GREEN BUDGET COALITION

RECOMMENDATIONS
for Recovery and Budget Actions in 2020–2021

BUILDING RETROFIT JOBS

BOOST CLEAN TRANSPORTATION

NATURE-BASED CLIMATE SOLUTIONS

PROTECTED AREAS

September 2020

ALUS Canada — A Weston Family Initiative
Birds Canada / Oiseaux Canada
Canadian Environmental Law Association — Equity. Justice. Health.
CPAWS — Canadian Parks and Wilderness Society
Canadian Wildlife Federation
David Suzuki Foundation — One nature.
Ducks Unlimited Canada
ecojustice
Ecology Action Centre
environmental defence
équiterre
Les Ami(e)s de la Terre / Friends of the Earth
Greenpeace
ICFC — where nature needs us most — International Conservation Fund of Canada
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

Contents

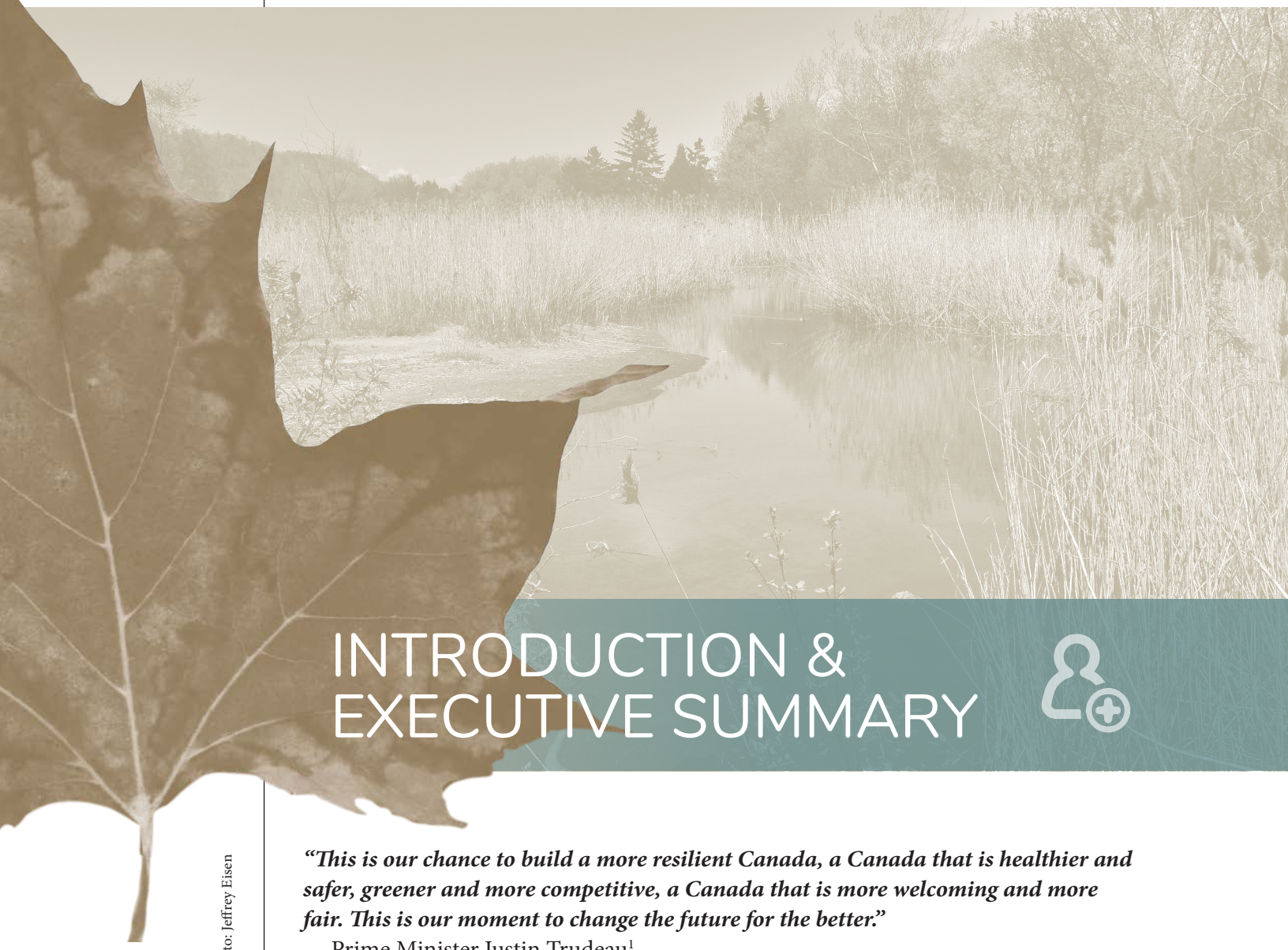
($) - *indicates recommendations with the potential to create many jobs*

Department and Agency Acronyms

AAFC:	Agriculture and Agri-Food Canada
CIB:	Canada Infrastructure Bank
CIRNAC:	Crown-Indigenous Relations and Northern Affairs Canada
CMHC:	Canada Mortgage and Housing Corporation
CSA:	Canadian Space Agency
DFO:	Fisheries and Oceans Canada
ECCC:	Environment and Climate Change Canada
ESDC:	Employment and Social Development Canada
Finance:	Finance Canada
GAC:	Global Affairs Canada
HC:	Health Canada
IAAC:	Impact Assessment Agency of Canada
INAC:	Indigenous and Northern Affairs Canada
INFC:	Infrastructure Canada
ISC:	Indigenous Services Canada
ISED:	Innovation, Science & Economic Development
NRCan:	Natural Resources Canada
PCA:	Parks Canada Agency
PMRA:	Pesticide Management Regulatory Agency
PSC:	Public Safety Canada
PSPC:	Public Services & Procurement Canada
StatCan:	Statistics Canada
TC:	Transport Canada

($) symbol via The Noun Project: dollar by Ragal Kartidev

Cover photo: idil Mohamed



INTRODUCTION & EXECUTIVE SUMMARY

Photo: Jeffrey Eisen

"This is our chance to build a more resilient Canada, a Canada that is healthier and safer, greener and more competitive, a Canada that is more welcoming and more fair. This is our moment to change the future for the better."
— Prime Minister Justin Trudeau[1]

As a society, we are at a crossroads. The need for recovery from the social and economic impacts of COVID-19 has tasked us with a historic responsibility. We can choose to reinvest in the status quo, or we can rebuild better and more safely. The choices we make will define our ability to deliver a society, economy and environment that is more resilient, just, and sustainable for current and future generations.

Amidst the COVID-19 crisis and its impacts on Canadians, Canada and the world face ever-worsening climate and biodiversity crises. Canadians 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.[2]

1 https://www.theglobeandmail.com/politics/article-trudeaus-throne-speech-seeks-balance-between-covid-19-crisis-and/
2 See for example, the UN's International Panel on Climate Change October 2018 special report, Global Warming at 1.5 °C, at https://report.ipcc.ch/sr15/pdf/sr15_spm_final.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

The **Green Budget Coalition (GBC)**, comprising 25 of Canada's leading environmental organizations, **urges the government to step up to this defining moment in history** and seize the opportunities it presents to build on previous action and achieve transformational change. In doing so, we echo the widespread international calls for a green recovery, including by leading expert organizations such as the International Energy Agency and World Health Organization.[3]

Countries around the globe, from France to South Korea, to the UK, Germany and Australia, have already made historic announcements for green stimulus. These commitments will support economic recovery from COVID-19 while ramping up climate ambition, and are setting new bars for what green recovery means on the international stage. The Government of Canada must ensure its recovery actions meet or exceed the ambition being set by our global peers, to ensure we thrive in the economy of tomorrow while addressing the global environmental challenges before us.

Critical Steps to a Green Recovery

The Green Budget Coalition strongly encourages making climate and biodiversity objectives central to Canada's recovery plans, funding and other actions through four critical and complementary approaches:

- Investing in transformative large-scale environmental initiatives and Indigenous-led conservation, along with job-intensive "green stimulus" projects;
- Continuing, expanding and strategically adding to existing climate, nature conservation, health protection and agricultural programs;
- Attaching conditions ("green strings") on funding support for businesses and provincial, territorial and municipal governments; and
- Planning ahead by re-aligning Canada's economic and fiscal policies with its environmental, economic, and well being priorities.

Photo: Brydon McCluskey

Successfully rebuilding a better, greener Canada will require an integrated approach involving many actors. Federal leadership requires significant and sustained investments plus complementary economic policy and regulatory actions.

Building on the Green Budget Coalition's expertise on fiscal and budgetary measures, this document provides a **comprehensive package of timely recommendations focused on job-creating investment opportunities and foundational environmental funding, while also addressing tax policy measures, "green strings", and re-aligning Canada's economic and fiscal policy structures.**

3 See for example: https://www.iea.org/reports/sustainable-recovery
https://www.who.int/news-room/feature-stories/detail/who-manifesto-for-a-healthy-recovery-from-covid-19

Photo: Alex Shutin

A) Feature Recommendations for Recovery and Budget Actions

For 2020-21, the **Green Budget Coalition is featuring the following four transformative investment opportunities for job creation and accelerating our response to the climate and biodiversity crises:**

1) **Building retrofit jobs – Investments to reduce emissions;**
2) **Stimulus investments to boost clean transportation industries – creating jobs while reducing Canada's leading source of emissions;** including transit, zero emission vehicles, heavy-duty vehicles, and decarbonizing fuel supply;
3) **Nature-based climate solutions –** Supporting Canadians to reduce land use change, advance natural infrastructure solutions and restore habitat in forests, wetlands, grasslands, and meadowlands; and
4) **Creating and managing protected areas, including Indigenous protected areas and Guardians programs.**

We further outline in this document many complementary recommendations with the potential to create jobs and advance long-term environmental sustainability, including:

- **Further transformative large-scale investments**, including renewable and decentralized energy;
- **Smaller job-intensive investments** including existing Great Lakes programs, wildlife collision mitigation infrastructure, and supporting a reduced reliance on single-use plastic and expansion of the circular economy;

- **Renewing and improving other existing foundational programs** such as environmental enforcement, the Chemicals Management Plan, Pest Management Regulatory Agency, fisheries and oceans management, international climate finance, and regional-scale governance; and
- **New initiatives** to support sustainable agriculture, freshwater, Canada Water Agency, and environmental data and science.

B) "Green strings" on support to businesses and governments

We strongly recommend that any government funding to businesses and provincial, territorial and municipal governments be developed with a climate and biodiversity lens, and made conditional on preserving and accelerating action on climate and biodiversity. Seven critical conditions and principles to apply to stimulus spending are outlined in the report *Green Strings: Principles and Conditions for Green Recovery from COVID-19*.[4] We appreciate the government's efforts to date to promote climate change risk disclosure and establish some conditionalities through the Large Employer Emergency Financing Facility.

C) Planning ahead by re-aligning Canada's economic and fiscal policies with its environmental, economic, and well-being priorities

To most efficiently and effectively pursue environmental sustainability objectives, Canada needs to revise **economic and fiscal policy making** to better align environmental, economic and human well-being priorities. Canada's economy and governance mechanisms must help us respect environmental limits (of many kinds, global, regional and local), restore and improve environmental quality, promote well-being and equity, and support global progress. Tracking and regularly reporting on environmental quality, overall well-being, and genuine progress are important steps. Important GBC recommendations in that regard include *Making Budget 2021 a Well-Being Budget, Phasing out Fossil Fuel Subsidies,* and *Sustainable Finance*.

Implementing these Green Budget Coalition recommendations would lead to transformative progress in advancing a healthier, safer future for Canadians from coast to coast to coast.

Photo: Alexis Mette

4 https://www.iisd.org/sites/default/files/2020-07/green-strings-covid-19-canada-en.pdf

WHO WE ARE

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

Our Mission

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

Our Vision

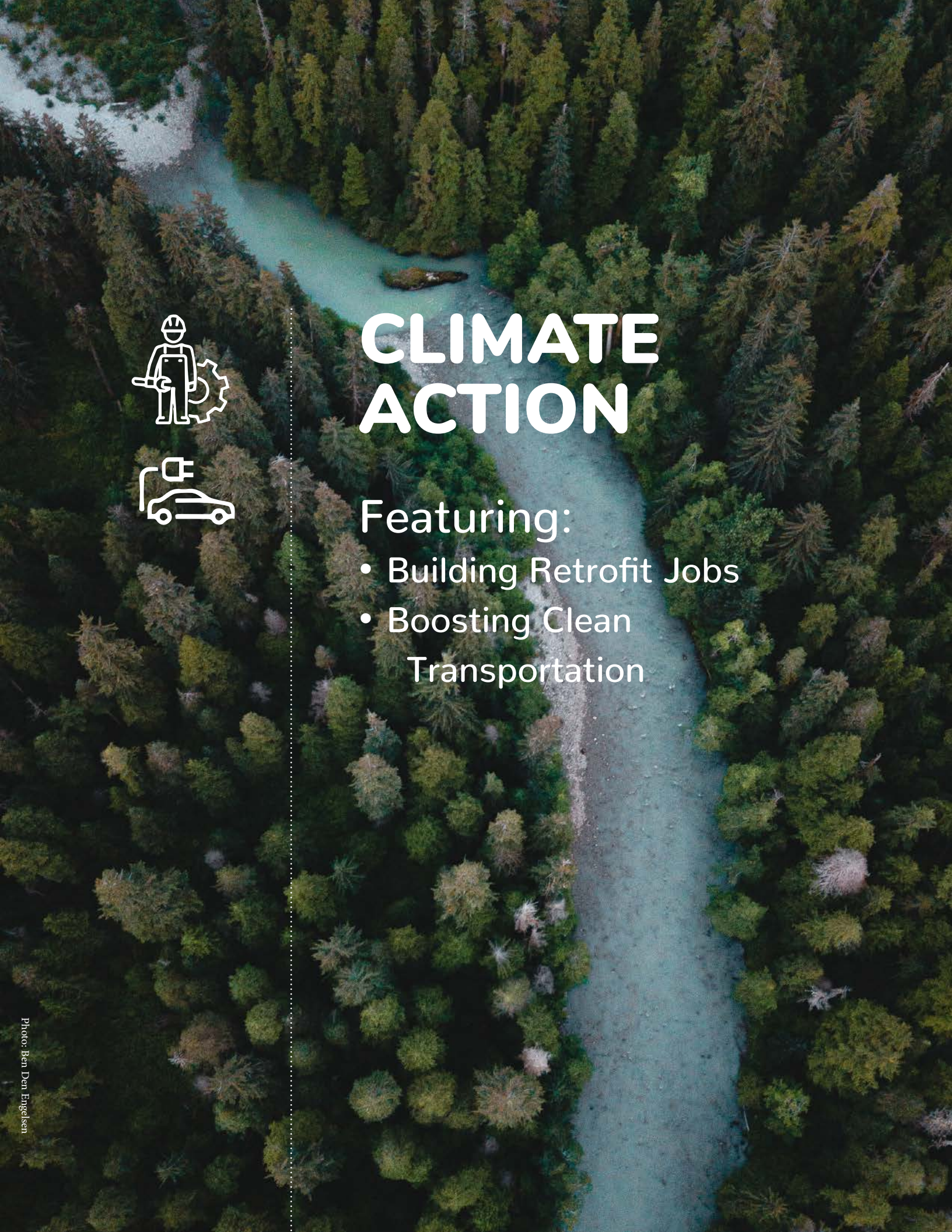
The Government of Canada contributes to securing and maintaining the environmental sustainability of Canada through appropriate investments in environmental programs, and through the adoption of appropriate policies related to taxation, pricing and subsidies.

Objectives

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

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

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

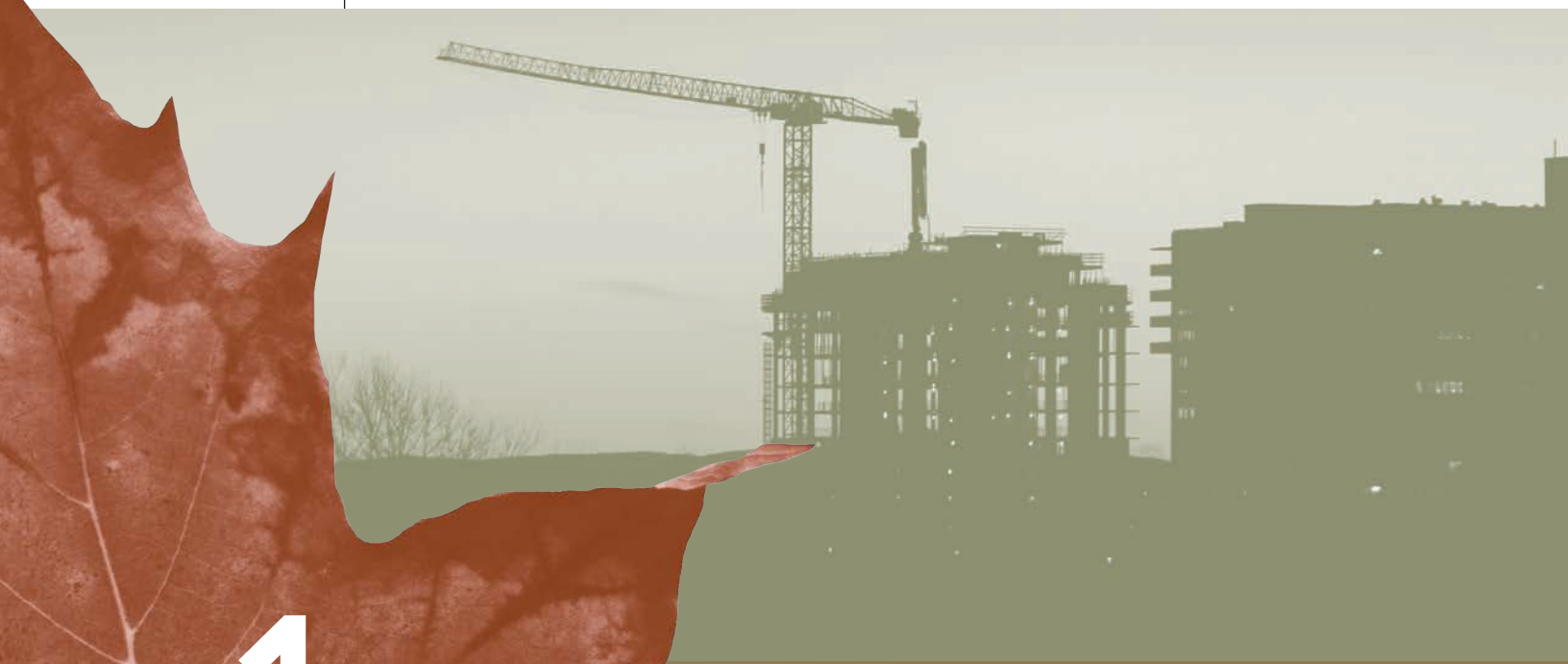


CLIMATE ACTION

Featuring:

- Building Retrofit Jobs
- Boosting Clean Transportation

Photo: Ben Den Engelsen



1 BUILDING RETROFIT JOBS

Investments to reduce emissions

Photo: Bobby Tal

Eliminating carbon pollution from homes and buildings by mid-century, essential to meeting Canada's Paris target, opens important opportunities to save money for Canadians and strengthen communities through well-paying jobs. Investing in our buildings and the people that design, build, and maintain them is an investment in our safety from a range of vulnerabilities—from health emergencies like this one to the floods, fires, extreme heat events and other extreme events we have experienced and will continue to experience as a result of climate change.

We recommend that the federal government **invest in refurbishing existing buildings**, with a focus on schools, hospitals, social housing, and residential buildings, to (1) get them off fossil fuels, (2) improve energy efficiency, (3) make them more responsive to fluctuating demand on the electrical grid via storage, on-site generation, and load shifting, and (4) make them more resilient to climate impacts and health crises such as the current pandemic.

The budget allocations for these programs should be commensurate with a major nation-building infrastructure investment. Canadian building owners and homeowners will need to invest $200 billion to $300 billion over the next thirty

years to retrofit Canada's buildings. Before governments can regulate major changes, the supply chains and trained workforce must be in place, and building owners and managers must integrate these objectives in their capital plans. For this, Canada needs a long-term investment strategy, leveraging public and private capital, administered by a dedicated agency.

RECOMMENDED INVESTMENT:

$10 billion for economic stimulus through climate resilient retrofit of Canada's buildings and homes [NRCan] and ensure its rapid outlay through the following four strategies:

1) Increase the ambition of the residential retrofits programs announced in the 2019 platform[5]:

- Increase the Greener Home retrofit target (currently of 1.5 million homes) and expand the program to include multi-unit residential buildings;
- Increase loan maximums from $40,000 to $100,000 and provide grants to cover a significant portion of the retrofit cost, ranging from 20% for basic measures up to 40% of total costs for deep retrofits, similarly to the German KfW Bank programs;[6]
- Provide top-ups to these measures for non-profit housing societies and low-income households, and create a dedicated channel for rental apartment owners; and
- Wherever possible, partner with provincial and territorial agencies to deliver these programs, providing flexibility to re-allocate funds to supplement existing provincial offers and ensure there is a single point of access for homeowners.

Photo: Luiz Filipe Souza

5 https://www2.liberal.ca/wp-content/uploads/sites/292/2019/09/Forward-A-real-plan-for-the-middle-class.pdf, p32-33
6 KfW Bank, "Existing Properties: Energy-efficient refurbishment." https://www.kfw.de/inlandsfoerderung/Privatpersonen/Bestandsimmobilie/

2) Enhance the National Housing Strategy funding:

- Create a top-up fund for retrofits and new construction projects, funded through the National Housing Strategy co-investment fund, that achieve deep carbon reductions. Right now, projects accessing NHS funding must achieve at least a 25% reduction in carbon pollution. Adding a top-up fund to enable societies to go directly to deep retrofits (60-80% GHG reductions) would seize opportunities that would otherwise be missed for increased resiliency, carbon reductions, and economic activity in projects that are scheduled in the coming years.

3) Increase the institutional and commercial retrofit rate by co-financing deep retrofits of public and commercial buildings:

- This could be achieved by instructing the Canada Infrastructure Bank to create a specific strategy for energy retrofits, and by endowing the four long-term funds to support retrofits in large buildings mentioned in the December 2019 mandate letter to the Minister of Natural Resources. The CIB should provide loan guarantees to de-risk private lending and grants to close the gap in the business case for deep retrofits. It should also support national harmonization of commercial PACE programs. There are significant costs associated with a new financing mechanism for construction projects or major retrofits (e.g., business case analysis, implications for insurance, distribution of risk, legal review of contracts); the CIB can help reduce this initial cost for national portfolio managers by providing some of this analysis and by ensuring the rules of programs are similar across different provinces and territories.

Photo: Gary Sandoz

4) Invest to grow the green building workforce :

This transition to low-carbon buildings will require many more professionals, contractors and trades to be trained in high performance construction and renovation. The economic slowdown provides an opportunity to invest in upskilling the current workforce as well as attracting more people to work in the sector.

- The Green Budget Coalition supports the Canada Green Building Council's call for a **$500 million** investment in **training for Canada's low-carbon building workforce.**[7] [ESDC, NRCan]

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Photo: John Salvino

7 https://www.cagbc.org/News/EN/2020/20200513_News_Release.aspx

2 STIMULUS INVESTMENTS TO BOOST CLEAN TRANSPORTATION

Photo: Shutterstock

Reducing emissions from the highly polluting transportation sector is one of Canada's biggest challenges given our vast distances, cities planned around cars, and a penchant for large, inefficient vehicles. At the same time, addressing emissions from transportation offers a cost-effective opportunity to improve the livability of our cities, reduce expenditures on fuel, and clean up the air. This is an opportunity to create jobs that support the ramping up of zero emission vehicle deployment, building clean transportation infrastructure and transitioning to clean fuels. The following recommendations provide a suite of proven, effective measures to advance these objectives.

