impacts.

Recommended Investment:

Kick-starting Innovation:

- **$12 million over three years** to prepare for the 2024 international ban on heavy fuel oil (HFO) in the Arctic through a fuel transition fund supporting the phase out of HFO in shipping to less polluting fuels like distillate/marine gas oil and zero-carbon alternatives [TC, ECCC];
- **$20 million over two years** for R&D and sea trials to meet the target of 100% zero-emission vessels in Canadian inland waters by 2030 [TC, NRCan];

Photo: Thais Morais

- **$10 million over two years** towards a GHG reduction innovation fund to provide advisory and capacity-building services to assist with design, retrofit and testing for wind-assist, solar, electrification, autonomous technology and digitalization, and hull appendages [TC]; and
- **$40 million over two years** to implement a national shore power plan to ensure all vessels and ports are equipped for shore power. [TC, ECCC]
  - The Green Budget Coalition recommends that funds be used to build shore power connections for ships to plug in, charge, or otherwise decarbonize cargo-handling and drayage equipment, and supply green energy for zero-emission vessels, vehicles, and equipment.

Generating Revenue:

- Establish a Vessel Pollution Control Fund: Require the collection of fees from vessels and deposit such fees in the Fund to apply in the programs specified above [TC];
- Cruise Tourism: Require the collection of a fee for every passenger who comes into Port in Canadian waters to fund enforcement, monitoring, and environmental initiatives such as pollution treatment and shore power [TC]; and
- Insurance Fund: Establish a legally enforced insurance fund paid by the marine sector for public health and environmental impacts on local communities. This fund would ensure that there is proper compensation for those people amid any potential disruption or disaster. [TC]

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ENERGY PRODUCTION

Accelerating Renewable and Decentralized Energy

The IEA 1.5C report detailed the essential role that renewables will play in transitioning to a net zero economy and calls for all advanced economies to have 100% emissions-free electricity by 2035 or sooner.[67] This requires investments to modernize the grid, innovation in electricity regulations, improved governance and market design, and programs that enable system operators and utilities to learn about the integration of zero carbon technologies. In June 2021, the federal government invested $964 million in the Smart Renewables and Electrification Pathways Program for renewable energy and grid modernization projects. To generate additional local benefits and broaden support for the energy transition, a significant portion of new renewable generation should be financed and owned by local public utilities, co-operatives and Indigenous organizations. To improve equity, federal funding should be targeted towards expanding participation in renewable energy by low-income and vulnerable neighbourhoods.

Photo: Shutterstock

67 International Energy Agency, "Net Zero by 2050: A Roadmap for the Global Energy Sector." https://www.iea.org/reports/net-zero-by-2050

Recommended Investment:

$510 million over five years [NRCan]

1. Support for Community Financing

$250 million over five years to add a Community Energy stream to the Smart Renewables and Electrification Pathways Program (SREPS), focusing on deployment of renewable energy projects of up to 4 MW and distributed community renewables plus storage projects, favouring projects that reduce peak demand and provide locally-relevant grid services.[68]

2. Financial support for rooftop (or distributed) solar in low–income neighbourhoods

$250 million over five years to provide incentives of up to $6,000 per housing unit towards the capital cost of renewable energy projects that serve low-income and vulnerable neighbourhoods, to help reduce utility bills, energy poverty and enhance equitable participation in renewables, with special focus on renters and multifamily buildings.

3. Best practices in clean electricity governance, market design, planning and deployment

A. **$5 million** to fund a consultative process with provinces, territories, utilities, industry, NGOs and interested Canadians focused on least-cost pathways toward 100% clean electricity by 2035.

B. **$5 million over five years** to fund an independent centre of excellence in clean electricity governance to support best practices in utility regulation and electricity market design, with a view to accelerate the deployment of grid-scale and distributed renewable energy in support of affordable, reliable and 100% clean electricity by 2035.

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68 e.g., participation in frequency regulation, reactive power regulation, active power reservation.

Leveling the Playing Field between Clean Energy and Fossil Fuel Technology Imports

Tariff and non-tariff trade barriers on solar panels and other solar value chain inputs can significantly impact the accessibility and affordability of renewable energy within Canada. It can also impact Canadian solar panel exports to the extent that other countries impose retaliatory tariffs. In contrast, Canada has exempted steel imports for the construction of liquified natural gas projects from import tariffs[69]—a preferential support measure considered to be a fossil fuel subsidy.[70] This uneven trade treatment favors the expansion of fossil fuel capacity over clean energy technologies. Revising trade controls on solar and fossil fuel value chain inputs can improve access to clean energy technologies, accelerating Canadian decarbonization and boosting the global solar panel industry.

Recommendations:

- Apply a climate lens to public interest considerations in assessing trade remedies [FIN];
- Review import and export controls on energy sector technologies to level the playing field between clean energy and fossil fuel technologies [GAC]; and
- Support negotiations towards a global environmental goods agreement with a view to expanding access to clean energy technologies by removing trade barriers. [GAC]

Contact

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69 Theophilos Argitis, "Ottawa reportedly backs LNG Canada on steel tariffs." https://www.bnnbloomberg.ca/ottawa-reportedly-backs-lng-canada-on-steel-tariffs-1.1143242

70 Vanessa Corkal, "Federal Fossil Fuel Subsidies in Canada: COVID-19 edition." https://www.iisd.org/publications/fossil-fuel-subsidies-canada-covid-19

Avoiding Taxpayer Liabilities for Small Modular Reactors

The nuclear industry is seeking taxpayer funding to develop Small Modular Reactors (SMRs), using the climate crisis as justification. However, SMRs are unproven, far more costly than renewables, and entail risks of severe accidents and nuclear weapons proliferation.[71] To date, there is no full assessment of the lifetime costs and risks accompanying their construction, operation, maintenance, decommissioning and eventual waste oversight.[72] There is strong opposition to SMRs from First Nations communities,[73] and from civil society groups, who repudiate any federal investment in the technology.[74]

In addition to direct government subsidies, SMR proponents seek reduced requirements for environmental assessment, emergency planning, nuclear security, accident liability, and decommissioning.[75] Claims of low inherent risks and passive safety, which have been used to exempt SMRs from Canada's Impact Assessment Act, are not supported by evidence. Indeed, plutonium or High Assay Low Enriched Uranium (HALEU) fuels—which nearly all SMRs rely upon—would increase weapons proliferation risks.[76]

SMRs' contribution to climate change mitigation would be very limited.[77] Countries making large investments in nuclear energy tend to have higher carbon emissions, with nuclear energy crowding out renewables.[78]

Recommendation:

Eliminate federal funding and reject calls to rollback accident liability for SMRs, and reallocate investments towards renewable technologies that are proven, socially acceptable and scalable now. [NRCan]

See also Accelerating Renewable and Decentralized Energy, earlier in this section.

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71 M.V. Ramana, Zia Mian, "One size doesn't fit all: Social priorities and technical conflicts for small modular reactors." *Energy Research & Social Science* (2014). https://www.laka.org/docu/boeken/pdf/6-01-3-60-07.pdf
72 B. Mignacca, G. Locatelli,"Economics and finance of Small Modular Reactors: A systematic review and research agenda." *Renewable and Sustainable Energy Reviews* (2020). https://doi.org/10.1016/j.rser.2019.109519
73 Anishinabek Nation, "Anishinabek Chiefs-in-Assembly unanimously oppose small modular reactors on Anishinabek Territory." https://www.anishinabek.ca/2019/06/12/anishinabek-chiefs-in-assembly-unanimously-oppose-small-modular-reactors-on-anishinabek-territory/
74 Canadian Environmental Law Association, "Statement on Small Modular Reactors." https://cela.ca/statement-on-small-modular-reactors/
75 For a discussion of these requests and how they may harm Canada's commitment to sustainable development, please see: Kerrie Blaise, Shawn-Patrick Stensil, "Small Modular Reactors in Canada: Eroding Public Oversight in Canada's Transition to Sustainable Development." *Nuclear Non-Proliferation in International Law* - Volume V (2020). https://doi.org/10.1007/978-94-6265-347-4_11
76 M.V. Ramana, Zia Mian, "One size doesn't fit all: Social priorities and technical conflicts for small modular reactors." *Energy Research & Social Science* (2014). https://www.laka.org/docu/boeken/pdf/6-01-3-60-07.pdf
77 Nikolaus Muellner et al., "Nuclear energy - The solution to climate change?" *Energy Policy* (2021). ttps://doi.org/10.1016/j.enpol.2021.112363
78 Benjamin K. Sovacool, Patrick Schmid, Anna Stirling, et al., "Differences in carbon emissions reduction between countries pursuing renewable electricity versus nuclear power." *Nature Energy* (2020). https://doi.org/10.1038/s41560-020-00696-3

A Future Beyond Fossil Fuels and a Just Transition for Workers and Communities

As momentum increases for green recovery across the globe, many Green Budget Coalition recommendations are aimed at facilitating a transition to an economy less reliant on the oil and gas sectors, a dynamic that is already in motion as new technologies provide alternatives to fossil fuels, as investors reduce their exposure to a declining sector, and as countries worldwide ramp up their ambition to mitigate climate change.

However necessary that transition is, it will not succeed unless we concern ourselves with the welfare of affected workers and communities. And if those stakeholders cannot see a prosperous future for themselves beyond fossil fuels, there will be resistance to the transition. The Green Budget Coalition welcomes the announcement of public consultations on just transition. We also stress the importance of having a dialogue between tripartite partners (labour, industry and governments) and non-tripartite stakeholders, adhering to the International Labour Organization Guidelines,[79] and effective industrial policy to develop and support the green industries of the future. In particular, just transition presents opportunities to encourage Indigenous leadership and participation in the low-carbon economy, and to advance goals around reconciliation through Indigenous engagement.[80]

The impacts of COVID-19, especially on the oil and gas sector, demonstrate the urgency for the government to follow through on its promise to implement a national just transition strategy, giving workers access to the training, support, and new opportunities needed to prosper today, and in the future.

In tandem with the proposed legislative process, the Green Budget Coalition strongly encourages the Government of Canada to follow through on the recommendations provided by the Task Force on Just Transition for Canadian Coal Workers and Communities.[81] We are encouraged by the recent announcement to initiate broader consultation and analysis on just transition in Canada with communities and industries beyond coal.

Embedding a just transition in Canada's budget and climate agenda will set a strong precedent as the world moves to a low-carbon economy and help increase public support for climate policy.

The Green Budget Coalition encourages the federal government [NRCan, ESDC, PCO] to:

- Implement and adequately fund the Task Force on Just Transition for Canadian Coal Workers and Communities' full suite of recommendations;
- Identify opportunities to scale up just transition funding for all workers in industries impacted by a transition to a low-carbon economy and the communities that rely on these industries;

79 International Labour Organization, "Guidelines for a just transition towards environmentally sustainable economies and societies for all." https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/documents/publication/wcms_432859.pdf

80 Indigenous Clean Energy. (2021). Briefing Note for Federal Government Officials: Indigenous Engagement & Inclusion in Clean Energy.

