

# Spending What it Takes:

Transformational climate investments for long-term prosperity in Canada



**CCPA**

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# Contents



- 3** Executive Summary
- 6** Introduction
- 7** Federal climate expenditures since Paris
- 14** Climate investment framework
- 16** Principles for climate investment
- 18** New climate investments for Budget 2023
- 29** Putting the pieces together
- 33** Appendix: Notes on calculations of federal climate spending

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# Executive summary

The world is confronted with a slew of accelerating and converging crises, from climate change and biodiversity loss to energy insecurity, unaffordable living and rising inequality. In the face of these challenges, Canada must urgently and equitably decarbonize every sector of the economy both to contribute our fair share of the global climate effort and to ensure Canada's long-term prosperity in a low-carbon global economy.

It is a daunting task facing a country that has long depended on fossil fuel extraction and consumption to drive the economy, and only through an ambitious, well-funded and publicly-coordinated transition effort are we likely to succeed at this complex and far-reaching project.

*Spending What It Takes: Transformational climate investments for long-term prosperity in Canada* proposes a comprehensive, \$287 billion plan for public investment in a green economy, drawing on the recommendations of Climate Action Network – Réseau action climat (CAN-Rac) Canada members and other organizations working on climate policy in Canada today, including expert insights from a variety of research institutes, environmental organizations, academic bodies and activist groups. The report lays out the current state of public climate spending in Canada before turning to a forward-looking, sector-by-sector breakdown of necessary clean economy spending consistent with a net-zero economy by 2050.



The report finds that the government of Canada is currently spending about \$10 billion per year—soon rising to \$15 billion per year, or about 0.5% of GDP—on greenhouse gas emission reduction efforts across several sectors of the economy (all figures CAD unless otherwise noted). While these initiatives lay an important foundation for decarbonization, this level of spending is insufficient for achieving net-zero emissions by 2050.

**The climate investments described in this report amount to new public spending of \$287 billion over five years (an average of \$57 billion per year) above and beyond currently planned spending, which would be equivalent to approximately 2% of GDP.**

Early, ambitious investments on this scale will drive deep decarbonization in every sector of the Canadian economy and put the country on track to achieve its legislated climate commitments by mid-century.

These necessary climate investments include:

-  \$25 billion to **support Indigenous-led climate policies and solutions** and the effective inclusion of Indigenous peoples at decision-making tables as rights-holders;
-  \$20 billion to **build a clean electricity grid** with a focus on interregional transmission and targeted investments in rural, remote and Indigenous communities;
-  \$66.5 billion to **make homes and buildings more energy efficient** through retrofitting programs and workforce development initiatives;
-  \$40 billion to **accelerate zero-carbon mobility** by providing stable, long-term funding for public transit and expanding intercity passenger options;
-  \$4 billion to **grow food more sustainably** through the adoption of proven lower-carbon farm management practices;
-  \$80 billion to **support good jobs and vibrant communities** by targeting public investments in the communities facing the most challenging transitions, creating new benefits for workers in transition, and establishing a youth climate corp to create good, green jobs that accelerate climate action;
-  \$25 billion to **build a more resilient society** through transfers to the provinces for climate adaptation;
-  \$5.3 billion to **support global climate action** with new grants, rather than loans, to the developing countries most impacted by climate change with the least historical responsibility; and,
-  \$21 billion to **protect and restore nature**, including the remediation of fossil fuel sites and the expansion of zero-waste recycling initiatives.

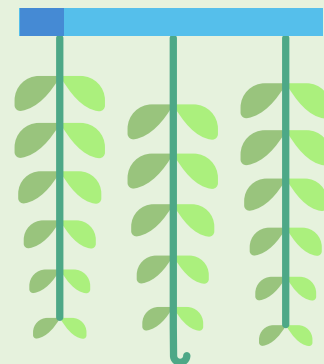
New “green strings” must also be attached to existing funding and financing mechanisms to ensure no more public money is used to subsidize fossil fuels or otherwise undermine the imperative of a just transition to a net-zero economy.

While \$287 billion represents a significant and unprecedented level of climate spending, new investments on the proposed scale are well within the fiscal capacity of the federal government. For comparison, our proposed annual expenditures amount to just 11 weeks of COVID-19 pandemic support spending.

As rising interest rates threaten to drive the Canadian economy into recession, massive new spending on zero-carbon solutions has the potential to simultaneously cut emissions, stimulate the economy, and alleviate inflationary pressures through the replacement of volatile fossil fuel energy—a major cause of recent inflation—with more stable, secure renewables. Pulling it off will require strategic coordination of energy supply and demand, efforts to build resilience to climate impacts and supply-chain disruptions, and policies to ensure the Canadians most vulnerable to inflation are supported.

Our plan will bring a long-term return on investment from strategic infrastructure, redirect planned public and private spending away from fossil fuel infrastructure, and reduce the costs of climate inaction, which loom ever-larger as Canada suffers increasingly severe, frequent and costly extreme weather events. It will also make life more affordable for Canadians through lower home energy costs from a clean electricity grid and more convenient public and active transportation options—making it easier for people to make climate-friendly choices.

**New “green strings” must also be attached to existing funding and financing mechanisms to ensure no more public money is used to subsidize fossil fuels.**



For Canada to do its part in the fight against climate change, to compete in the fossil-free global economy of the 21<sup>st</sup> century, and to ensure a prosperous and inclusive future at home, we need a climate investment plan with more ambition than Canada has seen so far. Our recommendations will redirect the Canadian economy toward a future of good jobs, healthy communities and economic stability for the benefit of all.

## SUMMARY TABLE OF TRANSFORMATIONAL CLIMATE INVESTMENTS (\$ BILLIONS)

	CURRENT FISCAL PLAN: FIVE-YEAR TOTAL (2023/24 to 2027/28)	PROPOSED TRANSFORMATIONAL INVESTMENTS: FIVE-YEAR TOTAL (2023/24 to 2027/28)
<b>Supporting Indigenous-led climate action</b>	1.4	25.0
<b>Building a clean electricity grid</b>	2.7	20.0
<b>Making homes and buildings more efficient</b>	4.0	66.5
<b>Accelerating zero-carbon mobility</b>	23.2	40.0
<b>Growing food sustainably</b>	0.9	4.0
<b>Supporting good jobs and vibrant communities</b>	0.1	80.0
<b>Building a more resilient society</b>	3.9	25.0
<b>Supporting global climate action</b>	3.2	5.3
<b>Protecting and restoring nature</b>	2.8	21.0
<b>Other</b> (including clean tech and Net Zero Accelerator)	28.4	no additional funding but green strings added
<b>TOTAL INVESTMENTS</b>	<b>70.6</b>	<b>286.8</b>

Sources: Current fiscal plan from authors' compilation and calculations from federal budget documents and economic and fiscal updates, 2016 to 2022. New climate investments based on a range of research reports.

# Introduction

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**This report looks at how the federal government can meet the climate crisis with a public investment plan that shifts the national economy off of fossil fuels.**

The passage of the Inflation Reduction Act (IRA) in the United States—a ten-year investment package of US\$369 billion (approx. CAD\$500 billion) with tax credits for clean electricity, transportation and manufacturing, energy efficiency and electrification rebates for low-income households<sup>1</sup>—makes this all the more urgent if we are to compete with our neighbours as the world shifts toward a low-carbon economy.

The challenge is stark: massive collective action is needed to confront the climate emergency and transition quickly off of fossil fuels. The good news is that all of the technology we need for the transition already exists. What has been absent to date is a truly ambitious agenda that challenges the vested interests in fossil fuel industries and presents an alternative stream of climate investments that reduce emissions while creating good jobs for workers and improving well-being for all.

Canada has seen substantial progress on climate policy in recent years, but it has been undermined by incoherent policies and investment decisions doubling down on the fossil status quo. In addition to adopting and implementing rigorous and ambitious regulations, including those being currently designed—the Just Transition Act, a cap on oil and gas industry emissions, a clean electricity standard, a zero emission vehicles standard, and stronger carbon pricing—massive public investments are required to steer Canada’s economy toward a net-zero pathway. Current levels of public and private investment fall well short of what is needed.<sup>2</sup>

A next-level, transformational climate investment package can anchor a green industrial strategy that creates good jobs aligned with long-term priorities. Deepening climate investments also offers an opportunity to improve affordability of energy services and resiliency to external shocks in light of recent inflation stoked by oil and gas price hikes. New public climate investments can be a force to embed a high level of sustainable well-being, build strong communities and reduce economic inequality. Well-designed investments can also make meaningful steps towards healing relationships with Indigenous Peoples.

In the next section, we review federal climate expenditures since the negotiation of the Paris Agreement. We then turn to an ambitious climate action agenda, drawing on leading research by members and allies of Climate Action Network – Réseau action climat (CAN-Rac) Canada, the Green Budget Coalition and the Alternative Federal Budget. Our aim is to present a series of transformational climate investment measures that expand on currently planned efforts at a scale that is commensurate with the climate crisis.

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1 United States Department of Energy, The Inflation Reduction Act Drives Significant Emissions Reductions and Positions America to Reach Our Climate Goals, August 2022, [https://www.energy.gov/sites/default/files/2022-08/8.18%20InflationReductionAct\\_Factsheet\\_Final.pdf](https://www.energy.gov/sites/default/files/2022-08/8.18%20InflationReductionAct_Factsheet_Final.pdf)

2 By the federal government’s own estimates, achieving a net-zero carbon economy will require more than \$100 billion per year in new climate spending above current levels. See: Finance Canada, *Budget 2022: A Plan to Grow our Economy and Make it More Affordable*, Government of Canada, April 7, 2022, p. 60.

# Federal climate expenditures since Paris

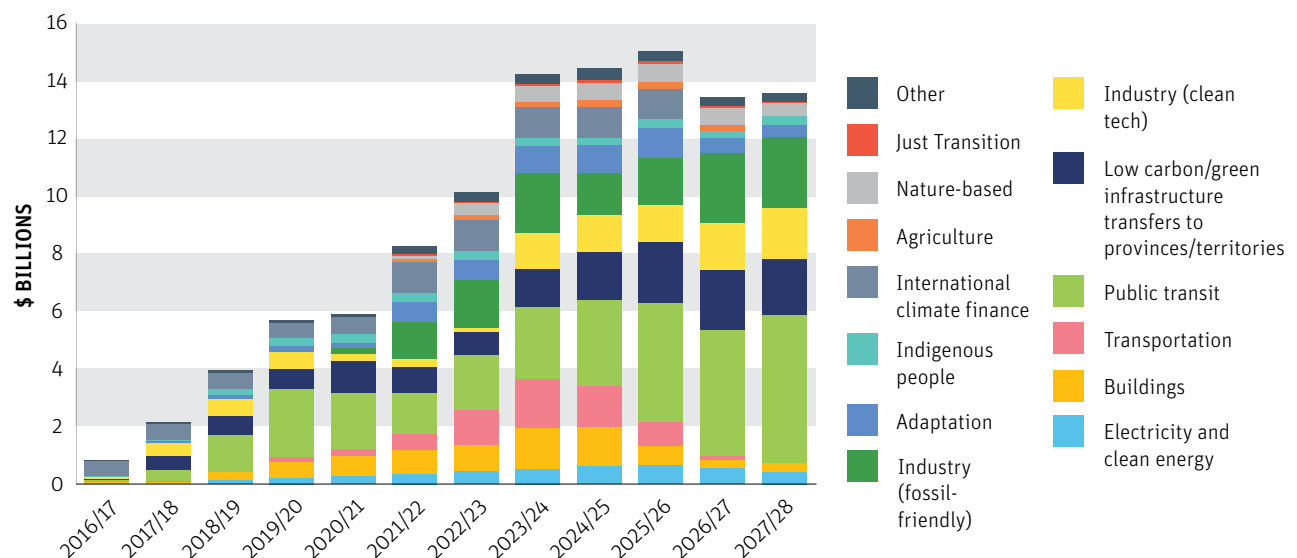
Federal expenditures on climate action since the Paris Agreement, signed in December 2015 and ratified in November 2016, have represented a marked shift from the past. Commitments in the 2016 and 2017 budgets were made in the wake of the Paris Agreement and the subsequent development of the federal-provincial-territorial Pan-Canadian Framework on Clean Growth and Climate Change. The 2021 and 2022 budgets passed new climate-related expenditures in support of the December 2020 A Healthy Environment and a Healthy Economy climate plan and subsequent 2030 Emissions Reduction Plan, released March 2022.