Supporting Public Transit and Advancing Electrification

Transportation remains one of the highest-polluting sectors of the economy. Investments in public transit create jobs, reduce congestion, and improve affordability and livability while helping Canada reduce its emissions.

Public transit was quickly recognized as an essential service for essential workers and others during the COVID-19 pandemic. With physical distancing measures in place,

declining ridership, lost farebox revenue and decreasing gas tax revenues, transit authorities across the country are reporting staggering financial losses. For instance, during the early months of the pandemic, TransLink in Metro Vancouver reported a shortfall of $75 million a month.

The Green Budget Coalition supported the Canadian Urban Transit Association (CUTA)'s recommendation, that the federal government take the necessary measures to stabilize transit systems to compensate for revenue losses and extra expenses incurred during the pandemic. The Green Budget Coalition was pleased that the federal government recognized the impact of the pandemic on public transit by announcing $1.8 billion nationally to address costs faced by public transit systems in the 2020-2021 fiscal year as part of the Safe Restart program. This infusion will allow continued transit service for essential workers, support economic recovery and ensure planned capital expenditures on system expansion and electrification do not need to be deferred.

We further recommend that Infrastructure Canada work with provincial and municipal partners to accelerate the timelines for approved and pending transit projects, where possible, and flow funds faster. This will help create employment in communities across Canada while better positioning them for a net zero carbon transportation system.

As Canadians transition to EVs, the local revenue stream collected from fuel taxes to fund public transportation (such as the $0.185/L TransLink fuel tax in Metro Vancouver and $0.03/L fuel tax flowing to the Montreal's Autorité Régionale de Transport Métropolitain) will decline. This puts pressure on the budgets of transit authorities.

Photo: Shutterstock

Likewise, revenues from provincial fuel taxes will decline with fewer fossil fuel powered cars on the road, further affecting local transit reliant on those funds. Yet, at the same time, transit authorities require greater funding to expand transit and encourage the shift out of private vehicles to climate friendly alternatives.

Declining municipal and transit authority revenues will slow the pace of transit investments, active transportation growth and bus fleet electrification.

The federal government must work with provincial and municipal counterparts to identify new funding mechanisms. We laud the government's commitment to predictable funding for transit, and endorse the Federation of Canadian Municipalities' call for a permanent transit fund of $3.4 billion annually. We recommend the start date for this fund be moved to 2021.

The integration of public transit and active transportation networks offers important synergies: transit operates most effectively and ridership increases when it is planned in conjunction with walking and cycling infrastructure. Most trips are multimodal and integrating active transportation options with transit systems can help solve the "last kilometre" problem. Furthermore, investing in active transportation infrastructure, prioritizing small and medium-sized cities, is an important response to safety and physical distancing requirements during the pandemic. We appreciate that active transportation infrastructure will be eligible for the special COVID-19 response fund to be made available through the Investing in Canada plan. Additional, dedicated funds may be needed to support new or better walking paths, bike lanes and other active transportation infrastructure.

Photo: Shutterstock

Photo: Shutterstock

Along with immediate emergency funding for transit, the Green Budget Coalition recommends that the federal government scale up investments in public transit infrastructure, especially electric buses, across Canada. Finally, to enable transit systems to procure exclusively zero emission buses per the federal government's commitment to the deployment of 5,000 zero emission buses, reducing up to 100 tonnes of GHGs annually per bus, we support CUTA's recommendation that the government cover 80% of the incremental capital costs of zero emission buses over their diesel counterparts (estimated at $345,000), and provide a per-bus subsidy of $115,000 for electric charging infrastructure, over the next five years.

RECOMMENDED INVESTMENT:

In accordance with the CUTA and FCM recommendations: work with the provinces and territories to [INFC]:

- Proceed with the permanent transit fund of $3.4 billion, **bringing up the start date to 2021**.
- Zero-emission bus procurement incentive program funded at **$472 million annually for five years**.

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Accelerating the Transition to Zero Emission Vehicles (ZEVs)

Electric vehicles can dramatically lower emissions from cars and light trucks, which generate 11% of Canada's carbon pollution. The federal government's target is for all vehicles sold in Canada to be ZEVs by 2040. Regulated sales quotas aligned with the federal ZEV targets, along with financial support for purchasing ZEV vehicles and charging infrastructure, are the most effective ways to accelerate adoption, while also supporting jobs in the clean energy economy.

Photo: Theodor Vasile

As recovery begins, there is an opportunity to accelerate the shift to zero-emission vehicles and to build up Canada's ZEV manufacturing capacity. Strategic investments in every aspect of the transportation value chain will create the benefits of stimulating the Canadian economy. Globally, most electric vehicles (80%) are made in the region they are sold. However, Canada's auto industry lags behind other auto-manufacturing countries in its preparation for an electrified transportation future: Only 0.4% of the light duty vehicles produced in Canada are electric, which is 80% lower than the global average of 2.3%.[8]

Budget 2019 provided $300 million for a consumer purchase incentive program (iZEV), $130 million for charging infrastructure, and tax incentives for business investments in ZEV fleets. These programs can be refinanced and adjusted to contribute to rebuilding. In addition, major investments are needed to build out Canada's ZEV value chain, which includes raw material production and refinement, electric vehicle manufacturing and battery manufacturing. Retraining workers to have the knowledge and skill set to be a part of the ZEV manufacturing economy is critical to sustain and grow our jobs and maintain an automobile sector. *See also Just Transition recommendation, later in this document.*

RECOMMENDED INVESTMENTS:

- **$150 million** top-up to the iZEV incentive program [TC]. Though approved for three years in Budget 2019, uptake in Year 1 suggests the program could run out of money in Year 2 without additional funding.
- **$300 million** [NRCan] top-up to the Zero Emission Vehicle Infrastructure Program, which supports deployment of ZEV charging stations, to increase the federal government's contribution from 50% to 80% of costs for projects initiated by August 2021, and scale up the program. NRCan should establish targets for each charging infrastructure stream (e.g., public places, multi-unit residential buildings, fleets, transit) and review program design with a view to meet these targets and fully realize job-creation potential. *See also Decarbonizing Fuel Supply, later in this document.*

8 Ben Sharpe, Nic Lutsey, Cedric Smith and Carolyn Kim. *Power Play: Canada's Role in the Electric Vehicle Transition* (International Council on Clean Transportation, 2020), i, iii, 5. https://www.pembina.org/reports/canada-power-play-zev-04012020.pdf

- **$10 million** [ESDC] for ZEV automotive technician training program, modelled on the provincially-supported EV Maintenance Training Program at the British Columbia Institute of Technology**.**
- **$250 million over five years** [NRCan, ISED, ECCC] to prepare for a sustainable and circular EV battery supply chain, including: developing standards, policies and incentives for sustainable and material-efficient battery recycling; expanding R&D in battery and EV recycling and waste processing; advancing traceability initiatives for minerals used in batteries and EVs; and leveraging private capital to expand battery recycling capacity in Canada. The average lifetime of EV components is approximately ten years and current battery "waste" streams are still too small to attract significant private investment.
- More favourable tax treatment to attract investments in EV manufacturing, including domestic innovation/development of ZEV technologies, manufacturing of more EV models, and driving adoption in the Canadian market to ensure Canadian competitiveness. While there is already a commitment from the federal government to cut tax rates by 50% for companies that develop and manufacture zero-emission technology, investor and financial risk remain barriers. Other financial incentives such as seed funding for projects and technology pilots and demonstrations, and employment-related or manufacturing subsidies and loans can also be considered to reduce production costs. This can then spur follow-on funding from the private sector. [Finance, ISED]

Photo: David Dodge of @ GreenEnergyFutures

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Reducing Heavy-Duty Vehicle Emissions

Photo: Matthew Rader

Freight trucks accounted for 36% of total Canadian transportation GHG emissions in 2017.[9] With truck activity increasing and fewer vehicle efficiency gains compared to light vehicles, emissions from freight are expected to surpass those from passenger movement by about 2030 in Canada. It is important to support technological solutions that facilitate a shift to near- and zero-emission on-road heavy-duty freight vehicles. That is why we support the existing Electric Vehicle and Alternative Fuel Infrastructure Deployment Initiative (EVAFIDI) and Budget 2019's proposed tax incentives for businesses to purchase zero-emission vehicles. Targeting vehicle efficiency improvements that can benefit existing freight trucks, that will be on the road for years to come, is also important.

Fuel saving devices such as aerodynamic add-ons, low rolling resistance tires, automatic tire monitoring and inflation systems and idle reduction technologies, among others, can play an important role in reducing the fuel consumption of freight trucks.[10] Though fiscal measures are expected to improve the adoption of fuel saving devices, educational tools also promote adoption. Ensuring access to easily accessible resources on best practices and technologies is imperative.

RECOMMENDED INVESTMENT [NRCan]:

1. Establish financial incentives for fuel saving devices on heavy-duty trucks: **$200 million over five years** (2020-2024)

Please see also, earlier in this document, recommendations on funding zero emission vehicle rebates and urban transit.

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9 Natural Resources Canada, "Table 8: GHG Emissions by Transportation Mode." https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/showTable.cfm?type=CP&sector=tran&juris=ca&rn=8&page=0

10 As an example, Quebec's Ecocamionnage Program ($81.35 million) provides financial support for firms which decrease GHG emissions through the use of equipment and technology, with a focus on goods transportation.

Decarbonizing Fuel Supply

The forthcoming Clean Fuel Standard (CFS) will be a core regulatory pillar for decarbonizing the fuel supply and enabling Canada to meet its climate commitments and achieve net-zero carbon emissions by 2050. Locking in a robust CFS in 2021, as proposed, will help attract private investment in clean fuels. The sector has the potential to create thousands of jobs during the construction phase and new full-time clean-tech jobs.

To complement the CFS, the Green Budget Coalition recommends near-term financial support for the clean fuel sector to accelerate expansion of renewable, low-carbon fuel production capacity and distribution/use infrastructure, while supporting economic recovery. We further recommend that Finance Canada review applicable tax policy to attract investment in renewable, low-carbon fuel production, distribution and use.

Photo: Justin Chrn

RECOMMENDED INVESTMENT:

- **$100 million** [NRCan] top-up to the Electric Vehicle and Alternative Fuel Infrastructure Deployment Program, which aims to establish a national network of clean fuel charging/refueling stations, to increase the federal government's contribution from 50% to 80% of costs for projects initiated by August 2021, and to expand eligibility criteria to include biofuel blending infrastructure.
- **$350 million over five years** [NRCan] for a new low-carbon fuels innovation program, leveraging private capital, to accelerate expansion in clean fuel storage and distribution.

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Pricing Road Infrastructure

One reason that Canadian roadways, highways and cities suffer from congestion is that infrastructure projects that increase traffic volumes qualify for federal funding, resulting in a subsidy that favours private vehicle dependency, while use of roads is for the most part unpriced. Users do not pay for pollution they emit, the GHG emissions or the costs they impose on other users by adding to the total volume of traffic, or for their role in exacerbating congestion. Low density developments and the growth of suburbs and exurbs result in ever increasing demand for new investments in roads, yet frequently as soon as the roads are built or expanded, traffic volumes increase, often negating the rationale for the investments. However, COVID-19 has forced companies and communities to rethink how work is carried out and the need to commute to downtown office spaces. Much of the revenue earned by municipalities comes from sources that can have the perverse effect of encouraging municipal leaders to embrace sprawl: gas taxes, development charges and property taxes. Outside of North America, many highways are tolled and a number of cities such as London and Milan have reduced congestion, addressed GHG emissions and improved air quality through road pricing and congestion charges.

Photo: Matthew Henry

Photo: Joshua Woroniecki

The Green Budget Coalition recommends that the federal government:

- Work with provinces and territories to restructure infrastructure funding mechanisms for municipalities to better align incentives with smart growth principles;
- Support municipal efforts (such as the City of Vancouver) to advance mobility pricing via special grants to support studies;
- Undertake a comprehensive review of budgetary and regulatory mechanisms to ensure that a climate lens and demand side management is incorporated into roads built with federal support; and
- Make ineligible for federal funding road projects or other transportation infrastructure that will lock-in or exacerbate pollution, GHG emissions and loss of natural habitat.

RECOMMENDED INVESTMENT:

- **$5 million** [INFC]

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COMPLEMENTARY CLIMATE ACTION RECOMMENDATIONS

Phasing out Fossil Fuel Subsidies

Eliminating fossil fuel subsidies is a critical step to ensure a climate-safe future and transition to a low-carbon economy. These subsidies divert vital government resources away from other priority policy areas, such as healthcare, clean energy and just transition, whose importance has been highlighted by the COVID-19 crisis.

Canada has a longstanding commitment to phase out inefficient fossil fuel subsidies under the G20. Despite these commitments and strong public support for phasing out subsidies,[11] Canada remains the largest provider of subsidies to oil and gas production per unit of GDP in the G7[12] and the second largest provider of public finance to oil and gas in the G20.[13] Canada's progress on the G20 subsidy peer review with Argentina has been slow—past peer reviews have taken 12-18 months—and largely not transparent.[14]

In 2019 federal fossil fuel subsidies increased from the previous year to at least $600 million,[15] not including tax provisions, subsidies for the Trans Mountain project, or subsidies resulting from credit support such as through Export Development Canada (EDC). EDC provides on average nearly $14 billion in government-backed financial support to oil and gas companies each year.[16] EDC's new climate change policy is not aligned with Canada's climate commitments, requiring only a 15% decrease of its exposure to the most carbon intensive sectors. This year, EDC's total contribution to supporting oil and gas will likely be much higher, given its role in the COVID-19 response.[17]

Photo: Sippakorn Yamkasikorn

11 Environmental Defence. (2018). #StopFundingFossils: New poll shows Canadians want to end public subsidies for oil and gas companies. Retrieved from https://environmentaldefence.ca/report/stopfundingfossils/

12 Whitley et al. (2018) G7 fossil fuel subsidy scorecard. Retrieved from:https://www.odi.org/sites/odi.org.uk/files/resource-documents/12222.pdf

13 Tucker, B. and DeAngelis, K. (Oil Change International and Friends of the Earth U.S.), Still Digging: G20 governments continue to finance the climate crisis (2020) at p 20: http://priceofoil.org/content/uploads/2020/05/G20-Still-Digging.pdf

14 Office of the Auditor General of Canada. (2019). 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. Retrieved from http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201904_04_e_43310. html

15 Corkal, Levin & Gass. (2020) Canada's Federal Fossil Fuel Subsidies in 2020. Retrieved from: https://www.iisd.org/library/canada-fossil-fuel-subsidies-2020

16 Hamilton, K., Levin, J. & Tucker, B. (2020) Export Development Canada's role in bailing out the oil and gas sector. Retrieved from: https://environmentaldefence.ca/report/exportdevelopmentcanada_oil_bailout/

17 EDC (2019) Climate Change Policy. Retrieved from: https://www.edc.ca/en/about-us/corporate/corporate-sustainability-responsibility/environment-people.html

In the wake of COVID-19, calls from international leaders, such as the Executive Director of the International Energy Agency[18] and the Secretary-General of the UN[19] have urged countries to remove fossil fuel subsidies and put clean energy at the heart of stimulus plans. The response to COVID-19 requires unprecedented support for workers in industries such as the oil and gas sector, but this support should neither introduce nor entrench subsidies that hinder our urgently-needed transition away from fossil fuels. At least 53,000 jobs in the Canadian oil and gas industry have been lost since 2014 and the industry is no longer a stable source of job creation, pointing to an urgent need to support workers through just transition and economic diversification, for which subsidies hold us back.[20] Government support directed at creating employment in the reclamation industry must tangibly uphold the polluter pays principle and not lock government into covering costly future remediation liabilities.

Lastly, as the government rolls out its national hydrogen strategy, critical decisions about Canada's future role in the emerging hydrogen economy must be made. The oil and gas sector is pushing for governments to invest in fossil fuel derived blue hydrogen as a way to search for a new market for their products as the world transitions away from oil. Blue hydrogen is not free of carbon emissions. There is no time for a "later" transition to green hydrogen. Climate change impacts are mounting at such a rate that all new government investments must be focused on rapid transition to carbon-free energy systems.

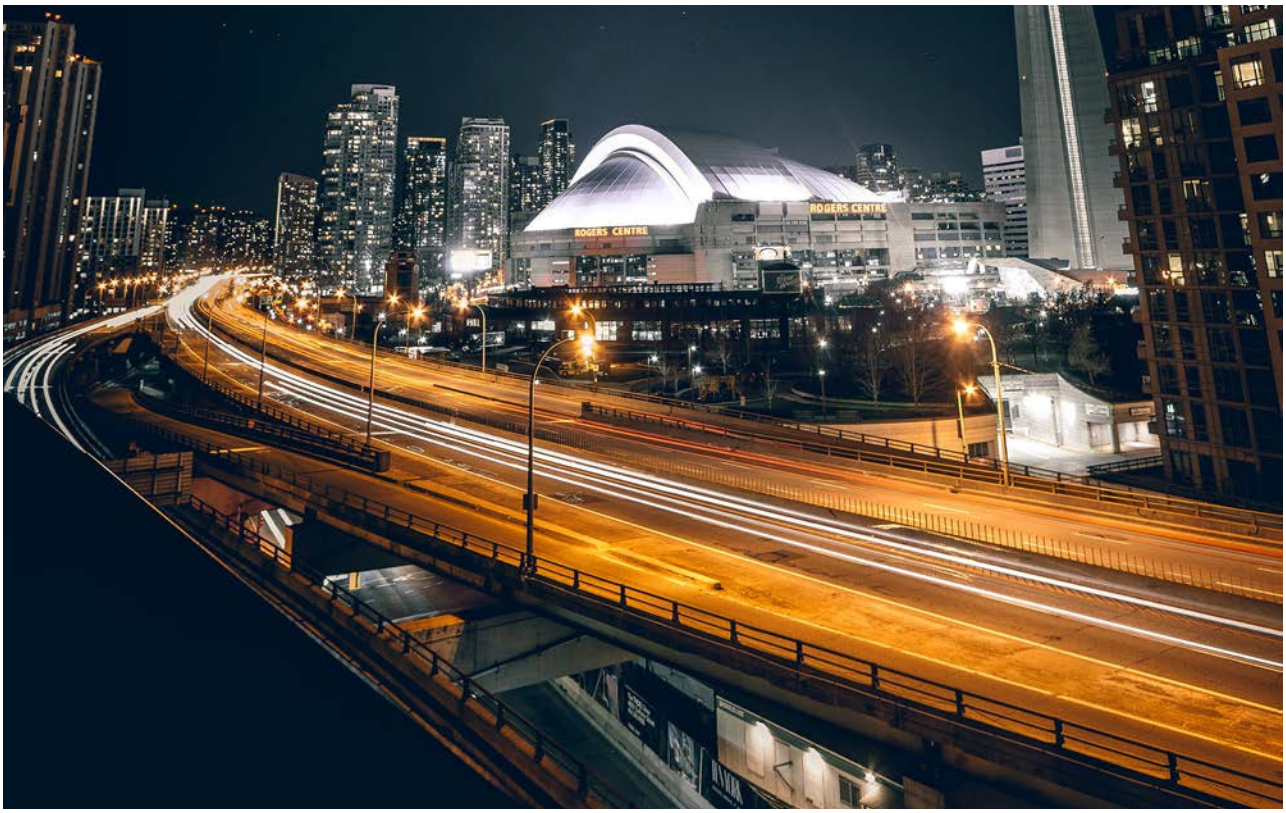

Photo: Warren Wong

18 Birol, F. (2020) Put clean energy at the heart of stimulus plans to counter the coronavirus crisis. Retrieved from: https://www.iea.org/commentaries/put-clean-energy-at-the-heart-of-stimulus-plans-to-counter-the-coronavirus-crisis

19 UN News (2020) COVID-19 pandemic, an 'unprecedented wake-up call' for all inhabitants of Mother Earth Retrieved from https://news.un.org/en/story/2020/04/1062322

20 Stand.earth (2020) Who Benefits? An investigation of foreign ownership in the oil sands. https://www.stand.earth/sites/stand/files/report-foreign-ownership-oilsands.pdf

RECOMMENDATIONS:

- Commit to not introducing new subsidies for fossil fuels, which includes ensuring that financial support for hydrogen is prioritized for green, not blue (fossil fuel-based) hydrogen. [Finance, NRCan, ISED, ECCC]
- End Export Development Canada's support for fossil fuels in the short term (including through the Canada Account) and ensure their new climate change policy aligns EDC's entire portfolio with Canada's climate commitments. [Finance, GAC]
- Complete a transparent G20 peer review, using internationally agreed upon definitions and robust criteria for "efficiency" that align with Canada's climate commitments. [Finance, ECCC]
- Develop a roadmap to meet or exceed Canada's commitment to phase out inefficient fossil fuel subsidies by 2025, exploring opportunities to redirect revenue to COVID-recovery, just transition needs and renewable energy acceleration. [Finance, ECCC]
- Include fossil fuel subsidy reform as a key element of focus in Canada's next nationally determined contribution (NDC) to the Paris Agreement. [ECCC]
- Transparently release information on quantified 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 by federal credit agencies. [Finance]
- Impose strict polluter pay conditions on any environmental remediation aid in order to maximize jobs and ensure industry pays for the cleanup of its operations. [Finance, NRCan]
- Work with the provinces and territories to address fossil fuel subsidies at the subnational level. [Finance, ECCC]

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Avoiding Taxpayer Liabilities for Small Modular Reactors

The nuclear industry is seeking policy and financial support for the development of Small Modular Reactors (SMR), which are promised to be cheaper and safer than previous reactor designs. However, spending federal resources pursuing such an unproven technology during the climate emergency while the costs of renewables continue to fall and timelines for commercial SMRs continue to be pushed further into the future is imprudent.[21] Cost benefit analysis of SMRs has largely failed to address operations and maintenance costs as well as decommissioning costs satisfactorily.[22]

In addition to subsidies, many industry policy requests contravene principles of sustainability, including protection from accident liability, waste responsibilities and exempting of SMRs from impact assessments.[23]

Based on similar promises, the Canadian nuclear industry has obtained significant federal support to develop new reactors in the past,[24] but been unable to commercialize new reactor designs. For example, between 2002 and 2009 Atomic Energy of Canada Limited (AECL) received $433.5 million in federal subsidies to develop the "Advanced CANDU Reactor"[25] (ACR), but no ACRs were ever built. The uncertainties, questionable economics and this unsuccessful track-record should preclude federal support for SMRs.

RECOMMENDATION:

The federal government should provide no support for the development of SMRs, including direct financial subsidies as well as indirect liability support or risks sharing. [NRCan]

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Photo: Dan Meyers

21 Thomas, Steve, Paul Dorfman, Sean Morris, and M. V. Ramana, Prospects for Small Modular Reactors in the UK & Worldwide Nuclear Consulting Group & Nuclear Free Local Authorities, United Kingdom, July 2019

22 Mignacca, B., & Locatelli, G. (2020). Economics and finance of Small Modular Reactors: A systematic review and research agenda. Renewable and Sustainable Energy Reviews, 118, 109519. https://doi.org/10.1016/j.rser.2019.109519

23 For a discussion of these requests and how they may harm Canada's commitment to sustainable development, please see: Blaise K., Stensil S-P. (2020) https://ideas.ted.com/why-we-should-all-stop-saying-i-know-exactly-how-you-feel/?fbclid=IwAR2eK6BHuWXFgQ7pH_ZF42qWDPTrI2FFWOxlFXgEBM04cCRHHacNFn1ehO8. In: Black-Branch J., Fleck D. (eds) Nuclear Non-Proliferation in International Law - Volume V. T.M.C. Asser Press, The Hague.

24 Despite tens-of-billions in subsidies, the Canadian nuclear industry has been unable to successfully innovate, design, or sell any new reactor designs since the CANDU-6 was first developed in the early 1970s. Since the design of the CANDU-6, Atomic Energy of Canada Limited (AECL) received federal funding for a long line of reactor designs that were never sold, including the Organic Cooled Reactor, the CANDU-Boiling Light Water Reactor, the Slowpoke Energy System, the CANDU-3, the CANDU-9, and the Advanced Candu Reactor. None of these reactors were successfully commercialized.

