# State of the Green Economy 1
## The Fiscal Cost of Canada's Low-Carbon Economy

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FRASER INSTITUTE 50 YEARS

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## Executive Summary

- This study documents spending initiatives by the federal government and the governments of Ontario, British Columbia, Alberta, and Quebec since 2014 to promote the low-carbon economy, as well as how much revenue they have foregone through offering tax credits. The goal is to provide a better understanding of the scope and evolution of these funding initiatives.

- Spending and tax credits provided by the federal government on low-carbon economy initiatives have skyrocketed in recent years. Federal support has risen from just $0.6 billion in 2014–15 to $23 billion in 2024–25, representing more than a 38-fold increase. Total federal funding initiatives over the past decade amount to $66.2 billion, in nominal terms, and $70.5 billion in 2024 dollars, when adjusted for inflation.

- The cost of spending and tax initiatives supporting a low-carbon economy has also surged in Ontario, British Columbia, Alberta, and Quebec—from $2.2 billion in 2014–15 to $10.6 billion in 2024–25—representing nearly a five-fold increase. These estimates are based on very conservative assumptions, and they do not cover every program area or government-controlled expenditure related to the low-carbon economy and/or reducing greenhouse gas emissions.

- Overall, the combined cost of spending and tax credits supporting a low-carbon economy by the federal government and the four provincial governments is estimated at $143.6 billion from 2014–15 to 2024–25, in nominal terms. When adjusted for inflation, the total reaches $158 billion in 2024 dollars.

## Introduction

Since signing the International Paris Climate Agreement in 2015, Canada's approach to mitigating climate change and promoting a green economy has shown a marked shift from the past. Three major national climate plans have been introduced by federal governments, each of which expanded the scope of climate mitigation actions and government spending to promote a low-carbon economy, that is, an economy that generates ever-lower levels of greenhouse gas emissions.[1]

In 2016, the Justin Trudeau government introduced the *Pan-Canadian Framework on Clean Growth and Climate Change*, which included more than 50 measures to reduce carbon emissions and foster clean technology "solutions." Key measures in the plan included economy-wide carbon pricing, regulations to phase out coal power generation by 2030, and stronger energy emission standards and energy efficiency codes for vehicles and buildings (Canada, 2016).

In addition to carbon pricing and several regulatory measures, the 2016 plan also outlined significant new spending initiatives to promote and accelerate the transition to a low-carbon economy, including the Low Carbon Economy Fund (LCEF)[2] to support provinces and territories in reducing greenhouse gas emissions; new spending to support the deployment of infrastructure for alternative transportation fuels, such as charging stations for electric vehicles; funding for technologies that could reduce GHG emissions from the oil and gas sector; funding for research, development, and demonstration of clean energy technologies with the greatest potential to reduce GHG emissions; and additional support for green infrastructure to expand renewable energy generation and distribution and to modernize electricity grids (Canada, 2016). The plan was also accompanied by growing rhetorical support for "net zero," a concept that later found its way into federal legislation.

1 There are five major gases believed to exert a warming pressure on the Earth's atmosphere. These include water vapor (dominant), carbon dioxide, methane, nitrous oxide, and fluorinated gases. Some localized and more transient air emissions, such as sulfur dioxide, are considered to exert a cooling effect. The various greenhouse gases have different warming strengths and atmospheric duration times, so in most discussions they are normalized for their warming strengths and atmospheric persistence, and discussed as CO2e, or carbon dioxide equivalents.

2 The LCEF supports initiatives that reduce GHG emissions, promote clean growth, and build resilience. It has different streams, including the Challenge Fund, which supports projects by organizations, and the Leadership Fund, which provides funding to provinces and territories.

In 2020, building on the Pan-Canadian Framework, the Trudeau government introduced *A Healthy Environment and a Healthy Economy*, a plan to further strengthen Canada's action on climate change mitigation and clean economy promotion. This plan included 64 new measures, and it launched several new or expanded spending initiatives for zero-emissions vehicles and infrastructure, clean power and grid modernization, building retrofits, clean technology, and industrial decarbonization, among other measures (Canada, 2020).

The momentum continued as the federal government introduced the updated *2030 Emissions Reduction Plan* in March 2022, which aimed to reach an emissions-reduction target of 40 percent to 45 percent below 2005 levels by 2030, and put Canada on a path to reach net-zero emissions[3] by 2050. This plan included $9.1 billion in new spending, with additional funding for building retrofits, the Low Carbon Economy Fund, clean electricity and grid modernization projects, zero-emissions vehicle incentives and charging stations, and clean technologies through investment tax credits, among other measures (Canada, 2022). Together, these three climate plans represented a major shift in Canada's approach toward supporting the development of a non-emissions economy.

Alongside the federal government, provincial governments have also introduced their own funding initiatives in recent years to support emission reductions and the transition to a non-emissions economy. For instance, in 2018, British Columbia launched *CleanBC*, a comprehensive climate plan that included several new or expanded spending initiatives covering building retrofits, zero-emission vehicles and charging infrastructure, clean electricity projects, and industrial decarbonization (Government of British Columbia, 2018). In 2021, based upon the original 2018 plan, the province released the *CleanBC Roadmap to 2030* to accelerate emissions reductions and the development of a lower-carbon economy, introducing over $1 billion in new funding (Government of British Columbia, 2022).

This essay will document the spending initiatives by federal and four provincial governments since 2014 to promote a low-carbon (or green) economy, as well as how much revenue they have foregone through offering tax credits, with the goal of better understanding their scope and evolution. While several regulatory measures have been introduced since 2014, along with the spending initiatives and tax expenditures, documenting the costs associated with this expanding array of regulations is beyond the scope of this analysis. Therefore, our analysis, which only focuses on measurable fiscal components of post-2014 climate plans, represents a very conservative estimate of the total burden of Canada's transition to a low-carbon economy.

3 Achieving net-zero emissions means that an economy either emits no emissions or offsets its emissions through activities such as tree planting or employing carbon removal technologies.

The first section briefly explores how we define the green, or low-carbon, economy in the context of our analysis. The second section documents federal government funding initiatives since 2014–15 for promoting the low-carbon economy, while the third section examines the support by four provincial governments—Ontario, British Columbia, Alberta, and Quebec—of the low-carbon economy and the areas where the funds have been directed. The final section presents concluding remarks.

## Definition of the Low-Carbon or Green Economy

While the term "green economy" (also known as the environment industry) has been widely used in recent years, there has been no consensus on its definition (Menino-Saum et al., 2020). For instance, according to the United Nations Environment Programme (UNEP), a green economy is one that results in improved social equity and human well-being, while lowering environmental risks and ecological scarcities (European Environment Agency, 2011).

The United States Bureau of Economic Analysis has defined the green economy, or the environmental goods and services sector, as economic activities whose primary purpose is to eliminate or reduce pressures on the environment or to promote more efficient use of natural resources (Fixler et al., 2023).

The Organization for Economic Cooperation and Development has defined green goods and services as those that "produce goods and services to measure, prevent, limit, minimize, or correct environmental damage to water, air, and soil, as well as problems related to waste, noise, and ecosystems. This includes cleaner technologies, products, and services that reduce environmental risk and minimize pollution and resource use" (Mealy and Teytelboym, 2022, 4).