Our analysis below reviews planned expenditures from all budgets and fiscal updates since 2016. The results offer the type of clear summary information the federal government itself should be publishing to inform the public and help Canadians track progress and implementation of climate policy. In contrast, the government has tended to make mega-

announcements (and re-announcements) of multi-year funding, which make it challenging for even experts to discern how much is actually being spent and where. Transparent reporting could and should be an integral part of the 2023 Progress Report mandated by the Net-Zero Emissions Accountability Act. We discuss the details of our methodological approach in an appendix.

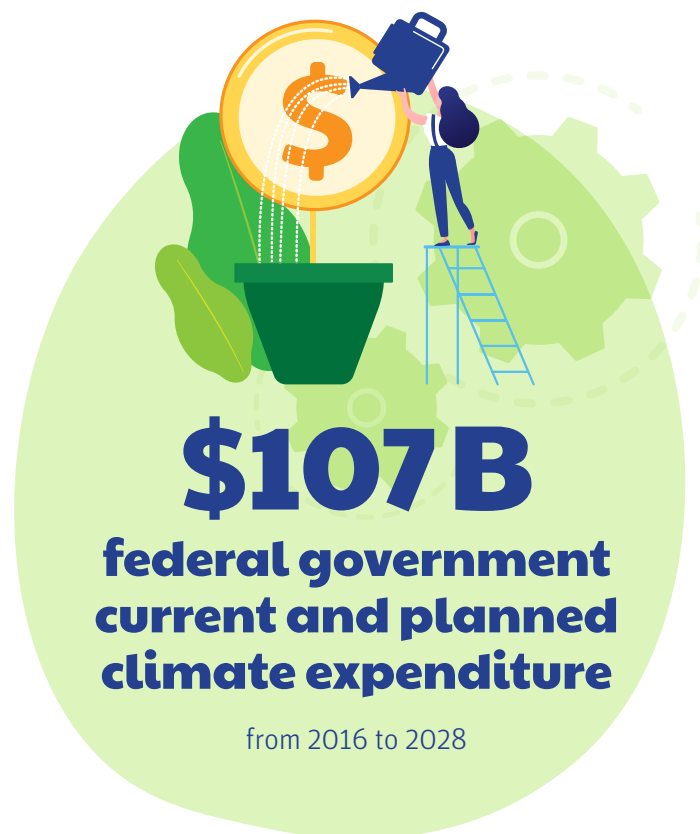
In the big picture (Figure 1), annual federal funding has been ramping up to \$10 billion in 2022/23, rising to \$15 billion by 2025/26. Planned spending drops off in 2026/27 and 2027/28 as these are more distant budgets, although many core commitments are already locked in. A change in government or a shift in priorities from the current government could easily unwind planned future spending.

**FIGURE 1: PLANNED FEDERAL CLIMATE SPENDING BY CATEGORY, 2016/17 TO 2027/28**



Note: Figures are as presented in budgets and are not adjusted for inflation.

Sources: Authors' compilation and calculations from federal budget documents and economic and fiscal updates, 2016 to 2022.



We find the federal government has spent or is planning to spend a grand total of \$107 billion in support of its climate agenda over the 2016/17 to 2027/28 period, which is generally consistent with the government’s own claims to have committed more than \$100 billion toward climate-related initiatives.<sup>3</sup> Most of these expenditures are yet to come, with \$70.5 billion (66% of the total) planned for 2023/24 to 2027/28. Table 1 breaks federal expenditures down by type of spending both looking back (from 2016/17 to the current fiscal year 2022/23) and looking forward over the coming five years (from 2023/24 to 2027/28).

Federal climate expenditures to date address all high-emitting sectors with a wide range of incentives, tax breaks and transfers. However, dollar amounts do not tell us about how effective a program is, both quantitatively and qualitatively (in dollars per tonne of CO<sub>2</sub>e cut, for example, or transformation of markets, learning and innovation), the efficiency of program delivery, or whether funding is sufficient. Nonetheless, there is now a solid base of federal capacity in all the key policy areas upon which we seek to build.

**TABLE 1: PLANNED FEDERAL EXPENDITURES BY CATEGORY, LOOKING BACKWARD AND FORWARD (\$ BILLIONS)**

	LOOKING BACK: 2016/17 TO 2022/23	LOOKING FORWARD: 2023/24 TO 2027/28
Electricity and clean energy	1.4	2.7
Buildings	3.3	4.0
Transportation	2.2	4.1
Public transit	9.4	19.1
Low carbon/green infrastructure transfers to provinces/territories	4.6	9.1
Industry (clean tech)	2.4	7.2
Industry (fossil-friendly)	3.1	10.1
Adaptation	2.1	3.9
Indigenous people	1.5	1.4
Int'l climate finance	4.8	3.2
Agriculture	0.3	0.9
Nature-based	0.5	2.8
Just Transition	0.1	0.4
Other	1.1	1.7
<b>Total</b>	<b>36.8</b>	<b>70.5</b>

*Notes: Amounts are not adjusted for inflation. “Fossil-friendly” expenditures may reduce emissions but may also be disguised fossil fuel subsidies, including the planned tax credit for Carbon Capture Utilization and Storage, Net Zero Accelerator Program, Emissions Reduction Fund and the B.C. Centre for Innovation and Clean Energy.*

*Sources: Authors’ compilation and calculations from federal budget documents and economic and fiscal updates, 2016 to 2022.*

<sup>3</sup> Hon Steven Guilbeault, Testimony to House of Commons Environment Committee, March 24th, 2022, <https://openparliament.ca/committees/environment/44-1/9/steven-guilbeault-1/>



About \$7 billion since 2016/17 has been allocated to areas that are conventionally understood as constituting climate policy; i.e., it is spending intended to directly reduce domestic greenhouse gas emissions. This total includes clean electricity and energy (\$1.4 billion), retrofitting homes and other buildings (\$3.3 billion), and electric vehicle subsidies and charging infrastructure (\$2.2 billion).

Under **electricity and clean energy** are funds for renewable and electrical grid modernization projects. Total electricity infrastructure investments to date have been relatively small given the importance of this sector to overall emissions reduction objectives. Funding is also flowing through the Canada Infrastructure Bank (CIB) including new partnerships/projects in district energy, transmission and energy storage. An interesting CIB investment along these lines is a \$220 million contribution towards greening steel production by Algoma Steel through new electric arc furnaces.<sup>4</sup> In addition, some of the funding we list under Indigenous Peoples are for clean energy projects and getting rural and remote areas off of diesel.

Federal support for **buildings** has included funding for energy efficiency retrofits of homes and, to a lesser extent, development of new regulations and upgrading of federal buildings. Federal contributions in this area also flow through a \$2 billion allocation to the Canada Infrastructure Bank for large-scale public and commercial building retrofits. Support for buildings may also flow indirectly through transfers to the provinces (the Green

Infrastructure and Low Carbon Economy Funds) but we do not attempt to include these in our buildings sub-total.

Federal climate expenditures on buildings are set to rise from \$907 million in 2022/23 to \$1.4 billion in 2023/24, although they wind down after that and will require major new commitments going forward. In addition to topping up existing programs, new initiatives include loans for deep home retrofits, a deep retrofit accelerator fund, investments in greener neighbourhoods, and the development of a national green buildings strategy.

Federal support in the area of **transportation** (not including public transit) includes EV charging infrastructure, clean fuels development, and the Incentives for Zero-Emission Vehicles (iZEV) Program, which provides a consumer rebate of up to \$5,000 towards electric vehicle purchases. Over 136,000 Canadians have claimed a ZEV incentive, according to the 2030 Emissions Reduction Plan. New investments have been promised for low emissions trucking and freight, greening the government's vehicle fleet, and pre-development of high-frequency rail. In 2022/23, these federal climate and transportation expenditures will be about \$1.2 billion, rising to \$1.7 billion in 2023/24 before tapering off.

About one-quarter of listed expenditures between 2016/17 and 2022/23 (approx. \$9.4 billion) has been for **public transit** investments. Although not introduced with climate as the main objective, these investments are key to a long-term emissions reduction agenda in transportation. Public transit infrastructure was allocated \$3.4 billion in Budget 2016, then an additional \$25.3 billion over 11 years in Budget 2017 towards a steady Permanent Transit Fund of a minimum \$3 billion per year starting in 2026/27. Most of this is for bilateral agreements with the provinces and territories, plus \$5 billion allocated to the Canada Infrastructure Bank.

Other **transfers to the provinces and territories** are also significant, with \$4.6 billion of expenditures from 2016/17 to 2022/23, mostly through the Green Infrastructure Fund and Low Carbon Economy Fund (LCEF). Created in June 2017, the LCEF included \$1.4 billion in transfers to provinces and territories and \$600 million for a proposal-



4 Canada Infrastructure Bank, Annual Report 2021/22, <https://cdn.cib-bic.ca/files/documents/reports/en/Annual-Report-2021-2022.pdf>

based Low Carbon Economy Challenge open to non-profits, businesses, municipalities and Indigenous organizations. Budget 2022 provided the Low Carbon Economy Fund an additional \$2.2 billion over seven years starting in 2022/23.

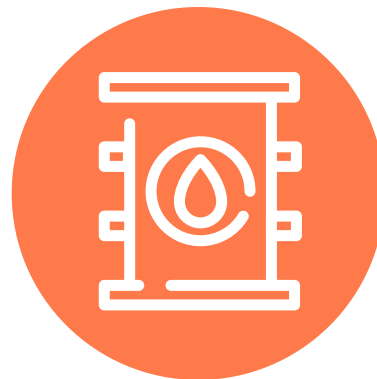
**Green infrastructure** spending is part of the larger \$180 billion Investing in Canada Plan, launched in 2016 and 2017. In addition to transfers, it includes a range of federal climate measures, from adaptation to clean energy to funding for Indigenous projects, and \$5 billion is allocated for green infrastructure investments via the CIB.

In addition to these conventional climate expenditures, which are generally focused on directly reducing domestic greenhouse gas emissions, the federal government is spending money in areas where concerns about emissions overlap with other social and developmental priorities.