81 Canada's Task Force on Just Transition for Canadian Coal Power Workers and Communities, "Final Report." https://www.canada.ca/en/environment-climate-change/services/climate-change/task-force-just-transition/final-report.html

Photo: Scott Blake

- Move forward with legislation, creating a robust Just Transition Act to support workers and communities, that is grounded in social dialogue and the ILO Guidelines;
- Implement a national just transition strategy, create a federal authority whose work is informed by experts from diverse fields including organized labour, Indigenous groups, environment, economic development, and social work;
- Identify opportunities to strengthen job creation through carrying out strategic green industrial policy planning, with involvement of affected workers and communities while leveraging opportunities for Indigenous engagement, capacity-building, inclusion and leadership; and
- Build on and ramp up pilot projects such as Calgary Economic Development's Edge Up, that work in partnership with existing educational institutions to retrain unemployed workers from the oil and gas sectors.

Identifying the right level of investment for just transition-related measures should entail dialogue and tripartite-plus processes[82] (including labour, employers, Indigenous groups and other partners). For a sense of the scale of what may be required in Canada, the EU Just Transition Fund is EUR 17.5 billion, in addition to public loan facilities and schemes to mobilize up to EUR 60 billion in investments, and the EUR 145 billion Social Climate Fund that will assist poorer households with transition.[83] The Canadian Centre for Policy Alternatives estimates that adequate funding for the proposed legislation would be $16.5 billion per year decreasing over time.[84]

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82 Tripartite includes labour, employers and governments. A tripartite-plus approach would be grounded in social dialogue with tripartite partners and include other relevant stakeholders to further inclusive and equitable just transition, such as municipalities and Indigenous organizations.
83 Lavinia Tanase, "Will We Enable a Just and Socially Inclusive Energy Transition in Romania?" https://energyindustryreview.com/opinion/will-we-enable-a-just-and-socially-inclusive-energy-transition-in-romania/
84 Hadrian Mertins-Kirkwood and Clay Duncalfe, "Roadmap to a Canadian Just Transition Act." https://www.policyalternatives.ca/sites/default/files/uploads/publications/National%20Office/2021/04/Roadmap%20to%20a%20Canadian%20just%20transition%20act.pdf

HealthADAPT: Helping Communities Address Climate–driven Health Risks

Climate change affects the health and well-being of people in Canada. A warming climate contributes to extreme heat, air pollution, allergens, the spread of diseases carried by ticks and insects, and new and serious food security challenges. Indigenous and northern communities also face unique and heightened risks, particularly in the Arctic where the pace of climate change is high relative to the rest of the country.

Reducing carbon emissions to limit global warming to 1.5° C is the only way we can avoid the most severe effects of climate change. But we are already experiencing an adaptation emergency. Record-setting temperatures in the summer of 2021 likely contributed to more than 700 sudden deaths in B.C., while unprecedented forest fires displaced dozens of communities. Air Quality Health Index ratings placed many parts of the country at high or very high risk as a result of smoke from the fires. Alongside ambitious action to reduce emissions and accelerating work to develop a National Adaptation Strategy, there is an urgent need to invest in measures to address climate-driven health risks.

There are many opportunities for co-benefits. For example, well-designed natural infrastructure projects can improve local climate resiliency, while also restoring habitat and sequestering carbon emissions.

Health Canada's HealthADAPT Program, launched on a small scale in 2017, supports local health authorities to address climate-driven health risks. The Green Budget Coalition recommends renewing and expanding HealthADAPT in Budget 2022.

Recommended Investment:

$10 million over five years to expand the HealthADAPT program. [HC]

See also Appendix 2 on National Adaptation Strategy.

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International Climate Finance

The Green Budget Coalition applauds the move to double Canada's international climate finance to $5.3 billion over five years, with increased support for adaptation as well as nature and nature-based solutions. We also note that the UK COP26 President has invited Canada's Minister of Environment and Climate Change, along with Germany's State Secretary, to lead efforts related to the US$100 billion climate finance goal.

The Green Budget Coalition recommends that Canada raise this commitment further, to a level in line with Canada's responsibility for 3.7% of the cumulative CO_2 emissions from developed countries.[85] Applying 3.7% to the public portion (~78%[86]) of the $100 billion USD committed by industrial countries yields a figure of $3.5 billion CAD that the Green Budget Coalition considers to be Canada's fair share.

This is a large figure but the moment calls for it. We can only avoid dangerous levels of climate change through significantly greater assistance to developing countries along with stronger domestic action. Investments made now will pay off over decades as Canada helps lower-income countries follow green pathways in developing their economies, and as they reduce local climate change impacts through adaptation measures.

The Green Budget Coalition recommends directing at least half of climate finance to adaptation measures, with greater use of nature-based solutions (NbS). But care must be taken in selecting which NbS to fund:[87] Reducing the loss and degradation of tropical forests, grasslands, peatlands and coastal ecosystems is the top priority. Restoring ecosystems is also of value but this does *not* mean adding commercial plantations or afforestation of grasslands. NbS actions must furnish strong climate adaptation/mitigation gains while benefiting biodiversity and fully engaging local communities.

An emissions reduction of 100 Mt CO_2e would result if $1 billion were put toward NbS in projects providing avoided or negative emissions costing $10 per tonne of CO_2e (hypothetical figure; such opportunities are available).

Recommended Investment:

An **additional $12.2 billion over five years**. [GAC, ECCC]

See also International Biodiversity Conservation, later in this document.

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85 Hannah Ritchie, 2019. "Who has contributed most to global CO2 emissions?" https://ourworldindata.org/contributed-most-global-co2

86 For the period 2013-2017: OECD, "Climate Finance Provided and Mobilised by Developed Countries in 2013-17." http://oe.cd/cf-2013-17

87 Nathalie Seddon et al., "Getting the message right on nature-based solutions to climate change." *Global Change Biology* (2021). https://doi.org/10.1111/gcb.15513

NATURE CONSERVATION: PATH TO FULL NATURE RECOVERY

Introduction

Humanity faces imminent existential threats from the twin crises of climate change and biodiversity loss. Our ongoing destruction and degradation of natural ecosystems lies at the heart of both crises.

There is growing evidence and recognition that the protection, restoration and better management of land and marine ecosystems is critical to reducing greenhouse gas levels, stemming species decline, and ensuring positive outcomes for human health and well-being. Indigenous knowledge systems, governance and conservation approaches have recognized this for centuries and have much to offer.

Given pivotal international biodiversity and climate summits in the fall of 2021, there are mounting calls for global goals for nature, with specific objectives for halting and reversing nature loss by 2030, and achieving the full recovery of nature by 2050. Combined with climate and human development goals, the vision is for an equitable, nature-positive, carbon-neutral world.

Photo: Eduardo Bergen

As a signatory of the Leaders' Pledge for Nature, Canada is well-positioned to help lead and realize this vision. Canada has made ambitious commitments and significant investments in this past year to conserve and restore nature while supporting Indigenous-led conservation, including to protect at least 30% of land and ocean by 2030, plant two billion trees by 2030, and invest over $2 billion to protect and restore a million square kilometers of land and freshwater. Another nearly $1 billion has been committed to ocean protection and conservation. Canada also has a new, more ambitious 2030 climate target, and the government has recognized that protecting and restoring nature is key to achieving it.

Now the Canadian government needs to spend these major investments smartly, address the critical remaining funding gaps, and put in place the tools and policies to put us on the path to nature's full recovery. The Green Budget Coalition's nature-related recommendations focus on needed investments in the **protection, better management, and restoration of natural areas and biodiversity.**

Photo: Nick Hawkins

First, Canada must **protect** its remaining intact marine and terrestrial ecosystems in a way that centres Indigenous rights, and supports Indigenous leadership in conservation, including governance and stewardship of protected areas.

Second, Canada should better **manage** for outcomes that increase biodiversity and support abundance by developing and implementing policies and plans to drive overall progress, including through better monitoring and evaluation of the health of land- and sea-scapes. Canada must also incentivize and support industrial and land use policies that maintain and enhance the biodiversity and carbon-storage capacity of forests, grasslands, farmlands, wetlands, freshwater, coastal and marine ecosystems, including eelgrass, kelp, and the seabed.

Third, Canada should **restore** degraded ecosystems, particularly in the Canadian south and in coastal areas where habitat loss continues to push at-risk species toward extinction with a focus on enhancing and connecting the fragments of nature that remain intact.

The opportunity to build on Canada's current momentum and demonstrate nature leadership to help stem global warming and reverse biodiversity loss is high.

For the Green Budget Coalition's feature recommendations for nature conservation, please see earlier in this document for:

- *Freshwater Management for the 21st Century, and*
- *Permanent Funding for Protected Areas.*

PROTECT

Privately Protected Areas (Natural Heritage Conservation Program)

There is no path to creating a more sustainable and resilient Canada without nature conservation. An extraordinary investment in the protection of nature now is among the most cost-effective choices we can make to counter the effects of climate change. However, Canada's ambitious goals cannot be achieved by government alone.

The Natural Heritage Conservation Program (NHCP) and its predecessor, the Natural Areas Conservation Program, have an unparalleled track record of delivering innovative habitat retention solutions by encouraging and securing additive private investment in conservation. Program partners leveraged nearly $400 million in Government of Canada funding, matched it with nearly $800 million in other contributions to deliver more than $1 billion in conservation outcomes over the past 14 years.

This program has expanded Canada's network of protected areas with the conservation and management of some of the country's most biodiverse and most vulnerable habitats. The partnership has also enabled important additional stewardship activities, restoration actions, and species-at-risk recovery efforts. Many of these lands are situated close to Canadian communities that, in turn, receive valuable ecosystem service co-benefits such as water and air purification, soil retention, protection from impacts of flood and drought, and carbon sequestration.

Today, the pace of the current program, especially the increased demand for new match funding dollars required to conserve critical habitats, no longer meets the needs of Canada and the planet. The Nature Conservancy of Canada, Ducks Unlimited Canada and the Canadian land trust community are ready to mobilize Canadians to accelerate private land conservation and double NHCP's impact. With an expanded investment of $500 million in additive federal funding, this critical program would deliver $1.5 billion in new conservation outcomes over seven years, on track to achieving $2 billion by 2030.

An expansion of the NHCP would also enable work at scale in the middle and northern parts of Canada, by joining with Crown and Indigenous partners to contribute to large-scale conservation solutions.