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

Accelerating Renewable and Decentralized Energy

The cost of renewables continues to decline. Renewable energy and decentralized electricity generation will play an important role in helping Canada reach net zero. There are additional benefits if this new capacity is community financed and owned by local public utilities, co-operatives, Indigenous communities or community development funds. Local ownership means local support for new projects and climate initiatives, as well as local jobs and economic diversification, and increased local resiliency—as demonstrated by existing community-owned energy in Canada and around the world. People are more than ready to invest their savings in clean energy, if there is a reasonable return and investments are RRSP and TFSA eligible.

RECOMMENDATIONS:

Total Recommended Investment: $3.25 billion over five years

1. Federal Procurement to support community-owned renewables

- Procure renewable electricity for federal facilities from community owned sources in provinces with grids of higher carbon intensity — Alberta, Nova Scotia and Saskatchewan — and those where there is still significant on-going use of natural gas like Ontario. **$50 million per year ($250 million over five years)** [Public Services and Procurement Canada]

2. Support for Community Financing

Community financing means projects are financed through entities such as energy co-operatives or economic development funds through which local residents can invest and make a return.

A. Fund a second round of the federal Smart Grid program, delivered by utility/community financing partnerships, focusing on deployment of community renewable energy technologies such as community-scale storage and virtual net metering for community solar. **$100 million over five years** [NRCan, Clean Power Fund of the CIB]

B. Provide "buy-down" incentives for community financed deep building retrofit projects (including net metered solar), to bring the payback period for these projects down to viable levels. **$50 million over five years.** [NRCan, ECCC, ISED]

C. Provide incentives of up to 25% of the installed capital cost, delivered in partnership with the local communities in provinces that have a high carbon intensity, for renewable projects of 1MW to 10MW, including distributed generation projects that combine wind plus storage or solar plus storage. **$250 million over five years.** [ECCC]

3. Financial support for rooftop (or distributed) solar

A. Provide rebates towards the installed capital cost of net-metered large-scale rooftop solar (rebates of up to 40% to a maximum of $10,000 per household for about 70,000 homes, and of up to 40% to a maximum of $200,000 per project, for commercial, industrial and community buildings as well as agricultural producers). **$1 billion over five years.** [NRCan]

B. Provide incentives of up to 65% of the capital cost of renewable energy projects in

Photo: Shutterstock

low-income and vulnerable communities that help reduce energy poverty. **$250 million over five years** [NRCan]

4. Planning, integration and capacity building

- Provide funding for regional dialogues, studies and models to expand inter-provincial transmission so as to support renewable energy integration, electrification of the economy and to displace fossil generation. **$50 million over five years.** [NRCan]
- Support the development of and promote community investment options in renewable energy for individual citizens. Support the development of tools that improve the viability of community energy enterprises, including $**50 million over three years** [ISED, NRCan, INFC]

5. Remote and Indigenous Communities

- Task the Canada Infrastructure Bank (CIB) with supporting feasibility studies and capital costs to enable projects in remote communities that displace diesel generation with renewables. **$450 million over five years** [CIB]
- Capitalize an Indigenous Clean Energy, Technology, and Infrastructure Fund to increase Indigenous capacity and equity participation in clean energy projects while creating jobs. **$300 million over five years** [CIB]

6. Spur the renewables plus storage projects

- Building off of the success of EcoEnergy for Renewable Power program (2007-2011), develop an updated version of this program to spur the development of projects that combine wind plus storage or solar plus storage. **$500 million over four years** [NRCan, Clean Power Fund of the CIB]

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

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

However desirable that transition, it will not happen unless we can also facilitate a transition toward desirable alternatives. Basic concepts of social welfare argue that in the transition we need to be concerned with the fate of fossil fuel sector-dependent workers and communities, and our recommendations on just transition respond to that immediate need. Going further, if those stakeholders cannot see a prosperous future for themselves beyond fossil fuels, their resistance to change will hobble any efforts at transition. As such, our recommendations for managed decline of the oil and gas sector are necessarily complemented by recommendations for the managed ascent of alternative sources of prosperity.

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 move forward a national just transition strategy, giving workers access to the training, support, and new opportunities needed to prosper today, and in the future.

While undertaking this 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,[26] and to initiate broader consultation and analysis on just transition in Canada with industries beyond coal.

Embedding a just transition in Canada's budget and climate policy will set a strong precedent as the world moves to a low-carbon economy. Providing tangible support to workers and communities impacted by actions that reduce or eliminate processes that produce carbon pollution will also increase public support for complementary climate policies at the federal level.

Photo: Lianho Qu

26 https://www.canada.ca/en/environment-climate-change/services/climate-change/task-force-just-transition/final-report.html

Photo: Willian Topa

The Green Budget Coalition encourages the federal government to:

- Implement 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.
- Move forward with legislation and creation of a robust Just Transition Act to support workers and communities. Create an adequately funded federal authority that has the mandate to move forward with a national just transition strategy, whose work is informed by experts from diverse fields including organized labour, the environment, economic development, and social work.
- Create a major innovation fund, along the lines of the US Advanced Research Projects Agency (ARPA-E) or the Alberta Oil Sands Technology and Research Authority (AOSTRA), both of which built the foundations for transformational change in the energy sector. The fund should have an explicit mandate to support R&D, scaling up and commercialization of technologies that can help Canada diversify away from its reliance on fossil fuels as an engine of economic growth, and have a geographic focus on those areas currently most dependent on such growth.
- Within that broad program of support, complement open (sector-neutral) competition for funds with mission-oriented programmes aimed at transformative technologies needing patient, risk-tolerant investment, such as green hydrogen production and utilization, and commercializing the manufacture of carbon fibre.
- 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.

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Independent Monitoring of Methane Emissions

Canada has committed to reduce methane emissions from the oil and gas sector by 45% by 2025. Methane abatement offers some of the most cost-effective GHG reductions available. Canada passed new methane regulations and has reached an equivalency agreement with British Columbia to stand down federal requirements in favour of provincial regulations and is concluding similar agreements with Alberta and Saskatchewan. These regulations clarify industry's obligations to monitor and report on emissions. However, field measurement of emissions by independent researchers has shown a wide divergence with emissions reported by industry and included in the federal inventory and questions remain as to the effectiveness of the different regulatory regimes in reducing emissions. In April 2020, the federal government provided $750 million in grants and loans to the oil and gas industry to accelerate abatement of methane emissions.

To assess the effectiveness of provincial regulations at meeting Canada's commitments, to verify inventory figures and to monitor the effectiveness of federal grants and contributions for methane abatement, increased independent aerial and field measurement of methane emissions is warranted.

RECOMMENDED INVESTMENT:

$16 million over two years. [NRCan]

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Photo: Evi TF

Marine Shipping – Reducing Climate 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. As a part of Canada's climate and economic recovery plan, steps must be taken to address the local and global climate impacts of shipping.

RECOMMENDED INVESTMENT:

$90 million over two years

Developing Policy Tools

- **$20 million over two years** for policy research and stakeholder engagement to**:**
  - Develop a national shipping GHG and black carbon reduction strategy which includes absolute targets and timelines in line with keeping global temperature rise to 1.5 degrees. The plan should also incorporate a comprehensive approach to reducing air pollution, Nitrous Oxide, Sulfur Oxide (NOx and SOx), fine and ultrafine particulate matter, and methane. [TC, ECCC]

Kick-starting Innovation

- **$20 million over two years** for R&D and sea trials to meet the achievable target of 100% zero emission vessels in Canadian inland waters by 2030. [TC, NRCan]
- **$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 emerging technologies such as wind-assist, solar sails, autonomous technology and digitalization, and hull appendages, that would not only save on fuel but reduce GHGs and emission pollutants. [TC]
- **$40 million over two years** to implement a national shore power plan which would ensure all vessels are equipped to accept shore power and ports are able to provide it. [TC, ECCC]
  - To enable this, 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 alternative energy for zero-emission vessels, vehicles, and equipment.

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Photo: Tim Foster

International Climate Finance

Photo: Cronis Yan

Canada and other industrialized countries continue to scale up to meet the Paris Agreement target of USD 100 billion per year to help developing countries with climate adaptation and mitigation. Federal funding for climate finance ($2.65 billion over five years) will sunset in March 2021. The Green Budget Coalition recommends that funding for climate finance be renewed in Budget 2021, and that Canada increase its contribution in line with what is considered our fair share of responsibility (3%-4%),[27] and invest as much or more in adaptation as in mitigation. The Green Budget Coalition encourages the federal government to direct more attention to funding nature-based solutions that fully respect the U.N. Declaration on the Rights of Indigenous Peoples, including Free, Prior, and Informed Consent. Most nature-based solutions are cross-cutting, offering adaptation and mitigation gains while benefiting biodiversity and local and Indigenous communities. Climate finance with development as a priority outcome will help fulfill Canada's Sustainable Development Goals, although climate finance should be additional to official development aid. Nature-based solutions are prominent in the climate adaptation plans and nationally determined contributions (NDCs) of developing countries.[28]

The Green Budget Coalition recommends that Canada enhance the transparency of its international climate finance by making the online database comprehensive and regularly updated, with aggregation by categories: bilateral grants, multilateral grants, concessional loans, private sector leveraging, and loan and investment guarantees. All loans should be reported at the grant equivalency value.

Recommended Investment:

$4 billion annually from 2021/22 to 2025/2026, with at least 50% for adaptation, and increased attention to nature-based solutions. Canada's Feminist International Assistance Policy requires that 15% be allocated to projects that specifically target gender equality and the empowerment of women and girls. [GAC, ECCC]

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27 Demerse, Clare. (2009). "Our Fair Share: Canada's Role in Supporting Global Climate Solutions." Pembina Institute. Accessed at https://www.pembina.org/pub/1815

28 Seddon, N. et al. 2020. Global recognition of the importance of nature-based solutions to the impacts of climate change. Global sustainability 3, e15, 1-12.

Strengthening Carbon Pricing

Photo: Shutterstock

A price on pollution is the cheapest way to reduce harmful air pollution and carbon emissions and is integral to any plan to build a strong economy. The federal price on carbon pollution is revenue neutral, will reduce GHG emissions by 50 to 60 MT by 2022, and help the Canadian economy tap into the USD 26 trillion global cleantech market.[29]

As part of the 2020 mid-term review of the Pan-Canadian Framework on Clean Growth and Climate Change (PCF), the federal government has committed to assess the overall approach to pricing pollution and best practices to address the competitiveness of emissions intensive and trade-exposed (EITE) sectors. **The Green Budget Coalition recommends that this process establish clear criteria regarding:**

- How the price signal will increase beyond 2022: laying the groundwork for regular, incremental carbon price increases. This will offer much-needed certainty for investors and long-term incentives and flexibility for industry and consumers to move toward low-carbon options. That investment certainty and incentivization of low-carbon options is essential to the future resilience of the Canadian economy as the world strives to decarbonize to limit warming to 1.5 degrees Celsius.
- How the price treatment will convert to full coverage over time for EITE sectors: A properly designed OBPS must be targeted and temporary. In other words, it should only apply to EITE sectors with true competitiveness concerns.
- How to expand the scope of the federal carbon pricing system beyond combustion and industrial emissions to include ecosystem emissions associated with human activity, e.g., land use change and land degradation. *See Nature-based Climate Solutions, later in this document.*

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29 The New Climate Economy, The 2018 Report of the Global Commission on The Economy and Climate, https://newclimateeconomy.report/2018/

Helping Restaurants Reduce Reliance on Single-Use Plastics

Photo: Tarvi Sharma

Tackling plastic pollution provides an opportunity to reorient the Canadian economy toward *circularity* - minimizing pollution and greenhouse gas emissions, while simultaneously reducing waste management costs, and creating jobs. It is estimated that a circular economy would reduce waste management costs by $500 million annually and create 42,000 new jobs.[30]

The government has committed to banning non-essential, single-use plastics by 2021, and this, along with other regulatory measures, such as Extended Producer Responsibility (EPR) requirements and targets, is the key to solving the plastic pollution problem.

To support evidence-based decision-making on priorities for improving circularity, and the development of effective EPR requirements, we recommend that Canada provide funds to collect and aggregate data on the amounts and types of plastic packaging introduced to the economy, their use, and end-of-life management. This information is essential when benchmarking Canada's progress towards zero plastic waste.

To further accelerate a shift away from single-use plastics and assist with the transition, we recommend establishing a fund for SMEs—specifically restaurants and food service providers—and municipalities that implement the federal procurement guidelines as they relate to plastics. This would provide much needed financial support to a sector hit hard by the COVID-19 pandemic, support the transition away from single-use and hard-to-recycle plastic packaging, and enable the expansion of nascent reuse systems.

Recommended investment:

- **$500 million** to establish a fund to support SMEs — specifically restaurants and food service providers — and municipalities in implementing the federal procurement policies as they relate to plastic. [ISED]
- **$5 million** for ECCC and Statistics Canada to collect and aggregate data on the amounts and types of plastic packaging introduced to the economy, their use, and end-of-life management.

See also Expanding Ghost Gear Clean-Up, later in this document.

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30 Environment and Climate Change Canada, Economic Study of Canadian Plastic Industry, Markets and Waste. 2019. Accessed at: http://publications.gc.ca/collections/collection_2019/eccc/En4-366-1-2019-eng.pdf

Sustainable Finance Report

Photo: Rupi Xen

The Green Budget Coalition acknowledges the importance of the June 2019 Final Report of the Expert Panel on Sustainable Finance[31] which provides a blueprint for integrating sustainability and climate-related financial risk and opportunity into government decision-making and the financial sector and financing the transition to a clean economy. The GBC supports many of the Expert Panel's recommendations, but with major caveats regarding new public financing for fossil fuels.

The Expert Panel calls for recognition of the economic opportunity presented by the transition to a "competitive low-emissions, climate-smart economy". This would be guided by a detailed capital plan aligned with Canada's long-term climate change targets.

The Panel also recognizes the opportunity for targeted tax incentives to drive private investment into clean innovation to embolden Canadians toward climate-aligned investments. The GBC's recommendations on renewable and decentralized energy represent a concrete approach to realize this opportunity.

The Panel recommends creating and strengthening financial sector institutions to help integrate climate considerations throughout the sector. In particular, the GBC supports implementing the recommendations of the Task Force on Climate-Related Financial Disclosure (TCFD) and making annual TCFD reporting mandatory for governments, investors and banks. The GBC also supports clarifying the scope of fiduciary duty for investors and corporate boards in the context of climate change.

While the panel also appropriately recommends a focus on products to finance clean innovation in priority areas of the economy, including clean technology buildings, and electricity, the GBC

31 http://publications.gc.ca/collections/collection_2019/eccc/En4-350-2-2019-eng.pdf

cannot support the panel's inclusion of the oil and gas sector in any policy related to sustainable finance. The continued growth and operation of the oil and gas industry is inconsistent with science-based mid-century decarbonization goals, even if additional progress on marginal upstream emissions reduction were achieved.

The GBC opposes the use of new targeted sustainable finance tools for the oil and gas sector. In particular, we object to the application of so-called 'transition bonds' for the fossil fuel sector, which, unlike other sectors of our economy, does not have a credible transition pathway to achieving zero emissions. Transition bond finance should only flow to sectors with the ability to fully transition to clean energy, which is not possible with fossil-fuel related companies. The integrity of the wider green bond market would be compromised by attempts to open up the market to flow new, low-cost finance to oil & gas companies.

The **Green Budget Coalition recommends that the federal government**, especially Finance Canada, **give the Panel's report the most serious consideration**, while not establishing additional subsidies for fossil fuels or new targeted finance flows for fossil fuels which would undermine our long-term climate goals.

Please see also GBC recommendations on Reducing Building Emissions, Renewable and Decentralized Energy, and Fossil Fuel Subsidies, all earlier in this document.

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Photo: William Iven

Creation of Expert Advisory Committee for Forthcoming Climate Legislation

The federal government has committed to develop net-zero legislation.[32] To be effective, such legislation must be grounded with an accountability framework to ensure these new targets do not simply fall by the wayside like every previous GHG emissions reduction target Canada has set.[33] One of the key pillars of a best practice climate accountability framework is an arm's length expert committee to advise on setting long-term GHG emissions reductions targets and pathways, setting interim targets (five-year carbon budgets) and regular climate impact reports. The committee would also independently monitor and report on plans to meet the targets and adapt to the climate impacts, and report on progress. The UK's Climate Change Committee (CCC) is regarded as the best practice standard for such an expert committee.

An agency's ability to operate independently, and thereby fulfill an apolitical role, is severely hampered if it is not provided with an adequate budget.

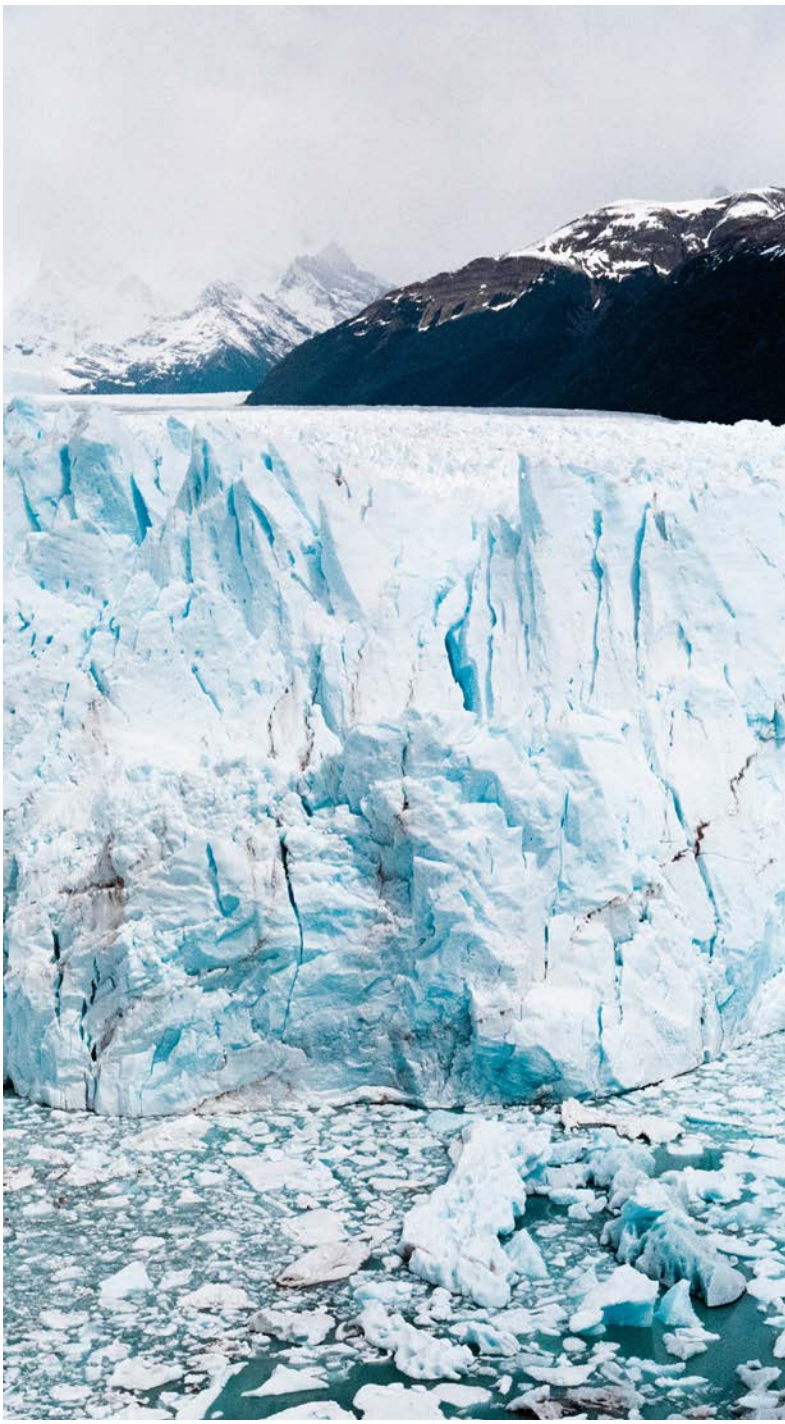

Photo: Jens Johnsson

Recommended Investment:

$25 million over five years for the development and operation of an independent, arm's length expert advisory committee on climate change that will be established in forthcoming climate accountability legislation. [ECCC]

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32 https://pm.gc.ca/en/mandate-letters/2019/12/13/minister-environment-and-climate-change-mandate-letter
33 https://www.ecojustice.ca/wp-content/uploads/2020/06/Policy-Brief-New-Canadian-ClimateAccountability-Act-1.pdf

Ensuring that Budget 2021 Reflects the True Costs of Climate Change

Federal budgets to date have failed to consider, or have underestimated, the cost implications of climate change and failed to examine how the government should pay for these increased costs.

For example, Budget 2019 includes $130 million per year for the Disaster Financial Assistance Arrangements, far less than the Parliamentary Budget Officer's estimate that this program will cost $902 million per year from 2016-2020.[34]

In addition to estimating current and future budgetary needs associated with climate change, Canada must enable transparent decision-making regarding keeping these costs manageable, including through investments in GHG mitigation, climate adaptation, and cost-recovery from corporations and individuals that benefit financially from fossil fuel production and use.

Recommended Investment:

$2 million over two years to ECCC to:

- Work with each federal department to identify and quantify the budgetary implications of *Canada's Changing Climate*,[35] to ensure that those implications are incorporated into, and clearly identified in, the federal budget, starting with Budget 2021; and
- Explore opportunities to recover climate costs from polluters.

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Photo: Jim Gade

34 http://www.pbo-dpb.gc.ca/web/default/files/Documents/Reports/2016/DFAA/DFAA_EN.pdf
35 https://www.nrcan.gc.ca/maps-tools-and-publications/publications/climate-change-publications/canada-changing-climate-reports/canadas-changing-climate-report/21177

NATURE & BIODIVERSITY CONSERVATION

Featuring:

- Nature-Based Climate Solutions
- Creating and Managing Protected Areas, including Indigenous protected areas and Guardians programs

Photo: Sharissa Johnson

3 NATURE-BASED CLIMATE SOLUTIONS

Photo: Ducks Unlimited

Nature based climate solutions (NBCS) are changes in land use and/or management with measurable benefits for climate change mitigation, adaptation, *and* biodiversity.[36]

Canada's diverse ecosystems can be part of the climate solution. Actions to **Protect** (*see the Protected Area section*), **Restore** (*see the **Habitat Restoration** section that includes the tree planting initiative*), or **Reduce Land Use Change and Manage Ecosystems** for near term climate mitigation benefits (*this section*), as well as ecosystem focused actions that provide climate resilience benefits to communities (*see the **Natural Infrastructure** section*), all have benefits for helping us meet mitigation, adaptation and biodiversity targets, though with different timelines and depending on where they occur, with different specific benefits.

Some NBCS for example, especially those described in the **Federal Habitat Restoration Program** and **Natural Infrastructure** sections, are investments that can immediately (within 6-18 months) generate new jobs for communities hit especially hard economically, such as agricultural communities, northern communities, and

36 Nature-based climate solutions, as defined by IUCN, help to address climate change while providing benefits for biodiversity conservation. https://portals.iucn.org/library/sites/library/files/documents/2016-062.pdf

Photo: Rachel Plotkin

Indigenous communities impacted by drops in demand for oil, gas, certain wood products, and other natural resources. Data from the 2009 American Recovery and Reinvestment Act show that job creation from investments in habitat restoration projects are higher than investments in oil and gas, and could be even higher than job creation ROIs for alternative or renewable energy or energy retrofits (for example, as compared to figures cited by the Task Force on Resilient Recovery).[37] In addition to high returns on investment, NBCS can save cash strapped municipalities large sums of money compared to traditional infrastructure while diversifying economies and growing Canada's GDP in a more nature and climate friendly manner.