Federal climate funding for **Indigenous Peoples** includes a \$2 billion (over ten years) commitment to Indigenous communities, in addition to funds aimed at clean energy. In all, climate-related funding for Indigenous Peoples will be about \$300 million in 2022/23.

**International climate finance** includes contributions made on a multilateral or bilateral basis to countries of the global South in order to facilitate investments in mitigation and adaptation in accordance with Canada's obligations under the United Nations Framework Convention on Climate Change. Canada doubled its international finance commitment from \$2.65 billion between 2016/17 and 2020/21 to \$5.3 billion between 2021/22 and 2025/26. Forty per cent of this commitment will be for adaptation measures, and 20% for climate investments for nature-based solutions. Grants will make up 40% of the commitment, compared to 60% in loans.

**Agriculture** and **nature-based solutions** (NBS) are relatively new areas for federal climate spending, and both relate to projects that ensure greater sequestration of carbon in Canada's vast land base. NBS includes the 2 billion trees program, the Nature Smart Climate Solutions Fund, and



**Amid the long list of climate commitments, a number of expenditures are more clearly “fossil-friendly” in nature.**

a Natural Infrastructure Fund. Agriculture commitments include expenditures for clean technology, improved nitrogen management, cover cropping and reducing fertilizer emissions.

A new National **Adaptation** Strategy was tabled in November 2022.<sup>5</sup> It includes \$1.6 billion in new funding that we do not count in our table as these funds are not yet allocated to fiscal years, which will come in the 2023 budget. This includes an additional \$489 million towards the Disaster Mitigation and Adaptation Fund, on top of \$2 billion in the 2017 budget and \$1.4 billion in the 2021 budget. Additional expenditures include \$530 million to the Green Municipal Fund in partnership with the Federal of Canadian Municipalities to support community-based initiatives, and various other information and planning activities around wildfires, flooding, and extreme heat.

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5 Government of Canada, National Adaptation Strategy, <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/national-adaptation-strategy.html>



## Industry spending: Clean tech or fossil-friendly?

One notable area of federal climate spending is on clean technology. Expenditures for industry totalled nearly \$5 billion between 2016/17 and 2022/23. However, the federal government has often used the term “clean” as a euphemism that muddies the waters between truly zero-emission technologies, such as renewable energy, and fossil-based climate solutions, such as blue hydrogen and carbon capture, utilization and storage (CCUS), which perpetuate the extraction and combustion of fossil fuels. The government publishes few substantive details about how these clean tech funds are spent.<sup>6</sup> A public audit of clean tech spending would shed some much-needed light in this area.

One focus of federal support for industry moving forward is research and development (R&D) spending. While support for R&D is important for helping promising new emission-reduction technologies get off the ground, the emissions-reduction payoffs are highly uncertain. Moreover, clean tech funding that is insufficiently targeted risks perpetuating the role of fossil fuels in our economy. In light of a new \$6.6 billion clean tech investment tax credit announced in Fall 2022, it is more important than ever that these funds be held to high standards, with green strings attached, to ensure they do not become disguised subsidies to the fossil fuel industry.

Table 1 also shows that, amid the long list of climate commitments, a number of expenditures are more clearly “fossil-friendly” in nature. This category includes spending that supports the oil and gas sector in particular. Relevant programs include the \$8 billion Net Zero Accelerator (NZA) program, an \$8.6 billion CCUS investment tax credit (to 2030/31), \$320 million in R&D support for CCUS, the \$750 million Emissions Reduction Fund (for reducing methane emissions in the oil and gas sector), and \$36 million toward

the B.C. Centre for Innovation and Clean Energy (a partnership between the federal government, BC government and Shell Canada). In each of these cases, it is unclear whether public funding will actually contribute to net emissions reductions over the long term. This spending may in fact delay the changes we need to make by entrenching new fossil fuel infrastructure.

Going forward to 2027/28, one out of every seven dollars of federal climate spending is in the “fossil-friendly” category. In addition, Budget 2022 announced a broadened role for the Canada Infrastructure Bank to include investments in CCUS, small modular reactors (SMRs), hydrogen and other clean fuel production and distribution, with the additional public support for CCUS the most problematic.

Also not included is a new \$15 billion Canada Growth Fund, announced in the 2022 budget, with a mandate “to make investments that attract substantial private sector investment in Canadian businesses and projects to help seize the opportunities provided by a net-zero economy.” Only a handful of details have been provided at this point, and the recent Fall Economic Statement makes a problematic linkage to accelerate the deployment of CCUS.

Like the Net Zero Accelerator Program and some clean tech and CIB investments, the Canada Growth Fund is presented not as direct federal spending but rather as a portfolio of loans and equity stakes in private sector ventures. From a budgetary perspective, loans and equity stakes are very different from expenditures, so some caution should be taken when interpreting the government’s summary numbers.

<sup>6</sup> There are some 36 clean technology programs listed on this federal site: <https://ised-isde.canada.ca/site/clean-growth-hub/en/funding-opportunities#federal>

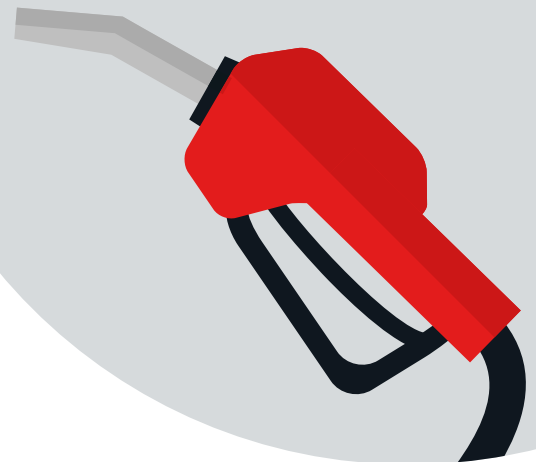
## Other financial support to fossil fuels

Overall, we can see the federal government has steadily built up its climate-related spending in the seven years since the Paris Agreement, and climate spending is set to increase further over the next few years. However, Canada continues to advance a two-faced climate agenda that seeks to reduce domestic emissions while simultaneously expanding fossil fuel production for export, including the federal government purchase of the Trans Mountain Pipeline and its more than \$20 billion expansion project. Federal support for liquefied natural gas (LNG) exports, including the LNG Canada development in BC, is also significant. Both have stirred opposition from First Nations, environmental groups and communities due to a lack of respect for Indigenous rights and sovereignty, the inevitable increase in greenhouse gas emissions, and local adverse impacts, such as contaminated groundwater and pipeline spills.

Promises to reduce federal support for the coal, oil and gas industries go back to at least 2009, when G20 leaders agreed to “phase out and rationalize over the medium term inefficient fossil fuel subsidies” in the wake of a financial crisis. The term “inefficient” is open to interpretation and has been the subject of ongoing definitional debates. Nine smaller subsidies related to deductions and tax treatment of the oil and gas sector have been eliminated since 2009.

The International Institute for Sustainable Development estimates that direct federal fossil fuel subsidies amounted to \$1.9 billion in 2020, although this does not count the \$750 million Emissions Reduction Fund for methane emission reduction projects in the oil and gas sector. Several other subsidies and tax credits and deductions are listed but do not have estimates attached to them due to lack of sufficient information.<sup>7</sup> For example, the federal government has exempted from tariffs imported steel modules for the LNG Canada plant under development in BC.

**At COP26, the federal government pledged to end international public financing for fossil-fuel projects.**

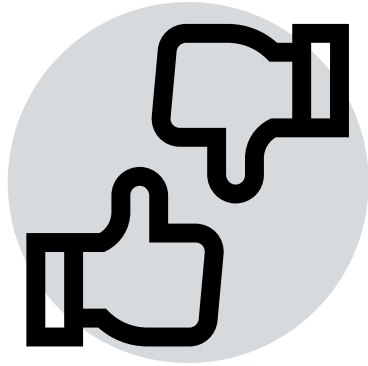


The federal government primarily supports the oil and gas industry through Export Development Canada (EDC), a Crown corporation that provides loans, loan guarantees, insurance and other financial assistance. EDC has provided loans to large state-owned oil companies including in Mexico, Brazil and India, and financial support for both the Trans Mountain Pipeline Expansion project and the Coastal GasLink pipeline (for LNG exports). These financing activities amount to more than \$15 billion in 2022.<sup>8</sup>

At COP26 in 2021, along with 23 other countries, the federal government pledged to end international public financing for fossil-

7 International Institute for Sustainable Development, Federal Fossil Fuel Subsidies in Canada: COVID-19 edition, February 2021, <https://www.iisd.org/system/files/2021-02/fossil-fuel-subsidies-canada-covid-19.pdf>

8 Environmental Defence, The Running List of Federal Fossil Fuel Subsidies in Canada in 2022, <https://environmentaldefence.ca/federal-fossil-fuel-subsidies-tracking/>



**The federal government cannot invest in climate action on one hand while simultaneously propping up oil and gas industrial polluters on the other.**

fuel projects.<sup>9</sup> The government released policy guidelines to that effect late in 2022, which ended “new, direct public financing for international unabated fossil fuel investments and projects”.<sup>10</sup> In theory, that means ending EDC’s role in financing oil and gas projects abroad, and should also bar

support to domestic companies for projects internationally, though loopholes in the policy permit fossil investment under certain circumstances.<sup>11</sup> How stringently the guidelines will be implemented remains to be seen.

The federal government cannot invest in climate action on one hand while simultaneously propping up oil and gas industrial polluters on the other. In addition to the investment framework below, we support phasing out all remaining fossil fuel supports as soon as possible and by no later than the end of 2023, which is the target set by the federal Liberals during the 2021 election campaign. We also recommend eliminating the proposed investment tax credit for CCUS, which contravenes the “polluter pays” principle. Additional federal revenues from these actions should be repurposed towards climate investments. We also subject funding under new programs, such as the Net Zero Accelerator program, to more stringent conditions to ensure they do not become new or disguised support for the oil and gas industry.

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9 A Radwanski and P Waldie, “Ottawa pledges to end financing for foreign fossil-fuel projects in 2022” in The Globe and Mail, November 3, 2021, <https://www.theglobeandmail.com/world/article-ottawa-pledges-to-end-financing-for-foreign-fossil-fuel-projects-in/>

10 Natural Resources Canada, “Government of Canada Delivers on Key International Climate Commitment to End New Public Support for the International Unabated Fossil Fuel Energy Sector,” Government of Canada, December 8, 2022, <https://www.canada.ca/en/natural-resources-canada/news/2022/12/government-of-canada-delivers-on-key-international-climate-commitment-to-end-new-public-support-for-the-international-unabated-fossil-fuel-energy-s.html>.

11 Environmental Defence Canada, “Canada delivers on climate promise, takes significant step towards ending public fossil finance,” December 8, 2022, <https://environmentaldefence.ca/2022/12/08/canada-delivers-on-climate-promise-takes-significant-step-towards-ending-public-fossil-finance>.

# Climate investment framework



Investment is a key driver of economic performance, but not all investments are equal. New fossil fuel infrastructure, not surprisingly, locks in future carbon emissions. With the global financial transition towards renewable energy already underway, and under the strong climate policies necessary to achieve Canada's climate targets, most new fossil fuel investments will become stranded assets, and will increase the total economic and political costs of the transition later on. Currently, high prices and fuel supply issues in Europe are prompting renewed efforts by industry lobbyists to add more oil and gas production capacity in Canada for export.