In this paper, we have followed the definition used by Statistics Canada in its *Environmental and Clean Technology Products Economic Accounts (ECTPEA)* (Statistics Canada, 2025a), which measures the economic contribution of environmental and clean technology (ECT) products to Canada's economy in terms of employment, gross output, and other economic variables. According to Statistics Canada, ECT is defined as any process, service, or product that reduces environmental impacts in any of the three following ways:

- "Environmental protection activities that prevent, reduce, or eliminate pollution or any other degradation of the environment;
- Resource management activities that result in the more efficient use of natural resources, thus safeguarding against their depletion;
- The use of products that have been adapted to be significantly less energy or resource intensive than the industry standard" (Statistics Canada, 2024a: 2).

Statistics Canada divides ECT products into two broad categories: 1) environmental goods and services, and 2) clean technologies and services.

Environmental goods and services include clean electricity from nuclear and renewable energy sources, biofuels, and primary goods (primary goods include minimally processed wood or minerals), waste and scrap goods, and waste management and remediation services. Clean technology goods and services include scientific research and development services, manufactured goods, construction services (related to clean tech), and support services such as consulting and engineering (Statistics Canada, 2025a).

More specifically, clean technologies, according to Statistics Canada, are defined as:

- "Any good or service designed with the primary purpose of contributing to remediating or preventing any type of environmental damage;
- Any good or service that is less polluting or more resource-efficient than equivalent normal products which furnish a similar utility. Their primary use, however, is not one of environmental protection" (Statistics Canada, 2024a: 3)

Most government funding initiatives in Canada in recent years, such as subsidizing clean electricity (including wind and solar) and grid modernization; incentives for electric vehicles and charging infrastructure; subsidies for building retrofits and energy efficiency; support for clean fuels such as hydrogen and biofuels; and funding for heavy industry to reduce emissions through electrification and clean tech, fit within Statistics Canada's definition of promoting a green economy, and are therefore included in the analysis when documenting governments' fiscal support for low-carbon economy initiatives. The second and third sections provide more details on what spending and tax break initiatives have been included in our report.

## Federal Low-Carbon Economy Spending and Tax Credits

This section documents how much the federal government has spent on transitioning to a low-carbon economy since 2014–15, using the definition of the Environmental and Clean Technology (ECT) account developed by Statistics Canada. Between 2014–15 and 2024–25, most federal funding or tax credits were directed to green initiatives, clean technologies, and electric vehicle incentives. Other supported initiatives cover alternative energy and carbon reduction initiatives, energy efficiency and innovation programs, and environmental protection initiatives. Each category is summarized below.

### Green initiatives

Green initiatives encompass a wide range of programs targeting specific sectors. They include support for large-scale infrastructure projects through the federal Green Infrastructure Fund; efforts to reduce agricultural emissions—with initiatives such as the On-Farm Climate Action Fund, under Agricultural Climate Solutions; and nationwide afforestation and reforestation through initiatives like Growing Canada's Forests – 2 Billion Trees. At the community level, programs such as the Green and Inclusive Community Buildings Program promote net-zero standards in new construction, while contributions to the Federation of Canadian Municipalities' Green Municipal Fund support municipal decarbonization initiatives.

Additional components of this category are contributions and grants for the Critical Minerals Infrastructure Fund, which supports the development of essential infrastructure for critical minerals production, as well as funding to support the Pan-Canadian Framework on Clean Growth and Climate Change. It also covers climate action incentive payments—rebates from the federal government to help offset the increased energy costs associated with the federal carbon pricing system (prior to recent system modifications) in eight provinces where the federal carbon pricing was applied, including Ontario, Saskatchewan, New Brunswick, and Nova Scotia. Also in this category are the Green Construction through Wood program, which promotes wood-based building projects, the Green Shipping Corridor Program, aimed at decarbonizing the marine sector, and contributions to the Canada Foundation for Sustainable Development Technology, which encourages the development of Canadian innovations addressing climate change and improving air, water, and soil quality.

## Clean technologies

The clean technologies category consists of programs and tax credits that support the development, adoption, and scaling of technologies designed to reduce greenhouse gas emissions across multiple sectors of the economy. This includes initiatives that promote renewable electricity generation, such as the Electricity Pre-Development Projects, the Clean Electricity Investment Tax Credit, the Emerging Renewable Power Program, and Smart Renewables and Electrification Pathways. The category also covers programs or tax credits advancing clean fuel alternatives, including the Clean Hydrogen Investment Tax Credit, the Clean Fuels Fund, and the Codes and Standards Program. In addition, it supports broader clean technology deployment and manufacturing, through initiatives like the Clean Technology Investment Tax Credit and the Clean Technology Manufacturing Investment Tax Credit. There are also initiatives aimed at increasing access to renewable energy in remote areas through the Clean Energy for Rural and Remote Communities Program.

## Electric vehicle incentives

These are programs that support the adoption of zero-emissions vehicles[4] and the development of the infrastructure needed to sustain their growth. This includes direct purchase support through the Incentives for Zero-Emission Vehicles Program, as well as financial measures such as the Accelerated Capital Cost Allowance for Zero-Emission Automotive Equipment and Vehicles. The category also covers investments in charging infrastructure through grants and contributions to the Zero Emission Vehicle Infrastructure Program.

In 2023, the federal government announced up to $15 billion in production subsidies for electric vehicle (EV) battery manufacturing, to be provided to Northvolt, Volkswagen, and Stellantis-LGES between 2022–23 and 2032–33 (Canada, 2023). These subsidies are intended to match incentives offered under the U.S. Advanced Manufacturing Production Credit (AMPC), part of the *Inflation Reduction Act* of 2022. Funding amounts will depend on the volume of batteries produced and sold by each project and will vary depending on the level of support available under the US legislation. Estimates from the Office of the Parliamentary Budget Officer suggest the total federal cost over this period could reach $26.9 billion (PBO, 2023). In early 2024, the federal government announced subsidies for Honda's EV production that could total $2.5 billion (Canada, 2024b). This category

4 In early 2025, the federal government paused its rebate program for EVs, which provided up to $5,000 to consumers.

includes targeted support for battery manufacturing to incentivize electric vehicle production in Canada.

## Alternative energy and carbon reduction

The alternative energy and carbon reduction category comprises targeted spending and tax credits for non-conventional energy sources and technologies that directly reduce or capture greenhouse gas emissions. This includes support for nuclear energy innovation—such as small modular reactors—offshore wind development, and carbon capture technologies,[5] as well as tax incentives for zero-emission technology manufacturers. It also funds contributions to international energy organizations such as the International Renewable Energy Agency and the Nuclear Energy Agency. Another component is the Low Carbon Economy Fund, which supports emissions-reducing projects across Canada through four streams: the Leadership Fund for provincial and territorial initiatives, the Challenge Fund for competitive project-based funding, the Indigenous Leadership Fund for Indigenous-led clean energy efforts, and the Implementation Readiness Fund to overcome adoption barriers for low-carbon technologies.

## Energy efficiency and innovation

These programs aim to reduce energy consumption and related emissions through improved efficiency and the development of low-carbon technologies. This category supports household-level initiatives—such as grants and contributions for home retrofits—and sector-wide programs through the Energy Innovation Program, which funds the research and development of clean energy technologies. It also includes measures to support the energy transition in the transportation sector, such as grants and contributions under the Green Freight Program, which supports the adoption of fuel-saving technologies in heavy-duty vehicles.