The renewal of the NHCP will also accelerate the practical application of, and proof-of-concept for, nature-based climate solutions by attracting new sources of private capital. It will empower program partners to continue to make critical investments in southern Canada to protect and connect natural areas that sustain species at risk and prosperous communities. Closer to the majority of the population in Southern Canada, these projects touch the hearts and minds of Canadians, and will stimulate greater private funding ratios.

Photo: Elyse Turton

A bold government investment is the catalyst needed to encourage more private sector support from partners, donors, the agriculture and forestry sectors, and corporations, to advance Canada's transition to a nature-positive and net-zero future. Expanding the size and scope of the Natural Heritage Conservation Program would drive Canada toward becoming nature-positive by 2030 and carbon-neutral by 2050.

Recommended Investment:

$500 million over seven years with funds leveraged 2 to 1 to achieve $1.5 billion in conservation outcomes, with a view to achieving $2 billion by 2030. [ECCC]

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Connectivity in Land and Ocean Protected Area Networks

Ecological connectivity is critical to mitigating two of the top threats to biodiversity: habitat loss and fragmentation. Connectivity is an essential feature of effective protected area networks and increasingly important in helping species adapt to the climate crisis. Connectivity is a key element of Aichi Target 11/Canada Target 1 and is expected to be included in the Post-2020 framework.

To help design and implement a connected network of protected areas across Canada, the Green Budget Coalition recommends that the federal government:

1. Invest **$500 million over three years** for a Connectivity Fund to establish or update financial programs for public lands, financial incentives for private lands to conserve areas important for ecological connectivity, and to advance connectivity conservation [ECCC];
2. Ensure that all federal infrastructure programs require that negative impacts to ecological connectivity be prevented and mitigated. Prevention and mitigation costs should be built into project proposals as a mandatory condition of eligibility; and
3. Include mitigation of impacts to ecological connectivity as a requirement in all projects that trigger Environmental Assessments (EAs), and strengthen the EA process through updates to FPT legislation and policy to include activities that affect ecological connectivity.

Photo: James Wheeler

Photo: Luke Tribolet

Canada has undertaken efforts in four marine bioregions[88] to establish marine protected areas (MPA) networks that address connectivity, representativity, size and spacing considerations to maximize conservation benefits. As yet, no MPA network has been successfully completed, and MPA planning and establishment has been site-by-site and opportunistic. We recommend the following funding for DFO:

- **$80 million over three years** to complete network planning in the four priority bioregions; and
- **$80 million over three years** to start MPA network planning in four additional bioregions by 2025.

Total Recommended Investment:

$660 million over three years [$500 million to ECCC, $160 million to DFO]

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See also National Wildlife Collision Reporting & Mitigation Infrastructure, later in this document.

88 Pacific Northern Shelf, Gulf of St Lawrence, Maritimes, and Newfoundland and Labrador Shelves.

Conserving Canada's Birds Across Their Year-Round Range

Beloved by Canadians, Canada's 451 native bird species keep ecosystems healthy through pest control, pollination, seed dispersal and nutrient cycling. However, North America has lost one third of its wild birds since 1970.[89] Keeping healthy populations of migratory birds is a federal responsibility through the *Migratory Bird Convention Act* (1917, 1994). It is time to invest in birds.

The Green Budget Coalition is calling for targeted investments to restore bird populations to healthy levels by:

- Mitigating human-related bird mortality in urban, agricultural and other human-altered landscapes in Canada;
- Supporting protection of wintering habitat for Canada's migratory birds in Latin America;
- Maintaining strong science programs to inform conservation efforts; and
- Supporting Indigenous led conservation and management of migratory bird habitat domestically and internationally.

Recommended Investment:

$23 million over four years [ECCC – Canadian Wildlife Service]

- **$6 million over four years** to mitigate threats to birds;
- **$7 million over four years** to support conservation efforts in Latin America;
- **$8 million over four years** to support science to inform bird conservation; and
- **$2 million over four years** for Indigenous-led conservation of migratory birds.

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89 Kenneth V. Rosenberg et al., "Supplementary Materials for Decline of the North American avifauna." *Science* (2019). http://doi.org/10.1126/science.aaw1313

International Biodiversity Conservation

Global biodiversity loss cannot be brought under control without greater support from developed countries to developing countries, who hold most of the world's biodiversity. A recent analysis called for doubling such aid.[90]

As parties to the UN Convention on Biological Diversity prepare a post-2020 framework, Canada has the chance to emerge as a leader by matching the top donor countries (Norway, France, Sweden, Germany) in combined domestic and international biodiversity spending in relation to GDP. This would mean annual spending of $2.13 billion, which could be met with Canada's current level of domestic spending and $650 million in international biodiversity aid.[91] Canada can also help developing countries eliminate or repurpose subsidies and other incentives that harm biodiversity and improve the effectiveness and efficiency of resource use.

This investment would benefit Canadians and the world. Forests in the Congo Basin in Africa are responsible for some of the rainfall in North America. Canada's migratory birds are being impacted by habitat loss in Latin America. Conservation lowers the risk of pandemics. Reducing tropical deforestation conserves biodiversity and is a low-cost way to immediately reduce greenhouse gas emissions. More broadly, tropical ecosystems are worth much more left intact than when degraded or converted to cattle ranching.

Recommended Investment:

$3.25 billion over five years, applied through the Global Environment Facility, bilateral agreements, and—offering excellent value—partnerships with conservation NGOs, which could include projects that empower Indigenous people to protect their lands. [GAC, ECCC]

See also International Climate Finance, earlier in this document.

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90 Andrew Deutz, et al., "Financing Nature: Closing the global biodiversity financing gap." https://www.paulsoninstitute.org/key-initiatives/financing-nature-report/
91 International Conservation Fund of Canada, "Tropical Nature Needs Us: An expanded role for Canada in stemming global biodiversity loss." https://icfcanada.org/docs/ICFC_report_Canada_biodiversity_aid.pdf

MANAGE

Biodiversity Lens

A Biodiversity Lens would help create a "whole-of-government" approach to tackling the biodiversity crisis by ensuring biodiversity considerations are recognized and addressed in investments and decisions across the federal government.

With Canada stepping forward as a global leader on nature conservation, putting a biodiversity lens in place would be an important complement to other leadership commitments, including to protect 25% of land and ocean by 2025 and 30% by 2030.

The Leaders Pledge for Nature[92], endorsed by the Prime Minister in September 2020, commits leaders to ten actions, including to:

- Mainstream biodiversity conservation into relevant sectoral and cross-sectoral policies at all levels;
- Put biodiversity and climate change at the heart of COVID-19 recovery strategies and investments; and
- Strengthen financial and non-financial means of implementation.

Photo: Peter Scholten

92 "Leaders Pledge for Nature." https://www.leaderspledgefornature.org/

Photo: Jeremy Hynes

In June 2021, G7 Leaders endorsed the G7 2030 Nature Compact which commits to mobilising on a whole-of-government basis to halt and reverse biodiversity loss, including by mainstreaming nature in economic and financial decision-making. A Biodiversity Lens, along with the Climate Lens, and similar to the Gender-based Analysis Plus (GBA+), would be a step towards delivering on these commitments and should be directly tied to the goal of halting and reversing biodiversity loss by 2030. An initial screening of whether investments/programs are harmful, helpful or neutral in their impacts on biodiversity, and clearly identifying trade-offs, could be combined with an assessment of opportunities to mitigate and prevent negative impacts and maximize positive impacts for biodiversity.

Putting this lens in place would support implementation of a more comprehensive biodiversity strategy going forward [*See Developing a Comprehensive Ten-Year Biodiversity Strategy for Canada 2020-2030, next in this document*].

Program costs would cover internal policy work across government as well as external consultations to develop and implement the lens.

Recommended Investment:

$15 million over three years to develop the biodiversity lens and embed it across federal departments and agencies. [FIN, PCO, TBS]

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Developing a Comprehensive Ten-Year Biodiversity Strategy for Canada 2020–2030

In 2021 Canada and the world are set to adopt ambitious new ten-year commitments under the UN Convention on Biological Diversity (CBD) to halt and reverse biodiversity loss, building towards a global goal of the full recovery of nature by 2050. Canada is a global nature leader, serving as Co-Chair of the Working Group for the Post-2020 CBD framework. Key to Canada's continuing leadership will be the development of a comprehensive new ten-year biodiversity strategy with goals, measurable targets, and resources to deliver on both our international commitments and ambitious domestic goals regarding conservation, species recovery, and support for Indigenous knowledge. The EU has already set out a bold and comprehensive new biodiversity strategy driven by a vision that sees the world's ecosystems restored, resilient and adequately protected by 2050.[93] Canada's current strategy dates from 1995, and is not only outdated but largely unimplemented outside of protected area targets. We need to learn from the successes and failures of this experience.

Photo: Isaac Demeester

93 European Commission, "EU Biodiversity Strategy for 2030: Bringing Nature Back into our Lives." https://op.europa.eu/en/publication-detail/-/publication/31e4609f-b91e-11eb-8aca-01aa75ed71a1

To be effective, Canada's new biodiversity strategy must be scientifically sound and address the core issues driving habitat loss and species decline. It must mobilize and engage decision makers at the provincial, territorial, and Indigenous government level, and engage support from private industry, academia, as well as conservation partners across civil society. And it must drive action by individual citizens. Building on the success from Target 1, the strategy should be informed by independent expert advisory panel(s) including Indigenous knowledge holders. The process of developing the strategy should serve to identify new regulatory, legislative, monitoring, and accountability measures needed to implement the strategy effectively, including the means to build missing or deficient datasets, develop data management systems and to conduct new science.[94] Better data systems will be crucial for monitoring and reporting on the impact of the significant nature investments made in Budget 2021 and whether they are contributing to the ambitious goals ahead. Such a strategy would be strengthened by the implementation of a biodiversity lens to ensure nature is considered in investments and decisions across government.[95] Adequate resourcing of the consultation and development process is imperative to build a comprehensive new strategy that can guide and support conservation and biodiversity leadership in Canada over the next decade.

Recommended Investment:

$20 million over three years for the consultation and development of a new comprehensive ten-year biodiversity strategy for Canada, with goals, measurable targets, action plans and resources, including the establishment and operation of independent expert advisory panel(s), and subsequent consultations with government partners and diverse stakeholders on a draft strategy. [ECCC]

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94 *See recommendation on Improving Environmental Data and Science, next in this document.*
95 *See recommendation for a Biodiversity Lens, earlier in this document.*

Improving Environmental Data and Science to Support Evidence-Based Decisions

1. Investments in National Geospatial Habitat Inventories and Landscape Change Monitoring

Canada's open Federal Geospatial Data Platform aggregates individual geospatial data layers from various publicly (federal, provincial, municipal) and privately generated data layers into a national geodatabase. However, many of the individual base layers are either incomplete, outdated, or are not accessible to the public. In instances when they are publicly available, they are often spread across multiple data platforms and governments.