Alternatively, an investment agenda focused on renewables, clean energy and transportation, and other key areas will literally build the sustainable future we want, while driving new employment into climate-friendly growth areas of the economy. As well, it will alleviate the dependency and pressures Canadians are facing from volatile fossil fuel prices, which are largely responsible for the current bout of inflation.<sup>12</sup> Investment in infrastructure also matters in terms of adaptive capacity and resilience to climate change impacts.

While federal expenditures on climate have been growing, there is still much to be done to build upon these initial amounts and the associated institutional capacity in federal departments. Beyond the nominal dollar amounts in the previous section, we can benchmark climate spending: total climate spending will increase from 0.04% of GDP in 2016/17 to about 0.5% over the next three-year period. As a share of federal expenditures, federal climate spending



**An investment agenda focused on renewables, clean energy and transportation, and other key areas will literally build the sustainable future we want, while driving new employment into climate-friendly growth areas of the economy.**

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<sup>12</sup> Jim Stanford, 15 Super-Profitable Industries Fuel Canada's Inflation, Centre for Future Work, November 2022, <https://centreforfuturework.ca/wp-content/uploads/2022/12/Fifteen-SuperProfitable-Industries.pdf>

rises from 0.3% of all federal expenditures to 3.4% over the coming three years. In relative terms, annual funding is thus set to increase roughly tenfold from 2016/17. Recent inflation is also a concern in that it erodes the value of previously budgeted climate funding.

There are a wide range of possible funding sources for our recommended investments, including taxation options like a windfall profits tax on the oil and gas industry or using a portion of new carbon pricing revenues, as well as conventional debt financing options.<sup>13</sup> Some of what we seek to accomplish can be accomplished by repurposing existing fossil-friendly funding. The federal government could also experiment with alternative financing models, such as a public green bank. The key point is that we need to fashion an alternative investment agenda that can support a strong economy and job creation. Working people need economic security and decent-paying jobs, but may feel compelled to back fossil fuel infrastructure plans in the absence of convincing, concrete and compelling alternatives.

In Canada's federal system, many key issue areas are under shared or provincial jurisdiction. In areas like health care and, more recently, child care, federal leadership has meant putting federal dollars on the table, often on a cost-shared basis and with conditions. This is especially the case with respect to climate spending, as so much of the climate infrastructure we need—renewable energy projects, public transit, zero-emissions buildings and affordable homes—are assets that will come under provincial, Indigenous or municipal jurisdiction. The Climate Emergency Unit proposes a similar fiscal mechanism for climate action in the shape of a Climate Emergency Just Transition transfer that would facilitate federal leadership in areas of provincial jurisdiction. Much of what we outline in the next section would be consistent with such a transfer mechanism.



13 A modest excess profits tax of 15% would raise several billion dollars per year from the oil and gas industry alone. See: Carleigh Busby, Mark Creighton and Govindadeva Bernier, *Cost Estimate of an Excess Profits Tax*, Office of the Parliamentary Budget Officer, 2021, <https://www.pbo-dpb.ca/en/publications/RP-2122-002-M--cost-estimate-an-excess-profits-tax--montant-estimatif-un-impot-benefices-exceptionnels>

# Principles for climate investment

Our alternative investment and budgeting framework is grounded in the following climate justice principles:

**Centring Indigenous rights and sovereignty:** As extensively documented by Indigenous Climate Action, Canadian climate plans and policies have historically been anchored in a colonial approach that excludes Indigenous rights-holders from the decision-making table.<sup>14</sup> In addition to planning investments that directly support Indigenous Peoples' capacity to do climate work in a way that they best see fit, all climate investments must respect Indigenous peoples' inherent rights and sovereignty. Getting to self-determination and to free, prior and informed consent requires going beyond token consultation with Indigenous Peoples to healing the relationship through partnership and providing land and real financial resources to Indigenous communities to implement climate actions they deem most important.

**Doing our fair share of the global climate effort:** Canada is a rich, industrialized nation that has benefited enormously from the use and production of fossil fuels. Canadians are among the highest per capita emitters in the world and the country is also a major exporter of fossil fuels.<sup>15</sup> In 2019, emissions from exported fossil fuels were 954 Mt—higher than total domestic emissions that same year.<sup>16</sup> As such, Canada has a large present and historical responsibility for the climate crisis as well as a greater relative capacity to act. For Canada to do its fair share of the global effort to limit warming to 1.5°C, analysis by the Climate Equity Reference

Project conducted on behalf of CAN-Rac Canada shows that we must reduce our domestic emissions by at least 60% below 2005 levels by 2030, and that doing our fair share requires that we contribute to emissions reductions in partnership with countries in the Global South through international climate financing.

**Reducing inequality in Canadian society through climate action:** The climate crisis results in an unjust trap where those who have contributed the most to cause the problem—high-income and wealthy households—have the greatest capacity to adapt to or avoid the consequences. Low-income households and groups that have been historically marginalized by colonial, racialized and patriarchal structures, including people with various physical or social disadvantages, are often more vulnerable to extreme weather events and are more sensitive to fluctuations in food and energy prices. Members of these groups face structural challenges that prevent them from accessing the resources to adapt to climate change, let alone to reduce their household emissions. Federal spending on public infrastructure and on targeted programs must take equity into account and can proactively level the playing field.

14 Indigenous Climate Action, Decolonizing Climate Policy in Canada: Report from Phase One, March 2021, [https://static1.squarespace.com/static/5e8e4b5ae8628564ab4bc44c/t/6061cb5926611066ba64a953/1617021791071/pcf\\_critique\\_FINAL.pdf](https://static1.squarespace.com/static/5e8e4b5ae8628564ab4bc44c/t/6061cb5926611066ba64a953/1617021791071/pcf_critique_FINAL.pdf)

15 M Lee, Extracted Carbon: Re-examining Canada's contribution to climate change through fossil fuel exports, Canadian Centre for Policy Alternatives, January 2017, <https://www.policyalternatives.ca/publications/reports/extracted-carbon>

16 Government of Canada, Response to Environmental Petition No. 390-B concerning the quantification of Canada's total carbon dioxide (CO<sub>2</sub>e) emissions from exported fossil fuels, May 27, 2021, <https://ecojustice.ca/wp-content/uploads/2021/07/Petition-Response-0390B-004.pdf>



### **Driving transformative change with federal leadership:**

The window for slow, incremental change has now closed. In light of extreme weather disasters hitting Canada and other parts of the world, we must cut emissions aggressively next year and every year after that, rather than waiting for 2030 to accelerate action. Amid the wide differences in provincial fiscal capacity and resources, it is imperative that the federal government use its fiscal powers to bend the curve on emissions, phase out fossil fuels for energy, and drive change equitably across the country.

### **Integrating climate and**

**nature:** The biodiversity crisis and the climate crisis are interconnected. As we wind down fossil fuels, we must be careful not to seek out other things to burn: in particular, pellets from trees and other biomass, and municipal solid waste. Promoting the protection, the conservation and the restoration of intact ecosystems, such as forests, grasslands and wetlands is also climate action, and must respect human and Indigenous rights. Nature must not be sold as offsets to serve as a smokescreen for continuing climate harm elsewhere.

### **Putting green strings on industry funding:**

The International Institute for Sustainable Development (IISD) proposes seven key principles, criteria, and conditionalities to apply to government economic stimulus and recovery efforts in order to address the climate

and biodiversity crises along with the linkages between planetary health and human health.<sup>17</sup> Federal climate action programs must not prolong reliance on fossil fuels or subsidize the industry, as was, for instance, the deployment of natural gas refueling stations as “alternative fuel infrastructure” a few years ago.<sup>18</sup> With big ticket items like the \$8 billion Net Zero Accelerator program, these strings are more necessary than ever to prevent funds from becoming further subsidies to the oil and gas industry.



17 V Corkal, P Gass and A Cosby, Green Strings: Principles and conditions for a green recovery from COVID-19 in Canada, International Institute for Sustainable Development, June 2020, <https://www.iisd.org/system/files/2020-07/green-strings-covid-19-canada-en.pdf>

18 Y Touchette and P Gass, Public Cash for Oil and Gas: Mapping federal fiscal support for fossil fuels, International Institute for Sustainable Development, September 2018, <https://www.iisd.org/publications/report/public-cash-oil-and-gas-mapping-federal-fiscal-support-fossil-fuels>

# New climate investments for Budget 2023

Our climate investment recommendations build on planned federal expenditures for 2023/24 and detail substantial new public investments in key sectors to put Canada on track for transformative change consistent with the Paris Agreement target of limiting global warming to 1.5 degrees above pre-industrial levels. It should be seen as part of a more comprehensive climate action plan that includes expanded carbon pricing and regulations beyond status quo measures, and complementary measures at the provincial and local government levels.



## Supporting Indigenous-led climate policy

Climate investments must not become another chapter in top-down, colonial approaches to the relationship with Indigenous

Peoples. New investments should instead support meaningful Indigenous-led initiatives, something has been stated in high-level documents but not implemented in practice. Healing the relationship between settlers and Indigenous Peoples requires acknowledging the extent to which extraction of resources has gone hand in hand with displacement and disenfranchisement of Indigenous communities.

Going forward, it is essential that purported climate solutions, such as hydro dams or other energy megaprojects, occur with the free, prior and informed consent of Indigenous Peoples.<sup>19</sup> Indigenous communities must be treated with respect at every stage of the climate policy

process and not merely be seen as stakeholders to be consulted regarding decisions that have already been made. Indigenous contributions to climate change should also be viewed in context. For example, diesel power on remote reserves accounts for a vanishingly small share of the Canadian total and there currently exist few viable alternatives. Scapegoating and patronizing Indigenous Peoples undermines both climate action and reconciliation efforts.

We recognize that First Nations, Métis and Inuit Peoples have diverse experiences and contexts and should thus be approached distinctively in the policy-making process. Research by Indigenous Climate Action on the 2019 *Pan-Canadian Framework on Clean Growth and Climate Change* and the 2020 *A Healthy Environment, A Healthy Economy* (HEHE) climate plans concludes that “Indigenous Peoples and our rights, knowledge, and climate leadership were mentioned again and again in both plans, yet we were structurally excluded from the decision-making tables where these plans were made.”<sup>20</sup>

**We propose a climate transfer of \$5 billion per year for five years toward supporting Indigenous-led climate policies and solutions and the effective inclusion of Indigenous peoples into the climate discourse**

19 Free, prior and informed consent is a principle backed by the United Nations Declaration on the Rights of Indigenous Peoples, September 2007, <https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>

20 Indigenous Climate Action, *Decolonizing Climate Policy in Canada: Report from Phase One*, March 2021, [https://static1.squarespace.com/static/5e8e4b5ae8628564ab4bc44c/t/6061cb5926611066ba64a953/1617021791071/pcf\\_critique\\_FINAL.pdf](https://static1.squarespace.com/static/5e8e4b5ae8628564ab4bc44c/t/6061cb5926611066ba64a953/1617021791071/pcf_critique_FINAL.pdf)

This will include measures to fund community-level, self-determined climate solutions, both in the development process and the implementation phase; develop a framework for an Indigenous lens on all climate policy; and training federal and provincial policy makers on decolonization and Indigenous rights. Funding could also support one climate leader for each First Nation or Indigenous community to act as a focal point for the community across a range of climate initiatives.