## Environmental protection

The environmental protection programs are aimed at protecting and conserving Canada's natural resources. They are intended to improve the environment but are not specifically focused on reducing GHG emissions. The category includes contributions to international and domestic efforts, such as the Commission for Environmental Cooperation

5 It is worth noting that if large-scale carbon capture, utilization, and storage (CCUS) initiatives like the industry-led Pathways Project proceed, it is likely that the federal government will contribute billions to underwrite part of the project and help de-risk it.

(CEC), which promotes collaboration on protection and conservation issues across North America. It incorporates support for direct actions through initiatives like the Clean Water and Wastewater Fund, which finances infrastructure interventions to ensure access to clean drinking water and effective wastewater treatment. There are also contributions focused on preventing and managing pollution.

## Data and trends

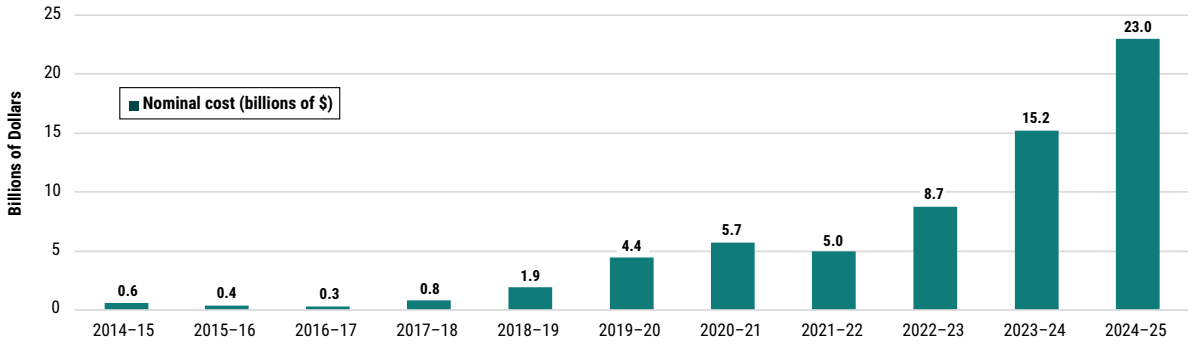
This section describes federal direct spending initiatives and tax expenditures since 2014 to promote a low-carbon economy. The spending initiatives cover direct budgeted expenditures such as allocated funds, grants, and contributions aimed at promoting electric vehicles, energy efficiency, clean energy, and other programs discussed above. Due to data limitations, the tax expenditures included here are tax credits targeted at environmental and clean technology objectives; broader tax deductions or deferrals—such as the reduced corporate income tax rate for zero-emission technology manufacturers introduced in 2021—are therefore excluded from direct government spending and line-item tax credits in this analysis.

Since 2014, various regulations, such as the GHG cap imposed on the oil and gas industry, methane regulations, fuel standards, and the oil tanker ban, have been implemented by the federal government to promote a non-emission economy, adding significant costs to the economy. Quantifying the costs of these regulations is difficult and is beyond the scope of this analysis. Given this, our analysis, which only focuses on measurable fiscal components, represents a very conservative estimate of the total burden of Canada's transition to a low-carbon economy.

Between 2014–15 and 2024–25, the total cost of federal programs, funds, and incentives related to ECT initiatives amounted to $66.2 billion in nominal terms. This cost captures the government's direct spending; it does not include staff costs in the ministries and other government bodies responsible for the programs. It is therefore a gross underestimate of the actual total cost. As shown in figure 1, the cost of federal ECT initiatives has generally increased year over year, starting at nearly $0.6 billion, in nominal terms, in 2014–15. The lowest point during this period was in 2016–17, when the cost dropped to $0.3 billion, before rising to a peak of over $23 billion in 2024–25. The costs exceeded the $1 billion mark for the first time in 2018–19, reaching $1.9 billion. It continued to rise steadily, hitting $5.7 billion by 2020–21. Although there was a slight drop to $5 billion in 2021–22, the costs rebounded sharply the following year, surging to $8.7 billion. This upward trend accelerated in 2023–24, when the cost nearly doubled to $15.2 billion, and

continued into 2024–25, reaching $23 billion. Overall, $66.2 billion was spent on federal ECT initiatives over the period, in nominal terms. When adjusted for inflation, the total spending amounts to approximately $70.5 billion, in 2024 dollars.[6]

**Figure 1: Annual Nominal Cost of Federal ECT Initiatives (Billions of $), 2014–15 to 2024–25**




Source: Canada, 2025a; Canada, 2025b; Canada, 2024a; Canada, 2018.

It is important to note that tracking infrastructure-related spending presents significant challenges,[7] so our estimates are conservative and based only on clearly identified items, meaning some infrastructure expenditures may not be fully captured. Given that the analysis is based on a broad category of transfer payments called grants and contributions, some amounts may include loans or other financial instruments that are not explicitly categorized as direct program spending. The data in this section was gathered from publicly available sources, including federal main estimates, federal economic statements, tax expenditure reports, and long-term infrastructure accounts.

As the overall cost of ECT spending and tax credits has increased, the number of initiatives has grown as well, complicating efforts to keep track of the overall fiscal impact of Ottawa's expanding toolkit of low-carbon economy related programs, subsidies, and tax measures. Moreover, the relative share within each category of total costs shifts over time. Table 1 shows the categorization of federal ECT costs from 2014–15 to 2024–25, while table 2 shows the associated shares by category over the same period.

6 The nominal values were converted to real values using Statistics Canada's data on the Consumer Price Index (Statistics Canada, 2025c), and the totals were presented in constant 2024 dollars.

7 Federal infrastructure spending is largely grouped together and not categorized effectively. Spending is also not provided on an annual basis, nor are the amounts reported and updated regularly for specific projects.

**Table 1: Estimated Nominal Cost of Federal Low-Carbon Economy Spending and Tax Credits, 2014–15 to 2024–25 ($billion)**

| | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 | 2019–20 | 2020–21 | 2021–22 | 2022–23 | 2023–24 | 2024–25 | Total Cost 2014–15 to 2024–25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Green initiatives | $0.0 | $0.0 | $0.2 | $0.2 | $0.8 | $2.9 | $4.9 | $4.0 | $7.4 | $10.8 | $16.6 | $47.7 |
| Clean technologies | $0.0 | $0.0 | $0.0 | $0.0 | $0.0 | $0.1 | $0.0 | $0.1 | $0.4 | $1.8 | $3.8 | $6.4 |
| Electric vehicles incentives | $- | $- | $0.0 | $0.0 | $0.0 | $0.2 | $0.2 | $0.3 | $0.4 | $0.8 | $0.9 | $2.8 |
| Alternative energy and carbon reduction | $0.5 | $0.3 | $0.1 | $0.1 | $0.3 | $0.3 | $0.3 | $0.3 | $0.2 | $0.8 | $0.6 | $4.0 |
| Energy efficency and innovation | $- | $0.0 | $0.0 | $0.1 | $0.0 | $0.0 | $0.1 | $0.1 | $0.3 | $1.0 | $1.0 | $2.8 |
| Environmental protection | $0.0 | $0.0 | $0.0 | $0.4 | $0.6 | $0.9 | $0.3 | $0.1 | $0.1 | $0.1 | $0.1 | $2.5 |
| **Total** | **$0.6** | **$0.4** | **$0.3** | **$0.8** | **$1.9** | **$4.4** | **$5.7** | **$5.0** | **$8.7** | **$15.2** | **$23.0** | **$66.2** |

Source: Canada 2025a; Canada, 2025b; Canada, 2024a; Canada, 2018.