There is also a need to specifically harness the power of nature to meet our 2030 Paris Agreement mitigation targets. Our ecosystems are projected to sequester less carbon in 2030 than ever before. Changing the rate of ecosystem degradation and loss in forests, native grasslands and wetlands will have an immediate mitigation impact. In addition to some actions taken to protect and restore ecosystems (e.g., restoring grasslands may store enough carbon in the near term to make a difference by 2030), we can do this by lightening our footprint on the land through innovative management approaches and technologies that will result in reducing the rate of ecosystem degradation while still delivering important goods and services and safeguarding jobs. Programs and regulations to drive business innovation and new practices and technologies will also create jobs and revenue.

37 Giselle Samonte, Peter Edwards, Julia Royster, Victoria Ramenzoni, and Summer Morlock. 2017. Socioeconomic Benefits of Habitat Restoration. NOAA Tech. Memo. NMFS-OHC-1, 66 p.

To be effective, investments to implement land-use change and management practices that reduce direct GHG emissions and/or increase sequestration should:

- Directly support actors (e.g., NGOs, industry, Indigenous peoples) who are pursuing innovative management and technology solutions to reduce ecosystem emissions from industries with a large footprint, such as the oil and gas, forestry, and agriculture sectors;
- Develop and grow ECCC programs focused on reducing land use change and degradation, such as loss of native grasslands and wetlands;
- Provide support for Indigenous peoples seeking to manage lands and natural resources with a lighter ecological and GHG emissions footprint and opportunity for local jobs;
- Support provinces to adjust and advance new forestry practices and land use planning to reduce their infrastructure footprint, while ensuring jobs and safety;
- Ensure that any infrastructure funding or funding used to revitalize Canadian industries consider how those investments could also reduce ecosystem emissions from land use change and management practices;
- Grow the knowledge and scientific and economic data required to develop policies and regulations to further encourage actors to reduce emissions from ecosystem loss and degradation, for example by expanding the scope of the GHG Pollution Act; and
- Support a better understanding and quantification of the GHG impacts that industrial activities are having on our natural assets, including wetlands, grasslands and oceans; and systemically include them into Canadian laws and policies.

Photo: Ducks Unlimited

Photo: Pat Kane

Investments could flow through existing channels in ECCC, INFC, AAFC, DFO and NRCan to help with resource deployment, but should be tracked carefully to ensure funding is used to provide: a) direct mitigation benefits from land use change and management by 2030; b) positive biodiversity outcomes, and, c) information to inform policies to drive broader transformative change towards a greener economy.

RECOMMENDED INVESTMENT:

At least $1 billion for reducing GHG emissions from land-use change and degradation over ten years.[ECCC, NRCAN] If managed carefully to leverage opportunities at around $50/tonne CO_2 eq, this could leverage 2 MT of GHG emission reductions a year. **Over 10 years** and leveraging funding and policies for other related activities such as those listed above, these investments can put us on a path to achieving increased emission reductions from LULUCF in 2030.

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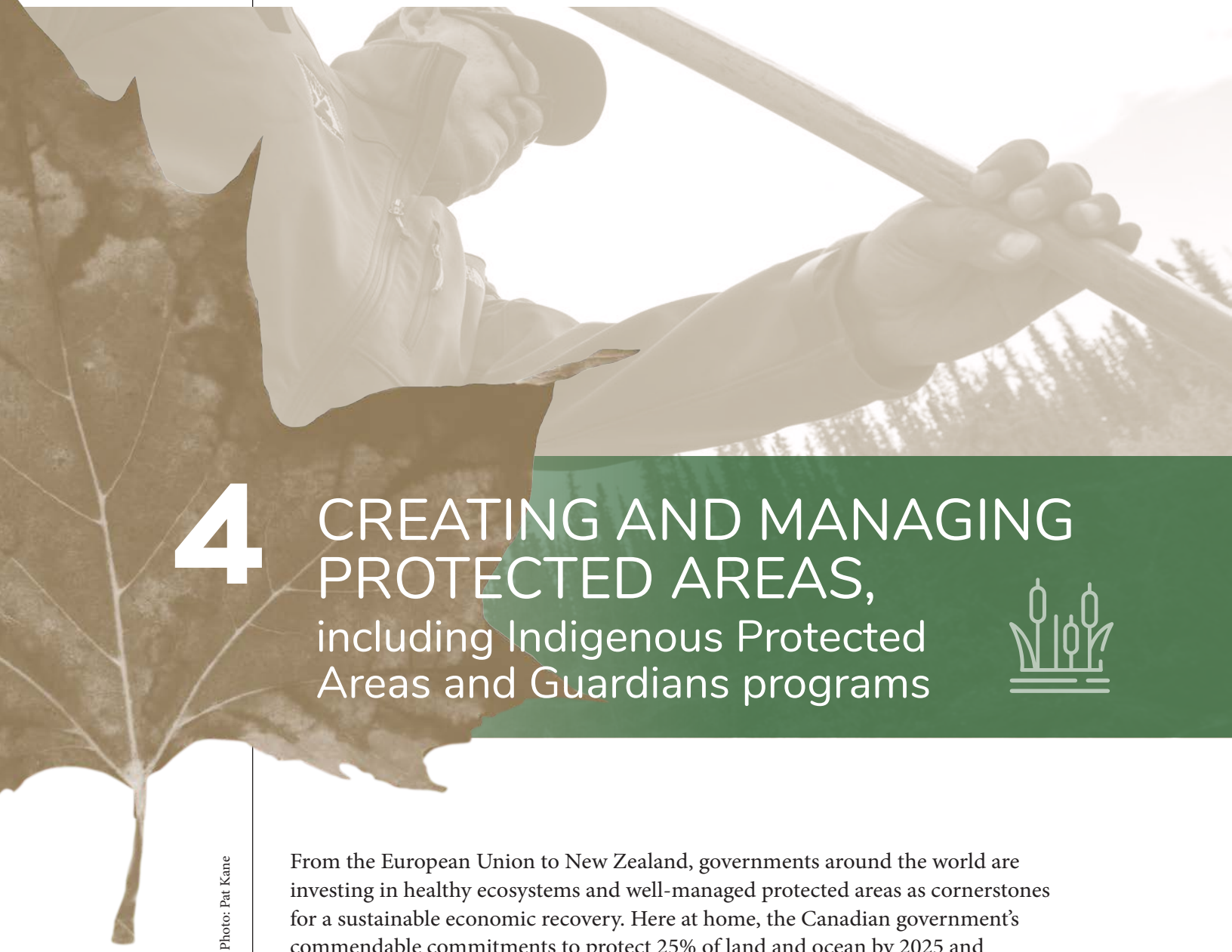

4 CREATING AND MANAGING PROTECTED AREAS, including Indigenous Protected Areas and Guardians programs

Photo: Pat Kane

From the European Union to New Zealand, governments around the world are investing in healthy ecosystems and well-managed protected areas as cornerstones for a sustainable economic recovery. Here at home, the Canadian government's commendable commitments to protect 25% of land and ocean by 2025 and 30% by 2030 must guide federal stimulus and budget investments to drive the transformational changes needed to better care for the natural systems upon which we all depend.

The pandemic has reinforced for Canadians the essential services that parks and protected areas bring to nature and to people, yet natural spaces are being degraded and lost due to ever-expanding industrial and urban development, and climate change. In Canada, over half of all wildlife populations are in serious decline,[38] and we are losing critical ecosystems like wetlands and native grasslands. Large-scale networks of protected land and ocean are needed to support healthy ecosystems, so

38 World Wildlife Fund Canada. (2017). Living Planet Report Canada. Retrieved from: http://www.wwf.ca/about_us/lprc/

they can sustain wildlife, sequester carbon,[39] and deliver the clean air, water, food, and other essential goods and services we need for survival, including improved physical and mental health and cultural well being.

Indigenous-led conservation and stewardship is critical for this agenda, including expanding Guardians programs, Indigenous land and marine plans, and Indigenous Protected and Conserved Areas (IPCAs) across Canada. See the sections on *IPCAs* and *Indigenous Stewardship and Guardians*, below, for information on how investments in these areas can support goals for job creation and economic recovery, as well as key conservation, climate, and reconciliation outcomes.

Photo: Jason Houston

39 According to one study, Canada's national parks store approximately 4.43 billion tonnes of carbon, which is approximately 23 times Canada's 2009 annual greenhouse gas emissions. Kulshreshtha and Johnston 2004: Economic Value of Stored Carbon in Protected Areas; referenced in Parks Canada Agency, Canadian Parks Council Climate Change Working Group. 2013. Canadian Parks and Protected Areas: Helping Canada Weather Climate Change. http://www.parks-parcs.ca/english/CPC%20Climate%20Change%20Report%20FINAL%20engLR.pdf

Summary of recommended investments for creating and managing protected areas from 2020 to 2025:

$4.8 BILLION OVER FIVE YEARS, FOLLOWED BY $745 MILLION PER YEAR ON-GOING:

- **$1 billion over five year**s, then **$175 million per year on-going**, for establishment and ongoing management of national parks and terrestrial national wildlife areas;
- **$600 million over five years**, then **$125 million per year on-going**, to support establishment and ongoing management of provincial and territorial protected areas;
- **$905 million over five years**, then **$145 million per year on-going**, for establishment and ongoing management of marine protected areas including national marine conservation areas;
- **$1.5 billion over five years** to support the completion of Indigenous-led land use plans and the establishment of IPCAs and their associated stewardship programs; and
- **$831.5 million over five years**, then **$300 million per year on-going**, to support existing and new Indigenous Guardians Programs.

Photo: Mélissa Vaitilingame

Protecting Public Lands and Freshwater

Ninety percent of land and all freshwater areas in Canada are held and managed by governments — federal, provincial, territorial and Indigenous.[40,41] In 2015 Canada's federal government committed to delivering on the international interim target set under the UN *Convention on Biological Diversity (CBD)* of protecting at least 17% of land and inland waters by 2020 and improving the quality of protected areas.[42] The federal government has convened and led a nation-wide effort to achieve this target and invested more than $1.3 billion over five years in nature conservation. This included creating the Canada Nature Fund to support conservation action by provincial, territorial, and Indigenous governments, conservation organizations, and other partners.

This historic investment is supporting efforts by provincial, territorial and Indigenous governments to establish new protected areas, including 55,000 square-kilometers in the Yukon's Peel River Watershed, 27 new protected areas in Nova Scotia, and many others,[43] and is expected to deliver an expansion of Canada's protected areas system from just over 12% to about 17% protection over the next few years.

Photo: Jill Pangman

40 For more details on Indigenous Protected and Conserved Areas and Indigenous Stewardship and Guardians, please see the subsequent sections below.

41 Recommendations related to private land conservation can be found in the following sections: Federal Habitat Restoration Program, Habitat Project Renewal Fund, the North American Waterfowl Management Plan Challenge Fund, Natural Infrastructure, and Ecological Goods and Services Programming for Agricultural Lands.

42 The Convention on Biological Diversity. Convention. UN Environment. Accessed June 22, 2020. https://www.cbd.int/convention

43 https://cpaws.org/protection-in-progress/

To meet the federal government's new target of protecting 25% of land and freshwater by 2025 and 30% by 2030, continued federal leadership and more investment to support action by all levels of government and other partners will be needed.

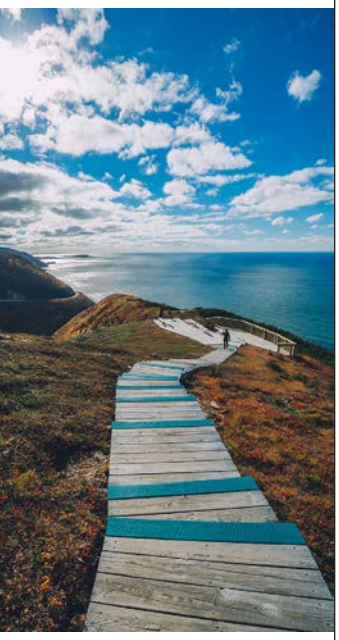

Photo: Elyse Turton

With Canada holding much of the world's remaining wilderness, the federal government must continue to lead and champion nature conservation and its role in our collective prosperity and well being. Canadians want Canada to lead on conservation. A recent poll commissioned by The International Boreal Conservation Campaign (IBCC) showed that 9 out of 10 Canadians support the government's pledge to protect 30% of our land and ocean by 2030, 80% expect Canada to be a global leader in protecting land and water, and three quarters support expanding funding to create more protected areas.[44]

Protected areas have a proven track record in delivering tangible economic benefits.[45,46] Investing in more and better managed protected areas, including Indigenous protected areas, will support short and long-term jobs across the country, build a long-term foundation for nature-based and culture-based tourism, and contribute to stable and diverse community economies. In 2017-18, the economic impact of visitor spending at Parks Canada sites alone included a $2.6 billion contribution to Canada's GDP, almost 28,000 full time jobs across the country, and $449 million in tax revenues across multiple levels of government.[47]

For conservation and protected areas to be effective in conserving biodiversity and delivering other benefits to Canadians, ongoing investments must also be made in management and stewardship. One critical lesson learned from the Canada Nature Fund Challenge is the importance of committing long-term funding to steward and manage new protected areas, in addition to providing funds for their establishment. This is key to securing the support of provincial and territorial governments and communities, and to ensuring that protected areas deliver diverse economic, social and environmental benefits.

44 https://static1.squarespace.com/static/5a2ef5702278e792c098cc02/t/5e83cae95b213c10416e69c2/ 1585695470280/Pollara-Boreal+Forest+IBCC+Report+FINAL.pdf

45 Walls, M., P. Lee, and M. Ashenfarb (2020). National monuments and economic growth in the American West. Science Advances 6 (12). DOI: 10.1126/sciadv.aay8523

46 Campaign for Nature. 2020. Protecting 30% of the planet for nature: costs, benefits and economic implications. Accessed July 20, 2020. https://www.campaignfornature.org/protecting-30-of-the-planet-for-nature-economic-analysis.

47 2017/18 data as provided by Parks Canada Infographic.

RECOMMENDED INVESTMENTS [ECCC, Parks Canada]:

1) Deliver on the federal government's commitment to protect 25% of Canada's land and freshwater by 2025 by investing **$1.6 billion[48] over five years**:
   a. **$800 million in the next two years** (2020-2022)
   b. **$300 million over three years** (2022-2025)
   c. **$100 million per year, ongoing, for management of provincial, territorial and federal protected areas**
2) **Lay out investment plans to** deliver on the commitment to protect 30% of Canada's land and freshwater by 2030 by committing **$1.5 billion[49] over the subsequent five years** (2025-2030) for establishment and management of protected areas.

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Photo: Kaylen Emsley

48 $1 billion for federal protected areas and $600 million to support provincial/territorial governments and other partners to establish and manage protected areas.
49 $175 million per year, ongoing, for federal protected areas and $125 million per year, ongoing, to support provincial/territorial governments and other partners to establish and manage protected areas.

Protecting Oceans with Effective MPAs

Marine Protected Areas (MPAs) conserve biodiversity, sustain healthy fisheries, sequester carbon, support tourism, and provide for coastal communities. Investments in MPAs produce economic benefits significantly greater than the cost of establishment.[50] MPA planning processes offer an opportunity for long term investment in coastal communities, including stakeholder support funding, local job creation (in outreach, planning and management), and indirect benefits for tourism and local businesses. Providing upfront commitments for long term investments will help ensure community support for marine protection.

Over the past five years, Canada has gone from global laggard to potential leader in terms of ocean protection. In August 2019, Canada announced that it had protected 13.8% of its ocean territory, significantly exceeding the 10% by 2020 target under the CBD. This included the protection of many iconic but vulnerable ecosystems including the Laurentian Channel, Tallurutiup Imanga and the Scott Islands. This tremendous achievement proves what can be done when there is political will and wise investment.

Recent studies have calculated that we need to protect 30-70% of the ocean to effectively protect and restore biodiversity.[51] In doing so we could restore the health of our oceans within 30 years with an estimated global economic return of about $10 per every $1 invested, creating more than one million new jobs.[52] Polling shows that Canadians do not think that current levels of protection are enough.[53] With a mandate and commitment to protect 25% of Canada's ocean by 2025, and to achieve and advocate for protecting 30% by 2030, Canada is charting the right course.

THE GREEN BUDGET COALITION RECOMMENDS THAT THE FEDERAL GOVERNMENT:

1) ***Deliver on the commitment to protect 25% of Canada's ocean by 2025 and 30% by 2030, by establishing new MPAs and MPA networks, National Marine Conservation Areas (NMCAs), and marine Indigenous Protected and Conserved Areas.***

   In addition to helping maintain vital ocean ecosystem services, investments in MPAs are investments in coastal communities. Establishing new MPAs would support long term job creation in remote coastal areas, investment in coastal infrastructure, and indirect benefits through goods and services provided during planning and management. Beyond establishing new sites, it is important that the government develops an official policy to support implementation of its MPA protection standards across all federal agencies.

50 European Union. 2018. Study on the economic benefits of Marine Protected Areas: Literature review analysis. Available at https://ieep.eu/publications/the-economic-benefits-of-marine-protected-areas-in-europe
51 Woodley, Locke, Laffoley, et al. 2019. A review of evidence for area- based conservation targets for the post- 2020 global biodiversity framework. PARKS. 31-46. 10.2305/IUCN.CH.2019.PARKS-25-2SW2.en.
52 Duarte, C.M., Agusti, S., Barbier, E. et al. 2020. Rebuilding marine life. Nature 580, 39–51. https://doi.org/10.1038/s41586-020-2146-7
53 https://wwf.ca/report/public-opinion-on-marine-protected-areas/

2) ***Invest in the ongoing management and monitoring of MPAs.***

   In addition to establishing new MPAs, it is critical that the government invest sufficient resources for ongoing management and monitoring. (Note that further recommendations on investments in management, monitoring and enforcement are provided in the subsequent section on *Managing Healthy Oceans*.)

RECOMMENDED INVESTMENTS [DFO, ECCC, Parks Canada]:

1) Oceans Act MPAs and MPA network planning: **$185 million over 2020-2021, and then $72 million per year ongoing.**
2) National Marine Conservation Areas and marine National Wildlife Areas: **$140 million over 2020-2021**, which may include stimulus funding, and then **$53 million per year ongoing**.
3) Management of National Marine Conservation Areas and marine National Wildlife Areas: **$20 million over the next two years (2020-2022)** and then **$20 million per year ongoing**.

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Photo: Shutterstock

Establishing Indigenous Protected and Conserved Areas on Land and Water

Investing in Indigenous-led economic development and land/ocean-use planning, environmental stewardship programs such as Indigenous Guardians, and establishment of Indigenous Protected and Conserved Areas (IPCAs) is a tested approach that will have economic, social and cultural benefits now that grow over time and help Canada meet its commitments to reduce GHG emissions, protect biodiversity, and advance reconciliation.

Tourism is just one economic driver of IPCAs. Prior to COVID-19, Indigenous tourism in Canada contributed $1.9 billion to Canada's GDP annually, with a 20% annual growth rate, 40,000 employees and 1900 businesses.[54] Investing in IPCAs now will provide immediate support for communities, and also put in place the planning, infrastructure, and governance structures necessary to capitalize on economic opportunities from IPCAs, such as tourism, as our economy recovers.

For example, the recent Thaidene Nëné Indigenous Protected Area[55] was established in 2019 with a $30 million endowment that will generate $1-4 million annually and support 18 new full time jobs critical to such a remote community. Prior to COVID-19, tourism development associated with Thaidene Nëné was anticipated to create at least 20 new year-round jobs and 30 seasonal jobs.[56]

Photo: Pat Kane

54 https://indigenoustourism.ca/corporate/itac-strategic-recovery-plan/
55 http://www.landoftheancestors.ca/
56 http://www.landoftheancestors.ca/uploads/1/3/0/0/130087934/lkdfn-overview.pdf

The Canada Nature Fund confirmed the demand for IPCAs across Canada. The Green Budget Coalition recommends that future funding support both IPCA establishment and the upfront economic development and land/ocean-use planning that creates the overarching framework for IPCAs and the stewardship and Guardians program that ensure their management. Such investments would accelerate IPCA development and associated economic, cultural, climate and environmental benefits.

RECOMMENDED INVESTMENT [ECCC, Parks Canada, DFO]:

Indigenous-led efforts such as the Indigenous Leadership Initiative[57] and Land Needs Guardians[58] are calling for significant new investments in Indigenous-led conservation. In the spirit of reconciliation, the Green Budget Coalition affirms its support for these efforts and their budget requests and thus recommends:

1) Committing to Indigenous-led conservation, including Indigenous-led land use planning, the creation of IPCAs, and stewardship programs such as Indigenous Guardians, as a vital component of Canada's domestic plan to protect 25% of its lands and waters by 2025.
2) Investing **at least $1.5 billion over five years** to support the completion of Indigenous-led land use plans and the establishment of IPCAs and their associated stewardship programs.[59]

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57 https://www.ilinationhood.ca/wp-content/uploads/2016/10/Backgrounder-Indigenous-Guardians.pdf
58 https://landneedsguardians.ca/national-network
59 The Green Budget Coalition has not received a specific recommendation for IPCA investment in years 2025 onward from the Indigenous Leadership Initiative or other Indigenous-led effort; however, we anticipate that an investment on par with years 2020-2025 will be required.

Indigenous Stewardship & Guardians

Indigenous Guardians have provided critical emergency response capacity in communities during the pandemic. Beyond the current crisis, Indigenous stewardship programs support cost-effective and local monitoring of environmental and cultural values. Indigenous stewardship programs are essential in establishing and managing IPCAs and other formal conservation designations within Indigenous territories. They create stable, well-paying jobs (often in remote communities) with numerous indirect economic benefits such as improved health outcomes, food security, and cultural and language revitalization.

An analysis of the Guardian Watchmen programs[60] on the BC coast found a 10:1 ROI annually for numerous social, cultural and economic Indigenous values. An evaluation of the Dehcho and Akaitcho communities[61] in the North found that between 2008-2016 Indigenous-led stewardship programs hired 32 Indigenous Guardians for an average tenure of 3.6 years.

The Green Budget Coalition recommends that the federal government significantly increase investments in Indigenous Guardians for both existing and new programs.

Photo: Pat Kane

60 https://www.indigenousguardianstoolkit.ca/sites/default/files/Community%20Resource_Guardians-valuationreport_v10_Final_TNC%20Canada.pdf
61 https://www.ilinationhood.ca/wp-content/uploads/2016/11/value-in-indigenous-guardian-work-nwt.pdf

RECOMMENDED INVESTMENT:

Indigenous-led efforts such as the Indigenous Leadership Initiative[62] and Land Needs Guardians[63] are calling for significant new investments in Indigenous-led conservation. In the spirit of reconciliation, the Green Budget Coalition affirms its support for these efforts and their budget requests and thus recommends:

1) Committing to Indigenous-led conservation, including Indigenous-led land use planning, the creation of IPCAs, and stewardship programs such as Indigenous Guardians, as a vital component of Canada's domestic plan to protect 25% of its lands and waters by 2025.

2) **Investing $831.5 million over five years** to support existing and new Guardians ramping up to at least $300 million per year by year 5 as requested by the Assembly of First Nations, and then **$300 million per year ongoing**.

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Photo: Terra Firma

62 https://www.ilinationhood.ca/wp-content/uploads/2016/10/Backgrounder-Indigenous-Guardians.pdf
63 https://landneedsguardians.ca/national-network

COMPLEMENTARY NATURE AND BIODIVERSITY CONSERVATION RECOMMENDATIONS

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 focused on wetlands, riparian areas and native grasslands in cooperation with AAFC and DFO as part of a green recovery strategy. This program would build on the current commitment to plant trees and restore forest ecosystems managed by NRCan and ECCC.

Canada loses more critical habitat than it conserves every year. We are facing staggering losses 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*. Linear disturbances threaten many forest mammals and aquatic life. Native meadow habitats and native grasslands on many rights-of-way (e.g., roadsides, hydro corridors, pipelines, railway lines) have been taken over by invasive grasses, contributing to pollinator species decline. The approaches taken by all levels of government in response to these unsustainable trajectories have been inadequate.