Climate solutions must also take into account other chronic deficits in housing, water and food systems—not just energy. This makes self-determination particularly important so that more holistic solutions can be derived from the specific context and challenges facing communities, especially in the North where infrastructure is an especially acute concern. The funding we propose for capacity building and self-determination does not include amounts cited in other investment areas that will also flow to Indigenous communities.



## Building a clean electricity grid

Electricity generation accounts for 61 Mt CO<sub>2</sub>e per year or about one-tenth of Canada’s total emissions. Canada has already made significant progress towards

eliminating coal-fired electricity generation, which is the most emissions-intensive fuel source. Unfortunately, portions of the energy grid have shifted from coal to natural gas, which is cleaner-burning than coal but still produces significant greenhouse gas emissions. While 82% of electricity generation is already emissions-free in Canada (including both renewable and nuclear power), a significant amount of fossil fuel infrastructure must still be replaced.

The federal government is developing a clean electricity regulatory framework towards a net-zero electricity grid by 2035.<sup>21</sup> However, the current Clean Electricity Regulation

proposal contains a number of potential exemptions, extensions and loopholes that appear designed to accommodate expanded and prolonged use of natural gas on the grid. We favour the electricity sector reaching real zero by 2035, prioritizing real emissions reductions instead of allowing fossil-fuel electricity generation combined with offsets and removals (which have proven very problematic in terms of ensuring their credibility).

The central challenge is ensuring new clean supply can meet major anticipated increases in electricity demand over the next decades. In the Canadian context, the Canadian Climate Institute anticipates at least a doubling of electricity demand associated with the “big switch” to clean electricity.<sup>22</sup> This switch to electricity is foundational to decarbonizing other sectors such as buildings, transportation and industry, so it is crucial that the electricity system does not build out new fossil fuel infrastructure as it expands. Given these stakes, it is equally important to get things right in terms of Indigenous rights and consent.

Following the work of Stanford University’s Mark Jacobson and the Solutions Project, we aim to ramp up renewable energy and battery storage, which can be done without resorting to more problematic options like nuclear power or biomass, instead relying exclusively on wind, water and solar technologies. The David Suzuki Foundation’s *Shifting Power* report contemplates the math on the supply side:

“The amount of wind and solar electricity in Canada would increase more than 18-fold by 2050 to meet our high electrification, zero-emission scenario. This pathway would require an average annual build-out of wind and solar electricity projects never before seen in Canada: An average of more than

21 Government of Canada, Proposed Frame for the Clean Electricity Regulations, July 2022, <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/proposed-frame-clean-electricity-regulations.html>

22 Canadian Climate Institute, The Big Switch: Powering Canada’s Net Zero Future, May 2022, <https://climateinstitute.ca/reports/big-switch/>

2,200 new four-MW wind turbines would be installed every year and more than 160 new 10-MW solar farms would be built each year.”<sup>23</sup>

Geographically, Alberta, Saskatchewan, New Brunswick and Nova Scotia are the key jurisdictions that need to shift their electricity systems off of fossil fuels (and, to a lesser extent, the Northwest Territories and Nunavut), while Ontario is at risk of expanding its reliance on natural gas for electricity. Quebec, Manitoba and British Columbia have abundant hydroelectricity, but all provinces need to consider new clean electricity generation to meet doubling demand in the coming decades. Electricity systems are provincial jurisdiction, largely run by provincial Crown corporations, so a federal role must use both carrot and stick: creating incentives and investing in clean generation and transmission capacity while regulating to drive emissions down.

While the Clean Electricity Regulations, if designed and implemented ambitiously and rigorously, will play a large part on the regulation side, the federal government can drive change by investing in inter-provincial connectivity through new transmission lines linking hydro-rich provinces with fossil-fuel-dependent ones, and allowing for better electricity system balancing in all regions. Already on the table is the proposed Atlantic Loop Intertie project to connect surplus hydropower in Quebec and Labrador to displace fossil fuels and enable renewable electricity build-out in Nova Scotia and New Brunswick. In Western Canada, connections in all provinces would enable decarbonization, and particularly between BC and Alberta and between Manitoba and Saskatchewan.

These investments in interprovincial transmission capacity are substantial. The *Shifting Power* report finds that nearly 29 GW of new transmission line capacity is needed, spanning more than 6,000 km of new or upgraded interregional transmission lines built across Canada by 2050—a tripling of current interprovincial transmission capacity.<sup>24</sup> More

connections allow all provinces to benefit from and increase the reliability of the cheapest sources of new electricity: wind and solar.

An important consideration in moving to a 100% renewable scenario is that the electricity overhead of extracting, processing and transporting fossil fuels will no longer be needed. Using electricity is also more efficient than combusting fossil fuels. For example, only a small fraction (15-20%) of the energy from gasoline moves a vehicle; the rest is waste heat, whereas electric engines are much more efficient, with some 80% of energy being used rather than wasted.

Larger electricity generation projects can also be complemented by distributed clean energy technologies, such as rooftop solar, geo-exchange systems, as well as home battery storage (which overlaps with investments in buildings in the next section). These can reduce the demand on the grid and can also feed-in additional electricity back to the grid when there is a surplus.

**We recommend investment of \$20 billion over five years, including \$15 billion to support investments in interregional transmission, new clean generation, storage and other infrastructure, plus an additional \$5 billion for programs targeted to benefit Indigenous Peoples and remote and rural communities.<sup>25</sup> We propose repurposing the planned investment tax credit for carbon capture utilization and storage into clean energy investments.**

23 S Thomas and T Green, *Shifting Power: Zero-Emissions Electricity Across Canada by 2035*, David Suzuki Foundation, May 2022, <https://david Suzuki.org/wp-content/uploads/2022/05/Shifting-Power-Zero-Emissions-Across-Canada-By-2035-Report.pdf>

24 S Thomas and T Green, *Shifting Power: Zero-Emissions Electricity Across Canada by 2035*, David Suzuki Foundation, May 2022, <https://david Suzuki.org/wp-content/uploads/2022/05/Shifting-Power-Zero-Emissions-Across-Canada-By-2035-Report.pdf>

25 Following the lead of the Green Budget Coalition, *Recommendations for Budget 2023*, <https://greenbudget.ca/recommendations/>



## Making homes and buildings more efficient

Canada's stock of residential and commercial buildings accounts for

12% of Canada's GHG emissions (or 17% if we count emissions from electricity).<sup>26</sup> These buildings, in particular older housing stock, need a combination of retrofitting to improve energy efficiency and switching to renewable distributed energy, like solar photovoltaic (PV) and geo-exchange systems, to complement utility-level investments in renewable electricity. Fortunately, these changes have the added benefit of reducing operating costs.

A major challenge in getting retrofits off the ground is the upfront cost, even if the retrofit will save money over time. We propose the federal government cover 100% of the initial cost of home and building retrofits to accelerate uptake. A full 50% of the cost will be subsidized by the government and need not be paid back by home and building owners. The loan on the remaining 50% can be paid back over time on electricity utility or property tax bills. Due to overall energy savings from retrofits and other total cost of ownership savings in areas such as maintenance, homeowners will generally experience lower total energy costs even with the addition of on-bill financing.

In addition, efforts to expand retrofit programs to benefit low-income (often renter) households is badly needed. To date, most subsidy programs for energy efficiency have been aimed at single-family or detached ownership housing, with little going to multi-unit buildings including purpose-built rental housing, where a greater share of renters live. Qualified energy assessors for multi-unit buildings are also lacking, meaning multi-unit buildings are part of the Greener Homes program in name only.

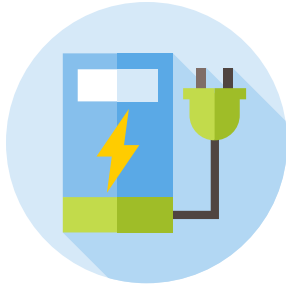
We follow the recommendations of Efficiency Canada for a mission-oriented approach to retrofitting and renovation that targets all older (pre-1995) buildings by 2035 and newer buildings by 2050, so that the bulk of emission reductions come in the next decade.<sup>27</sup> Getting there will require scaling up of current efforts from around 1% to about 5% of homes being retrofitted per year.

**We recommend a package totalling \$66.5 billion for investments and programs to reduce emissions and improve the efficiency of homes and buildings.** That spending is divided as follows:

- ✓ \$10 billion per year to fund deep retrofits for residential buildings with the government covering 50% of the cost of necessary upgrades;
- ✓ \$2 billion per year for a low-income retrofit and energy efficiency program targeted at energy-poor, low-income homeowners and multi-unit buildings (including public and social housing and private purpose-built rental units), in which the federal government will cover 100% of the upfront costs of housing quality needs such as air conditioning;
- ✓ \$100 million per year for market development teams to improve the productivity of the building retrofitting industry through economies of scale in manufacturing and bulk purchasing, and to maximize cost reductions associated with learning and experience;
- ✓ \$5 billion in new capital commitments to support transformative and large-scale retrofit projects and the development of Canadian supply chains; and,
- ✓ \$1.25 billion for a workforce development and labour market strategy to train a sufficient number of workers to deploy the retrofitting strategy at scale.

26 Government of Canada, 2030 Emissions Reduction Plan: Clean Air, Strong Economy, <https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview/emissions-reduction-2030.html>

27 B Haley and R Torrie, Canada's Climate Retrofit Mission, Efficiency Canada, June 2021, <https://www.energycanada.org/retrofit-mission/>



## Accelerating zero-carbon mobility

Simply reducing the emissions accruing from the transportation sector—Canada’s second-largest source of GHG emissions—without

addressing our country’s growing car fleet and increasing urban sprawl will continue to perpetuate the extractive industry’s environmental and social impacts. An “avoid-shift-improve” (ASI) framework for sustainable transport calls for prioritizing policies that, first, reduce or avoid the need for travel; second, that shift to or increase the share of more environmentally-friendly modes of transportation like public transit or active transportation; and third, that improve the energy efficiency or reduce the emissions accruing from solo cars. For instance, Quebec’s Sustainable Mobility Policy has a target of reducing solo car trips throughout the province by 20% between 2018 and 2023.<sup>28</sup>

To prioritize the “avoid” and “shift” pillars of the ASI framework, we propose major new investments in public transit accompanied by a major build-out of affordable, non-market housing in close proximity. Deeper emissions reductions stem from reducing the distances people need to travel for work, play, shopping, public services and other amenities through the development of more complete communities. This ties in to new affordable housing development (in particular, non-market rental housing and seniors’ housing) that is much needed across the country.

Expanding public transit is central to our climate investment strategy, in line with the “shift” pillar of the ASI framework. High-quality public transit reduces costs for households, improves mobility, creates good jobs and supports long-term economic prosperity, while helping to reduce GHG emissions and air pollution. Canada’s current automobile-dominated transportation system also imposes costs in other ways: injury and death from accidents, health costs

from air pollution, time wasted due to idling on congested roads and highways, and noise pollution.