**Table 2: Share of Federal ECT Costs, by Category, 2014–15 to 2024–25**

| | 2014–15 | 2015–16 | 2016–17 | 2017–18 | 2018–19 | 2019–20 | 2020–21 | 2021–22 | 2022–23 | 2023–24 | 2024–25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Green initiatives | 7% | 4% | 46% | 21% | 44% | 65% | 85% | 81% | 84% | 71% | 72% |
| Clean technologies | 3% | 3% | 7% | 1% | 2% | 2% | 1% | 3% | 4% | 12% | 17% |
| Electric vehicles incentives | 0% | 0% | 1% | 2% | 1% | 5% | 3% | 6% | 4% | 5% | 4% |
| Alternative energy and carbon reduction | 90% | 87% | 38% | 14% | 18% | 7% | 6% | 5% | 3% | 5% | 3% |
| Energy efficency and innovation | 0% | 6% | 4% | 12% | 2% | 1% | 1% | 3% | 4% | 6% | 5% |
| Environmental Protection | 1% | 1% | 3% | 50% | 33% | 20% | 5% | 2% | 1% | 0% | 0% |

Source: Canada 2025a; Canada, 2025b; Canada, 2024a; Canada, 2018 .

In 2014–15 and 2015–16—two of the years with the lowest ECT costs—initiatives related to alternative energy and carbon reduction, including biofuels and alternative fuels incentives, accounted for 90 percent and 87 percent of total costs, respectively (table 2). In 2016–17, green initiatives accounted for the largest share of costs, representing 46 percent of the total. That year also marked the launch of initiatives supporting electric vehicles and broader sustainability initiatives. In 2017–18, environmental protection initiatives accounted for half of all the green economy costs, with a significant portion directed to the Clean Water and Wastewater Fund. From 2018–19 onward,

green initiatives began to dominate ECT costs, accounting for 44 percent of the total in 2018–19, rising to 65 percent in 2019–20, 85 percent in 2020–21, 81 percent in 2021–22, 84 percent in 2022–23, 71 percent in 2023–24, and 72 percent in 2024–25.[8] The growing share of green initiatives in total ECT costs is primarily due to the introduction of climate-action incentive payments[9] in 2018–19. From that point through 2024–25, these payments totalled $42.1 billion, making it the largest single cost among green initiatives.[10]

8 According to the fall 2024 economic statement (Canada, 2024a) climate-action incentive payments were estimated at $14.7 billion for 2024–25. This includes the Canada Carbon Rebate, and payments to small and medium-sized businesses plus Indigenous communities and farmers.

9 Also known as carbon rebates and destined to help offset costs from the carbon tax to consumers.

10 In March 2025, the federal government ended the consumer portion of the federal carbon tax and the associated carbon rebate for individuals. After April 2025, there will be no quarterly climate action incentive payments.

## Provincial Low-Carbon Economy Spending and Tax Credits: Selected Provinces

From 2014–15 to 2024–25, total provincial spending in Ontario, British Columbia, Quebec, and Alberta on initiatives targeting a low-carbon economy exceeded the total amount spent on similar initiatives by the federal government. In these four provinces—the most populous in Canada[11]—green initiatives vary widely in scope and dollar values, but there are some apparent commonalities. Spending on electricity, climate action plans, water infrastructure, electric vehicles, energy efficiency, and alternative energy are generally the main features of provincial fiscal measures intended to support the non-emission economy.[12] Tax credits for low-carbon economy initiatives feature prominently in British Columbia. Data in this section were collected using publicly available information from sources such as provincial main estimates, annual operating budgets, and public accounts.[13]

Figure 2 shows the annual breakdown of the estimated fiscal cost of the transition to a low-carbon economy in the four provinces between 2014–15 and 2024–25, in nominal terms. The cost of provincial direct spending and tax credits amounted to $2.2 billion in 2014–15, and it had nearly tripled to $6.4 billion by 2017–18. Note that the spending estimate represents direct spending and excludes salaries for public servants in the various ministries to run the programs. After gradually increasing in subsequent years, total spending and tax credits for provincial low carbon economy initiatives totalled $10.6 billion in 2024–25. This represents an $8.4 billion nominal increase, a change of 381.4 percent, over the period analyzed.

In total, spending and tax expenditure initiatives to promote a low-carbon economy have cost the taxpayers of these provinces an estimated $77.4 billion, in nominal terms, during this period. When adjusted for inflation, total spending and tax credits for provincial initiatives amount to approximately $87.4 billion in 2024 dollars–a 274.6 percent increase from 2014–15 to 2024–25.

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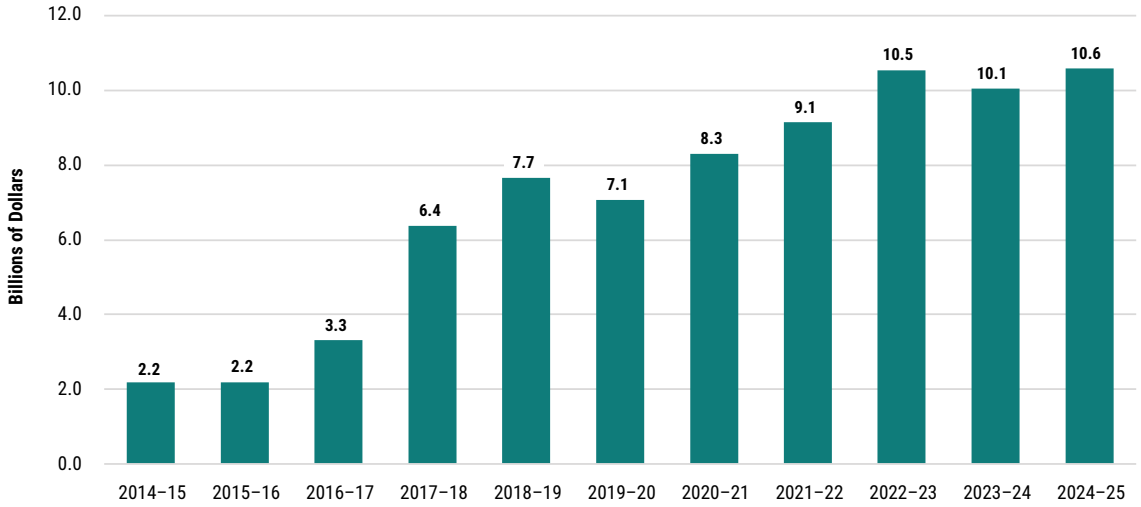
11 This report only looks at the four largest provinces due to data challenges in smaller provinces.

12 This analysis excludes spending on public transit and climate adaptation from the definition of the low carbon economy. While there is some debate among policymakers over whether to include these measures, they do not fit Statistics Canada's definition of Environmental and Clean Technology Products.