Given the recently announced major investments in nature-based climate solutions (NBCS), and the federal government's efforts to effectively address Canada's biodiversity crisis using expanded publicly and privately protected areas, it is vital for the Government of Canada to take meaningful steps to resource completing and updating its baseline geospatial data layers, and to implement a coordinated ongoing habitat conversion monitoring effort across the Canadian landscape.

Building on new federal efforts to expand the use of restored habitats to mitigate the impacts of climate change, species and habitat loss, the Green Budget Coalition recommends that the federal government make targeted investments across three geospatial data enhancement streams:

a) Conduct an audit and inventory of existing geospatial datasets (and gaps) across core federal departments, including from AAFC, NRCan, ECCC, PS, and DFO, and provincial and other relevant levels of government, to determine what geospatial data is available for aggregated use and publication.

b) Update geographic and landscape feature data to complete Canada's national terrestrial habitat inventories for wetlands (ECCC) and grasslands (AAFC). This includes completing the Canadian Wetland Inventory, implementing a new native grasslands inventory, and national groundwater mapping. We also recommend that advanced measures already in place to monitor and map Canada's forests at NRCan be fully resourced so that they may also support nature-based climate mitigation. Additionally, marine, coastal, and freshwater monitoring and mapping at DFO could also be resourced in this effort. In addition to enabling Canada to make well informed land-use and management decisions, these investments can be leveraged to improve evidence-based decision-making in other areas, including better understanding the diverse values and benefits we gain from conserving our natural assets (and the values we lose when natural assets are lost), and informing the implementation of climate policies and our understanding of how policies are working.

c) Implement a new and ongoing program to monitor and assess landscape level changes in key habitats – wetlands, grasslands, and forests. While the completion of baseline inventories for Canada's core habitat types is a critical step in supporting meaningful and effective habitat management, the legislative and regulatory framework – across multiple levels of government – intended to protect these vital natural areas has proven to be insufficient for decades. The Government of Canada must provide national leadership by funding ongoing science and monitoring efforts to measure and understand the geographic locales and impacts of habitat conversion on an annual basis. This investment is designed, in part, to protect those much larger investments being made in NBCS and biodiversity/protected areas conservation.

Recommended Investment:

- **$2 million over three years** for an inventory and audit [ECCC, NRCan, AAFC, PS];
- **$150 million over four years** to update and complete national habitat inventories [AAFC, NRCan, ECCC]; and
- **$45 million over nine years** to measure and monitor habitat loss and landscape level change. [ECCC, AAFC, NRCan]

Photo: Vivek Kumar

2. Investments in Climate and Biodiversity Science

Evidence-based decision-making is a critical pillar to any effective and meaningful efforts designed to address the twin crises of climate change and biodiversity loss. Yet, public investments in science and evaluation have lagged far behind investments in direct habitat programs. Similarly, coordinated efforts to harness and fund partnership-based research with external organizations have lagged. To ensure that limited public investments in habitat are directed to their highest and best use, we recommend that the Government of Canada implement a new application-based granting program designed to support research, innovation, and collaboration between external organizations and/or for work undertaken in support of federal government programs. This initiative would support peer-reviewed science and evaluation with respect to the use, deployment, and effectiveness of habitat-based tools in support of nature-based climate solutions and biodiversity programming.

Recommended Investment:

$50 million over five years, for a new grant-based collaborative habitat and climate research fund. [ECCC, NRCan, AAFC]

3. External Advisory Panel on Integrating Environmental Data

The Green Budget Coalition recommends establishing an external advisory panel, co-led by StatCan and ECCC with the collaboration of AAFC and NRCan. It would be comprised of public and private data collectors, users, and processors, including representatives from all levels of governments, industry, Indigenous groups, environmental organizations, and the public. The panel would be similar to Statistics Canada's National Accounts Advisory Committee and would have a mandate to provide strategic advice to governments on data collection and management issues, including the development of Statistics Canada's new Census of the Environment. A key deliverable would be recommendations to the federal government on actions to help close Canada's growing environmental information gap and enable evidence-based decision-making.

Recommended Investment:

$2.5 million over five years, renewable, in support of an external advisory panel. [StatCan, ECCC]

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See also National Wildlife Collision Reporting & Mitigation Infrastructure, later in this section.

Modernizing Fisheries Management

Ocean Governance

Over the past few years, we have seen a welcome effort to modernize Canada's ocean governance.

The DFO began to accelerate the implementation of the Sustainable Fisheries Framework (SFF) and new provisions and regulations under the amended *Fisheries Act* require the department to maintain healthy fish stocks and implement plans to rebuild depleted stocks based on the best available science. Substantial and sustained resources (both people and financial) will be needed to successfully recover fish, their ecosystems, and the myriad benefits to coastal communities of thriving fisheries.

Currently only 30% of Canada's commercial fish populations are considered healthy and many more are being managed at historically low levels.[96] Of the 25 fish stocks assessed to be in the "critical zone", only nine have the required rebuilding plans.[97] Major investments made in 2019 to develop fishery rebuilding plans will sunset in the coming budget year. DFO Science has made considerable progress assessing gaps and has now identified 70 stocks as having unknown status that need to be addressed.[98] The current SFF work plan is very challenging in regard to developing and updating Integrated Fisheries Management Plans (IFMPs), reference points, and harvest control rules across commercial fisheries that have languished for many years. The department has made progress, but continues to lag on many of its core targets. And now, management and stakeholder work and critical research has been set back by two seasons of COVID-19 restrictions.

It is concerning to see a planned decrease over the next few years in the budget and staffing for DFO's fisheries and aquatic ecosystems core responsibilities despite the ambitious agenda, increased commitments, and deliverables. Funding is needed for field surveys, science and socio-economic assessments, management work and timely publication and access to data, assessments, evaluations, records of meetings, and

Photo: Brandon

96 Oceana, "Oceana Fishery Audit 2020." https://fisheryaudit.ca/

97 Fisheries and Oceans Canada, "Departmental Plan 2021-2022." https://www.dfo-mpo.gc.ca/rpp/2021-22/dp-eng.html#B3.1

98 Fisheries and Oceans Canada, "Departmental Plan 2021-2022." https://www.dfo-mpo.gc.ca/rpp/2021-22/dp-eng.html#B3.1

management plans. Investment is needed to ensure effective involvement of civil society and communities in the management of fisheries in public waters. Reconciliation must be at the forefront of the department's core fisheries responsibilities and will continue to require substantial investment.

Recommended Investment:

$125 million over five years for the development and implementation of SFF management objectives and *Fisheries Act* rebuilding requirements. [DFO]

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Advancing Ecosystem Approaches to Fisheries Management

Current single species management of fisheries often ignores important ecosystem considerations such as the impact on non-target species, cumulative impact on habitat, food availability for marine predators, trade-offs between different fisheries, and the shifting environmental and climate conditions that affect the health of fish populations and, therefore, the amount available to fisheries. Ecosystem based management approaches are needed to create more adaptive fisheries that respond to changing environmental, oceanographic and social conditions. With fish populations at much lower levels after decades of exploitation, the margin for error in management systems is slimmer and the consequences of collapse more dire for the marine species and ecosystems that underpin the fishing industry and wellbeing of fishing communities and related sectors.

Calls for more integrated management approaches have grown steadily internationally over the last 30 years and Canada has enshrined ecosystems approaches in both the *Fisheries Act* and *Oceans Act*. However, concrete actions lag.

The last decade has seen progress in frameworks and tools to support a shift towards ecosystem-based fisheries management (EFM), with some of the world's leading work coming out of DFO research groups focused on the Northwest Atlantic shared fish stocks.[99] Domestically, however, DFO has only inched forward on concrete application of these in fisheries management. In 2018, a long-awaited National Working Group was established to advance and operationalize ecosystem approaches to fisheries assessments and management.[100] Some important initial steps have been taken, but the work remains underfunded and limited capacity is stifling critical progress. Investment is needed to create practical and concrete tools that implement the broad vision of EFM management for Canadian fisheries. Socio-economic and cultural considerations are also core elements of EFM frameworks and require dedicated resources to enable stakeholder and cross-sector participation.

99 Mariano Koen-Alonso et al., "The Northwest Atlantic Fisheries Organization Roadmap for the development and implementation of an Ecosystem Approach to Fisheries: structure, state of development, and challenges." *Marine Policy* (2019). https://doi.org/10.1016/j.marpol.2018.11.025
100 Jack Daly, Alida Bundy and Robert Stephenson, "Maritimes Region Workshop to Develop a Consensus EBM Framework to Assess the Cumulative Impacts of Fishing." https://waves-vagues.dfo-mpo.gc.ca/Library/40876524.pdf

The need for innovative management approaches that integrate and account for human activities, interdependent ecosystem components, and environmental and climate changes will only continue to grow in the future. Developing adaptive systems will be crucial for maintaining ecological, social, and economic resilience in the face of rapidly changing oceans.

Recommended Investment:

$75 million over five years to advance ecosystem-based fisheries management application. [DFO]

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Ocean Monitoring and Enforcement

With an increasingly ambitious fisheries and ocean management and conservation agenda, robust monitoring and enforcement investment is needed to ensure compliance and to support community-led monitoring opportunities. A continued insufficiency of personnel and vessels for inshore and offshore fisheries monitoring and boarding impairs the coverage of compliance and protection (C&P) activity. Onboard and dockside catch monitoring, observing, and data collection is often failing to achieve coverage targets.

The Green Budget Coalition appreciates that DFO's work plan now includes the development of a national plan to implement the 2019 Fishery Monitoring Policy. Significant restructuring investment is needed to ensure that observer programs,

Photo: Nick Hawkins

Photo: Nick Hawkins

through a combination of human and electronic options, are rigorous, safe and sufficient. Regulator-led standards are desperately needed for human observer programs and to ensure safety and reliability. Government reinvestment in these programs needs to be considered. There is also growing recognition that electronic and video monitoring systems will help fleets meet data and transparency challenges and offer additional compliance support.

Improving monitoring and enforcement presents a significant opportunity for stimulus and recovery investment that creates meaningful, long-term career opportunities, particularly within coastal communities that have been struggling with economic decline and job loss for decades. These opportunities would be of particular value to fishing communities and Indigenous communities and could dovetail with investment in protected area establishment, marine spatial planning and improved resource management. Investment in vessel and equipment production and repair would inject funding directly into coastal economies, supporting skilled jobs within small and medium enterprises.

Recommended Investment:

$40 million over three years to improve observer coverage, provider standards and targets, develop electronic monitoring standards, and implement promised expansion of use under the National Fisheries Monitoring Program. [DFO]

See Permanent Funding for Protected Areas, earlier in this document, for recommendations for long term monitoring and enforcement of MPAs.