Habitat loss is the main driver of species decline, also causing the loss of critical climate resilience services, while increasing GHG emissions through the release of ecosystem emissions and reductions in landscape carbon storage capacity. These impacts are fundamentally undermining Canada's response to the biodiversity crisis and are limiting our ability to leverage nature-based solutions to help meet our conservation and climate commitments. As we approach the United Nations Decade on Ecosystem Restoration 2021-2030,[64] Canada also has an international responsibility to replace its lost and degraded natural habitats across the country.

To move from unsustainable habitat loss towards net habitat gains, we must take decisive actions to **restore** our lost and degraded habitats in the short and medium terms (particularly in highly impacted or fragile ecosystems), and protect those restored habitats and their ecological functions over the long-term (*this section)*. Further, we must simultaneously **protect** the residual base of natural habitat across the Canadian landscape (*see the Protected Areas section, earlier in this document*), as we implement habitat loss and **land-use mitigation** actions (s*ee the Nature-based Climate Solutions section, earlier in this document).* Simultaneous protection and management actions are essential to maximize the return on restoration investments and ensure that the associated climate and biodiversity benefits are additive and long-term.

Habitat restoration activities are effective at generating jobs and economic returns: as many as 33 jobs per $1 million invested, most of which result in localized employment benefits with higher-than-average wages; similar to the construction industry at large. As noted above, investments in habitat restoration projects have been found to result in 15 jobs per $1 million invested in restoration projects, and 30 jobs per $1 million invested in labour intensive restoration projects. This is higher than the 8.9 jobs created for every $1 million invested in oil and gas development[65] and even of some of the other

64 https://www.decadeonrestoration.org/

65 National Oceanic and Atmospheric Administration. (2017). Socioeconomic Benefits of Habitat Restoration. https://www.fisheries.noaa.gov/feature-story/habitat-restoration-supports-jobs-stewardship

energy-focused options cited by the Task Force on Resilient Recovery.[66]

Through habitat restoration, Canada has a critical opportunity to bolster our economy and meet biodiversity and climate goals that it cannot afford to bypass. There are hundreds of 'shovel ready' ecosystem restoration projects across all habitat types in Canada that can provide these win-win solutions. The key will be to invest in restoration initiatives that maximize both socio-economic and ecological returns, advancing the government's vision for transformative change toward a healthy, nature-centered and low-carbon economy.[67]

Photo: Lachlan Cruickshank

In addition to the federal government's commitment to invest **as much as $2 billion over ten years** in planting 2 billion trees, the Green Budget Coalition recommends investing an additional **$450 million over five years** (or about $90 million per year after an initial ramp up period) for a **Federal Habitat Restoration Program**, which would restore wetland, native grassland and meadowland habitat [ECCC]. The tree planting program would be included in this federal restoration program for a total of $2.6 billion. Examples of benefits include:

- $50 million per year over five years would result in approximately 30,000 acres of restored inland wetlands and 20 person-years of employment per $1 million invested in wetland restoration through planning, permitting, new construction and management work that requires diverse skilled labour and goods and services from many small businesses.
- $100 million per year for ten years (from tree planting funds) could restore about 10,000 km/year of linear disturbances in northern forests and create 80 five-person teams or 400 direct forest restoration jobs a year in northern communities, including Indigenous communities.

See later in this document for the GBC's recommendation for Ecological Goods and Services Programming for farmers and ranchers that could help support and advance the above investment.

For more detailed information on GBC recommended investments in restoration for wetlands, forests, grasslands, and meadowlands on rights of way, please see www.greenbudget.ca/2021restoration

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66 https://www.recoverytaskforce.ca/wp-content/uploads/2020/07/TFRR-Preliminary-Report-Jul-2020.pdf
67 The Canada Nature-Based Climate Solutions Consortium (Canadian NGOs that organized the February 2020 Nature-Based Climate Solutions Summit in Ottawa). Technical and Policy Recommendations to Natural Resources and Environment and Climate Change Canada on the Two Billion Trees Program. July 30, 2020. Available from jritchlin@davidsuzuki.org

Habitat Project Renewal Fund

Despite progress on public and private conserved areas, inadequate natural asset infrastructure funding jeopardizes the climate and biodiversity benefits that existing natural assets provide.

Many of these benefits were established through early investments and longstanding public and private partnerships that secured and restored some of Canada's most biodiverse and carbon-rich natural habitats. Some were established as intact natural landscapes, while others required intensive built infrastructure. Those projects, especially those employing built infrastructure to support ecological functions and integrity, now require major renewal, replacement or conversion to more naturally functioning designs. Similarly, these projects require scientific monitoring and a renewal of management strategies to ensure their viability.

The situation is similar for a number of privately conserved areas, particularly those that were enhanced prior to the 1990s and secured prior to the establishment of key publicly funded conservation support mechanisms. Many privately conserved areas are falling into disrepair and require immediate remedial infrastructure renewal investments. The vast majority of older permanently secured lands, held in trust, will never be converted to any primary purpose other than for conservation and the provision of ecosystem services to Canadians.

None of these privately held lands are technically "protected areas". Without proper investment, they will continue to decline. Notably, since these areas are not captured under the Canadian Protected and Conserved Areas Database (CPCAD), Canada is also dramatically under-reporting our conservation achievements against our Aichi-target commitments under the CBD.

The Green Budget Coalition recommends that the federal government establish a new **Habitat Project Renewal Fund** to upgrade and extend the lifespan and functionality of existing conservation assets on public and private lands across Canada. The Fund would support resilience of our natural assets, protect ecosystem carbon, and contribute to the government's environmental commitments. Furthermore, targeted investments will create immediate and meaningful job opportunities with an economic multiplier effect, stimulating surrounding supply chains, and accelerating Canada's transition to a more resilient and environmentally sustainable economy.

This program would be administered by ECCC and implemented in collaboration with non-government partners as part of an economic stimulus package designed to re-employ thousands of Canadians and generate economic activity.

Recommended Investment:

$120 million over five years [ECCC], matched by $80 million in non-federal government sources of funding

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North American Waterfowl Management Plan Challenge Fund Top-Up

The North American Waterfowl Management Plan (NAWMP) is one of the most successful international habitat conservation partnerships in the world. To date, Canadian partners in NAWMP have secured 22.8 million acres, enhanced 3.5 million acres and influenced the conservation of 167 million acres of wetlands and associated habitats in Canada.

NAWMP supports healthy waterfowl populations, provides tangible biodiversity and climate change benefits, and directly contributes to Canada's commitment to conserve 25% of Canada's terrestrial areas by 2025. Projects under the program provide net economic benefits to the Canadian economy.

Canadian NAWMP activities generate new construction work, create jobs, provide ecosystem services that benefit Canadians and also leverage United States NAWMP matching funding for habitat conservation work in Canada.

Recent commitments from the United States to increase the match funding available for habitat conservation programs provide an unprecedented opportunity to further capitalize on NAWMP's ecological, economic and social benefits at a critical time in Canadian history. However, realizing these benefits requires new investments from Canadian NAWMP partners to meet the match funding requirements.

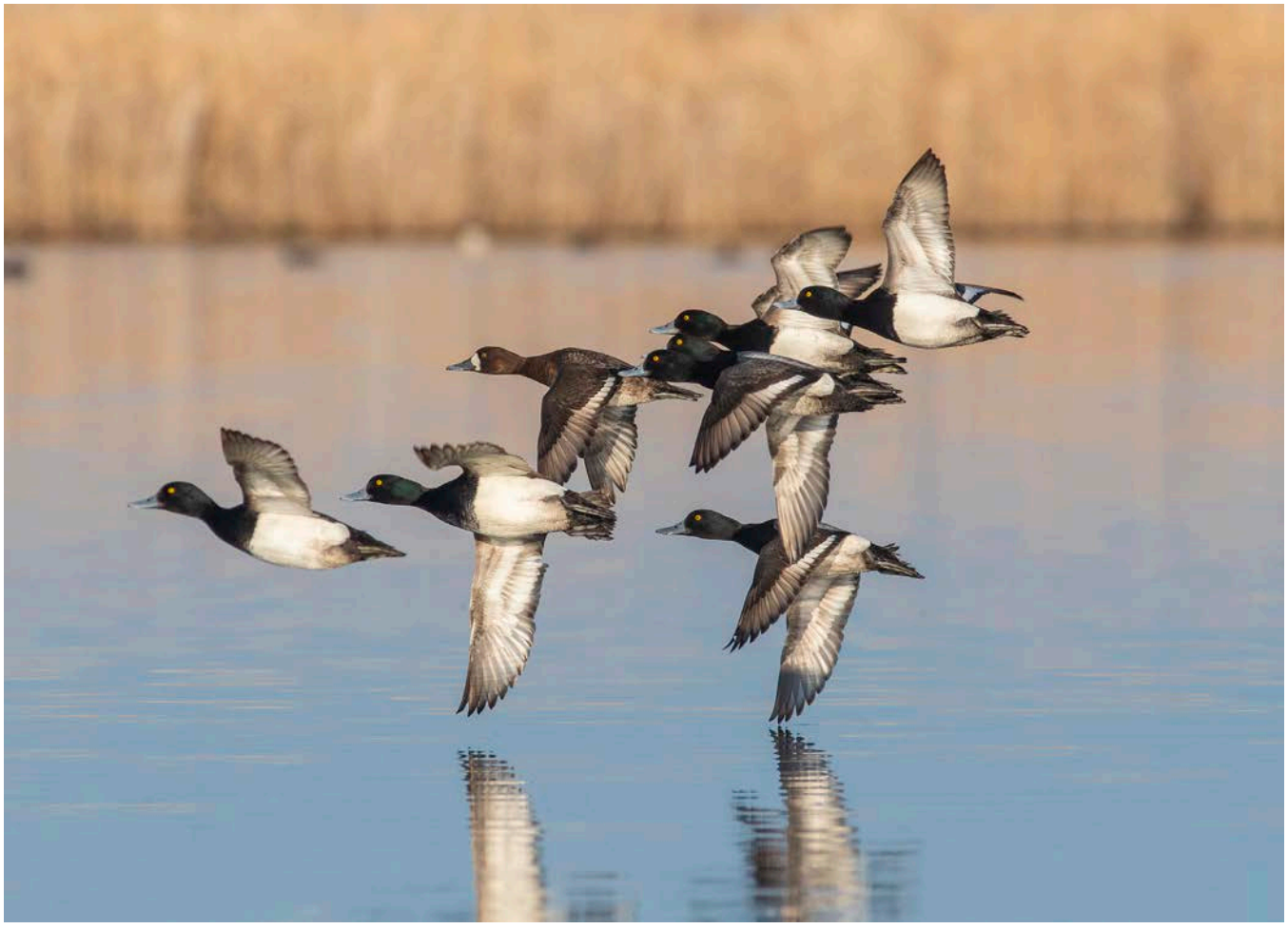

Photo: Ducks Unlimited

Photo: Ducks Unlimited

With only half of the $20 million NAWMP portion of the Canada Target 1 Challenge funding allocated in 2019, the Green Budget Coalition recommends that the federal government allocate the remaining $10 million through a matching funds top-up investment available to Canadian NAWMP partners as part of the government's recovery plan. This investment will maximize Canada's access to the increased United States funding and will allow Canadian funding partners to meet the Canadian component of this match challenge.

Recommended Investment:

$10 million in 2020 [ECCC], matched by external funds from NAWMP and Joint Venture partners

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Establishing the Pollinator Conservation Initiative

Thousands of native pollinating insect species in Canada (e.g., bumble bees, solitary bees, flies, wasps, butterflies, moths, and beetles) are responsible for billions of dollars in crop production and ecosystem functioning each year. Given the steep global decline of pollinators and the increasing unreliability of domestic bees to pollinate crops,[68] Canada has an important role to play in conserving native pollinator diversity and abundance to increase food security, agricultural resilience, and ecosystem sustainability. The Green Budget Coalition recommends that, under a joint program, AAFC and ECCC i) establish a native pollinator Monitoring and Research Fund ($3 million per year) to support national monitoring and reporting across southern Canada and leverage independent scientific research and technological developments in support of native pollinators and their habitat; and ii) develop a Pollinator Protection Program ($7 million per year) that provides increased operational capacity to fund on-farm native pollinator habitat restoration, knowledge transfer capacity to producers for Integrated Pest Management and habitat restoration, and national policy development and coherence in the context of climate change and biodiversity loss.

Recommended Investment:

$50 million over five years [AAFC, ECCC]

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Photo: Dmitri Grigoriev

68 See, for example, Reilly, J. R., et al. "Crop production in the USA is frequently limited by a lack of pollinators." Proceedings of the Royal Society B 287.1931 (2020): 20200922.

Investing in Communities by Protecting Canada's Freshwater

Photo: Andy Holmes

The Green Budget Coalition recommends that Canada invest in freshwater protection to support shoreline resilience, improve water quality, maintain and restore freshwater fisheries and generate community economic benefits. Canada should expand existing funding programs and speed up project implementation while removing barriers such as match funding. Freshwater projects deliver environmental benefits by preventing nutrient pollution, creating and remediating habitat, remediating contaminated and toxic sites, and controlling invasive species. 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%.[69, 70]

Specifically, the GBC recommends that Canada align spending and action with the Great Lakes St. Lawrence Collaborative's *Action Plan to protect the Great Lakes and St. Lawrence 2020-2030,*[71] with investments of $2.2 billion over ten years. Long term investments are needed to address climate impacts on shoreline resilience, nutrient pollution, bacteriological contamination of beaches and human and environmental exposure to toxic chemicals. New investments for preventing agricultural runoff are needed to address harmful algae blooms in the Great Lakes and Lake Winnipeg. Our recommendation for the initial five-year investment of a ten year action plan will create jobs in natural infrastructure and contribute to long term savings. In Lake Erie, for

69 Assessing the Investment: The Economic Impact of the Great Lakes Restoration Initiative (2018): https://www.glc.org/wp-content/uploads/GLRI-Project-Summary-Report-20180924.pdf.

70 Edwards et al (2013) Investing in nature: Restoring coastal habitat blue infrastructure and green job creation. Marine Policy 38: https://www.sciencedirect.com/science/article/pii/S0308597X12001182

71 https://westbrookpa.com/glslcollab/

example, harmful algae could cost Canadians $5.3 billion if left unmitigated.[72]

Additionally, the GBC recommends that Canada enhance funding to address key biodiversity and ecosystem concerns in the St. Lawrence, Great Lakes, and Lake Winnipeg. An investment of $130 million over five years in invasive species prevention and control, fish habitat restoration, and Lake Winnipeg nutrient loading reduction will create local jobs by delivering on the ground projects in Quebec, Ontario, and Manitoba.

Recommended Investment:

$1.33 billion

- **$130 million over five years** to address key biodiversity and ecosystem concerns for the Great Lakes, St. Lawrence and Lake Winnipeg:
  - **$70 million** in new investments to strengthen aquatic invasive species control through control structure creation or renewal, expanded eradication programs, and research into prevention and control methods. This includes meeting Canada's treaty obligation to fund the Great Lakes Fishery Commission by increasing funding from $9.5 to $19.4 million. [DFO, GAC]
  - **$30 million** in new investments in fish habitat restoration in the Great Lakes and St. Lawrence River to benefit commercial and recreational species and species at risk. [DFO]
  - **$30 million** in new investments to reduce nutrient loading from the Red River and South Saskatchewan River Basins to Lake Winnipeg. [ECCC]
- **$1.2 billion over five years** [ECCC] to implement the recommendations of the Great Lakes St. Lawrence Action Plan 2020-2030:
  - **$200 million** in new investments to reduce agricultural runoff that causes harmful algal blooms by using new technologies and conservation measures, targeting areas that contribute the most;
  - **$574 million** in new investments to enhance shoreline resilience via natural infrastructure;
  - **$343 million** in new investments to upgrade treatment and capacity of wastewater treatment plants to eliminate sources of bacteriological contamination; and
  - **$131 million** in new investments to reduce human and environmental exposure to toxics.

See also recommendations, later in this document, for Natural Infrastructure and the Chemicals Management Plan.

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72 Smith et al (2019) Estimating the economic cost of algal blooms in the Canadian Lake Erie Basin. Harmful Algae, 87: https://www.sciencedirect.com/science/article/abs/pii/S1568988319300915

Climate-Resilience Through Natural Infrastructure Solutions

The costs of protecting Canadians from the impacts of climate change are well-documented, widespread and increasing. Canada spent more in disaster response to flooding and wildfires and returning infrastructure to pre-disaster condition between 2010 and 2015 than over the previous 39 years combined.[73] The Insurance Bureau of Canada and the Federation of Canadian Municipalities estimates the cost of climate adaptation at the municipal level alone to be $5.3 billion annually, and addressing the impacts of flooding to be one of the greatest costs.[74] A new report puts the cost of addressing shoreline erosion at $800 million, which will increase as a result of sea-level rise. At the same time, the Federation of Canadian Municipalities (FCM) estimates that municipalities will incur between $10 and $15 billion in near-term, non-recoverable losses due to COVID-19, and many are on the brink of financial crisis.[75]

By embracing and implementing natural infrastructure solutions, municipalities can build back better to greatly increase their resilience to climate change and reduce the risks and costs of flooding, urban heat effect, shoreline erosion,[76] and other disasters that are more prevalent with climate change. In this document, natural infrastructure refers to the natural vegetative systems and green technologies that collectively provide a multitude of economic, environmental and social benefits, while helping to mitigate climate change impacts. Examples of these vegetative systems include: fields, gardens, green roofs and walls, and green assets used

Photo: Ducks Unlimited

73 https://www.oag-bvg.gc.ca/internet/English/parl_cesd_201605_02_e_41381.html#ex1
74 https://data.fcm.ca/documents/reports/investing-in-canadas-future-the-cost-of-climate-adaptation.pdf
75 https://data.fcm.ca/documents/resources/reports/protecting-vital-municipal-services.pdf
76 https://westbrookpa.com/glslcollab/reports/implementing-innovations-in-science-and-in-governance/

to manage storm water runoff, such as rain gardens and restored wetlands; as well as urban forests, parks (urban and rural), and terrestrial and aquatic landscapes outside of urban areas that are not parks, such as portions of managed forest lands, large wetlands including salt water marshes, sea-grass beds, and native grasslands.[77]

Each dollar invested in natural infrastructures yields $3 to $15 of environmental, social and health benefits. Return on investments can reach 35:1 in the warmest and most polluted cities. A recent study estimated that natural infrastructure solutions in Ontario contributed $8.33 billion in GDP and created 122,000 jobs in 2018 alone.[78] It also found that if 15% of Ontario's annual infrastructure spending was dedicated to natural infrastructure projects rather than continuing with business as usual, this sector would create an additional 43,200 jobs, generate $5.4 billion in additional gross output (revenues), and contribute an additional $3 billion to provincial GDP in 2030. When direct, indirect, and induced economic impacts are considered, the sector would generate 72,100 additional jobs and an additional $5.4 billion in GDP. These investments would result in significant cost savings, representing in some cases, hundreds of thousands of dollars in savings for municipalities, insurance companies, and homeowners.[79,80]

Investing in natural infrastructure solutions will help create new jobs, reduce costs and support cash-strapped provincial and local governments to better work with Indigenous, private and non-profit partners, such as farmers, conservation organizations and small forest owners to benefit Canadians.

In 2019, the government committed to investing $3 billion dollars by 2030 for nature-based climate solutions, including tree planting actions that could restore or put in place new natural infrastructure. The Minister of Natural Resources was mandated in December 2019 to "help cities expand and diversify their urban forests" and "support the future and livelihood of workers and their communities in the transition to a low-carbon global economy." Investing in natural infrastructure is a win-win way to achieve this outcome. Also, the Minister of Infrastructure and Communities was mandated in December 2019 to adjust the Disaster Mitigation and Adaptation Fund to support natural infrastructure, working with municipalities to build climate resilience and reduce GHG emissions, and creating an additional infrastructure fund by 2020-2021 to support priority projects and economic diversification for communities transitioning from fossil fuels.

To advance these priorities and expand natural infrastructure in Canada, the Green Budget Coalition recommends:

1) Replenishing and growing the Disaster Mitigation and Adaptation Fund (DMAF), while also adjusting the criteria to better allow natural infrastructure projects. Such changes include: a) allowing increased resilience projects as well as disaster mitigation actions to be considered; b) including conservation easements and supporting ecosystem goods and services programs as an eligible expense to support natural infrastructure projects on privately-owned land; c) suspending the $20 million minimum expenditure threshold and reduce cost-sharing requirements to 20% for natural infrastructure projects initiated before September 2022.

Recommended replenishment:

$1 billion over five years [INFC]

77 https://greeninfrastructureontario.org/app/uploads/2020/04/Economic-Impact-Assessment-of-GI-Sector-in-Ontario_Online.pdf
78 https://greeninfrastructureontario.org/app/uploads/2020/04/Economic-Impact-Assessment-of-GI-Sector-in-Ontario_Online.pdf
79 https://www.horizonadvisors.org/natural-infrastructure-benefits
80 http://assets.ibc.ca/Documents/Resources/IBC-Natural-Infrastructure-Report-2018.pdf

2) Expanding the scope of the Investing in Canada plan's Green Infrastructure Fund to more readily allow and support natural infrastructure projects, including shoreline erosion projects, and carving out 5% of the remaining funds specifically for natural infrastructure projects. Adjustments would need to include adding as allowable expenses the operation and maintenance of natural systems, measurement and evaluation of co-benefits, and land acquisition. Reduce cost-sharing requirements to 20% for natural infrastructure projects initiated before September 2021 as part of green recovery.

Potential resulting investment (from previously announced funds):

$595 million over five years [INFC]

3) Funding to FCM to support municipalities developing "natural asset assessments," natural asset management systems and other capacity building and readiness partnerships needed to advance natural infrastructure. This money could be managed under the Municipalities for Climate Innovation Program. To the extent possible, the Green Budget Coalition recommends the federal tree planting occur in municipalities that have undertaken natural asset assessments or are investing in a municipal biodiversity and climate fund and could represent an "in kind" contribution to those municipalities as part of their broader plans.

Recommended Investment:

$16 million over four years [NRCan, INFC]

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Ecological Goods and Services Programming for Agricultural Lands

Photo: Ducks Unlimited

The cumulative impacts from land degradation, loss of natural areas, and climate change, including more frequent and severe weather events, are environmentally and economically negative for Canada. Our ecosystems and land are becoming less productive in providing key ecosystem goods and services such as clean water, wildlife habitat, pollination services, and flood and drought control for surrounding and downstream communities. These losses are most acutely felt on the working landscapes of Canada where the majority of Canadians live.

Federal investment into an Ecological Goods and Services (EGS) program for agricultural lands will help rebuild, enhance and manage natural features like grasslands, wetlands, afforested areas, and riparian buffers on farm and ranch lands.

Other benefits include the opportunity to:

- Create significant employment in rural Canada, especially for young professionals with agricultural, environmental and management training;
- Enhance the sustainability of food production through increased pollinator services, soil improvement and retention, and water retention and filtration;
- Target marginal (uneconomic) land for projects thereby not impacting food production;
- Provide a new and additional revenue stream to farmers and ranchers based on project outcomes and management;
- Create new wildlife habitat for species-at-risk, migratory birds, waterfowl and other game species, and native pollinators; and
- Reduce GHG emissions / sequester carbon.

EGS programming provides a unique mechanism to positively engage private land-owners and managers in the fight against climate change. It is an efficient tool to rebuild land-based carbon stores — so far, an underutilized climate change mitigation strategy. And perhaps more important is the climate adaptation and resiliency that will come from enhancing ecosystems and natural cover to building greater flood and drought mitigation capacity in key watersheds as regional climates change over the coming decades.

Recommended Investment:

$20 million in 2020, ramping up to $100 million per year for the subsequent four years (2020-2025) [ECCC, AAFC] for an Ecological Goods and Services Program for farmers and ranchers.