13 Please note the authors' calculations are largely taken from government main estimates at budget time, so actual dollar values for various programs and initiatives may differ from the estimates provided in the study.

It is important to note that in British Columbia and Quebec, the Crown-owned electric utilities (BC Hydro and Hydro Quebec) are important vehicles for delivering programs tied to provincial climate and energy policy. The funding for at least some of these initiatives effectively comes from ratepayers, not taxpayers, and thus do not directly show up in the government's fiscal ledger.

**Figure 2: Cost of Annual Spending and Tax Credits on Low-Carbon Economy Initiatives in Four Select Provinces (Nominal $Billions)**



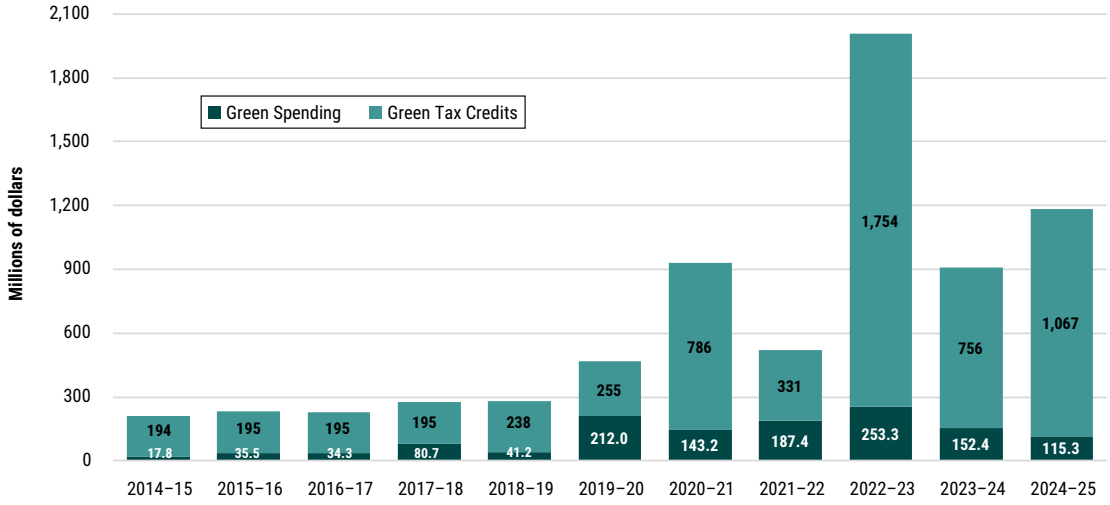

Sources: British Columbia, n.d.; British Columbia, 2024; Alberta, 2025a; 2025b; Ontario, 2024; Ontario 2025b; Quebec, Department of Finance 2014a-2024a; 2025.

## British Columbia

Low-carbon economy initiatives in British Columbia are primarily concentrated on tax credits intended to reduce GHG emissions and increased spending on electricity and alternative energy development.[14] Figure 3 illustrates the substantial increase in the cost of low-carbon economy initiatives in the province between 2014 and 2024. Spending was minimal in 2014, at $17.8 million, whereas tax credits equalled $194 million—for a total cost to taxpayers of $211.8 million. The cost of these initiatives remained relatively flat for the next four years, then it began to increase in 2019–20 ($467 million), before reaching the peak of $2 billion by 2022–23. While spending and tax credits cost provincial taxpayers comparably less in 2023–24 ($908.4 million) and 2024–25 ($1.2 billion), the amount remained significantly above that of the previous decade.

14 Annual data on BC electric vehicle rebates are not publicly available and are not included in the report. Estimates for green spending in the province would be higher if they were included.

**Figure 3: Annual Spending and Tax Credits on Low-Carbon Economy Initiatives in British Columbia (Nominal $ Millions)**




Sources: British Columbia, n.d.; British Columbia, 2024.

Spending in 2024–25 amounted to $115.3 million, whereas tax credits resulted in almost $1.1 billion in lost revenues. In nominal terms, annual low-carbon economy initiatives in British Columbia have grown by $970.5 million, or 458.2 percent, since 2014–15. Adjusted for inflation, this translates to a 327.7 percent increase. Tables 3a) and 3b) outline the various spending programs and tax credits included in the analysis.

**Table 3a: Breakdown of British Columbia's Low-Carbon Economy Spending 2014–2025 ($)**

| Name of the inititiative | Estimated spending from 2014–15 to 2024–25 |
|---|---|
| Climate Action | 196,999,000 |
| CleanBC Program for Industry and BC Output Based Pricing System | 363,101,000 |
| First Nations Clean Energy Business Fund Special Account | 70,186,000 |
| Innovative Clean Energy Fund Special Account | 49,845,000 |
| Electricity and alternative energy | 344,325,000 |
| Energy decarbonization | 74,970,000 |
| Environmental protection | 173,737,000 |
| **Total low-carbon economy spending** | **1,273,163,000** |

Sources: British Columbia, Ministry of Finance, 2014b-2024b.

**Table 3b: Breakdown of British Columbia's Low-Carbon Economy Tax Credits ($)**

| Name of the tax credit | Estimated cost from 2014–15 to 2024–25 |
|---|---|
| Climate action tax credit | 5,776,000,000 |
| Clean buildings tax credit | 43,000,000 |
| Exemption for alternative fuels | 26,000,000 |
| Used zero-emission vehicles | 98,000,000 |
| Heat pumps | 23,000,000 |
| **Total low-carbon economy tax credits** | **5,966,000,000** |

Sources: British Columbia, 2024

From 2014–15 to 2024–25, spending totalled an estimated $1.3 billion.[15] Over half (55.6 percent) of the funding was allocated toward two initiatives: (1) electricity and alternative energy, and (2) the CleanBC Program for Industry and Output-Based Priced System. Among the various tax credits, most of the foregone revenue originates from the climate-action tax credit—created to help offset the impact of carbon taxes for low- and moderate-income households, which accounted for $5.8 billion, or 96.8 percent, of the total $6 billion. Spending and tax credits on low-carbon economy initiatives are estimated to have cost the province a total of $7.2 billion, in nominal terms, from 2014–15 to 2024–25.