**We recommend accelerating the launch of the Permanent Public Transit funding program from 2026/27 to 2024/25. In recognition of the need to transform mobility away from private automobiles, we triple the annual federal transfer to provinces from \$3 billion to \$9 billion. Funding will be spread across two streams: core transit funding, primarily for urban and inter-city/regional bus operations and new electric bus purchases; and cost-shared projects for larger transit infrastructure.**

Via Rail needs reinvestment to bolster our national passenger rail service. We recommend Via receive borrowing authority and a permanent revenue stream for capital expansion and operating subsidies worth \$2 billion per year. **Via Rail should also be the key enterprise, rather than the private sector, to roll out public high-speed rail systems between Quebec City, Ottawa and Windsor; Chilliwack, Vancouver and Whistler; and Edmonton to Calgary.** The Windsor to Quebec corridor is estimated to cost about \$25-30 billion,<sup>29</sup> and \$7-16 billion for Chilliwack to Whistler via Vancouver and connecting south to US high-speed rail.<sup>30</sup> Although the federal government has recently indicated a preference for lower-cost “high-frequency” rail, we remain committed to high-quality high-speed rail between major urban centres.

28 Ministère des Transports, de la Mobilité durable et de l’Électrification des transports. Transporting Québec Towards Modernity: Sustainable Mobility Policy. Action Plan for 2018-2023. <https://www.transports.gouv.qc.ca/en/Documents/action-plan-pmd.pdf>

29 Estimated in 2011 at \$19-21 billion in 2009 dollars. Transport Canada, Updated Feasibility Study of a High Speed Rail Service in the Québec City—Windsor Corridor, February 2011, <https://tc.canada.ca/en/corporate-services/policies/updated-feasibility-study-high-speed-rail-service-quebec-city-windsor-corridor>

30 K Chan, “60-minute train: High-speed rail proposal linking Whistler, Vancouver, and Fraser Valley” in Daily Hive, October 5, 2020, <https://dailyhive.com/vancouver/mountain-valley-express-vancouver-whistler-chilliwack-high-speed-rail?s=03>

Substantial new funding is already in place for ZEV purchase incentives and EV charging infrastructure. The marketplace is increasingly pushed towards EVs as the default through the Zero-Emission Vehicles Standard, which is currently being developed, with interim EV targets of 20% of light-duty vehicles in 2026, 60% in 2030, and 100% by 2035. High fuel prices are pushing many more buyers towards EVs, but the lack of sufficient supply is causing waitlists to grow to up to two years. Moreover, demand is high in BC and Quebec where there are already ZEV standards in place, but not in many other parts of the country. It is thus urgent that the national ZEV Standard is adopted swiftly, without caving to the auto industry's calls for delay. Implementation can and should start by January 2024.

Continued incentives for EV transition over the coming years should be financed by a feebate system. This will place an additional fee on the sale of internal combustion engine vehicles, with progressively higher fees for the most polluting vehicles, and revenues used to replenish subsidies for EV purchases. The EV subsidy program will include a vehicle price cap, as has been introduced in BC, so that luxury vehicles are not subsidized. Secondly, these fees should also support a new subsidy program for electric bikes to accelerate zero-carbon transportation in urban areas. These measures could be complemented by supports for car- and bike-sharing systems in urban areas.

In addition to passenger transportation, freight represents about half of Canada's transportation emissions. In the short term there is good prospect for transitioning medium-duty urban delivery vehicles in larger centres, while the challenge is greatest for long-haul trucking, in terms of range and wait times for recharging. Funding for EV charging infrastructure is included in the clean electricity investment, and a portion of this should be allocated for advanced EV charging infrastructure for next-generation electric trucks.

Finally, a stronger industrial policy orientation should be applied to leverage EV investments into the development of EV manufacturing (including trucks, buses and bikes as well as cars), batteries and supply chains within Canada. A federal strategy should emphasize industrial and labour market policy development through stakeholder dialogue and targeted assistance measures where needed.

**We allocate \$20 million toward a Zero Emission Vehicle Industrial Strategy Council, responsible for identifying and mapping Canada's supply chain limitations, coordinating dialogue among key stakeholders, forecasting future product development needs and making recommendations for further strategic action.<sup>31</sup>**



## Growing food sustainably

The past two federal budgets have provided new funding for climate solutions in agriculture, and these represent an important step in the right direction. However, there has been resistance at the provincial level to be partners in new federal programs. For there to be successful federal leadership in this area, additional funding will be required to drive change, and the federal government should also consider stronger conditions attached to a number of “risk management” programs.

31 Unifor, Unifor Submission to the 2022 Federal Budget Consultation Process, August 2021, [https://www.unifor.com/sites/default/files/brief-statements/unifor\\_2022\\_fed\\_budget\\_submission\\_-\\_en\\_ax.pdf](https://www.unifor.com/sites/default/files/brief-statements/unifor_2022_fed_budget_submission_-_en_ax.pdf)

32 Farmers for Climate Solutions, Rooted in Climate Action: An ambitious roadmap for emissions reduction and resilience in the next Agricultural Policy Framework, APF Task Force Summary Report, June 2022, [https://static1.squarespace.com/static/5dc5869672cac01e07a8d14d/t/62aa04be38491d26c140e562/1655309514926/FCS-APF+Summary+Report\\_June+2022\\_web.pdf](https://static1.squarespace.com/static/5dc5869672cac01e07a8d14d/t/62aa04be38491d26c140e562/1655309514926/FCS-APF+Summary+Report_June+2022_web.pdf)

**Research by Farmers for Climate Solutions points to needed new investments of more than \$2 billion over five years in 19 beneficial management practices already proven in the Canadian context to reduce GHGs, sequester carbon and increase resilience on Canadian farms.<sup>32</sup>**

Five broad areas comprise the strategy:

*Nitrogen management:* The federal government already has a target for a 30% reduction in emissions from nitrogen fertilizer by 2030. A nitrogen management strategy can be a quick win because nitrogen fertilizers are currently over-applied and could be reduced on farms by 10 to 30 per cent with minimal or no yield loss. Federal funds could support a range of incentives tied to filing nitrogen management plans.

*Manure storage and handling:* This area also offers cost-effective opportunities for emissions reduction. Rebate programs will be developed for acidification of liquid manure and the installation of floating covers for liquid manure tanks.

*Livestock management:* Improving diet quality and grazing practices are cost-effective mitigation measures, and can also support carbon sequestration in soils.

*Soil management:* Techniques such as cover cropping and intercropping, which sequester carbon in soil, can be supported through incentives and equipment purchase subsidies.

*Wetland and tree management:* Measures here avoid conversion of grasslands and wetlands, while increasing trees on agricultural land.

**We ramp up this funding to \$4 billion over five years to cover additional costs not included in FCS projections and to accelerate change in the agricultural sector.**



## **Supporting good jobs and vibrant communities**

A managed phaseout of oil and gas extraction will inevitably impact the workers and communities who depend on those industries for their livelihoods. To ensure the transition respects the principles of a just transition as defined by the International Labour Organization, affected workers and communities must be included in transition decision-making through social dialogue with governments and industry. The transition should ensure the costs of transition are shouldered evenly, the benefits of climate action are fairly shared, and that decent work is available for everyone who seeks it. A zero-carbon economy—and the process of getting there—must work for everyone. Crucially, within the Canadian colonial context, the transition needs to uphold and promote Indigenous rights and sovereignty (see Indigenous-led climate policy section).

In 2019 the federal government committed to a Just Transition Act, which it reiterated in the 2021 mandate letters for the Minister of Natural Resources and the Minister of Labour. The act, which is currently in development, should be the vehicle for operationalizing government action and accountability on a just transition to a low-carbon economy for workers and communities across Canada.<sup>33</sup>

As one element of the Act, we support the Alternative Federal Budget call for an Economic Transition Council as a new, permanent body comprising high-level representatives from key federal departments, the labour movement

33 M Hulse, L Cameron, V Corkal, É Boisseau-Bouvier and J Croome, Proposals for the Canadian Just Transition Act, January 2023, <https://ecojustice.ca/wp-content/uploads/2023/01/2023-01-23-Proposals-for-the-Canadian-Just-Transition-Act-Final.pdf>

H Mertins-Kirkwood and C Duncalfe, Roadmap to a Canadian Just Transition Act: A path to a clean and inclusive economy, Canadian Centre for Policy Alternatives, April 2021, <https://policyalternatives.ca/roadmap>.



and industry. The council's first priority is to develop a national Green Industrial Strategy rooted in community-level discussions to produce regionally specific roadmaps for transition.

**We recommend allocating \$15 billion per year toward economic diversification projects in communities confronting the transition away from fossil fuels, with priority given to projects that create local jobs – ones that are well-paid, safe and unionized – and other spin-off benefits and that are economically self-sufficient over the long term.<sup>34</sup>**

These proactive investments will enable workers in coal, oil, gas and adjacent industries to move into new industries before the old ones have fully wound down, which smooths the transition and reduces the need for social support in rural communities that depend disproportionately on fossil fuel production. Communities receiving transition funding are not obligated to pivot into clean energy. While shifting from fossil fuels to renewable energy may be a logistical step for some regions, others may find it more viable to invest in manufacturing, agriculture, tourism, technology or other sectors. What's most important is that communities divest from coal, oil and natural gas in a manner that supports workers now and into the future.

The sectors most directly implicated in the energy transition, such as extraction, engineering and construction, have a strong bias towards male employment. Economic diversification efforts that do not proactively diversify the labour market risk reproducing existing social inequities.<sup>35</sup> Community Benefit Agreements (CBAs) are one example of a policy tool that can ensure new investments support local and marginalized workers. The Vancouver Island Highway Project, for example, included targeted job creation and training initiatives for women and local First Nations. Communities should also consider investments in social

infrastructure, such as public child care or health care facilities, to help diversify local economies. Care work is inherently low-emission and constitutes an essential component of a climate-safe economy. It is also a major driver of women's participation in the labour market.

Many of the workers at risk from decarbonization are highly skilled professionals and tradespeople in sectors like energy, engineering, and manufacturing. While these skills are transferable in general, workers often face friction when seeking new jobs in the clean economy, such as unrecognized credentials and mismatched technical knowledge. Public investments in upskilling can pay enormous dividends by maximizing the capabilities of the existing workforce for new industries.

**To that end, we propose a new, federal Just Transition Benefit available to any worker who loses a job directly or indirectly due to climate policies. The total cost will depend on the pace of economic diversification efforts, but we estimate that \$100 million per year in direct benefits to workers would be sufficient.**

The benefit will be flexible by design and can be used as income support, as an early-retirement incentive, as a training credit, as relocation support, or for other purposes, depending on each worker's transition needs. The benefit is indexed to inflation, stacks with employment insurance, and will be available for as long as necessary while those workers seek re-training and/or re-employment in alternative industries. Even with new investments in economic diversification, coordinated re-training, and re-employment

<sup>34</sup> For our spending recommendations in this area, we follow the Alternative Federal Budget 2023: Rising to the Challenge, September 2022, <https://policyalternatives.ca/publications/reports/alternative-federal-budget-2023>

<sup>35</sup> H Mertins-Kirkwood and Z Deshpande, *Who is included in a Just Transition? Considering social equity in Canada's shift to a zero-carbon economy*, Canadian Centre for Policy Alternatives, August 2019, <https://policyalternatives.ca/publications/reports/who-is-included-just-transition>.

programs, some workers in communities transitioning away from coal, oil, and natural gas will inevitably need more support.