This program would: create between 300 and 600 jobs in rural communities; reduce GHG emissions and sequester carbon; restore and enhance native and tame grasslands, wetlands, riparian habitat and other natural areas, including providing tree planting opportunities; create new wildlife habitat for pollinators, species-at-risk, migratory birds and game species; mitigate flood and drought and improve water quality; and increase agricultural sustainability through soil protection and water security. [ECCC, AAFC]

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Photo: Dan Loran

National Wildlife Collision Reporting & Infrastructure

Wildlife-vehicle collisions (WVCs) incur significant health, economic and environmental costs, including impacts on species at risk. WVCs are on the rise, costing an estimated $280 million per year in Alberta alone in direct and indirect costs, according to a 2015 Alberta Transportation study.[81]

A Transport Canada-funded study in 2003 recommended a national wildlife accident reporting system.[82] The data collected by the system would be used to identify hot spots, plan and monitor collision mitigation infrastructure, and create habitat connectivity plans. Adopting a smartphone-based system would produce more accurate, complete and timely WVC data.[83]

Recommended Investment:

$4.5 million over three years to work with the provinces and territories to develop and implement a national WVC data reporting system. [TC, ECCC]

The federal government has shown leadership in WVC mitigation infrastructure in Banff National Park, with 38 wildlife underpasses, 6 overpasses and fencing along the Trans-Canada Highway (TCH), that has reduced WVCs by more than 80%, and over 96% for elk and deer.[84]

Crossing structures also help to preserve wildlife migratory corridors, enhance connectivity among populations and reduce fragmentation of habitats.[85] However, despite these positive results, funding for such infrastructure is often scarce.

For example, in 2019 Alberta allocated $20 million over four years for wildlife protection, including one overpass on the TCH that with fencing will likely cost $14 million.[86] A 2012 study identified 10 sites along the same stretch of highway that need wildlife underpasses.[87] A properly sited wildlife crossing can pay for itself in 10 to 20 years, long before the end of the structure's projected 75-year lifespan.[88]

Recommended Investment:

$150 million over three years to support the building of federal, provincial and territorial WVC mitigation infrastructure. [TC, INFC, ECCC]

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81 Wildlife Watch App for Improved Road Safety in Alberta, Tetra Teck EBA, February 2016
82 Collisions Involving Motor Vehicles and Large Animals in Canada, L-P Tardiff & Associates Inc., March 2003
83 Wildlife Watch App for Improved Road Safety in Alberta, Tetra Teck EBA, February 2016
84 Budget 2019 sets aside money for wildlife overpass, Rocky Mountain Outlook, November 2019
85 Reducing Wildlife Vehicle Collisions by Building Crossings: General Information, Cost Effectiveness and Case Studies from the U.S., Center for Large Landscape Conservation, February 2020
86 Budget 2019 sets aside money for wildlife overpass, Rocky Mountain Outlook, November 2019
87 Highway Wildlife Mitigation Opportunities for the Trans-Canada Highway in the Bow Valley, T. Lee, A. Clevenger and R. Ament, August 2012
88 Reducing Wildlife Vehicle Collisions by Building Crossings: General Information, Cost Effectiveness and Case Studies from the U.S., Center for Large Landscape Conservation, February 2020

Reinforcing Canada's Frontline of Defence Against Wildlife Disease

Canada is ill prepared to effectively deal with existing and emerging domestic wildlife diseases and threats to wildlife health. 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. The Green Budget Coalition recommends that the federal government fund the Pan-Canadian Approach to Wildlife Health.[89] Funding this program will 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:

1) Protect and conserve native fauna from harm due to emerging pathogens and sustain ecological and economic services provided by wildlife;
2) Provide assurances to Canadians that depend upon healthy wildlife for sustenance and livelihood;
3) Enable Canada to meet its national and international obligations for disease surveillance in relation to public health, agriculture and trade; and
4) Reduce surprises from emerging disease threats, particularly those anticipated with climate change, globalization, and erosion of ecological integrity.

A strengthened domestic approach to wildlife health would help position Canada on the international stage as a leader in surveillance, monitoring, and control of wildlife disease and the transfer of disease from wildlife to humans.

Background:

The COVID-19 crisis has brought into sharp focus the need for countries to take wildlife health issues seriously for reasons of both human health and wildlife conservation. In the last decade we have observed several wildlife health issues arise globally and in Canada that have led to dramatic declines of wildlife including white-nose syndrome in bats, chytrid fungus in salamanders, and chronic wasting disease in cervids. Wildlife disease is also a significant threat to human health in Canada with diseases such as West Nile virus, Lyme disease, rabies, and avian flu, as wells as parasites such as trichinella, posing an ongoing threat to Canadians. 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 needs 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 for biodiversity protection and the economy. Currently, Canada is not equipped to keep up with these emerging wildlife heath threats.

Unlike public health and livestock health, which are the mandates of specific government agencies with direct budget allocations, wildlife health falls across multiple agencies at several levels of government. Accordingly, federal funding will need

89 A Pan-Canadian Approach to Wildlife Health, June 2018. http://www.cwhc-rcsf.ca/docs/technical_reports/EN_PanCanadian%20Approach%20to%20Wildlife%20Health%20Final.pdf

to be a combination of federal department support, provincial and Indigenous government capacity support, and support for non-government networks, organizations, and institutions. Furthermore, the program needs to have a strong focus on filling gaps and building capacity in northern Canada and providing improved services to Indigenous and non-Indigenous hunters and fishers.

Recommended Investment:

$110 million over five years [ECCC, HC]

- **$45 million** for the Canadian Wildlife Health Cooperative, to build the 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.
- **$30 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.
- **$22.5 million** to build government capacity to implement wildlife health programs.
- **$12.5 million** for governance, targeted Indigenous hunter communication tools, professional exchange programs, research fellowships, and State of Wildlife Health reports.

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Photo: Linnea Sandbakk

Managing Healthy Oceans

More than 25% of Canadians live on or near the coast, and healthy coasts and oceans are similarly important to our wellbeing as terrestrial ecosystems. With the longest coastline in the world and bound by three oceans, Canada has deep cultural and economic connections to marine ecosystems.

Healthy oceans are the foundation of prosperous coastal communities and sustainable ocean livelihoods in Canada including fisheries and aquaculture, tourism, marine research, and shipping. Beyond jobs, healthy and resilient oceans are critical for maintaining food security and a liveable climate for people and as habitat for millions of species that rely on marine ecosystems.

Our oceans are under increasing pressure. Already undermined by multiple stressors including historic overfishing, habitat destruction and pollution, the climate crisis is now driving ocean warming, acidification, shifts in currents, and changes to species' ranges — all contributing to an escalation of risk to ocean resilience and its ability to support people.

Healthy habitats and fish populations can buffer ocean ecosystems against the worst effects of climate change. A just, adaptive, and ecosystem-based approach to ocean management is needed to address rapidly changing conditions, rebuild biodiversity, and increase resiliency. Over the past few years, we have seen welcome attention and reinvestment by the federal government in an ambitious ocean strategy to modernize Canada's ocean governance. However, after the previous decade or more of cuts to management capacity, science and research, and enforcement infrastructure, these core functions remain underfunded — threatening to stall progress. In order to address the increasing complexity of oceans management in a rapidly changing environment and to rebuild abundance, continued increases in investment are needed.

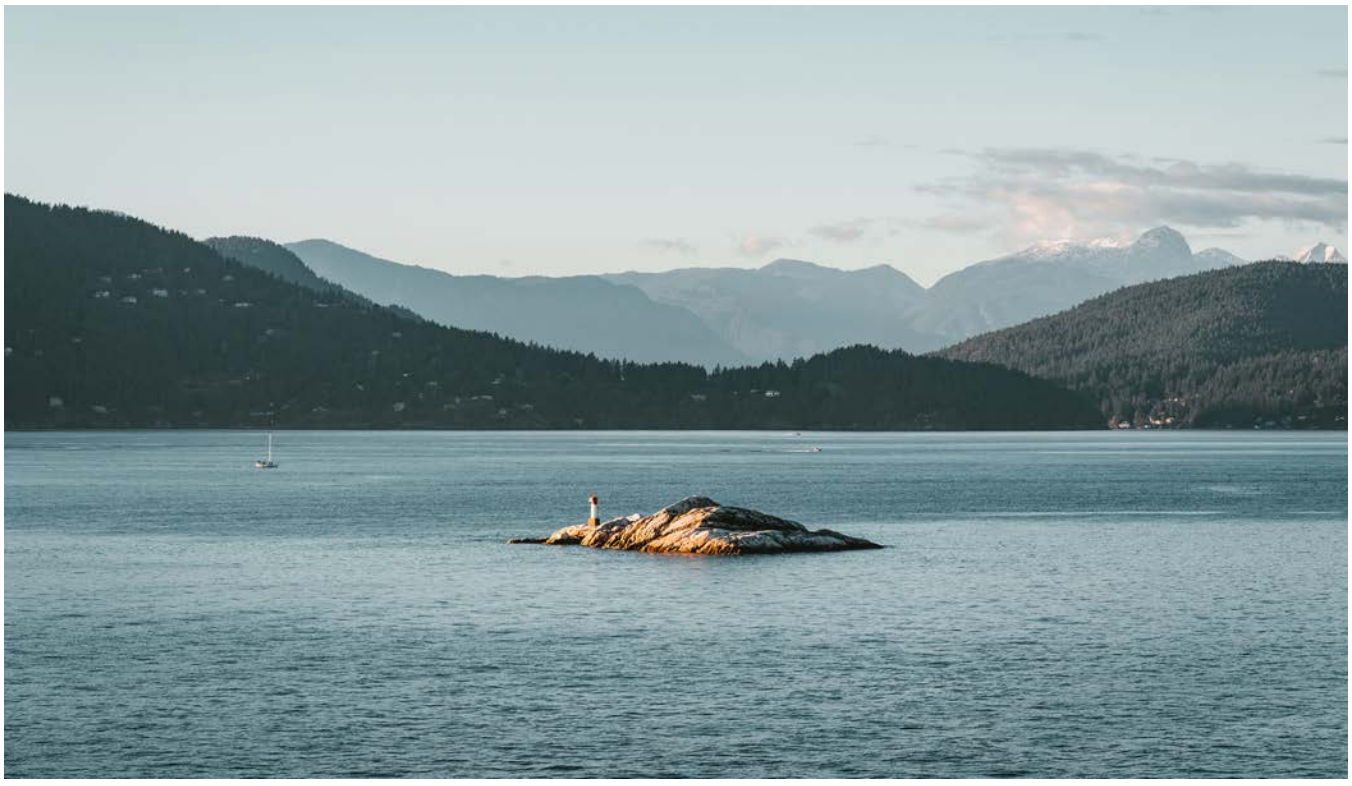

Photo: Aditya Chinchure

The Green Budget Coalition recommends that the federal government:

1) Develop and actively implement robust Marine Spatial Plans that support MPA network establishment, in collaboration with Provincial and Indigenous Government partners;
2) Significantly improve marine monitoring, research, compliance and enforcement infrastructure and capacity;
3) Increase fisheries science and management capacity to act rapidly on commitments to rebuild fish stocks and protect marine species-at-risk;
4) Ensure environmental sustainability within all aquaculture programs; and
5) Reduce Spill Risks and Biodiversity Impacts from Marine Shipping.

1) Develop and actively implement robust Marine Spatial Plans that support MPA network establishment, in collaboration with Provincial and Indigenous government partners.

Canada is currently in the early stages of developing Marine Spatial Plans in four bioregions (Salish Sea, Gulf of St. Lawrence, Scotian Shelf and Newfoundland and Labrador Shelf). Marine Spatial Planning brings together governments, resource users and communities to conduct regional level assessments of resource use and conservation needs that provide a sound basis for integrated marine management and conservation. These plans can be instrumental in supporting and providing an essential context for the designation and management of MPAs and MPA networks (including National Marine Conservation Areas) which have been addressed in the previous section.

Successful Marine Spatial Planning (MSP), including MPA network planning, requires effective co-governance and co-management structures involving federal departments, provincial and territorial governments, and Indigenous governments and peoples. Indigenous governments have a strong role to play in the development and implementation of marine plans, many Indigenous communities have already developed marine and land-use plans. It also requires robust engagement of stakeholders and communities, as well as the collection of detailed and current ecological and socio-economic data. MSP provides an opportunity for direct investment in communities through stakeholder support funding and the creation of meaningful and culturally relevant jobs, as well as indirect investment in local goods and services. The resulting plans need to be regularly evaluated and revised through adaptive management. Adequate funding is required to support these processes and structures over the planning phase as well as into the implementation phase.

Recommended Investment:

Develop and actively implement MSP (in addition to recommendation for MPAs in earlier recommendation): **$118 million in 2020-2022** (which may include stimulus funding), and **then $48 million per year ongoing**. [DFO]

2) Significantly improve marine monitoring, research, compliance and enforcement infrastructure and capacity

Research, monitoring, and enforcement capacity on our oceans have been drastically reduced through a combination of direct funding cuts and subsequent lack of reinvestment. Canada now faces significant and consequential annual data gaps due to research vessel breakdown that hinders our ability to assess and manage fisheries both domestically and as part of international management organizations. A lack of vessels and personnel also affects the coverage of compliance and enforcement monitoring in the inshore and offshore. Onboard and dockside fisheries monitoring, observing, and data collection is often failing to achieve coverage targets. Significant restructuring is needed to ensure modern, scientifically sufficient, safe, and reliable programs. There is growing acceptance that Electronic Monitoring (EM) systems will help all fleets meet

Photo: Peter Lloyd

data and transparency challenges. The Green Budget Coalition recommends that DFO fund EM innovation and standard development. In addition to filling these current gaps, as Canada continues to increase marine protected areas to meet conservation targets, there will be increased need for improved research and monitoring capacity to support effective protection and adaptive management.

Improving monitoring and enforcement presents a significant opportunity for stimulus and recovery investment that creates long-term and meaningful 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, MSP, and improved resource management. Investment in vessel and equipment production and repair would inject funding directly into coastal economies, supporting skilled jobs within SMEs.

Canada has demonstrated its commitment to combating illegal, unreported and unregulated (IUU) fishing globally with our National Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (NPOA-IUU) actions, the G7 initiative, support for Global Fishing Watch, and with critical international enforcement and intelligence partnerships — it is crucial for Canada to continue this work. In particular, the Green Budget Coalition recommends renewed support for the G7 initiative and the anti-IUU work and partnerships in the North West and Western Central Pacific to enhance this critical work that safeguards marine abundance and reduces crime.

Recommended Investment:

Review observer and dockside monitoring programs and finalise gaps in guidance under the National Catch Monitoring Policy. Invest through government/industry cost-sharing or pilot projects to immediately increase to 100% coverage with at least 20% auditing on active, high impact gear through a combination of human observers and electronic monitoring: **$60 million over two years** [DFO]

Invest in enforcement personnel and necessary boarding inspection equipment: **$75 million over three years** [DFO]

Renew G7 initiative and international anti-IUU intelligence partnerships in the Pacific: **$11 million over three years** [DFO]

3) Increase fisheries science and management capacity to act rapidly on commitments to rebuild fish stocks and protect marine species-at-risk

Acknowledging that many Canadian fisheries are challenged in 2020 due to COVID-19, the Green Budget Coalition believes that specific stimulus investment should be considered beyond those needed for immediate financial support for fisheries and processors. Now is the time to also invest in transformational initiatives that help us to better understand and manage fisheries and to increase the probability of ensuring sustainable fishing quotas and practices are implemented over time.

Since 1970, the estimated biomass of Canada's fish stocks has been reduced by 52%. Over 30% of fish stocks are now in the 'cautious' or 'critical' zones and need immediate rebuilding attention and precautionary management plans. A 2019 report by the Auditor General (OAG) highlighted the need for DFO to better manage, update and improve fish stock data, and to rebuild fish stocks in Canada.[90]

Degraded habitat and depleted fish populations from coast to coast to coast have ripple effects through entire ecosystems and the long-term economic sustainability of the fisheries that rely upon them. For example, precipitous declines of mackerel and herring populations are affecting the health of Atlantic bluefin tuna and in turn the price they fetch in this once lucrative fishery. Failure to rebuild chinook salmon populations in the Pacific is decimating Indigenous rights, recreational and commercial fishery economies and the endangered Southern Resident Killer Whales protected under the *Species At Risk Act* (SARA).

Over 30 aquatic species with a COSEWIC designation of threatened or endangered continue to await listing under SARA or recovery actions under the *Fisheries Act*. There are also dozens of freshwater and marine species listed under SARA now awaiting critical habitat declarations and the required recovery action plans.

The Green Budget Coalition recognizes recent federal government investments to better protect fish, modernize the *Fisheries Act*, protect species at risk, and establish new recovery initiatives for priority species. However, significant gaps remain. Investment is needed to continue to enhance Canada's capacity to undertake more frequent stock assessments, improve knowledge of data poor fisheries, drive progress on rebuilding plans required under the improved *Fisheries Act*, clear the backlog of species awaiting SARA listing decisions and action, and implement ecosystem-based fisheries management.

Continued re-investment in core government responsibilities of Canada's ocean and freshwater governance is critical if we are to recover marine biodiversity for sustainable use. This investment would also provide long term job opportunities for physical and social scientists, managers, and enforcement personnel.

There is an opportunity for the government to work with and invest in partnerships to deliver its ambitious commitments and mandates. Recognition of Indigenous knowledge and governance are essential for rebuilding to healthy oceans. Enabling policies and investment in community-led management options will serve to create direct jobs and spin off investments in rural coastal communities. Directly supporting community management boards, NGOs, Indigenous people who can lead research work, co-management, community quota and license banks, co-operatives, and monitoring will spur innovation and more adaptable ocean management options that can respond to rapidly shifting ocean ecosystems. These partnerships will also be critical as the Minister of Fisheries, Oceans, and the Canadian Coast Guard develops Canada's Blue Economy Strategy.

90 Office of the Auditor General of Canada. Report 2—Sustaining Canada's Major Fish Stocks—Fisheries and Oceans Canada http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201610_02_e_41672.html#hd3a

Recommended investments are needed to:

- Finalize policies, enhance management structures and improve science capacity to implement Canada's new *Fisheries Act* requirements for science-based rebuilding plans and to fully implement DFO's Sustainable Fisheries Framework;
- Establish science-based catch limits, harvest control rules, and management plans that integrate ecosystem-based fisheries management frameworks in all fisheries;
- Establish enabling policies and investment in community-led research and management options;
- Recognize Indigenous governance and integrate Indigenous knowledge in management plans and assessments;
- Establish multi-stakeholder and rights holder advisory committees and working groups to help shape Blue Economy Strategy built on safe-guarding our ocean abundance through sustainable use;
- Develop and implement recovery plans either through SARA or the *Fisheries Act* as soon as a marine species is assessed as threatened or endangered by COSEWIC;
- Conduct a review of potential SARA policies and regulations that would improve implementation and make the legislation more effective for protecting aquatic species; and

Fund and support the reestablishment of the Species at Risk Advisory Committee as well as species-specific multi-stakeholder efforts such as the North Atlantic right whale recovery network.

Recommended Investment for fisheries rebuilding and continued implementation of new *Fisheries Act* :

$175 million over five years [DFO]

Recommended Investment for aquatic Species At Risk:

$130 million over five years [DFO]

Photo: Nick Hawkins

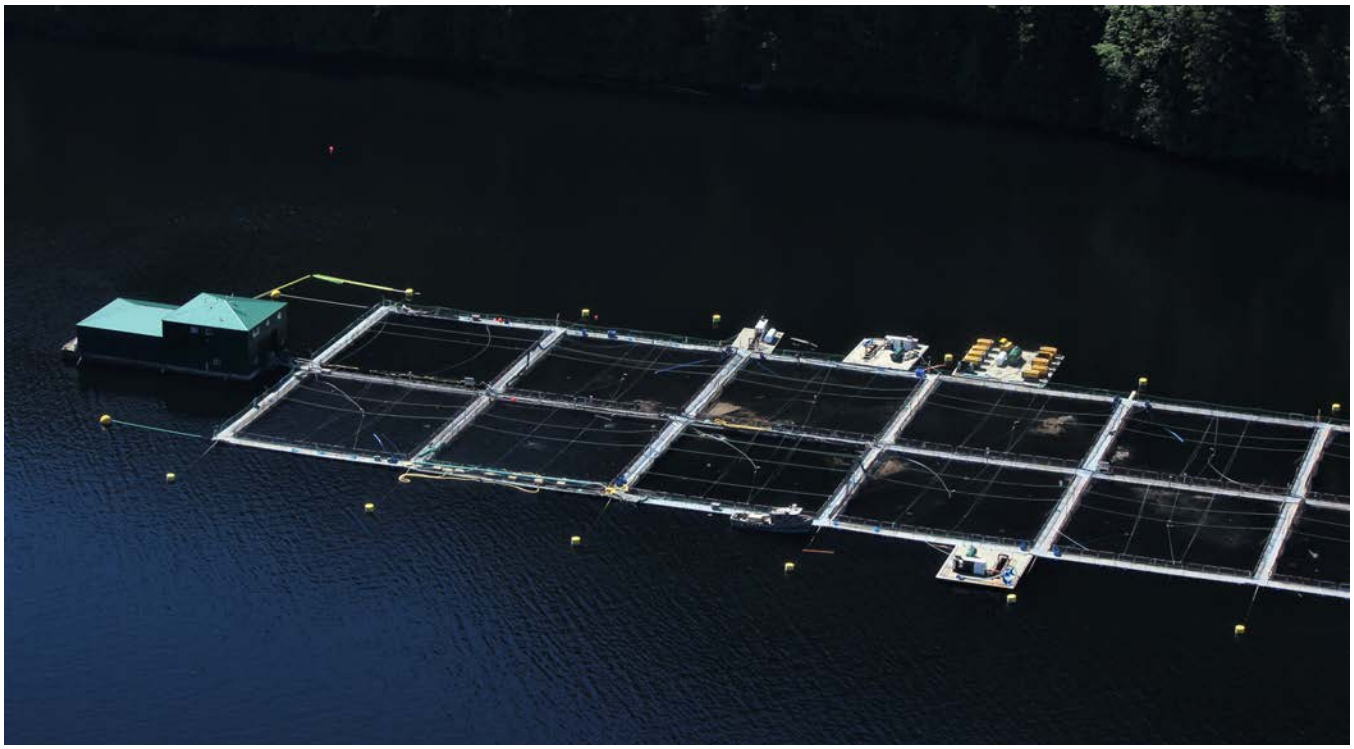

Photo: Kelly Roebuck

4) Ensure environmental sustainability within all aquaculture programs

Properly managed, sustainable aquaculture has the potential to benefit Canadians and support coastal and rural communities, including Indigenous communities.[91] However, open net pens in the ocean can have unacceptable impacts on wild fish, benthic habitat, and the larger ocean ecosystem.[92]

Significant investment is required to implement the government's commitment to remove open net pen aquaculture from the ocean ecosystem. Continued investment is also required to address the concerns identified by the Auditor General in 2018 that DFO is not adequately managing the risks associated with salmon aquaculture consistent with its mandate to protect wild fish and fish habitat.[93] This is critical for both the Pacific and the Atlantic coasts.

The Green Budget Coalition recommends that DFO's Sustainable Aquaculture Program be expanded to include a cross-department approach to ensure that the aquaculture industry does not harm ocean health or infringe on Indigenous rights. The recommended investment would support:

- Monitoring, compliance and enforcement;
- Improved transparency and public reporting;
- Research on environmental effects, especially disease and parasite impacts and management for wild salmon;
- Land-based aquaculture systems research, science, and innovation; and
- Alternative species production and farming practices to support land-based systems.