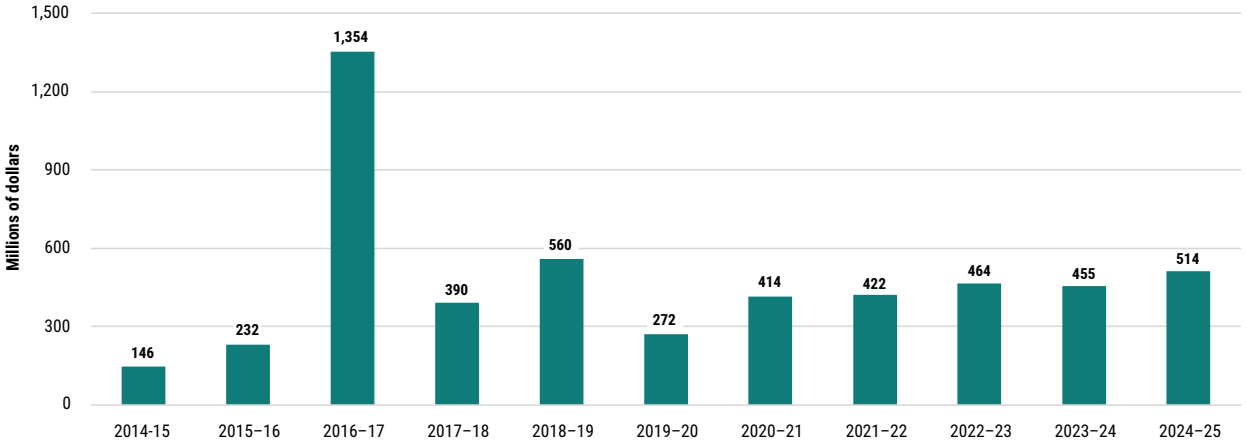
## Alberta

In Alberta, low-carbon economy policy initiatives are focused on coal phase-out agreements, carbon capture and storage, water infrastructure, and renewable electricity. Unlike neighbouring British Columbia, all of Alberta's spending is direct spending, rather than tax credits and related tax expenditures. Figure 4 illustrates the change in the cost of low-carbon economy spending in Alberta between 2014–15 and 2024–25. Spending began at a relatively small amount, at $145.8 million, in 2014, and well over half the amount was dedicated to Alberta's water infrastructure. The cost of green initiatives increased moderately the following year, before spiking considerably in 2016 when the new government implemented its climate leadership plan (Alberta, 2019). Spending reached nearly $1.4 billion that year, which was the peak point of the period analyzed. It fell sharply the following year, before returning to a general trend of increases in most years afterward. In

15 Had public transit and climate adaptation programs been included in the analysis, green spending would be approximately $6 billion higher over this period (British Columbia, 2024).

2024–25, spending on low-carbon economy initiatives cost taxpayers in Alberta a total of $513.5 million. On a nominal basis, low carbon initiatives grew by $367.7 million, or 252.1 percent, between 2014–15 and 2024–25. There was a 175.6 percent increase in spending, after accounting for the effects of inflation.

**Figure 4: Annual Spending on Low-Carbon Economy Initiatives in Alberta (Nominal $ Millions)**




Sources: Alberta, 2025a; Alberta, 2025b.

Table 4 displays the various green initiatives the Alberta government spent money on during this period. From 2014–15 to 2024–25, water and wastewater infrastructure accounted for $2.1 billion, or 40.9 percent, of total green spending. The majority ($3.1 billion, or 59.1 percent of the total) was allocated to climate initiatives such as coal phase-out agreements and transition programs for coal workers, renewable electricity programs, and carbon capture and storage. In total, the Alberta government is estimated to have spent $5.2 billion on low-carbon economy initiatives.[16]

16 Including public transit spending would raise total green spending by an estimated $2.8 billion from 2014 to 2024 (Alberta, 2025a).

**Table 4: Breakdown of Alberta's Low-Carbon Economy Spending, 2014–2025 ($)**

| Name of the initiative | Estimated spending from 2014–15 to 2024–25 |
|---|---|
| **Climate initiatives** | |
| Renewable electricity program | 106,615,000 |
| Coal phase-out agreements | 711,449,000 |
| Carbon capture and storage | 806,589,000 |
| Climate leadership initiatives | 44,824,000 |
| Climate change innovation and technology | 60,845,000 |
| Renewables | 70,352,000 |
| Energy efficiency | 115,040,000 |
| Climate Leadership Plan | 1,118,787,000 |
| Coal Workforce Transition Program | 53,742,000 |
| **Municipal water infrastructure** | |
| Municipal water wastewater program | 461,676,000 |
| Water for Life | 521,727,000 |
| First Nations Water Tie-In Program | 60,089,000 |
| Lethbridge waterline expansion | 7,560,000 |
| Capital region wastewater treatment | 40,000,000 |
| Water management infrastructure | 4252,116,000 |
| Springbank off-stream reservoir | 793,079,000 |
| **Total low-carbon economy spending** | **5,224,490,000** |

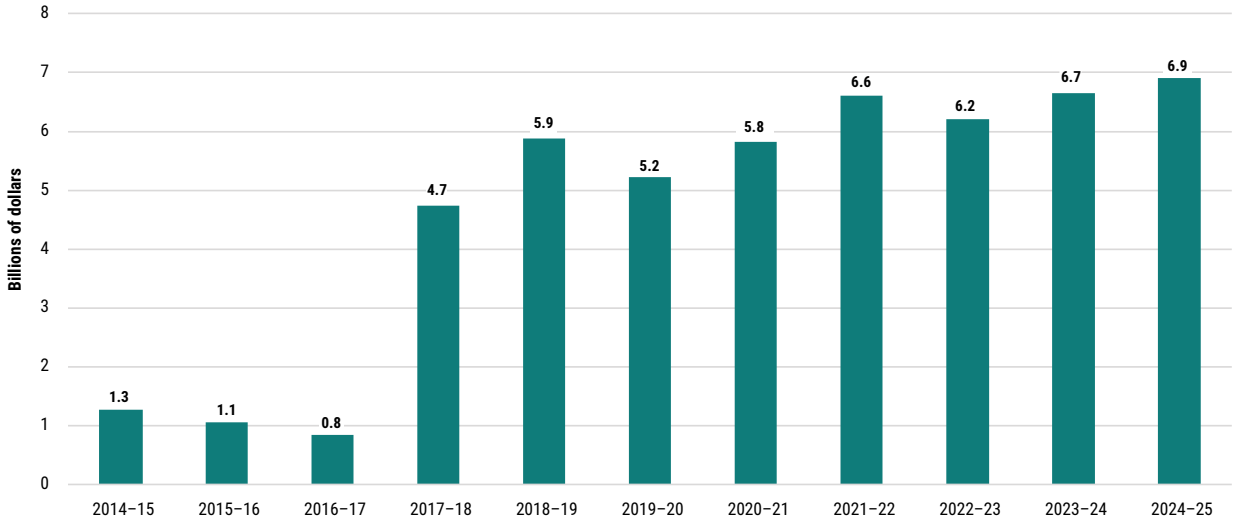
Sources: Alberta, 2025a; Alberta 2025b.

## Ontario

Ontario's fiscal plan for non-emitting energy has been expansive. Provincial spending has been designated for a wide array of programs and investments such as non-emitting electricity, water treatment, and energy efficiency. Figure 5 illustrates the increase in the dollar value of Ontario's decarbonization initiatives between 2014–15 and 2024–25. Low-carbon economy spending began at nearly $1.3 billion in 2014, the vast majority allocated to electricity price-mitigation programs, which primarily focused on relief to residential,

farm and business consumers, as well as those supporting consumers in rural or remote areas or in First Nations communities. The amount of decarbonization spending subsequently declined over the following two years. There was a significant jump in spending during 2017–18, primarily due to substantial expenses related to electricity price mitigation and the greenhouse gas reduction account. Spending generally continued to increase in the ensuing years, before reaching a peak of $6.9 billion in 2024. Annual spending on low-carbon economy initiatives in Ontario increased nominally by $5.6 billion, or 442.6 percent, between 2014 and 2024. After adjusting for inflation, this represents a 320.4 percent increase in green spending.