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Robust Boat-to-Plate Seafood Traceability

Seafood traceability is critical in order to strengthen sustainable fisheries management, deter illegal, unregulated, and unreported (IUU) fishing, ensure companies can verify their environmental and social responsibility claims, and provide Canadians with a greater opportunity to support local, sustainable seafood producers.

Canada's requirement for "one-up, one-down" traceability, established in 2018, is not sufficient to safeguard businesses and consumers. Canada's major trade partners have imposed stringent import requirements on Canadian products to meet their labelling regulations, but we lack the same domestic requirements for robust labelling and traceability for seafood products consumed in Canada.

A big step to address the gap came in 2019 when Health Canada was given the mandate to work with DFO and AAFC to develop and implement a boat-to-plate traceability program for seafood in Canada.

To reap the benefits traceability can bring, the federal government will need to develop a full-chain traceability program for all domestically produced and imported seafood in Canada that tracks and verifies key data and ensures the information is carried through the chain and to consumers. Creating such a traceability program on a national scale involves the collaborative efforts of multiple government departments across jurisdictions, industry, civil society and other stakeholders. We recommend that the CFIA work with DFO to establish a multi-departmental task force to accomplish this mandate. Proper investment to create this traceability regime will require new resources and dedicated capacity, investment in improved enforcement and data management, and support for industry implementation.

With effective traceability in place, businesses can verify the environmental sustainability and social responsibility of products they purchase. Companies and investors can be protected from regulatory and reputational risk. Producers and suppliers who maintain sustainable practices can get the recognition they have earned, and governments can better manage their resources.

Recommended Investment:

$100 million over the next five years to develop and implement the Boat to Plate Traceability program. [CFIA, DFO, AAFC]

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Reinforcing Canada's Frontline of Defense Against Wildlife Disease

The COVID-19 crisis is a devastating example of the risks we take as a society when we fail to actively prevent the emergence and spread of wildlife disease.

Internationally, Canada supported the G7 Joint Statement in February 2021 and the Rome Declaration of May 2021 calling for strengthening and enhanced implementation of the "One Health"[101] approach to the prevention and control of diseases that can transfer between animals and humans and the prevention of antibiotic resistance. However domestically, Canada is ill-prepared to effectively deal with existing and emerging wildlife diseases and threats to wildlife and human health. Similarly, Canadian academics and public health experts are global leaders in the development of an eco-social approach to public health[102] that recognizes the ecological determinants of human health; however, Canada has yet to take any steps to implement such an approach.

The current approach to addressing wildlife health issues in Canada is under-resourced and reactive. Consequently, problems are rarely addressed in their early stages when prevention and response options are greatest. Canada's ongoing control efforts and research to address existing wildlife health threats is not sufficient to improve outcomes. Demands for wildlife health services and expertise are growing beyond current capacity because of the need for assurances for trading partners, the need to ensure a safe and sustainable traditional food source for Indigenous Peoples and other Canadians who rely on wildlife for sustenance and livelihoods, and the increase in emerging diseases that threaten public health, wildlife conservation, and agriculture with direct implications the economy. Currently, Canada is not equipped to keep up with these emerging wildlife heath threats.

The Green Budget Coalition recommends that the federal government fund the Pan-Canadian Approach to Wildlife Health.[103] Implementation of the Pan-Canadian Approach would result in strong, shared leadership to protect and promote wildlife health, prevent, and control wildlife disease, and ensure food safety for Canadians that rely on wildlife for part of their diet.

Implementation of a national wildlife health program would allow Canada to achieve the following objectives:

- Protect and conserve native fauna from harm due to emerging pathogens and sustain ecological and economic services provided by wildlife;
- Provide assurances to Canadians that depend upon healthy wildlife for sustenance and livelihood;

101 One Health is an approach to achieving health outcomes for wildlife and people that recognizes the interconnection between people, animals, plants, and their shared environment, see https://www.who.int/news-room/q-a-detail/one-health.
102 Trevor Hancock, "Population health promotion 2.0: An eco-social approach to public health in the Anthropocene." *Canadian Journal of Public Health* (2015). http://www.jstor.org/stable/canajpublheal.106.4.e252
103 Canadian Wildlife Health Cooperative, "A Pan-Canadian Approach to Wildlife Health." http://www.cwhc-rcsf.ca/docs/technical_reports/EN_PanCanadian%20Approach%20to%20Wildlife%20Health%20Final.pdf

- Enable Canada to meet its national and international obligations for disease surveillance in relation to public health, agriculture and trade, and the One Health approach; and,
- Reduce surprises from emerging disease threats, particularly those anticipated with climate change, globalization, and erosion of ecological integrity.

Recommended Investment:

$100 million over five years [ECCC, PHAC, CFIA, in collaboration with ISC]

- **$45 million** for the Canadian Wildlife Health Cooperative, to build professional capacity within Canada, coordinate monitoring and surveillance, and provide access to diagnostic, data management and synthesis of information that is accessible across the country [ECCC];
- **$20 million** for application-based program funding that will be open to all partners on an annual basis. This would include a Northern Wildlife Health Program [ECCC, PHAC];
- **$25 million** to build government capacity to implement wildlife health programs [ECCC, CFIA]; and,
- **$10 million** for governance, targeted Indigenous hunter communication tools, professional exchange programs, research fellowships, and State of Wildlife Health reports [ECCC].

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National Wildlife Collision Reporting & Mitigation Infrastructure

Wildlife-vehicle collisions are a significant problem for wildlife and motorists, costing over $280 million per year in Alberta alone in 2015.[104] This human-wildlife conflict fragments wildlife populations, kills and injures animals, and can cause species declines.[105] Transportation is cited as a threat to over 52% of Canadian vertebrates assessed as at-risk.[106]

A 2003 report to Transport Canada recommended the creation of a national wildlife accident reporting system.[107] Since then, smartphone-based systems have been implemented in ten countries, providing more accurate, standardized, timely and low-cost data collection.[108] The Alberta Wildlife Watch (AWW) smartphone application automatically uploads data to a centralized database allowing for quick data access to identify conflict hotspots, plan and monitor mitigation infrastructure, and create habitat connectivity plans. The AWW app can be easily deployed to other jurisdictions, and used by citizen scientists.[109]

Recommended Investment:

$4.5 million over three years to work with the provinces and territories to implement a national smartphone-based wildlife-vehicle collision data reporting system. [TC, ECCC, PC]

Photo: Parks Canada

The twinning of the Trans-Canada Highway through Banff National Park included the installation of 38 wildlife underpasses, 6 overpasses, and fencing that have reduced wildlife-vehicle collisions by 80%.[110] Monitoring has shown improved landscape connectivity, with many species common to the Bow Valley ecosystem increasing their use of these crossing structures. [111]

Based on the avoided costs of vehicle damage, human injuries and fatalities, and wildlife mortality, a properly located wildlife crossing can pay for itself in 10 to 20 years, long

104 Alberta Transportation, "Alberta Wildlife Watch Program." https://open.alberta.ca/dataset/7c852b82-ecd3-4701-8d84-0b5addbe54ce/resource/d986571a-22bb-41ab-9630-cd4fa9c8cb7b/download/albertawildlifewatchprogramplan.pdf
105 Fraser Shilling et al., "Designing wildlife-vehicle conflict observation systems to inform ecology and transportation studies." *Biological Conservation* (2020). http://doi.org/10.1016/j.biocon.2020.108797
106 J Currie & V Marconi, "An analysis of threats and factors that predict trends in Canadian vertebrates designated as at-risk." *FACETS* (2020). https://www.facetsjournal.com/doi/10.1139/facets-2019-0017
107 L-P Tardif & Associates Inc., "Final Report: Collisions Involving Motor Vehicles and Large Animals in Canada." https://www.wildlifecollisions.ca/docs/d6acdb93dfabc8c6.pdf
108 Fraser Shilling et al., "Designing wildlife-vehicle conflict observation systems to inform ecology and transportation studies." *Biological Conservation* (2020). http://doi.org/10.1016/j.biocon.2020.108797
109 Tetra Tech EBA, "Wildlife Watch App for Improved Road Safety in Alberta." https://www.tac-atc.ca/sites/default/files/conf_papers/legaree.pdf
110 AP Clevenger & M Barrueto, "Trans-Canada Highway Wildlife and Monitoring Research, Final Report. Part B: Research. Prepared for Parks Canada." https://arc-solutions.org/wp-content/uploads/2015/12/Banff-TCH-Wildlife-Monitoring-Research-Final-Report-2014_withappendices1.pdf
111 Adam T. Ford et al., "Fostering ecosystem function through an international public-private partnership: a case study of wildlife mitigation measures along the Trans-Canada Highway in Banff National Park, Alberta, Canada." *International Journal of Biodiversity Science & Management* (2010). https://doi.org/10.1080/17451590903430153

before its projected 75-year lifespan.[112] The most efficient way to prevent wildlife-vehicle collisions is to integrate effective mitigation measures in wildlife conflict zones every time major road or rail work is undertaken.[113]

Recommendation:

That the federal government make highway and railway funding conditional on an integrated wildlife management plan, including any required wildlife-vehicle collision mitigation infrastructure. [INFC, TC, ECCC, PC].

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See also Connectivity in Land and Ocean Protected Area Networks, earlier in this document.

Expanding Indigenous Guardians Programs

The federal commitment in July 2021 of $173 million over five years to expand and scale up Indigenous Guardians programs across Canada has been welcomed as a historic investment that will help ensure the effective management of ecosystems for conservation goals while supporting reconciliation and wellness outcomes.

However, as noted by the Indigenous Leadership Initiative, this investment while significant does not yet go all the way. The Green Budget Coalition supports the call for permanent funding for Indigenous-led conservation (as per our Protected Areas recommendation earlier in this document) so that every Nation that desires a Guardians program and envisions an IPCA is supported.

We will monitor for potential gaps in financial support, and submit a new recommendation as necessary, following the advice of Indigenous leaders in conservation.

Amount pending. [ECCC]

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112 Center for Large Landscape Conservation, "Reducing Wildlife Vehicle Collisions by Building Crossings: General Information, Cost Effectiveness and Case Studies from the U.S." https://www.pewtrusts.org/-/media/assets/2020/02/reducing-wildlife-vehicle-collisions-by-building-crossingscllcpew-005.pdf?la=en&hash=DE3157AFFECA4BE213B1AD95B33676472C37591A

113 Kristin Elton & Michael Drescher, "Implementing wildlife-management strategies into road infrastructure in southern Ontario: a critical success factor approach." *Journal of Environmental Planning & Management* (2019). http://doi.org/10.1080/09640568.2018.1447445

RESTORE

Federal Habitat Restoration Program

The Green Budget Coalition recommends that the federal government invest in a new and scaled-up national restoration program managed by ECCC addressing wetlands, riparian areas, native grasslands, meadows, and coastal ecosystems in cooperation with AAFC and DFO. Investments in the 2020 Fall Economic Statement provide a good start but do not address the scale of the problem.