While the just transition spending described above is focused mainly on the workers displaced by climate policies, there is also a need for policies to support workforce development in other areas of the country and in other sectors of the clean economy. Moving ahead with ambitious climate investments will require a significant amount of labour in the coming years.

**We recommend the creation of a youth climate corps at a cost of \$1 billion per year, as proposed by the Climate Emergency Unit, to train young people for the range of skilled work necessary for the rapid change we envision.<sup>36</sup>** There are acute labour needs—and consequent opportunities for green job creation—in a wide variety of areas, from solar panels installation to building retrofitting to electric vehicle manufacturing and other sectors.



## Building a more resilient society

In the wake of recent climate disasters across Canada, adaptation planning is now top of mind. The federal government

announced a National Adaptation Strategy in November 2022 building on research efforts to understand impacts of climate change, but allocates only \$1.6 billion in new future funding over several years. While the broad pillars of the strategy make sense, and it is essential to develop stronger plans, maps and information sources about baseline conditions and potential perils, a renewed financial commitment is needed for adaptive infrastructure.

A 2020 report from the Insurance Bureau of Canada (IBC) and the Federation of Canadian Municipalities (FCM) estimated that “average annual investment in municipal infrastructure and local adaptation measures of \$5.3 billion is needed to adapt to climate change.”<sup>37</sup> This will be above and beyond federal disaster response measures that provide funds for clean-up and recovery and for repairs and upgrades to public infrastructure.

**We propose a \$5 billion per year cost-shared transfer to provinces and territories in support of adaptation investments in the key areas of infrastructure, public health and the natural environment.** Not every situation can be adapted to, however. In areas prone to flooding, for example, there is a case to be made for managed retreat and restoration of natural areas. This transfer would include assistance to support households facing displacement to relocate.

Ideally, the climate investments elsewhere in this report are harmonized with adaptation measures. Adaptation planning and investment also provide an opportunity for a deeper engagement process at the community level that can be linked toward conversations around how to reduce emissions.

36 For more on the Youth Climate Corps idea, see: <https://www.climateemergencyunit.ca/climatecorps>

37 Federation of Canadian Municipalities and the Insurance Bureau of Canada, Investing in Canada’s Future: The Cost of Climate Adaptation at the Local Level, February 2020, <https://fcm.ca/en/resources/investing-in-canadas-future>



## Supporting global climate action

When the Paris Agreement was adopted, developed countries committed to providing US\$100 billion in international climate finance annually, beginning in 2020 and until 2025. This amount is not in line with the current needs of countries in the Global South for adaptation and mitigation investments, or with the recommendations of the latest IPCC WGII report on closing the global finance gap. Developed countries have so far failed to deliver on their pledge and recently recommitted to meeting the \$100 billion target by 2023. At the same time, at the UN Climate Convention, countries are already working on a new collective climate finance goal that needs to be agreed upon in 2024 and start being implemented from 2025 onwards.

Canada's climate finance performance has improved in the past year.<sup>38</sup> In 2021, Canada committed to doubling its climate finance, with a pledge of \$5.3 billion over five years. Canada has also announced the creation of a new climate finance framework, which includes a historic increase in adaptation finance by 150% (compared to levels before 2021), as well as support for just transition finance, nature and climate finance. An additional \$350 million in new international finance for biodiversity was announced in December 2022.

However, much more is required to meet Canada's climate finance obligations. The doubling announced in 2021 represents 59% of the \$9.0 billion needed to meet Canada's fair share of bilateral climate finance in the 2021/22 to 2025/26 period. By bilateral climate finance, we make reference to international funding coming directly from Canada's federal budget that is not part of Canada's core contributions to multilateral development banks.

**Canada should increase its climate finance by announcing an additional \$1 billion yearly until 2025/26—a total bilateral climate finance contribution of at least \$1.8 billion annually over the next four years.**

It will also compensate for the funding shortfall from the previous year. Canada must commit to delivering 50% of all its climate finance for adaptation action through grants. It should focus on reaching those more climate-vulnerable nations who are the ones with the least access to climate finance flows.

Canada must also engage in operationalizing the new UN fund for loss and damage, a historic COP27 agreement. Canada can advance this by committing to negotiating modalities and further contribute financially to this fund, which must be separate from, and additional to, existing support for mitigation and adaptation. As a wealthy nation that is a major user and producer of fossil fuels, Canada needs to accept its share of responsibility for damages in other parts of the world and promote the creation of a fund that receives innovative sources of funding, including those related to fossil fuel taxes and levies imposed on polluting industries.

In addition to these amounts that help mitigation, adaptation and losses and damages in the Global South, the federal government, through its Crown corporations like Export Development Canada, also provides financing assistance to the oil and gas sector, a well-known source of fossil fuel subsidies. As part of its commitment to phase out fossil fuel subsidies, a detailed review of EDC's activities with a climate justice lens of how Canada engages in all forms of financing is needed.

38 Climate Action Network – Réseau action climat (CAN-Rac) Canada, "Transforming Canada's climate finance," November 14, 2022, <https://climate-actionnetwork.ca/resource/transforming-canadas-climate-finance>.



## Protecting and restoring nature

A restoration and regeneration agenda should stop seeing nature as only a resource to be exploited for economic growth. This includes a much greater emphasis on conservation of intact forests and ecosystems to store carbon and provide habitat. While nature can be part of the solution on climate, the pivot to “nature-based solutions” cannot be a substitute for the rapid reduction in the use of fossil fuels for energy, nor should burning biomass be counted as clean energy. Some new efforts aimed at forests, grasslands and wetlands are welcome but there is danger in viewing them as carbon offset projects, whose carbon management can be sold to legitimize carbon pollution elsewhere.

**We provide \$5 billion over 5 years towards the remediation of old fossil fuel sites, wells and tailings ponds, with priority to areas where resource development has adversely affected Indigenous peoples’ rights and title.** Because this clean-up is the responsibility of the oil and gas industry, an offsetting tax will be placed on the industry so that this funding does not become another subsidy.

In December 2022, the federal government announced \$800 million over seven years, starting in 2023-24, to support up to four Indigenous-led conservation initiatives. While a step forward toward Canada’s goals of conserving 25 per cent of land and waters by 2025, and 30 per cent of each by 2030, much more remains to be done to achieve even these modest targets.

**We provide an additional \$3 billion per year in land and funding available for Indigenous stewardship, land-based initiatives (e.g. Indigenous guardians program) and resource management programs, including Indigenous Protected and Conservation Areas (IPCAs).**

**In addition, we invest \$1 billion in the development of a national Circular Economy and Zero Waste strategy.**

Recycling of materials reduces the need for emissions-intensive extraction and processing of virgin materials, while reduction and re-use strategies go even further by displacing the need for new emissions-intensive manufacturing and transportation. Recent studies indicate that proper investments, infrastructures and policies in recycling alone could also reduce the mining of raw materials for EV batteries by as much as 40-60%.<sup>40</sup>

The recent federal ban on the manufacture and import of a subset of single-use plastics as of December 2022 is an important step in federal leadership.<sup>41</sup> New federal policies can prioritize reusable packaging/containers and support of repair and maintenance to give much longer lifespans to electronics and appliances. Plastics, in particular, have become a huge environmental problem, and the oil and gas industry is looking to expand production. A central strategy should strive to substitute all plastics with non-toxic materials that can be reused for a long time before being recycled or composted. Funds will also support development of system-wide planning and data collection in the public domain to shine a light on where materials are flowing after consumption.

39 Government of Canada, Protecting more nature in partnership with Indigenous Peoples, news release, December 7, 2022, <https://pm.gc.ca/en/news/news-releases/2022/12/07/protecting-more-nature-partnership-indigenous-peoples>

40 Earthworks and the Institute for Sustainable Futures, Reducing New Mining for Electric Vehicle Battery Metals. <https://earthworks.org/resources/recycle-dont-mine/>

41 Government of Canada, Government of Canada delivers on commitment to ban harmful single-use plastics, news release, June 20, 2022, <https://www.canada.ca/en/environment-climate-change/news/2022/06/government-of-canada-delivers-on-commitment-to-ban-harmful-single-use-plastics.html>

# Putting the pieces together



Our recommended investments for Canada to live up to the Paris Agreement objective of limiting the global temperature increase to 1.5°C are summarized in Table 2. Time is running out and a slow, gradual transition is no longer a legitimate option. Moreover, as a large present and historical emitter with the capacity to act, Canada must be a first mover. Our recommendations call for radical leadership by the federal government to treat the climate crisis like the emergency it is and marshal resources with the same level of urgency as we saw during the early days of COVID and as we did more than 80 years ago during World War II.<sup>42</sup>

The climate investments we recommend amount to \$287 billion over five years: an average of \$57 billion per year. This is an order of magnitude larger than investments under the U.S. Inflation Reduction Act, which amounts to approximately \$53 billion per year. This reflects a much more ambitious federal-led approach in Canada, and the much larger role played by the oil and gas industry in the Canadian economy, for which an alternative investment agenda is required.

Recognizing that these investments will need to be scaled up over time, we adjust the path of spending so that the new climate investments in 2023/24 are 60% of the average, 2024/25 is 80% of the average, and investments will continue to grow in the final two years reaching 140% of the average in 2027/28. Thus, for 2023/24 our climate investments total \$34 billion, which added to status quo

planned spending will lead to a more than threefold increase in federal climate spending for 2023/24.

While the total amount is fiscally significant, Canada has a nearly \$3 trillion economy. Our planned spending amounts to only 1.9% of GDP on average over five years with a peak of 2.4% of GDP in 2027/28. If we include previously-announced federal spending, we estimate that the total amount spent by the federal government on climate action will amount to 2.1% of GDP over the next five years. Spending two to two-and-a-half cents out of every dollar of income on climate investments is not particularly costly given the stakes. It is especially modest when compared to the costs of climate inaction: the prospect of even greater future costs and damages from unmitigated climate change as well as the foregone benefits from investing in the growth industries of the 21<sup>st</sup> century. Moreover, our plan does not account for the knock-on effects of federal spending on other sectors of the economy, including the provinces and the private sector. The net fiscal impact of our recommendations will almost certainly snowball above 2% of GDP once those multipliers are considered.

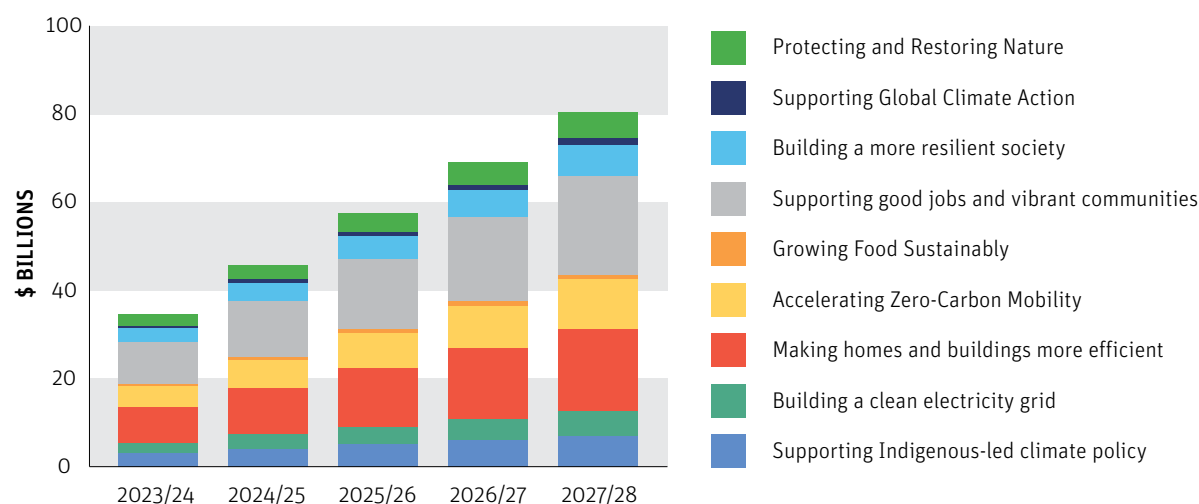
42 Seth Klein, *A Good War: Mobilizing Canada for the Climate Emergency*, Toronto: ECW Press, 2020, <http://www.sethklein.ca/book>.