Recommended Investment:

$125 million over five years [DFO]

91 The Finance Minister's Advisory Council on Economic Growth identified agriculture and food – including aquaculture - as a key sector to leverage as a driver for a future-oriented economic agenda.
92 Office of the Auditor General of Canada. Report 1 - Salmon Farming. http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201804_01_e_42992.html
93 Office of the Auditor General of Canada. Report 1 - Salmon Farming. http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201804_01_e_42992.html

5) Reducing Spill Risks and Biodiversity Impacts from Marine Shipping

Half of Canada's wildlife species are in decline. Disturbance, oil spills, strikes, and pollution from ships can severely impact critical habitat as well as community food security and health. Putting measures in place to eliminate dumping and other harmful impacts from shipping in marine protected areas, requiring the use of advanced treatment systems for grey water and sewage, and banning the use of 'scrubbers' in Canadian waters would significantly reduce cumulative impacts and safeguard ocean and coastal community health.

Recommended Investments:

$15 million over five years, starting immediately, to prepare for 2024 when an international ban on HFO in the Arctic comes into effect, for a fuel transition fund to support the phase out of polluting HFO to lighter, less polluting fuels in the shipping industry. [TC, ECCC]

By supporting the transition to cleaner fuels, this new fund would help reduce the risks of oil spills and their impact on the marine environment, which communities depend on for food, and thus help prevent food price increases.

Developing Policy Tools

$20 million over two years for policy research and stakeholder engagement [TC, ECCC, DFO] to:

- Ban the use of 'scrubbers' (also known as Exhaust Gas Cleaning Systems) in Canadian waters to eliminate the dumping of contaminated discharge water; and
- Mandate the use of Advanced Wastewater Treatment Systems in Canadian waters for sewage and greywater, and implement national policies, including in the Arctic, to prevent the dumping of any effluent, treated or untreated, from ships within 24 miles of the coast and in marine protected and Indigenous protected and used areas.

Recommendations for Generating Revenue: [TC]

- Establish a Vessel Pollution Control Fund: Require the collection of fees from vessels and deposit such fees in the Fund for use in carrying out the programs specified above.
- 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 treatment and shore power.
- Insurance Fund: Establish a legally enforced insurance fund paid by the marine sector for local communities, public health, and the environment that are negatively impacted by the shipping industry's activities. This fund could help with any negative disruptions that the industry has on people and the environment where it does business. This fund would ensure that there is proper compensation for those people amid any potential disruption or disaster, including crew affected by the COVID-19 pandemic.

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Expanding Ghost Gear Clean-up

The Green Budget Coalition appreciated the federal government's allocation of $8.3 million to help clean up ghost gear.[94] However, we sense that this is unlikely to be sufficient to address the problem and achieve the government's objectives.

In that context, the Green Budget Coalition recommends that the Government of Canada enhance its commitment to support coastal communities to clean up ghost gear and reduce impacts on wildlife, including endangered whales, by doubling its investment in the Sustainable Fisheries Solutions and Retrieval Support Contribution Program for innovation in rope-less gear and cleaning up ghost gear.

Recommended Investment:

$8 million in 2021-22 [DFO] *(in addition to previously announced funds)*

See also, earlier in this document, the recommendation regarding Helping Restaurants Reduce Reliance on Single-Use Plastics.

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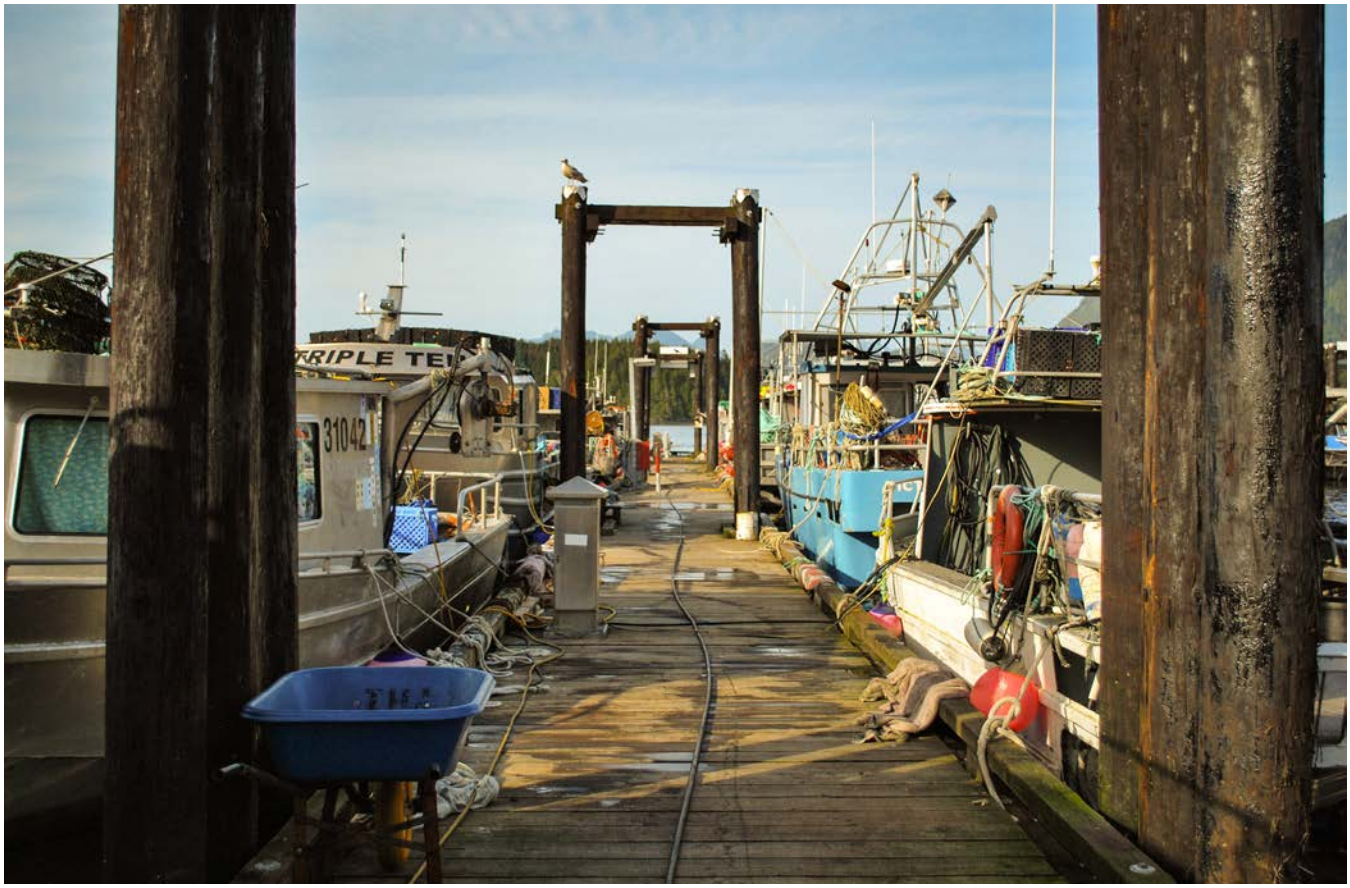

Photo: Bannon Morissy

94 https://www.canada.ca/en/fisheries-oceans/news/2020/07/fisheries-and-oceans-canada-announces-26-recipients-of-83-million-fund-to-clean-up-oceans-of-ghost-fishing-gear.html

Environmentally Sustainable Agriculture

Supporting Environmentally Sustainable Land Use and Biodiversity

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Global Assessment Report on Biodiversity and Ecosystem Services[95] notes the critical role of sustainable agriculture in feeding humanity while enhancing the conservation and sustainable use of biodiversity. According to the report, land use changes, related largely to agricultural expansion and unsustainable practices, have the largest negative impact on ecosystems people depend on for food, clean water and a stable climate.

Without involvement and leadership from the federal government — including adequate funding for programs, knowledge transfer, and metrics — biodiversity is bound to continue to decline on agricultural lands across Canada. This loss degrades the ecological goods and services (EGS) that have always supported farming production, and magnifies the vulnerability of agricultural lands to climate change. Reversing this trend would contribute to greater resilience in our agricultural production, and put farmers (and Canada) on better ground for an uncertain future.

See also:

- Ecological Goods and Services Programming for Agricultural Lands (earlier in this document);
- Establishing the Pollinator Conservation Initiative (earlier in this document); and
- Appendix 1: Sustainable Agriculture, Transitioning to Environmentally Sustainable Land Management and Food Production in Canada in the next Canadian Agriculture Partnership & Business Risk Management Plan

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Photo: Ducks Unlimited

95 https://www.ipbes.net/news/ipbes-global-assessment-summary-policymakers-pdf

Re-establish a Public Plant Breeding System

Photo: need credit

A sustainable food system needs high quality, locally adapted seeds that perform well in low-input systems with key traits of drought and flood tolerance, pest and disease resistance, productivity, and efficient nutrient use. Farmers' ongoing, unrestricted access to these varieties must be guaranteed. Greater support is needed for publicly funded initiatives to conserve the diversity of genes, species, varieties, cultivars, and breeds. This requires public investment in robust farmer-led or participatory research programs and networks that will serve the public interest while enhancing biodiversity, climate mitigation and adaptation, rural economies and food security.

Recommended Investment:

$20 million over 5 years [AAFC]

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Build a Facility for the Canadian National Collection of Insects, Arachnids, and Nematodes

Effective public policy needs evidence-based decision-making and this requires protection of scientific assets. The Canadian National Collection of Insects, Arachnids and Nematodes is one of the five largest assemblages of its kind in the world. Established in 1886 by James Fletcher, the first official Dominion entomologist, it now contains more than 17 million specimens. Many specimens are the only known representatives of their species. The collection is actively used by entomologists in Canada and around the world to inform research on emerging crop pests and bio-control. This collection is critical to inform our understanding of change in the agricultural landscape under climate change conditions. Although one of the most important invertebrate collections in the world, it is currently stored in 1,500 metal cabinets, many scattered in the hallways of a building on the federal government's Central Experimental Farm in Ottawa, and is in jeopardy of being lost due to improper storage conditions. With a modest one-time investment, this collection could be safely retained and used to inform scientific understanding and public policy in perpetuity.

Recommended Investment:

$45 million [AAFC]

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Photo: Julie Marsh

Conserving Canada's Birds Across Their Year-Round Range

Photo: Doug Swinson

Canada's 451 native bird species are found across every habitat, providing important ecological services such as pollination, pest control, seed dispersal and nutrient cycling. Birds contribute billions of dollars to the global gross domestic product through these ecological services.

Yet all is not well. The 2019 *State of Canada's Birds*[96] reports that many bird species continue to decline at alarming rates primarily due to habitat loss in Canada and Latin America. In 2019, we also learned that North America has lost one quarter (3 billion) of its wild birds since 1970. In Canada, the two groups with the most alarming trends are grassland birds and aerial insectivores (e.g., swallows) which have declined by 57% and 59%, respectively, since 1970.

In Canada, the Green Budget Coalition is calling for targeted investments to stem the declines in these two groups of birds most at risk through:

- Implementing a roadmap for the protection of aerial insectivores in Canada, including a gap analysis of the legal framework, a Canada-wide insect monitoring program, identification of best practices to support aerial insectivores, consideration of harm to birds during the pesticide approval process, a phasing out of pesticides directly toxic to birds or their insect prey, and a return to the principles of Integrated Pest Management in agricultural production; and
- Programs for ranchers and farmers to support grassland conservation measures and services (e.g., conservation easements, Best Management Practices). (*See Federal Habitat Restoration Program, earlier in this document.*)

We also know that a range of human-associated causes of bird mortality such as cat predation and window collisions take a huge toll on bird populations. Mitigation can save millions of bird lives annually. For that reason, the Green Budget Coalition is recommending an investment in measures to mitigate human-related bird mortality in Canada.

96 http://nabci.net/resources/state-of-canadas-birds-2019/

In Latin America, Canada can work with governments and NGOs to:

- Enhance protection at existing reserves and create or expand protected areas as needed;
- Restore habitat, especially in protected area buffer zones and conservation corridors; and
- Reduce human disturbance and direct mortality to shorebirds from illegal hunting, poisons, feral cats and dogs, and livestock, through regulations, enforcement, and public education.

Recommended Investments:

$4 million over four years (2021/22 through 2024/25) for an aerial insectivore road map and recovery fund [ECCC]

$10 million over four years for conservation in Latin America [ECCC]

$4 million over four years to address human-related threats to migratory birds in Canada [ECCC]

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Photo: need credit

International Biodiversity Conservation

Photo: Juanma Clemente Alloza

As with climate change, global biodiversity loss is regarded as a global issue, with higher income countries having an obligation to help developing countries. The world's natural heritage belongs to all of us and is our shared responsibility. It is most under threat in low-income tropical countries. Disease outbreaks such as the COVID-19 pandemic that result from the exploitation of wild animals are considered likely to increase as wildlife and habitats are put under more stress. This highlights the need for a worldwide effort to address threats to ecosystems and wildlife.

International cross-border public support for biodiversity is in the range of USD 3.9-9.3 billion per year[97] and, while global conservation spending is considered less than a third of what is needed, the funding gap is far greater in tropical low-income countries.

As parties to the UN Convention on Biological Diversity develop a post-2020 framework, Canada could emerge as a leader by committing to substantial assistance for developing countries and encouraging other developed countries to do the same, while continuing to increase conservation action at home.

Recommendation summary:

Build financial support from Canada for high-impact conservation in lower-income countries through bilateral agreements[98] or partnerships with conservation NGOs.

Recommended Investment:

$40 million in 2020/2021, scaling up to $650 million, ongoing, by 2025/2026. [ECCC]

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97 OECD, 2020. A Comprehensive Overview of Global Biodiversity Finance.
98 We view biodiversity support as separate from and additional to development assistance.

Increasing Canada's Role in the International Union for the Conservation of Nature

Addressing the global challenges of climate change and biodiversity loss require cooperation through multinational and multilateral institutions that support the transformational changes needed.

The International Union for the Conservation of Nature (IUCN) is a strong international organization committed to addressing the major environmental challenges of our time while advancing sustainable development goals. The IUCN's unique membership of governments, NGOs, and Indigenous Peoples Organizations, and its high-level political engagements have enabled it to establish a track record of engaging organizations from around the world in making progress on important conservation issues.

The GBC recommends that the Government of Canada increase its leadership within the IUCN by supporting two targeted programs that align strongly with Canada's interests.

1) Strengthen development of nature-based solutions that blend private capital and government contributions.

   IUCN is increasingly relied upon to provide nature-based solution expertise for initiatives that blend private capital and government sources, such as the Global Environmental Facility and the Green Climate Fund. Canada's investment would advance development of these types of initiatives by creating a fund to support the early stages of planning and partnership development.

2) Strengthen civil society organization reporting on progress toward achieving the nature and climate-focused Sustainable Development Goals (SDGs) 13, 14 and 15: Climate Action, Life Below Water, and Life on Land.

Success on Sustainable Development Goals 13, 14 and 15 is critical to the overall success of the SDGs. Governments have developed mechanisms

Photo: Zdenek Machacek

to monitor and track their own progress toward achieving the SDGs, but governments cannot achieve the SDGs alone. They need the support, leadership, and participation of civil society. Currently, adequate mechanisms do not exist to report on the contributions and impacts of civil society organizations. Canada's investment would allow for the development of a process to collect, analyze, and report on the contributions of civil society toward achieving SDGs 13, 14, and 15.

Both investments would provide Canada opportunity to shape major international initiatives consistent with its policy goals and values.

Recommended Investment:

$8 million over four years [ECCC]

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OTHER ENVIRONMENTAL PRIORITIES

Making Budget 2021 a Canadian Well-Being Budget

As governments—and private sector actors—shift to planning for economic recovery, there is a critical window to rethink the fundamentals of our economic system. As stated in the finance minister's July 8, 2020, Economic and Fiscal Snapshot, "Traditional economic measurements such as Gross Domestic Product alone do not give a full picture of Canadians' quality of life, and the pandemic has further exposed this fact."[99] The Green Budget Coalition recommends the government redesign the federal fiscal and economic policy framework to focus on well-being and make Budget 2021 a Canadian well-being budget.

Wellbeing is when people are able to lead fulfilling lives with purpose, balance and meaning to them in a manner that respects Nature's capacity to provide. A well-being budget recognizes that economic growth alone does not guarantee better quality of life, and seeks to optimize social and environmental outcomes, alongside monetary outcomes. By aligning fiscal decision-making with a well-being framework, a well-being budget would be a foundational step towards repurposing our economy to explicitly generate well-being for people today within the limits of nature, thus ensuring a healthy planet for generations to come.

Several other countries are already moving in this direction. New Zealand delivered its first well-being budget in 2019. Budget decisions were based on a well-being analysis that considered a range of economic, social, environmental and cultural considerations, with a long-term view of intergenerational outcomes. Scotland, Finland and Iceland have also formally adopted well-being economy approaches.

Canada's Minister of Middle-Class Prosperity and Associate Minister of Finance, the Hon. Mona Fortier, is mandated to, "Lead work... to better incorporate quality of life measurements into government decision-making and budgeting, drawing on lessons from other jurisdictions such as New Zealand and Scotland." The Green Budget Coalition appreciates that this work has begun and **recommends that the government formalize a framework to support a Canadian well-being budget in 2021**. **We further recommend that national economic updates be expanded to track well-being indicators** -– broadening the definition of what constitutes economic success to include not only the health of national finances but also the health of the natural environment, people and communities.

As Canada rebuilds, there is an opportunity to rebuild better. This will be accomplished in part by appropriately targeting stimulus spending to align with environmental objectives. To achieve lasting progress towards a cleaner, more sustainable economy, the Green Budget Coalition recommends formally reorienting Canada's economy to optimize economic decision-making in consideration of social foundations and environmental limits. Making Budget 2021 a Canadian well-being budget will support integrated decision-making towards these desired outcomes.

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99 https://www.canada.ca/en/department-finance/services/publications/economic-fiscal-snapshot.html

Establishing a Canada Water Agency

Photo: Louis Paulin

The science and rising costs of water-related climate change impacts are telling us that Canada is facing an emerging water crisis for which we are largely unprepared. The federal government's commitment to establish a Canada Water Agency is an important step towards building the collaborative watershed management and governance systems we need to achieve a more resilient and secure freshwater future for Canada. While aspects of water management in Canada are provincial jurisdiction, each jurisdiction acting individually does not provide us with the information and systems needed to ensure that water is being managed and governed effectively and proactively at a national level. We currently lack the ability to coordinate water management decisions and policies across provincial/territorial borders and continue to operate without comprehensive information about our lakes, rivers, streams, groundwater and wetlands. Many of the associated risks remain unknown, fragmented and go unmitigated across jurisdictions. In order to create a better and more cohesive water management regime, a national, single window agency is needed. The mandate of this agency would be to:

1) Coordinate and modernize freshwater management systems and legislation;

2) Expand and enhance water monitoring to address current gaps and standardize data reporting related to water quantity and water quality across Canada.

   a. **Water quantity:** The agency needs dedicated resources to establish a national flood forecasting system and provide coordinating capacity across governments to anticipate climate threats to water security. The agency should use a collaborative watershed approach and

maintain basin integrity against mounting pressure for ecologically damaging water diversions and continued wetland drainage in some jurisdictions that makes watersheds less resilient to flooding. Through an expanded, standardized and coordinated water monitoring network the agency can anticipate climate threats to at-risk watersheds and support freshwater projects that promote flood and climate resilience. In the long term, the Agency should prioritize investments and action to protect and build resiliency among shoreline communities from the threat of flooding and climate change impacts.

b. **Water quality:** Systematic and standardized water monitoring data on contaminants, such as pesticides and agricultural nutrient run-off, manufacturing and wastewater effluents is needed for ECCC and Health Canada to assess risks to environmental and human health. ECCC and several provinces currently conduct water monitoring, but there is a need to expand capacity to provide the standardized data needed by agencies to fulfill their mandates particularly under the *Pest Control Products Act* and the *Canadian Environmental Protection Act*. Water quality data is also needed to identify priorities for long term watershed health, and wastewater infrastructure investments. *(See also, later in this document, the related recommendation regarding the immediate need for a two-year water monitoring pilot within the PMRA).*

3) Expand, enhance and standardize publicly available water monitoring data and create a central, credible repository for information related to water in Canada for governments and the public;

4) Better identify and anticipate climate threats to water security as well as ways to mitigate threats;

5) Improve water governance, including providing a meaningful forum in which to integrate water priorities and needs of Indigenous communities into the national dialogue on water;

6) Align long-term actions and investments with the recommendations of the *Great Lakes St. Lawrence 2020-2030 Action Plan* to reduce human and environmental exposure to toxics, and the threat of flooding;

7) Work collaboratively with partners to identify priorities for research and action; and

8) Enhance public trust in resource governance by reporting to Parliament annually on the state of freshwater in Canada.

To be effective, this agency must have the resources necessary to coordinate within and among 20 federal departments with water-related responsibilities - as well as provincial, municipal, territorial and Indigenous governments, researchers, and an external advisory committee. Federal leadership through this agency is essential in making Canada climate-ready and presents a vehicle by which to advance commitments to reconciliation.

Recommended Investment [ECCC]:

$200 million over five years to establish and operationalize the Canada Water Agency, including capacity to support water monitoring

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Renewal of the Chemicals Management Plan

Canada's cornerstone initiative for protecting human health and the environment from pollution and toxic chemicals is sunsetting in March 2021. With compelling scientific research underscoring the connection between toxic chemical exposure and chronic illnesses such as asthma, diabetes and cancer, and growing evidence of a strong link between toxic pollution and more severe COVID-19 outcomes, continued investment in a renewed CMP at current funding levels is vital for our public and ecosystem health.[100]

Exposure to toxic chemicals in the air, water and consumer products, is increasingly linked to the rise of chronic illnesses in Canada. As the world grapples with recovering from the COVID-19 pandemic, leading researchers from reputable academic institutions have published research demonstrating a compelling connection between our exposure to pollutants and illnesses such as diabetes, COPD, hypertension, and heart disease, which are risk factors for severe sickness from COVID-19 and even mortality. These scientific revelations make clear

Photo: Living Lakes Canada

100 Health Canada. Pest Control Products Sales Report for 2017

Photo: Shutterstock

that Canada's investment in pollution prevention is key to reduce chronic disease burden and foster resilience when faced with public health crises such as pandemics.

By 2021 the federal government anticipates it will complete the task of assessing 4,300 chemicals prioritized through the categorization process in 2006. But the job of protecting Canadians from the risks of chemicals will be far from complete. A recent parliamentary review of the Canadian Environmental Protection Act as well as several evaluations conducted by the Office of the Auditor General of Canada have revealed important gaps in the implementation of the CMP.

As a result of the review of CEPA by the Standing Committee on Environment and Sustainable Development in 2017, the federal government has committed to strengthening the Act and better addressing the risks of toxic substances. The renewal of the CMP is vital to the effective implementation of a modernized CEPA.

Furthermore, since the beginning of the CMP, Canadians and the environment have faced significant new threats that the current program has been unequipped to address. From plastic pollution and widespread exposure to endocrine disrupting chemicals to regrettable substitution and the rise of e-commerce and emergence of tens of thousands of new substances. The renewal of the CMP would enable government departments to tackle these issues as well as other priorities identified by the government in its CMP post-2020 stakeholder consultations over the last few years such as the reassessment of certain chemicals to consider vulnerable populations, including workers, and new science on potential harms and exposure.

Recommended investment:

$100 million annually, starting in 2021-22 and ongoing [ECCC, HC]

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Closing the Resource Gap at Health Canada's Pest Management Regulatory Agency

The COVID-19 crisis has prompted strong recognition of food security issues among Canadians, both food affordability and the ability to produce food domestically. Alongside COVID-related government investment to support Canada's agricultural sector, longstanding challenges remain in achieving timely pesticide regulation. To keep pace with the needs of growers and other pesticide users, federal statutory authority, obligations, and capacity to assess and regulate pesticides must be expanded.