Canada loses more critical habitat than it conserves every year. We are facing staggering losses already of over 75% of native grasslands and 70% of wetlands in settled regions. Habitat degradation and loss, including in aquatic ecosystems, continue to put species at risk of extirpation, with hundreds already listed under the *Species at Risk Act*. Habitat loss also causes the loss of critical climate resilience services, while increasing GHG emissions through the release of ecosystem emissions and reductions in landscape carbon storage capacity. Through habitat restoration, Canada has an important opportunity to bolster our economy and meet our biodiversity and climate goals.

Similarly, despite progress on public and privately protected and conserved areas, including protected areas previously restored, inadequate natural asset infrastructure

Photo: James Wheeler

funding jeopardizes the climate and biodiversity benefits that existing natural assets provide. A new habitat project renewal fund is required to upgrade and extend the lifespan and functionality of existing conservation assets on public and private lands across Canada.

The Green Budget Coalition recommends investing **$565 million over five years** in a new match-funded **Federal Habitat Restoration Program**, which would restore wetlands, native grasslands, meadowland habitat, and coastal areas and thereby improve conditions for biodiversity enhancement and recovery and carbon storage. Components would include:

- **$250 million over five years** to support the deployment of new wetland restoration activities in targeted areas identified by science-based conservation plans, such as the Joint Venture Implementation plans of NAWMP designed to drive increased biodiversity and economic stimulus outcomes [ECCC];
- **$125 million over five years**, matched by $25 million per year in non-federal government sources of funding to support efforts of ranching and farming communities to manage their grasslands sustainably [AAFC, ECCC];
- **$50 million over five years** to support jointly funded programs for conservation and restoration measures on federally and provincially managed grasslands [ECCC];
- **$10 million over five years** to develop a national native seed strategy to ensure that regionally-sourced seeds (native grass, wildflowers) are available for restoration projects across Canada [ECCC];
- **$10 million over five years**, along with matching funding from provincial governments, to develop native seed supply and provide native seed and technical expertise to restore meadow habitat along rights-of-way in municipalities across Canada [ECCC]; and
- **$120 million over five years** for a new habitat project renewal fund to address the ongoing and increasing costs associated with restoring and renewing previously restored habitats in order to protect their viability and functionality in Canada. [ECCC]

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Restoring Canada's Blue Carbon

Scientists have determined that some marine ecosystems sequester and store more carbon per unit area than forests do. Unlike most terrestrial systems, which reach carbon saturation in decades, sediments in coastal ecosystems can continue soaking up greenhouse gases for millennia. Not only do Canada's rich seagrass meadows, salt marshes, estuaries and tidal wetlands store large quantities of carbon, they also provide habitat for many species—including valuable commercial fish and shellfish—and protect coastal communities from erosion and storm surges.

With the world's longest coastline, Canada has an important role to play in sequestering ocean carbon. For example, the Bay of Fundy is estimated to hold the carbon equivalent of 100 million barrels of oil. Land use changes, pollution and other anthropogenic stressors have eaten away at these carbon stores. Restoring them, where possible, is essential in the fight against climate change.

Recommended Investment:

$100 million over four years for restoration of coastal ecosystems with high potential for carbon sequestration. [DFO]

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Photo: TB Estuary Program

Natural Infrastructure Fund Top-Up

Natural infrastructure—projects that use nature to meet infrastructure needs, such as flood control, water filtration, and temperature control—can protect the natural environment, support healthy and resilient communities, contribute to economic growth, and improve access to nature. The Green Budget Coalition therefore welcomed the creation of a Natural Infrastructure Fund in Budget 2021.

This Fund was established with an initial investment of $200 million. The Green Budget Coalition recommends additional investments in this Fund in Budget 2022 to enable more communities across the country to access funding for natural infrastructure projects.

The forthcoming National Infrastructure Assessment will help identify needs and priorities in the built environment and support evidence-based long-term planning toward a net-zero emissions future. Recommendations for the National Infrastructure Assessment highlight the many co-benefits of greater use of natural infrastructure.[114] With additional funding in Budget 2022, the Natural Infrastructure Fund will be able to leverage work emerging from the National Infrastructure Assessment to support strategic investments in priority areas.

Recommended Investment:

An additional **$400 million over three years** for the Natural Infrastructure Fund. [INFC]

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114 Infrastructure Canada, "Building Pathways to 2050: Moving Forward on the National Infrastructure Assessment, June 2021." https://www.infrastructure.gc.ca/alt-format/pdf/nia-eni/nia-eni-2-en1.pdf

Soil Health

Climate and agricultural policy should aim to help tens of thousands more farmers implement better management practices that protect soil health, delivering both environmental and economic benefits.[115] The 2022 budget should build on the welcome investment in agricultural climate solutions in 2021, laying the groundwork for ambitious cross-Canada programs that enhance soil health as a key priority in the Next Policy Framework.

The Green Budget Coalition recommends that the federal government:

- Provide direct support for farmers to adopt soil health practices. An immediate priority is to test-run programs on cover crops, nitrogen management, rotational grazing and land conservation that will be part of the new agricultural framework. Additional support should cover other best management practices such as organic amendments, diverse crop rotations, conservation buffers, prevention of soil compaction and integrated pest management.
- Develop a **pan-Canadian Soil Health Strategy** (with appropriate regional emphases) to galvanize action from all relevant parties on soil health. This would include a Canada-wide assessment of the state of our agricultural soils, beginning with a comprehensive inventory of the soil data that currently exists and a gaps analysis, to lay the groundwork for ongoing monitoring and improvement.

Photo: Sveta Federava

115 Équiterre & The Greenbelt Foundation, "The Power of Soil: An Agenda for Change to Benefit Farmers and Climate Resilience." https://www.equiterre.org/sites/fichiers/powerofsoil.pdf

- Develop a **pan-Canadian network for information sharing** and learning resources that can act as a "one-stop shop" where farmers can find accessible information on soil health best management practices (BMPs).
- **Develop the business case for soil health** to determine the economic benefits of BMPs on different production systems, regions, and types of farms as done, for example, in the U.S. by the Soil Health Institute, the American Farmlands Trust and U.S. Natural Resources Conservation Service.
- **Strengthen training opportunities** by offering access to education, farmer-to-farmer training and extension services on soil health.

Recommended Investment:

$361 million over three years, and then $100 million ongoing, thereafter, as follows [AAFC]:

- **$50 million** to test-run programs for soil health practices not covered in Budget 2021;
- **$6 million** to develop Soil Health Strategy (**$1 million in 2022-23; $2 million in 2023-24; $3 million in 2024-25**);
- **$2 million over two years** for a network for information sharing;
- **$3 million over two years** for the business case for soil health; and
- **$100 million per year ongoing** to pay for 1,000 new extension service agents to support regenerative practices, in particular soil health.

See also Appendix 1 on Environmentally-Sustainable Agriculture: Transitioning to Environmentally Sustainable Land Management and Food Production in Canada in the Next Policy Framework.

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Establishing National Action Plan for Native Pollinator Protection

Native pollinators are vital—they enhance the reproduction and genetic diversity of around 80% of plant species, which create habitat and provide food and other resources for a wide range of species. Some native pollinators are facing decline due to factors such as habitat loss, pesticides, climate change and disease. Most native pollinators are virtually unknown by Canadians yet the success of efforts to protect and restore land as well as store carbon rely on viable populations of pollinators. The most recent global assessment indicates that policy responses should focus on reducing pressure from changes in land cover and configuration, land management and pesticides.[116] It is time for Canada to invest in protecting its native pollinators. The Green Budget Coalition recommends that Budget 2022 fund ECCC to:

1. Establish a Canadian Native Pollinator Roundtable (**$2 million per year**) to engage all levels of government, scientists, environmentalists, landowners, Indigenous peoples, and the Canadian public in developing a National Action Plan for Native Pollinator Protection in the context of Canada's commitments on biodiversity and climate;
2. Establish a Native Pollinator Monitoring Fund (**$5 million per year**) to support national monitoring, mapping, and ongoing reporting across Canada; and
3. Develop a Native Pollinator Protection Program (**$10 million per year**) that provides increased operational capacity to address key threats to pollinators (e.g., overuse of pesticides, habitat loss, pathogen transfer), leverage independent scientific research and technological developments in support of native pollinators and their habitat and fund restorative work that could be carried out, for example, by farmers, acreage owners, and schools, and on corporate, federal, provincial, municipal, and Indigenous lands.

Recommended Investment:

$85 million over five years [ECCC, PSPC, CSC, DND, PC, DFO]

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116 University of Cambridge, "Pollinators: First global risk index for species declines and effects on humanity." https://phys.org/news/2021-08-pollinators-global-index-species-declines.amp

ENVIRONMENTAL JUSTICE

Introduction

Too often, pollution and environmental degradation disproportionately harm those living on low income and racialized, Indigenous, and other marginalized communities. Understanding and confronting this problem has long been a blind spot in Canadian environmental policy and governance.

This could soon change. In 2021, the government introduced Bill C-28 that would recognize for the first time in federal law the human right to a healthy environment and require consideration of "vulnerable populations" under the Canadian Environmental Protection Act. Bill C-230,[117] a private Member's bill reported by the House of Commons Standing Committee on Environment and Sustainable Development in the second session of the 43rd Parliament, would require the environment minister to develop a national strategy to assess, prevent and address environmental racism and to advance environmental justice.

Photo: Chris Stenger

117 Bill C-230, *An Act respecting the development of a national strategy to redress environmental racism.* https://parl.ca/DocumentViewer/en/43-1/bill/C-230/first-reading

These legislative proposals—although not yet law—have drawn attention to Canada's environmental justice gap. Alongside strengthening legislation to include environmental justice requirements, the Government of Canada needs to invest in institutional capacity, as well as research and policy development, to ensure that *all* people in Canada benefit from environmental protection.

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies.

Source: U.S. EPA Office of Environmental Justice

For the Green Budget Coalition's feature recommendation for environmental justice, please see earlier in this document for:

- *Office of Environmental Justice and Equity.*

Photo: Accolade Creative

Chemicals Management Plan Top-Up: Protecting *All* Canadians from Toxic Chemicals and Pollution

The science is clear: Canada needs to do more to protect people in vulnerable situations from pollution and toxics. The House of Commons Environment and Sustainable Development Committee's 2016-17 review of the *Canadian Environmental Protection Act* (CEPA) implementation put a spotlight on these issues, but departments lack resources to act on the committee's recommendations and proposed legislative reforms.