**TABLE 2: SUMMARY OF TRANSFORMATIONAL CLIMATE INVESTMENTS**

\$BILLION	CURRENT FISCAL PLAN:		TRANSFORMATIONAL CLIMATE INVESTMENT RECOMMENDATIONS					
	2023/24	Five-year total (2023/24 to 2027/28)	2023/24	2024/25	2025/26	2026/27	2027/28	Five-year total (2023/24 to 2027/28)
<b>Supporting Indigenous-led climate policy</b>	0.3	1.4	3.0	4.0	5.0	6.0	7.0	25.0
<b>Building a clean electricity grid</b>	0.5	2.7	2.4	3.2	4.0	4.8	5.6	20.0
<b>Making homes and buildings more efficient</b>	1.4	4.0	8.0	10.6	13.3	16.0	18.6	66.5
<b>Accelerating zero-carbon mobility</b>	4.2	23.2	4.8	6.4	8.0	9.6	11.2	40.0
<b>Growing food sustainably</b>	0.2	0.9	0.5	0.6	0.8	1.0	1.1	4.0
<b>Supporting good jobs and vibrant communities</b>	0.0	0.1	9.6	12.8	16.0	19.2	22.4	80.0
<b>Building a more resilient society</b>	0.9	3.9	3.0	4.0	5.0	6.0	7.0	25.0
<b>Supporting global climate action</b>	1.1	3.2	0.6	0.8	1.1	1.3	1.5	5.3
<b>Protecting and restoring nature</b>	0.5	2.8	2.5	3.4	4.2	5.0	5.9	21.0
<b>Other</b> (including clean tech and Net Zero Accelerator)	5.0	28.4	no additional funding but green strings added					
<b>TOTAL INVESTMENTS</b>	<b>14.2</b>	<b>70.5</b>	<b>34.4</b>	<b>45.9</b>	<b>57.4</b>	<b>68.8</b>	<b>80.3</b>	<b>286.8</b>

Sources: Current fiscal plan from authors' compilation and calculations from federal budget documents and economic and fiscal updates, 2016 to 2022. New climate investments based on research as discussed in the previous section.

**FIGURE 2: TRANSFORMATIONAL CLIMATE INVESTMENTS, FIVE-YEAR FISCAL FRAMEWORK**



That said, the federal government has proven reticent to invest in climate action at a level commensurate with the scale and speed of the crisis. Indeed, the Deputy Prime Minister has signaled that large-scale spending programs typical of the COVID-19 period are coming to an end. However, after more than three decades of kicking the can down the road and wishful thinking that Canada can continue to grow oil and gas production and exports while reducing carbon emissions, the reality is that spending on this scale is what it will take to transform Canada's economy at a speed that reflects the changing global landscape.


This coherent program of alternative clean energy and climate justice will replace the significant currently planned investments that will dig Canada deeper into fossil fuel production—and only make Canadians more vulnerable to the convergence of crises we are facing. For perspective, the annual expenditures we are proposing are equivalent to about 11 weeks of COVID pandemic level spending by the federal government, which was about \$5 billion per week for most of a year.

By definition, investments pay back over time. Many of the investments we propose above have long-term revenue streams: renewable energy investments have monthly utility fees, zero-emissions affordable homes have monthly rental fees, public transit and high-speed rail have passenger fees.

Investment is the long-term driver of the economy, and public infrastructure, in particular, underpins broad-based prosperity. Strategic public sector-led investments increase the productive capacity of our economy, which builds resilience against inflation, recessions, and future climate disruptions. Since the world must significantly decrease GHG emissions, Canada cannot afford to be left vulnerable and dependent in the global transition to a green economy. An austerity agenda seeking to push down demand will also increase worker insecurity and negatively impact our country's ability to produce, which is a self-defeating path to economic ruin. We cannot deal with supply disruptions caused by pandemics and climate change by increasing unemployment.

In an emergency mindset, we invest in early action and ensure spending is consistent with a 1.5 degree temperature threshold, as opposed to locking in dangerous carbon emissions through fossil fuel infrastructure investments. We need to invest instead in areas that make our economy better prepared for climate change and future disruptions.

Even in the absence of these ambitious and inclusive climate investments, there will be some baseline amount of expenditure replacing and upgrading infrastructure and investment in energy, transportation and buildings. In the five-year period before COVID (2015 to 2019), for example, total capital investment (including repair expenditures) in non-residential construction, machinery and equipment averaged \$323 billion per year. A subset of industries including oil and gas, mining,



**For perspective, the annual expenditures we are proposing are equivalent to about 11 weeks of COVID pandemic level spending by the federal government, which was about \$5 billion per week for most of a year.**

utilities, construction, and petroleum and coal products manufacturing—that is, the key areas we seek to transform—averaged \$105 billion in capital investment per year over the same period.<sup>43</sup>

Climate investments are resilient in the face of today's inflationary challenges and the likely recession that will be created by the Bank of Canada's monetary tightening. Carleton University's Brendan Haley argues that spending massively in zero-carbon solutions can simultaneously alleviate inflationary pressures through the replacement of fossil fuel energy (a major cause of recent inflation) with less volatile renewables. This can be accomplished through the strategic coordination of both demand and supply sides; by focusing on building resilience to climate impacts and supply-chain

disruptions; and ensuring that the Canadians most vulnerable to inflation are supported.<sup>44</sup> We heed those recommendations which align with the climate investments suggested here and should guide their implementation.

If we are headed into a recession, as many economists now project, this is a good time to reset our investment intentions. At times of recession, the appropriate fiscal policy from the federal government is to run a deficit to support demand in the economy. The climate investments we cite should be part of such a package that simultaneously pivots the economy towards zero carbon.

## **With time running out, these recommendations should be a starting point for the conversation we need to have: how to get serious about transforming the Canadian economy in the face of the climate emergency in the time frame needed.**

The good news is that undergoing this transformation will make our communities more resilient and more prosperous, with many co-benefits beyond reducing emissions—like healthier air, good quality jobs, lower energy costs and, if done right, reducing inequities and historical injustices. In these times of great divisions and overlapping crises, a coherent climate investment plan supplementing the carbon pricing benchmark and new regulatory frameworks will draw a clearer picture of the economy we are building, for the benefit of all.



43 Statistics Canada, Capital and repair expenditures, non-residential tangible assets, by industry and geography (x 1,000,000), Table: 34-10-0035-01.

44 Haley, Brendan. "Budgeting for net-zero emissions in inflationary times," *Policy Options*, March 9th, 2022. <https://policyoptions.irpp.org/magazines/march-2022/budgeting-for-net-zero-emissions-in-inflationary-times/>



# Appendix:

## Notes on calculations of federal climate spending

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Our estimate of planned federal expenditures is based on annual budgets and fiscal updates, including federal operating expenditures, federal contributions to the Canada Infrastructure Bank, grants and contributions to individuals and businesses via federal programs, and transfers made to provinces, territories and municipalities.

Not counted are any own-source expenditures from other jurisdictions (e.g. BC government expenditures under the Clean BC program or the City of Vancouver’s Climate Emergency Action Plan). Thus, we do not paint a complete picture of climate spending in Canada, only the federal portion.

The federal Carbon Pricing Backstop system, launched in 2018, is not included in our summary. Although it constitutes a large part of Canada’s climate policy, it is not a climate investment as it is by design revenue-neutral—it captures tax revenues and returns them to the provinces in which they originated—and is a very distinct policy framework that has been reviewed extensively elsewhere.<sup>45</sup>

A full audit of federal expenditures by the Auditor General of Canada or the Parliamentary Budget Officer is needed to properly evaluate actual federal expenditures. Parliament approves the budget estimates, which authorize expenditures by government departments, but not all funding is necessarily spent in the year stated in the budget. For example, according to the public accounts, as of March

31, 2022 there is still \$1 billion worth of transfer payment funding that has been authorized but not yet spent by various departments.<sup>46</sup>

The government’s published accounts provide details of department program expenditures only at a fairly high level that does not enable comparisons with planned expenditures.

Federal climate expenditures are often spread across different parts of each budget, divvied up to several different ministries, and often build upon prior-year commitments. Care has been taken to avoid double-counting but it is also common practice for previously-announced funding to be rolled in with newly budgeted funding (and it is often hard to tell from the description).

The federal budget also lacks a consistent presentation of expenditures to be comparable year to year.<sup>47</sup> Descriptions in the budget text don’t always match accompanying tables, and the amount of detail varies by year. Finally, line items in the budget do not always directly correspond with claims or figures in emissions reduction plans.

The lines around what is and is not included as a climate expenditure can be blurry. Various

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45 Canadian Climate Institute, The State of Carbon Pricing in Canada, June 2021, <https://climateinstitute.ca/reports/the-state-of-carbon-pricing-in-canada/>

46 For the climate programming at Environment and Climate Change Canada and Natural Resources Canada. See Government of Canada, Public Accounts 2021/22, <https://www.tpsgc-pwgsc.gc.ca/recgen/cpc-pac/2022/vol2/intro-eng.html>

47 The BC Budget sets a high standard with consistent presentation of the same tables in each budget, and a high level of transparency. In comparison the federal budget reads primarily like a government public relations document, but we’ve done the best we can to tease out the details.

federal expenditures for other environmental issues or green economy and technology/innovation supports are counted only if they are specifically aimed at reducing emissions or adapting to climate change. As noted in the text, public transit is counted as a climate expenditure for our purposes, as it represents a structural transformation of the transportation system, of behaviour and of emissions, even though the federal government does not always count transit investments as climate spending.

As noted in the main text, a number of new vehicles have been created to distribute and oversee federal investments in emissions mitigation, including the Canada Infrastructure Bank, the Net Zero Accelerator program and the Canada Growth Fund. Each of these funding vehicles includes a mix of federal contributions alongside equity stakes and preferential loans, for which the accounting treatment

differs. In the case of the Canada Infrastructure Bank, we have counted \$10 billion out of a potential \$15 billion in federal expenditures due to these uncertainties. In the opposite direction, we count the full \$8 billion of the NZA towards our federal funding summary. The Canada Growth Fund has not been profiled in the budget so does not appear in our federal summary. As a result, some caution is warranted until more information about these funds becomes available.

Overall, while there are many outstanding questions about specific programs and budgets, we remain confident that our summary figures accurately reflect the general scale, distribution and trajectory of federal climate funding.