Assure adequate funding to update pesticide risk assessments. As required by law, PMRA initiates a re-evaluation of each registered pesticide on a 15-year cycle. However, PMRA cannot keep pace with a workload of both aging files and an increasing backlog, exceeding capacity and existing resources.[101] PMRA recently undertook a review of the re-evaluation program, which resulted in a proposal for a more integrated approach. While the new approach is intended to achieve greater efficiency, increased funding is essential to avoid problems with performance, further delays, and limits to PMRA's ability to respond to stakeholder expectations and emerging issues. This situation threatens to undermine the integrity of Canada's pesticide regulatory regime.

Moreover, PMRA must also complete re-evaluations for pesticides registered before 1995, which pose unknown risks, never having been assessed in Canada using modern scientific methods. Thirteen large and complex historical reviews remain incomplete. Additional, dedicated resources are needed to clear this backlog.

Photo: Anton Darius

Launch a pesticides water monitoring program. A key element of the new integrated approach to pesticide re-evaluation is early and ongoing identification of changes in pesticide use and exposure. Thus, success of the new approach will require investment in a systematic approach to collecting robust water monitoring data. Currently, PMRA does not conduct water monitoring and available data from other federal departments, provinces, and stakeholder associations often lack the level of detail needed for exposure assessment calculations.[102] (*see also Canada Water Agency recommendation, earlier in this document*)

Upgrade label requirements. Re-evaluations routinely result in changes to use requirements and these are specified on the product label. The label is the key interface between a pesticide risk assessment and its end use. In 2019 PMRA launched a "Label Improvement Initiative" that requires additional resources to address identified problems such as label consistency and clarity, as well as implementation issues.

Fund compliance and enforcement. In 2018-19 PMRA conducted 217 "Compliance Outreach" educational activities and just 780 inspections, over 500 fewer inspections than in 2016-17. This number equates to less than 1% of the 193,000 farms in Canada (not to mention non-agricultural uses of pesticides). The rate of compliance by sub-sector ranged from as low as 8% (mainly due to illegal imports) up to 100%,[103] with a multi-year problem of non-compliance among pest control operators (exterminators) apparent from multiple fines levied in this sector again during 2019.[104] Across all pesticide uses, a more robust compliance and enforcement program is needed to ensure that end users properly implement risk-reduction requirements and restrictions, particularly label changes.

Recommended Investment:

An additional $80 million over two years [Health Canada] to upgrade post-market pesticide regulation and enforcement as follows:

- **$65 million** for PMRA's post-market review program (roughly double the current annual spending).
- **$5 million** for PMRA to launch a water monitoring pilot.
- **$2 million** for PMRA to implement its Label Improvement Initiative.
- **$8 million** for Health Canada to expand pesticide compliance and enforcement activities.

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102 Health Canada, Pest Management Regulatory Agency 2018-2019 Annual Report, p. 20.
103 Health Canada, Pest Management Regulatory Agency 2018-2019 Annual Report, pp. 16-17.
104 Health Canada, PMRA Enforcement Bulletins, 2019: https://www.canada.ca/en/health-canada/services/consumer-product-safety/pesticides-pest-management/public/protecting-your-health-environment/compliance-enforcement/enforcement-bulletins.html

Upgrading Enforcement of Environmental Laws

A robust regulatory framework and effective enforcement of environmental laws will be an important foundation for rebuilding Canada's economy. ECCC is responsible for enforcing federhal laws that protect air, water, land and wildlife: the *Canadian Environmental Protection Act*, 1999; pollution-prevention provisions in the *Fisheries Act*; *Migratory Birds Convention Act*, 1994; *Canada Wildlife Act*; *Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act*; and *Species at Risk Act*; and their regulations.

There has been no significant new investment in environmental enforcement since Budget 2008 — although the number of protected species and places, and pollution prevention regulations has increased significantly over the past decade. An audit of ECCC's enforcement of CEPA regulations in 2018, by the Commissioner for Environment and Sustainable Development (CESD), found that the department had not carried out a single inspection in relation to many toxic substance regulations. ECCC's forward regulatory agenda, which includes 30 new CEPA or *Fisheries Act* regulations, expanding federally protected wildlife areas and eliminating SARA listing backlogs, will further stretch existing enforcement capacity.

ECCC is in the final stages of implementing a risk-based enforcement planning framework. ECCC's enforcement branch is well-positioned to scale up its activities based on analysis of non-compliance risks but lacks funding to do so.

Additional resources are also needed to ensure regular recertification training for all enforcement officers.

Furthermore, enforcement challenges are increasingly sophisticated and require new investigative and intelligence capabilities, as well as additional enforcement officers and training. The CESD audit found that ECCC had challenges in fulfilling intelligence needs to assist enforcement officers in making informed decisions. Some regions had no dedicated intelligence staff. For example, Ontario had the largest number of regulated businesses but no permanent intelligence staff. The audit underscored that key intelligence information is important to targeting the work of enforcement officers.

Recommended Investment:

$50 million additional investment annually, ongoing, [ECCC] to upgrade enforcement of Canada's pollution prevention and wildlife protection laws.

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Improving Environmental Data and Science to Support Evidence-Based Decisions

Photo: Shutterstock

Accessible, current and coordinated science and data are vital to enable evidence-based decision making and to evaluate and inform effective public policy. Joint federal and provincial leadership in this area is overdue and new investments are urgently needed to implement an environmental science and data management strategy that addresses Canada's emerging and longstanding environmental data challenges and needs. These include:

- overlapping and fragmented data collection and management responsibilities among federal departments and other levels of government;
- incomplete and outdated datasets (particularly geospatial habitat inventory data);
- lack of integration and poor coordination of data-sharing across jurisdictions and sectors;
- inconsistent collaboration with outside organizations and academia
- inadequate resources to fully embrace international standards in data collection or analysis, particularly with respect to international environmental asset accounting;
- limited public accessibility;
- large time lags between policy implementation and evaluation data; and
- inadequate science, data and quantification methodologies needed to inform the effective implementation of nature-based climate solutions, achieve net-zero emissions by 2050, price carbon emissions, and manage the risk of severe weather events such as flooding.

To address these needs and support the federal government's commitment to evidence-based decision making, the GBC recommends the following investments.

a. Coordinated and Updated National Geospatial Habitat Inventories

Canada's open Federal Geospatial Data Platform aggregates individual geospatial data layers into a national geodatabase. However, many of the individual base layers are outdated, incomplete, inaccessible to the public, and when publicly available, are often spread across multiple data platforms and governments.

Building on current efforts to develop an integrated Federal Geospatial Platform, the Green Budget Coalition recommends that the federal government invest in undertaking an audit and inventory of existing geospatial datasets (and gaps) across federal departments and other levels of government, in addition to updating geographic and landscape feature data to complete Canada's national habitat inventories. This includes completing the Canadian Wetland Inventory, creating a critical fish habitat inventory, native grasslands inventories and national groundwater mapping. 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.

Coordinated and updated national geospatial habitat inventories are essential for enabling Canada to effectively and efficiently implement nature-based climate solutions as part of its approach to meet its biodiversity and 2030 and 2050 GHG mitigation reduction targets. These inventories provide important baseline information needed to expand Canada's quantification of GHG emissions and sequestration from human activities beyond those currently captured in the national GHG inventory (e.g., wetland drainage, compaction of peatlands from roads and other activities, removal of native grasslands, changes in grassland management), and to assess potential strategies to quantify emission reduction opportunities.

Recommended Investment:

$2 million over three years for an inventory and audit, and **$125 million over four years** to update and complete national habitat inventories [NRCan and ECCC]

b. A National Census of the Environment

Effectively managing Canada's natural assets and the essential ecological functions and services they provide requires full accounting of our environmental health and assets. A census of the environment with baseline accounting of Canada's environmental assets and regular status and trends reporting (similar to the way GDP and employment statistics are published) will generate the critical

Photo: Shutterstock

data that is needed to measure the diverse values and benefits Canada gains from its ecosystem services – most of which are often overlooked until the service is lost or degrades. Calls to action for a national environmental census are emerging in other countries with similar environmental challenges and data gaps, including recommendations made in the United Kingdom's 2019 State of Natural Capital Annual Report.

The Green Budget Coalition recommends new investments to launch an initiative led by Statistics Canada to work with federal departments and other levels of government to advance the development of a robust and full accounting of Canada's environmental assets. This includes building a central registry and framework for a national census of the environment.

Recommended Investment:

$16 million over four years [StatsCan]

c. *External Advisory Panel on Integrating Environmental Data*

The GBC recommends establishing an external advisory panel, co-led by ECCC and StatsCan, and 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. 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:

$3 million over three years [ECCC]

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Collaborating on Regional-Scale Environmental Governance

COVID-19 has amplified important conversations about the need to transform the way we make decisions that affect our environment and communities.

Regional assessments (RAs) and strategic assessments (SAs) are a critical but underused tool for taking stock of cumulative effects and having collaborative discussions about shared visions of the future and pathways for achieving desired outcomes.

Further funding is required to continue Canada's RA and SA program, in partnership with provincial and Indigenous authorities, to protect biodiversity, nature and the climate.

Recommended Investment [IAAC]:

$155 million over five years:

- **$50 million over five years** to: incentivize and facilitate the collaborative participation of provincial and Indigenous authorities in RAs and SAs, by offering financial support for land and resource use planning following the successful completion of assessments; encourage land and resource use planning and better management of cumulative effects; and better inform project-level decision making.
- **$5 million over five years** to establish an advisory panel of Canada's leading experts to inform the development of regulations and supporting policy under the Impact Assessment Act respecting the processes, objectives and outcomes of RA and SA. The GBC recommends that this panel also help identify priority RAs and SAs, and advise on the terms of reference of those first assessments.
- **$100 million over five years** to establish co-governance bodies with provincial/territorial and Indigenous authorities to conduct further RAs and SAs according to best practices, do follow-up and monitoring, and ensure that those assessments inform project-level decisions with up-to-date information.

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Appendix 1: SUSTAINABLE AGRICULTURE:

Transitioning to Environmentally Sustainable Land Management and Food Production in Canada in the next Canadian Agriculture Partnership & Business Risk Management Plan

The Green Budget Coalition envisions a future in which our food production, including the land management that supports it, is environmentally sustainable. We can do this while maintaining a strong agriculture and food sector, employing millions of Canadians, and supporting biodiversity and agrobiodiversity on our land base. Feeding the world's increasing population sustainably in the context of climate change requires resilient and diverse food systems that minimize environmental impacts, protect and restore the ecosystem services that are vital to a thriving agricultural economy, and offer long-term solutions for climate adaptation and mitigation and mitigating climate change.

Key to achieving this is embracing innovation, including appropriate technologies, that supports environmentally sustainable agricultural outputs through no increase in the conversion of existing natural or marginal lands on the existing agricultural land base, while concurrently moving towards net habitat gains through restoration and enhancement. This concept has already been embraced by the Canadian Roundtable for Sustainable Crops, an industry-NGO partnership working collaboratively towards innovative agricultural practices and sustainability.

Canada has the potential to become a world leader in environmentally sustainable agriculture that also meets 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.

Consultations on BRM and CAP Renewal

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. It has made very little investment in reducing environmental risk or building agricultural resilience to climate change — yet both of these areas are part and parcel of reducing on-farm business risks and ensuring stable livelihoods for farmers now and in the future. Canadian agriculture will remain unsustainable without mitigating the negative environmental impacts of agricultural production, particularly under changing climate conditions, and will only continue to degrade marginal lands and natural habitats. The federal government must be a key driver in supporting a transition to environmentally sustainable agriculture, including regenerative agriculture and practices that support ecosystem services, and provide income stability for a strong and diverse farming community. It must also demonstrate an elevated level of national leadership by working openly through established forums, particularly the Federal-Provincial-Territorial Ministers of Agriculture, to develop sector-specific approaches that meaningfully address the climate crisis, the biodiversity crisis and the continued loss of ecosystem services on the working agricultural landscape. These collaborative solutions must be developed for and supported within the next Canadian Agricultural Policy Framework.

Photo: Ducks Unlimited

To achieve a transformational shift in the environmental impacts of the Canadian agri-food industry in the medium to long term, the Business Risk Management (BRM) and Canadian Agricultural Partnership (CAP) programs must be adapted to support the adoption of ecological best practices including new and innovative approaches to agri-food production and processing. However, as these programs are intended to provide stability, predictability, and assurance for producers, changes must be seen as incentivizing and additive rather than punitive or reductive. At the same time, inaction will come with financial costs and increased risks, which should not continue to be pushed downstream and, by extension, fully absorbed by Canadians working outside of the sector.

Sustainable harvest standards have been mainstream in seafood harvest for some time, they are gradually making inroads into land-based agriculture as well. For example, the European Union has adopted the International Sustainability and Carbon Certification (ISCC) standards for the acceptable use of agricultural based biofuels. Under this standard, the production or use of biofuels from converted lands (natural habitat to new crop lands) is not authorized for use or sale in the EU. As consumers are demonstrating increased awareness of and concern about the environmental impact of their lifestyle choices, similar certification regimes will continue to gain mainstream support and acceptance across the global marketplace. These emerging standards create a significant business and market risk for Canadian producers. Taking proactive steps now to address the practices that undermine environmental sustainability would shift the current risk of ecological standards to a competitive advantage for Canadian producers.

Recommendations:

The Green Budget Coalition recommends that the Government of Canada publicly commit to making environmental considerations a primary focus of its negotiation for the renewal of CAP and BRM in 2023. In preparation for these negotiations, the Green Budget Coalition recommends that AAFC assess the efficacy of environmental strategies incorporated into similar agricultural support programs in other nations, and undertake a broad process of consultation with stakeholders to identify options for enhancing environmental incentives within CAP and BRM To ensure that this is implemented effectively and comprehensively, the Green Budget Coalition **recommends allocating $1 million of existing funding (over two years)** for this purpose.

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

- Seek to identify and eliminate, within CAP and BRM, perverse subsidies for activities that cause unnecessary ecological harm;
- Target 10% of total BRM investment towards incentivizing agro-ecological transitions, and
- Devote 40% of all CAP expenditure to research, programs, and investments that are consistent with regenerative agricultural principles and practices.

For GBC recommendations to advance sustainable agriculture over 2020-23, please see Environmentally Sustainable Agriculture, earlier in this document.

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Photo: Ricke

APPENDIX 2: SUMMARY TABLE — RECOMMENDATIONS

Costs (and Savings) Associated with the GBC's Recommendations for Recovery and Budget Actions in 2020-2021

(in millions of dollars; negative figures represent savings or revenues)

Recommendation / *Sub-Recommendation*	Likely Lead Department(s)	2020-21	2021-22	2022-23	2023-24	2024-25	ongoing	(end-year)
CLIMATE ACTION								
Buildings & Energy Efficiency								
Retrofits of buildings & homes	NRCan	10,000						
Training for Canada's low-carbon workforce	ESDC + NRCan	500						
Road Transportation								
Investments in Public Transit and Fleet Electrification								
Permanent Transit Fund	INFC	3,400						
Zero-emission Bus Procurement Incentive Program	INFC	472	472	472	472	472		
Zero Emission Vehicules (ZEVs)								
iZEV top-up	TC	150						
ZEV Infrastructure Program	NRCan	200	100					
ZEV automotive technician training program	ESDC	10						
Circular EV battery chain	NRCan, ISED, ECCC	50	50	50	50	50		
More favourable tax treatment	Finance, ISED	Uncertain impacts in increasing and decreasing revenues						
Reducing heavy duty vehicle emissions	NRCan	40	40	40	40	40		
Decarbonizing Fuel Supply								
Electric Vehicle & Alternative Fuel Infrastructure Deploy't Program	NRCan	100						
New Low-Carbon Fuels Innovation Program	NRCan	70	70	70	70	70		
Pricing Road Infrastructure	INFC	5						
Complementary Climate Action Recommendations								
Phasing out Fossil Fuel Subsidies	Finance, NRCan, ECCC, GAC, ISED	No additional cost – we expect this could all be achieved using existing capacity.						
Avoiding Taxpayer Liabilities for Small Modular Reactors	NRCan	Provides opportunity to reduce costs and reduce liabilities.						
Accelerating Renewable and Decentralized Energy								
Procurement supporting Community Owned Renewables	PSPC	50	50	50	50	50		
Support for Community Financing								
Smart Grid program	NRCan, CIB	20	20	20	20	20		
"Buy-down" incentives	NRCan, ECCC, CIB	10	10	10	10	10		
Incentives as portion of installed capital cost	ECCC	50	50	50	50	50		
Financial Support for Rooftop Solar								
Rebates	NRCan	200	200	200	200	200		
Incentives	NRCan	50	50	50	50	50		
Capacity Builiding	ISED, NRCan, INFC	30	30	20	10	10		
Remote Communities	CIB	90	90	90	90	90		
Indigenous Communities	CIB	60	60	60	60	60		
Renewables plus Storage Projects	NRCan, CIB	125	125	125	125			
Independent Monitoring of Methane Emissions	NRCan	8	8					
Marine Shipping- Reducing Climate Impacts								
Policy tools - national shipping & black carbon reduction	TC, ECCC	10	10					
R&D & Sea Trials	TC,NRCan+ECCC,CIRNAC	10	10					
GHG Reduction Innovation Fund	TC+ECCC,NRCan,CIRNAC	5	5					
National Shore Power Plan	TC, ECCC + NRCan, CIRNAC	20	20					
International Climate Finance	GAC, ECCC	4,000	4,000	4,000	4,000	4,000	4,000	(2025-26)
Sustainable Finance Report	Finance, NRCan, ISED, ECCC, INFC							
Strengthening Carbon Pricing	ECCC + NRCan	No additional cost - we expect this could be achieved using existing capacity.						
Reduce Reliance on Single-Use Plastics								
Fund to support SMEs to reduce single-use plastic	ISED	500						
Data collection re plastic packaging life cycle	ECCC, StatCan	5						
Expert Advisory Council for Future Climate Legislation	ECCC	5	5	5	5	5		
True Costs of Climate Change	ECCC	1	1					

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Recommendation *Sub-Recommendation*	Likely Lead Department(s)	2020-21	2021-22	2022-23	2023-24	2024-25	ongoing	(end-year)
NATURE CONSERVATION								
Nature Based Climate Solutions	ECCC, INFC, AAFC, DFO, NRCan	100	100	100	100	100	100	(2029-30)
Creating & Managing Protected Areas								
Protecting Public Lands & Freshwater								
Achieve 25% protection by 2025	ECCC, PCA	500	500	200	200	200		
Deliver on commitment to protect 30% by 2030	ECCC, PCA						300	(2029-30)
Protecting Oceans with Effective MPAs								
Oceans Act MPAs and MPA network planning	DFO, ECCC, PCA	185	72	72	72	72	72	
NMCA and MNWA	DFO, ECCC, PCA	140	53	53	53	53	53	
NMCA and MNWA Management	DFO, ECCC, PCA	10	10	20	20	20	20	
Establishing Indigenous Protected, Conserved Areas on Land	ECCC, PCA, DFO	300	300	300	300	300		
Indigenous Stewardship & Guardians		62.5	91.5	142.5	230	305	300	
Totals – for Creating & Managing Protected Areas		***1197.5***	***1026.5***	***787.5***	***875***	***950***	***745***	
Restoration								
Federal Habitat Restoration Program	ECCC	90	90	90	90	90		
Habitat Project Renewal Fund	ECCC	24	24	24	24	24		
North American Waterfowl Management Plan	ECCC	10						
Totals – for Restoration		***149***	***139***	***139***	***139***	***139***		
Pollinator Conservation Initiative	AAFC, ECCC	10	10	10	10	10		
Investing in Communities by Protecting Canada's Freshwater								
Great Lakes, St. Lawrence & Lake Winnipeg	DFO, ECCC	26	26	26	26	26		
Great Lakes St. Lawrence Action Plan Implementation	ECCC	240	240	240	240	240		
Climate Resilience via Natural Infrastructure Solutions								
Disaster Mitigation & Adaptation Fund	INFC	200	200	200	200	200		
Green Infrastructure Fund	INFC		Using previously announced funds					
FCM for municipal "natural asset assessments"	INFC, NRCan	4	4	4	4			
EGS Programming for Agricultural Lands	ECCC, AAFC	20	100	100	100	100		
Wildlife Collision Reporting System								
National WVC data reporting system	TC, ECCC	1.5	1.5	1.5				
WVC mitigation infrastructure	TC, ECCC, INFC	50	50	50				
Reinforcing Canada's Frontline of Defence vs Wildlife Diseases	ECCC, HC	22	22	22	22	22		
Managing Healthy Oceans								
Marine Spatial Planning	DFO	59	59	48	48	48	48	
Marine Monitoring	DFO	30	30					
Enforcement personnel & equipment	DFO	25	25	25				
G7 & anti-IUU partnerships	DFO	3	4	4				
Fisheries - rebuilding, science, management	DFO	35	35	35	35	35		
Aquatic Species at Risk	DFO	26	26	26	26	26		
Aquaculture - environmental sustainability	DFO	25	25	25	25	25		
Marine shipping - reduce spill risks & biodiversity impacts								
Prepare for international HFO ban	TC, ECCC	3	3	3	3	3		
Developing policy tools- ban scrubbers, advanced wastewater	TC, ECCC, DFO	10	10					
Revenue options	TC		Amounts would depend on fee levels.					
Expanding Ghost Gear Clean-up	DFO		8					
Totals - for Healthy Oceans		***216***	***225***	***138***	***109***	***109***	***48***	
Sustainable Agriculture								
Re-establish a Public Plant Breeding System	AAFC	4	4	4	4	4		
Facility for Collection of Insects, Arachnids, & Nematodes	AAFC	45						
Transitioning CAP and BRM plan towards sustainability	AAFC	0.5	0.5					
Conserving Canada's Birds Across their year-round range	ECCC	4.5	4.5	4.5	4.5			
International Biodiversity Conservation	ECCC	40	200	400	550	650	650	
Increasing Canada's Role in the IUCN	ECCC	2	2	2	2			

Recommendation *Sub-Recommendation*	Likely Lead Department(s)	2020-21	2021-22	2022-23	2023-24	2024-25	ongoing	(end-year)
OTHER ENVIRONMENTAL PRIORITIES								
Making Budget 2021 a Well-Being Budget	Finance	-						
Establishing Canada Water Agency	ECCC	40	40	40	40	40		
Renewal of the Chemicals Management Plan	ECCC, HC	100	100	100	100	100		
Health Canada's Pest Management Regulatory Agency	HC	40	40					
Upgrading Enforcement of Environmental Laws	ECCC	50	50	50	50	50	50	
Environmental Science & Data	ECCC, NRCan, StatCan, ISED							
Updated National Geospatial Habitat Inventories	NRCan, ECCC	35	34	34	25			
National Census of the Environment	StatCan	4	4	4	4			
External Advisory Panel	ECCC	1	1	1				
Regional Scale Environmental Governance								
Collaborative Participation - Indigenous & provincial	IAAC	10	10	10	10	10		
Advisory panel on RAs & SAs	ECCC, IAAC	1	1	1	1	1		
Establishing co-governance bodies to conduct RAs & SAs	ECCC, IAAC	20	20	20	20	20		

Department and Agency Acronyms

AAFC: Agriculture and Agri-Food Canada
CIB: Canada Infrastructure Bank
CIRNAC: Crown-Indigenous Relations and Northern Affairs Canada
CMHC: Canada Mortgage and Housing Corporation
CSA: Canadian Space Agency
DFO: Fisheries and Oceans Canada
ECCC: Environment and Climate Change Canada
ESDC: Employment and Social Development Canada
Finance: Finance Canada
GAC: Global Affairs Canada
HC: Health Canada
IAAC: Impact Assessment Agency of Canada
INAC: Indigenous and Northern Affairs Canada
INFC: Infrastructure Canada
ISC: Indigenous Services Canada
ISED: Innovation, Science & Economic Development
NRCan: Natural Resources Canada
PCA: Parks Canada Agency
PMRA: Pesticide Management Regulatory Agency
PSC: Public Safety Canada
PSPC: Public Services & Procurement Canada
StatCan: Statistics Canada
TC: Transport Canada

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