Bill C-28[118] proposes to modernize CEPA to better protect people in vulnerable situations and those who are particularly susceptible to harm from toxics and pollution. The bill would also recognize for the first time in federal law the right to a healthy environment. **The Green Budget Coalition recommends that Budget 2022 invest in building science and policy capacity for these important new approaches.** This work can begin immediately and should not be deferred until the requirements in Bill C-28 enter into force.

Bill C-28 defines ***vulnerable population*** as "a group of individuals within the Canadian population who, due to greater susceptibility or greater exposure, may be at an increased risk of experiencing adverse health effects from exposure to substances."

Budget 2021 provided $476.7 million over five years to renew the Chemicals Management Plan (CMP). While the Green Budget Coalition welcomed this investment to enable basic functions to continue, additional resources are needed for:

- Identifying and prioritizing prohibition of carcinogens, mutagens, reproductive toxins and other chemicals with a high level of concern;
- Cumulative effects and class assessment;
- New mechanisms to monitor and manage exposure to toxic chemicals in consumer products, including products imported from countries that do not rigorously regulate chemical inputs;

118 BILL C-28, *An Act to amend the Canadian Environmental Protection Act, 1999, to make related amendments to the Food and Drugs Act and to repeal the Perfluorooctane Sulfonate Virtual Elimination Act*. https://parl.ca/DocumentViewer/en/43-2/bill/C-28/first-reading

- A full review of measures required to protect Indigenous Peoples' rights, and nature from the risks of genetic engineering of animals; and
- Addressing data gaps to identify and protect populations that are more vulnerable to the harmful effects of pollution, including women and children, including:
  - Understanding and reducing risks to Indigenous communities; and
  - Developing and applying a framework to implement the right to a healthy environment, including consideration of environmental justice and the principle of non-regression, as well as data collection.

The Green Budget Coalition also recommends moving the CMP budget to A-base to build and maintain scientific capacity for this important, legally mandated work. While the program is on track to complete assessment of the initial batch of 4300 "high priority" substances identified through a screening process a decade ago, Health Canada and ECCC must retain capacity to assess new substances and update assessments in light of new science, and to develop and implement risk management measures for the increasing number of substances assessed as CEPA-toxic. The ongoing task of chemicals management requires permanent capacity.

Recommended Investment:

$200 million annually, ongoing to top-up and extend the Chemicals Management Plan budget. [ECCC, HC]

Recommendation endorsed by the Canadian Association of Physicians for the Environment.[119]

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CROSS-CUTTING RECOMMENDATIONS

Photo: Andy Holmes

Upgrading Enforcement of Environmental Laws

ECCC is responsible for enforcing federal pollution prevention, wildlife protection and conservation laws. The Green Budget Coalition welcomes new resources provided for environmental enforcement at ECCC in 2021-22 ($46 million over five years, with $9.2 million ongoing) and recommends additional investment in Budget 2022.

The new funding will enable the department to begin work to modernize its compliance promotion and enforcement capacities and methods, including building computer forensics infrastructure, training officers in investigative approaches, and employing 24 new officers to gather baseline data required to complete development of a new risk-based approach. Additional investment is needed to fully implement this new approach and ensure capacity to enforce new regulations. ECCC's forward regulatory agenda indicates planned work on 63 regulations, including new measures to reduce air pollution and greenhouse gases, control toxic chemicals, ban problematic plastics, and expand protected areas. These important initiatives will only achieve their intended environmental outcomes if compliance is assured.

Recommended Investment:

$40 million additional investment annually, ongoing, to support modernization of environmental enforcement and expand capacity. [ECCC]

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Hardwiring Canada's New Quality of Life Framework in Budget 2022 Decision-Making and Metrics

Budget 2021 was the first Canadian budget document to include a Quality of Life Statement and evaluate investments according to a quality of life framework. This framework recognizes the need to broaden our definition of economic success beyond GDP to take into account the social and environmental outcomes that are foundational to present and future well-being.

The Quality of Life Statement in Budget 2021 states, "It has long been understood that standard measures of economic progress like GDP do not capture the full range of the factors that, evidence shows, determine a good quality of life. GDP tells us how overall economic activity is growing, but little about how growth is distributed across our society. It fails to account for non-market economic activity, like care responsibilities, and environmental harms."

Nevertheless, growing GDP remained an overriding theme in the Budget 2021 document. To enable Canada's economy to generate inclusive well-being, "thinking beyond GDP" must be central to decision-making, and metrics of other conditions of well-being need, in the least, equal prominence.

Photo:Elyse Turton

Photo: James Wheeler

Environment is one of six pillars in the proposed Quality of Life Framework for Canada: The natural environment is the foundation of human existence. Clean water, fresh air and healthy food are necessities for life, and adverse weather events create risk to livelihoods as well as well-being. Access to pristine green and blue spaces is a source of recreation and enjoyment, an important part of Canadian identity and central to Indigenous cultures. The environment can also be interpreted broadly to include more than just nature. Access to parks and public transit, walkable communities, lower levels of noise pollution and pleasing aesthetics in one's local environment all contribute to a higher quality of life. Canadians have a shared responsibility to ensure natural resource use is sustainable and to conserve nature's splendour for future generations.

Source: Measuring What Matters, Finance Canada, April 2021

The Green Budget Coalition appreciates the work underway to advance the Quality of Life Framework for Canada and investments in Budget 2021 to fill data gaps in quality of life measurements. **We recommend the government now formalize a rigorous process to fully incorporate the framework into Budget 2022 decision-making. We further recommend that quarterly national economic updates be expanded to track well-being indicators and report on the performance of the Canadian economy with respect to quality of life.**

In future, there may also be scope to review the Bank of Canada's mandate – for example, tying monetary policy interventions to specific equity and environment-positive outcomes aligned with the Quality of Life Framework for Canada.

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Appendix 1: Environmentally–Sustainable Agriculture

Transitioning to Environmentally Sustainable Land Management and Food Production in Canada in the Next Policy Framework

The Green Budget Coalition envisions a future in which Canada is viewed as a leader in sustainable agriculture and food with a resilient and diversified food system. Canada has many natural advantages and a strong reputation as a producer of high-quality agricultural products. Building on this reputation with a scientifically credible sustainability record is an economic, environmental and social opportunity for Canada. Failing to seize this opportunity could result in Canada being forced to comply with international standards which do not always appropriately account for Canadian production and environmental realities. We believe we can do this while growing a strong agriculture and food sector which employs one in eight Canadians and supports biodiversity and agrobiodiversity.

Farmers and ranchers want to be part of the climate solution but we need the right public policies, market signals, and strategic investments to help them realize this potential.

Canada has made important steps nationally and internationally to advance sustainable production systems. The Green Budget Coalition believes that sustainability is a journey of continuous improvement. Canadian agriculture has demonstrated leadership in the past and, with the right encouragement, can champion new paths to sustainability. Adapting to new scientific information and adopting new practices proven to strengthen resilience will be key to Canada's future.

Canada's agriculture sector has the potential to become a world leader in meeting international targets such as the UN Sustainable Development Goals (SDGs) and CBD Biodiversity Targets, by delivering ecological goods and services and social benefits, including gender equality, food security, economic development, reconciliation with Indigenous peoples, and support for the next generation of farmers. For this to happen, Canada must bring its agricultural environmental investments up to internationally-competitive levels. Currently, Canada spends only 70 cents per acre on agri-environmental programs, whereas the U.S. spends $8.47 and the European Union spends $51.75 per acre (respectively 13 and 73 times more than Canada).[120] To be a leader, Canada needs to close this gap.

Consultations on the Next Policy Framework (NPF)

The federal government has invested significantly in science and technology to spur growth in the agriculture industry in Canada and to provide risk management tools to ensure business viability. However, the federal government has made very little investment in public research, expanding extension services or reducing environmental risk by building agricultural resilience to climate change — crucial investments to reduce on-farm business risks and ensure stable livelihoods for farmers.

We believe that existing Business Risk Management (BRM) programs do not provide adequate protection for Canadian farmers and ranchers from climate change. This is particularly evident when Canada's BRM programming is compared with competing

120 Farmers for Climate Solutions

Photo: Mary Jane Duford

countries such as the United States. These higher levels of protection provided to farmers outside Canada comes with additional expectations. The Green Budget Coalition recommends the government explore a more robust and transparent program of risk management for Canadian farmers and ranchers that also delivers environmental and social outcomes. All stakeholders, including researchers, insurance experts, local authorities, and civil society organizations should be engaged in this discussion alongside farmers and ranchers.

To achieve a transformational shift in the environmental impacts of the Canadian agriculture and agri-food industry, the Next Policy Frameworks'(NPF) programs must be adapted to focus and support the adoption of ecological best practices including new and innovative approaches to agri-food production and processing. The development of the next Agricultural Policy Framework should lay out a vision for sustainable agriculture in Canada, including targets for greenhouse gas emissions reduction, adaptation of the sector to changing and unpredictable weather conditions, and strengthening resilience through diversification. The NPF should include a well-developed agri-environmental strategy, in which disbursements for agri-environmental programs take up a growing share of resources every year of the partnership. The NPF should prioritize areas such as soil health which are known to have both economic and environmental benefits to farmers. Canada should prioritize development of a national soil strategy to guide work in this important area.

All Canadians benefit from our dynamic agriculture sector, and the costs of adaptation and mitigation should not be borne by farmers and ranchers alone but alleviated by public programs designed to help farmers transition to production practices that will build on-farm resilience. As consumers increasingly demonstrate awareness and concern about the environmental impact of their food, certification regimes will gain support and acceptance across the marketplace. These standards and increased transparency along the entire food chain could create significant risks for Canadian producers. Taking proactive steps now to address the practices that undermine environmental sustainability and public trust could turn ecological standards into a competitive advantage for Canadian producers.

Recommendations:

The Green Budget Coalition recommends that the Government of Canada publicly commit to making transition to sustainable agricultural production a primary focus of its negotiations for the renewal of the Next Policy Framework in 2023. In preparation for these negotiations, the Green Budget Coalition recommends that the government, led by AAFC, assess the efficacy of environmental strategies and risk management in agricultural support programs in comparable countries. FTP negotiations should focus on developing a comprehensive and ambitious agri-environmental strategy adapted to Canada's different regions and production systems, covering soil health, adoption of science-based stewardship models such as 4R and IPM, natural ecosystem preservation, diversification, and GHG reductions. The Green Budget Coalition **recommends allocating $1 million of existing funding (over two years)** to implement this strategy through FPT negotiations.