**Figure 5: Annual Spending on Low-Carbon Economy Initiatives in Ontario (Nominal $ billions)**




Sources: Ontario, 2024; Ontario, 2025b.

The various low-carbon spending programs introduced by the Ontario government are outlined in table 5. From 2014–15 to 2024–25, electricity price mitigation programs accounted for $44.4 billion, or 86.8 percent, of total direct low-carbon spending. Expenditures on water management amounted to 5.4 percent of spending, and the remaining 7.8 percent was allocated to other climate change initiatives (i.e., green infrastructure, greenhouse-gas reduction account, etc.). Total direct spending on low-carbon economy initiatives over this period is estimated to be $51.2 billion.[17]

17 Estimates from various Ontario budgets suggest public transit spending totalled $70.2 billion from 2014–15 to 2024–25 (Ontario, 2025a).

**Table 5: Breakdown of Ontario's Low-Carbon Economy Spending, 2014–2025 ($)**

| Name of the initiative | Estimated spending from 2014-15 to 2024-25 |
|---|---|
| **Climate Initiatives** | |
| Climate change and resiliency | 83,198,692 |
| Future Clean Electricity Fund | 145,600,000 |
| Green infrastructure | 170,493,403 |
| Wataynikaneyap Power | 262,600,000 |
| Green Ontario Fund | 304,155,739 |
| Green commercial vehicle program | 1,653,960 |
| Drive Clean Emission Testing | 79,505,192 |
| Wind-down of Renewable Energy Contracts | 106,679,720 |
| Greenhouse gas reduction account program/cap and trade wind down account | 2,492,651,967 |
| Green energy initiatives | 222,966,893 |
| Green Investment Fund | 25,000,000 |
| Climate Action Incentive Fund | 40,796,421 |
| High-rise apartment green investment program | 82,000,000 |
| **Water Management** | |
| Ontario Clean Water Agency | 2,284,124,219 |
| Walkerton Clean Water Centre | 126,994,900 |
| Wastewater monitoring and public reporting | 42,109,900 |
| Improving municipal wastewater and stormwater management | 42,200,000 |
| Clean water and wastewater fund- provincial contribution | 262,019,395 |
| **Electricity price mitigation programs** | |
| Ontario electricity support program | 1,054,334,077 |
| Distribution rate protection | 1,963,153,556 |
| Rural or remote protection program | 1,808,889,886 |
| Northern Ontario energy credit | 269,063,991 |
| Ontario electricity rebate | 13,585,624,784 |
| Comprehensive electricity plan/renewable cost shift | 10,239,683,424 |
| Fair Hydro Trust financing costs | 191,078,298 |
| On-reserve First Nations delivery credit | 169,193,475 |
| Electricity rate mitigation | 5,145,724,151 |
| Fair Hydro Plan | 1,639,000,000 |
| Ontario clean energy benefit | 1,958,760,661 |
| Electricity cost-relief programs | 6,401,000,000 |
| **Total low-carbon economy spending** | **51,200,256,704** |

Sources: Ontario, 2024; 2025b.

In an effort to transition away from fossil fuels, the province phased out its coal-fired electricity power plants between 2008 and 2016 and launched the *Green Energy Act*, which included providing long-term contracts to renewable energy generators at fixed prices above market rates (Green, 2025; Aliakbari et al., 2018). The result was a significant increase in residential and industrial electricity prices that placed a substantial financial burden on consumers and businesses (Aliakbari et al., 2018). The Doug Ford government scrapped the *Green Energy Act* in 2018 and subsequently expanded electricity-price mitigation programs, providing taxpayer-funded subsidies to reduce the electricity rates paid by Ontarians (Ontario, 2018). Given this consideration, and the uncertainty over which electricity price-mitigation mechanisms are directly related to repealing the *Green Energy Act* and associated contracts, the authors have included all electricity price mitigation programs in the analysis as spending on low-carbon economy initiatives.

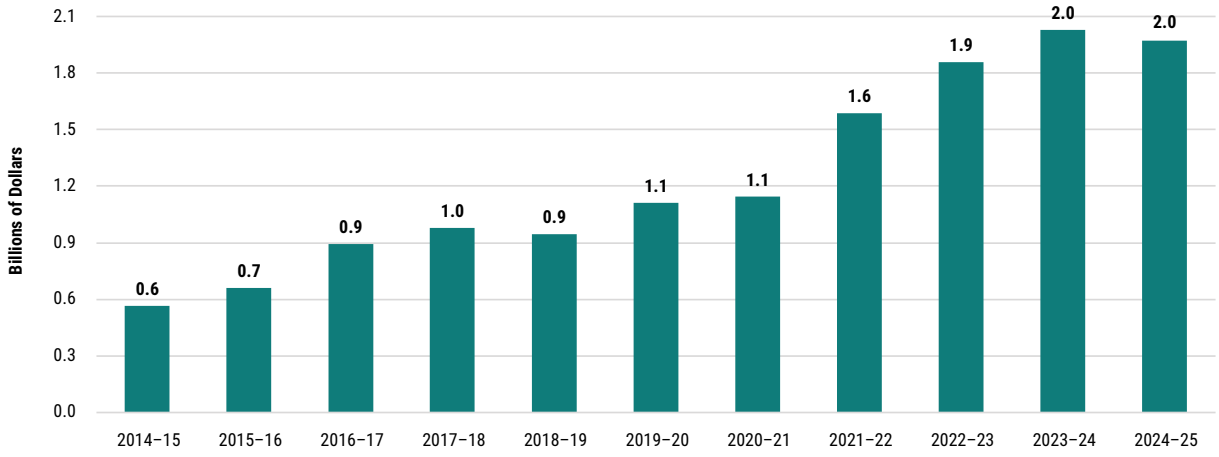
## Quebec

Direct spending—in grants, contributions, and funds—on decarbonization programs in Quebec has also been significant. The province has allocated funding for initiatives related to electrification, climate change, energy efficiency, electric vehicle rebates, water management, and alternative energy. Figure 6 shows the evolution of the dollar value of Quebec's low-carbon spending from 2014–15 to 2024–25. At the beginning of this period, direct spending totalled $566.1 million on the Green Fund and electric vehicle rebates.[18] Direct spending on low-carbon economy initiatives gradually increased over the subsequent six years, before jumping considerably in 2021–22 due to a substantial increase in the Electrification and Climate Change Fund. Spending continued to increase and peaked at over $2 billion in 2023–24, before declining slightly to just under $2 billion in 2024–25. In nominal terms, low-carbon economy spending in Quebec increased by $1.4 billion, or 248.2 percent, between 2014 and 2024. Adjusted for inflation, this translates to a 173.4 percent increase.

Table 6 summarizes the various low-carbon economy initiatives implemented by the Quebec government. In total, the province is estimated to have spent $13.7 billion between

18 The Quebec government does not provide an annual breakdown of Roulez Vert, which is the electric-vehicle rebate program. It does, however, state that it has provided 376,000 rebates at a cost of roughly $2.3 billion between 2012–13 and 2024–25 (Quebec, 2025). Since there is no publicly available annual breakdown, the authors assume expenses to be consistent at the annual average of $171.1 million per year.