In the 2023 renewal, the Green Budget Coalition also recommends that the Government of Canada:

- Set an ambitious target for the reduction of GHGs for the sector as a whole to ensure that agriculture is contributing its fair share to our climate targets and that farmers are supported in their efforts to reduce emissions;
- Ensure that consultations for the next FTP policy framework include a broad range of stakeholders, including ENGOs, academics, and consumer groups;
- Develop a new and ambitious agri-environmental strategy to support producers of all sizes and types in all regions of the country to progressively adopt more environmentally sustainable practices over the five years of the partnership;
- Seek to identify and eliminate, within the Canadian Agricultural Partnership and BRM, perverse subsidies for activities that directly or indirectly cause unnecessary environmental harm;
- Enhance the transparency and accessibility of data on BRM premiums and payouts;
- Incentivize transition to best management practices (BMPs) by reducing premiums for risk insurance when climate-friendly practices may entail economic risks for farmers in the short term or by changing how costs are shared;
- Strategically re-invest in public sector extension advisors for $100 million per year to facilitate better knowledge transfer;
- Target 10% of total BRM investment towards incentivizing agro-ecological transitions; and
- Devote 40% of all NPF expenditure to research, programs, and investments that are consistent with conservation, sustainable, and regenerative agricultural principles and practices.

See also Soil Health recommendation, earlier in this document.

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Appendix 2: National Adaptation Strategy

Extreme heat, forest fires, and flooding continue to illustrate the grave risks of climate change and the importance of protecting Canadians and nature from its increasing impacts.

In the summer of 2021, the sixth assessment report of the Intergovernmental Panel on Climate Change (August 2021) noted that many of the climactic changes underway are permanent and will be exacerbated into the future:

> "Many changes in the climate system become larger in direct relation to increasing global warming. They include increases in the frequency and intensity of hot extremes, marine heatwaves, and heavy precipitation, agricultural and ecological droughts in some regions, and proportion of intense tropical cyclones, as well as reductions in Arctic sea ice, snow cover and permafrost."[121]

The Green Budget Coalition member organizations believe that Canada urgently requires the development and implementation of a detailed and comprehensive national climate change adaptation strategy to work alongside the significant work already underway to address climate change mitigation.

This GBC document includes many recommendations that merit being included as part of such a strategy for it to be effective, including on natural infrastructure, freshwater management, restoration, protected areas, a ten-year biodiversity strategy, environmental data and science, HealthADAPT, an office of environmental justice and equity, and environmentally-sustainable agriculture.

The Green Budget Coalition and its members are very interested to work with the government to develop a strong national adaptation strategy as a short-term elevated national public policy priority.

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121 Intergovernmental Panel on Climate Change (IPCC), "Climate Change 2021: The Physical Science Basis." https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf

Appendix 3
SUMMARY TABLE OF RECOMMENDATIONS' RECOMMENDED INVESTMENTS
millions of dollars

Recommendation *Sub-Recommendation*	Likely Lead Department(s)	2022-23	2023-24	2024-25	2025-26	2026-27	ongoing	(end-year)
FEATURE RECOMMENDATIONS								
Canada's Renovation Wave: A Plan for Jobs and Climate								
Deep Retrofits- Residential and Commercial Buildings	CMHC, NRCan, CIB, HC	10,000	10,000	10,000	10,000	10,000	10,000	(2031-32)
Deep Retrofits- Low-Income Homes & Nat'l Housing Strategy	CMHC, HC	2,000	2,000	2,000	2,000	2,000	2,000	(2031-32)
Deep Retrofits in Indigenous Communities	ISC, CMHC, CIB	540	540	540	540	540	540	(2031-32)
Skill Training and Development of Retrofit Economy	NRCan, ISED, HC, ISC	300	300	300	300	300	300	(2031-32)
Market Development Initiatives for Retrofits	NRCan, ISED	100	100	100	100	100	100	(2031-32)
Phasing Out Fossil Fuel Subsidies	FIN, ECCC, ISED, NRCan, GAC	No additional cost – we expect this could all be achieved using existing capacity.						
Freshwater Management for the 21st Century								
Develop a Pan-Canadian Approach to Fresh Water	ECCC, DFO	13	12					
Indigenous Engagement	ECCC, DFO, ISC	Necessary funding to be determined in consultation with Indigenous peoples and governments.						
Fish Habitat Strategy	DFO	10	10	2	2	2	2	ongoing
Canada Water Agency – Permanent Funding	ECCC	70	70	70	70	70	70	ongoing
Monitoring and Reporting System for Freshwater	DFO, ECCC	17	17	17	17	17	17	ongoing
Canada Freshwater Fund								
Key Water Quality, Biodiversity, & Ecosystem Concerns								
Nutrient Loading & Algal Blooms in the Great Lakes	ECCC	40	40	40	40	40		
Habitat Restoration in the Great Lakes and St. Lawrence River	DFO	22	22	22	22	22		
Nutrient Loading- Red & South Sask'n Rivers to Lake Winnipeg	ECCC	16	16	16	16	16		
Aquatic Invasive Species Control	DFO, GAC	16	16	16	16	16		
Watershed & Fish Habitat Enhancement & Restoration	DFO	40	40	40	40	40		
Totals - Canada Freshwater Fund		***134***	***134***	***134***	***134***	***134***		
Community-Based Monitoring	ECCC, DFO	5	5	5	5	5		
Infrastructure for Freshwater Science	ECCC, DFO	15	15	15	15	15		
Totals – Freshwater		***264***	***263***	***243***	***243***	***243***	***89***	***ongoing***
Permanent Funding for Protected Areas								
Terrestrial Protected Areas	ECCC, PC	750	844	938	1,031	1,125	Rising incrementally to $1.5 billion/year in 2030-31 and then ongoing	
Marine Protected Areas	DFO, ECCC, PC	650	731	813	894	975	Rising incrementally to $1.5 billion/year in 2030-31 and then ongoing	
Office of Environmental Justice & Equity								
Start Up Funds and Annual Operating Funding	ECCC	13	12	15	15	15	15	ongoing
Expand Canadian Environmental Sustainability Indicators	ECCC	7	7	7	7	7	7	ongoing
CLIMATE ACTION								
Green Strings	ISED, FIN, NRCan	No additional cost – we expect this could all be achieved using existing capacity.						
Medium and Heavy Duty Vehicles (MHDVs)								
Incentives for Fuel-Saving Devices	NRCan	40	40	40	40	40		
Increase Incentives for Zero-Emission Commercial MHDVs	TC	100	100	100	100	100		
Increasing Fleet Capacity	ESDC	8	7	7	7	7		
Zero Emission Vehicle Feebate System	NRCan, FIN, TC	No net revenue or cost - fees charged would offset federal spending on ZEVs.						
Marine Shipping- Reducing Climate Impacts								
Fuel Transition Fund	TC, ECCC	4	4	4				
R&D & Sea Trials	TC, NRCan	10	10					
GHG Reduction Innovation Fund	TC	5	5					
National Shore Power Plan	TC, ECCC	20	20					
Avoiding Taxpayer Liabilities for SMRs	NRCan	Provides opportunity to reduce costs and reduce liabilities.						

millions of dollars

Recommendation *Sub-Recommendation*	Likely Lead Department(s)	2022-23	2023-24	2024-25	2025-26	2026-27	ongoing	(end-year)
Accelerating Renewable and Decentralized Energy								
Support for Community Financing	NRCan	50	50	50	50	50		
Financial Support for Rooftop Solar	NRCan	50	50	50	50	50		
Clean Energy Governance – Consultation Process	NRCan	5						
Clean Energy Governance – Centre of Excellence	NRCan	1	1	1	1	1		
Tariffs on Clean Energy Technology Imports	FIN, GAC	No additional cost – we expect this could be achieved using existing capacity.						
Just Transition	NRCan, ESDC, PCO	Fund the Task Force on Just Transition for Canadian Coal Workers and Communities' full suite of recommendations.						
HealthADAPT Program	HC	2	2	2	2	2		
International Climate Finance	GAC, ECCC	2,440	2,440	2,440	2,440	2,440		
NATURE CONSERVATION								
Protect								
Privately Protected Areas	ECCC	80	70	70	70	70	70	(2028-29)
Connectivity								
Connectivity Fund	ECCC	200	150	150				
Network Planning in Four Priority Bioregions	DFO	30	25	25				
MPA Network Planning	DFO	30	25	25				
Bird Conservation	ECCC	5.75	5.75	5.75	5.75			
International Biodiversity Conservation	GAC, ECCC	650	650	650	650	650		
Manage								
Biodiversity Lens	FIN, PCO, TBS	5	5	5				
New Federal Biodiversity Strategy	ECCC	8	6	6				
Environmental Science & Data								
Updated National Geospatial Habitat Inventories								
Conduct Inventory & Audit	ECCC, NRCan, AAFC, PS	0.7	0.7	0.6				
Update/Complete National Habitat Inventories	AAFC, NRCan, ECCC	38	38	37	37			
Measure/Monitor Habitat Loss & Landscape Change	ECCC, AAFC, NRCan	5	5	5	5	5	5	(2030-31)
Climate and Biodiversity Science	ECCC, NRCan, AAFC	10	10	10	10	10		
External Advisory Panel	StatCan, ECCC	0.5	0.5	0.5	0.5	0.5		
Oceans – Modernizing Fisheries Management								
Oceans Governance	DFO	25	25	25	25	25		
Ecosystem Approaches to Fisheries Management	DFO	15	15	15	15	15		
Monitoring and Enforcement	DFO	14	13	13				
Seafood Traceability	CFIA, DFO, AAFC	20	20	20	20	20		
Reinforcing Canada's Defence vs Wildlife Diseases	ECCC, PHAC, CFIA + ISC	20	20	20	20	20		
Wildlife Collision Reporting & Mitigation								
Smartphone-based Reporting System	TC, ECCC, PC	1.5	1.5	1.5				
Conditional infrastructure funding	INFC, TC, ECCC, PC	No additional cost - we expect this could be achieved using existing capacity.						
Expanding Indigenous Guardians Programs	ECCC	Amount pending.						
Restore								
Federal Habitat Restoration Program	ECCC, AAFC	113	113	113	113	113		
Restoring Canada's Blue Carbon	DFO	25	25	25	25			
Natural Infrastructure Fund Top-Up	INFC	150	150	100				
Soil Health	AAFC	153.5	104.5	103	100	100	100	ongoing
Native Pollinator Conservation	ECCC, PSPC, CSC, DND, PC, DFO	17	17	17	17	17		
ENVIRONMENTAL JUSTICE								
Chemicals Management Plan Top-Up	ECCC, HC	200	200	200	200	200	200	ongoing
CROSS-CUTTING RECOMMENDATIONS								
Environmental Enforcement	ECCC	40	40	40	40	40	40	ongoing
Well-being Budget 2.0	FIN	No additional cost - we expect this could be achieved using existing capacity.						

GREEN BUDGET COALITION

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