**Figure 6: Annual Low-Carbon Economy Spending in Quebec, 2014–2025 (Nominal $Billions)**




Sources: Quebec Department of Finance, 2014a–2024a; 2025.

**Table 6: Breakdown of Quebec's Low-Carbon Economy Spending, 2014–2025**

| Name of the initiative | Estimated Spending from 2014–15 to 2024–25 |
|---|---|
| Electrification and Climate Change Fund | 6,702,248,000 |
| Green Fund | 4,121,915,700 |
| Energy Transition, Innovation, and Efficiency Fund – Environment | 518,156,200 |
| Energy Transition, Innovation, and Efficiency Fund – Energy | 288,089,800 |
| Support for development of green industry sectors | 49,540,000 |
| Focusing on green hydrogen and bioenergy | 55,300,000 |
| Programs aimed at mitigating the impact of climate change and flooding | 125,079,100 |
| Clean Water and Wastewater Fund | 4,283,100 |
| Roulez Vert (EV Rebates) | 1,881,818,182 |
| **Total low-carbon economy spending** | **13,746,430,082** |

Note: Spending on Roulez Vert program is estimated based on annual average spending over 12 years, while excluding 2012–13 and 2013–14 expenditures.

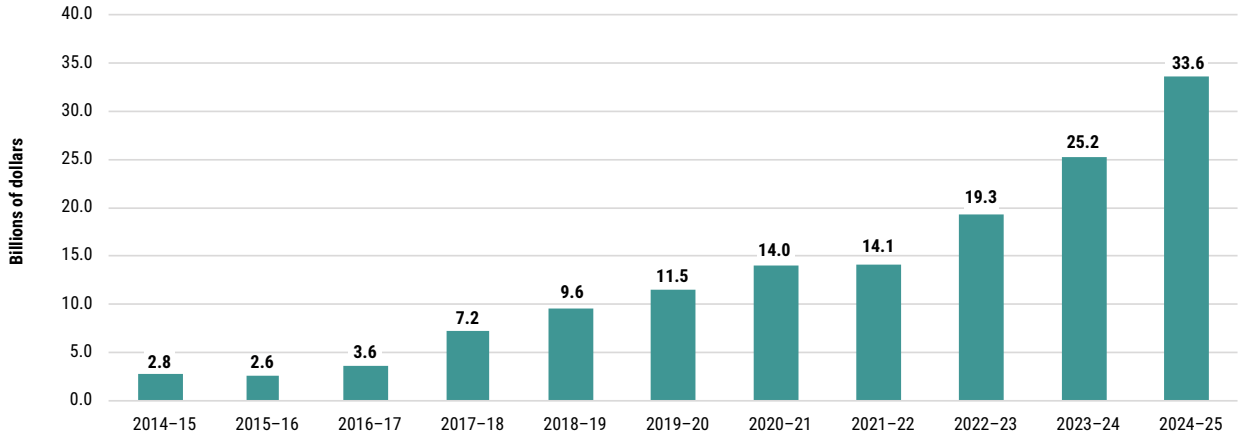
Sources: Quebec Department of Finance, 2014a–2024a; 2025.

2014–15 and 2024–25.[19] The Electrification and Climate Change Fund and the Green Fund accounted for $10.8 billion, or 78.7 percent, of total green spending. Electric vehicle rebates amounted to $1.9 billion, or 13.7 percent, of green spending. The remainder was allocated to initiatives such as energy efficiency, climate change mitigation, water management, and alternative energy.

## Federal and provincial summary

As shown in figure 7, the combined cost of spending and tax credits supporting a low-carbon economy by the federal and the four provincial governments has risen significantly over time. Specifically, it rose from $2.8 billion in 2014–15 to $33.6 billion in 2024–25, representing a 12-fold increase. In total, over the period from 2014–15 to 2024–25, the cost of low-carbon-economy initiatives by the federal government and the four provincial governments reached $143.6 billion, in nominal terms. When adjusted for inflation, total spending and tax credits amount to $158 billion, in 2024 dollars.

**Figure 7. Annual Government Spending and Tax Credits on Low-Carbon Economy Initiatives by the Federal Government and Four Selected Provinces (Nominal $ Billions)**




Source: Figures 1 and 2.

To provide context on how significant the spending and tax credits have been, consider that Canada's environmental and clean technology (ECT) products sector produced $80.82 billion in value-added output in 2023 (both goods and services), which is roughly 3.6% of Canada's all-industry GDP in 2023 (Statistics Canada, 2024b; Statistics Canada, 2025a;

19 According to the Quebec government's annual infrastructure plans, Transport Collectif (public transit) has cost the provincial treasury $11.2 billion from 2014–15 to 2024–25 (Quebec, 2014b–2024b).

Statistics Canada, 2025b). In 2023, the cost of government measures to support this sector totalled $25.2 billion among the federal government and the four provincial governments. This means that government support through spending and tax expenditures in 2023 equalled nearly one-third of the sector's contribution to GDP.

## Conclusion

Spending and tax credits provided by the federal government and the four largest provinces (Quebec, Ontario, Alberta, and British Columbia) on low-carbon economy initiatives have skyrocketed in recent years. Federal support has risen from just $0.6 billion in 2014–2015 to $23 billion in 2024–25, representing more than a 38-fold increase. Total federal funding initiatives over the past decade amount to $66.2 billion, in nominal terms, and $70.5 billion in 2024 dollars when adjusted for inflation.

The cost of spending and tax initiatives supporting a low-carbon economy has also surged in these—the four most populous provinces of Canada—from $2.2 billion in 2014–15 to $10.6 billion in 2024–25, representing nearly a five-fold increase.

It is important to note that the estimates above are based on conservative assumptions and do not cover every program area or government-controlled expenditure that touches on the "green economy" and/or reducing emissions. For example, in some provinces Crown corporations play a significant role in delivering programs and providing services that are motivated in part by policymakers' desire to encourage the growth of the green economy.

On aggregate, the cost of spending and tax credits supporting a low-carbon economy among the federal government and the four provinces, is estimated to have totalled $143.6 billion between 2014–15 and 2024–25, in nominal terms. When adjusted for inflation, total spending and tax credits amount to $158 billion, in 2024 dollars. At a time when governments in Canada are under mounting fiscal pressure, it is time to take stock of the rapidly escalating fiscal costs linked to federal and provincial programs and policies aimed at lowering GHG emissions and accelerating the development of "green" industries and low-/non-carbon technologies.

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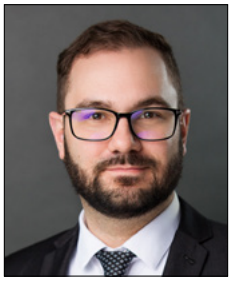

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*Notre mission consiste à améliorer la qualité de vie des Canadiens et des générations à venir en étudiant, en mesurant et en diffusant les effets des politiques gouvernementales, de l'entrepreneuriat et des choix sur leur bien-être.*

### Peer review—validating the accuracy of our research

The Fraser Institute maintains a rigorous peer review process for its research. New research, major research projects, and substantively modified research conducted by the Fraser Institute are reviewed by experts with a recognized expertise in the topic area being addressed. Whenever possible, external review is a blind process. Updates to previously reviewed research or new editions of previously reviewed research are not reviewed unless the update includes substantive or material changes in the methodology.

The review process is overseen by the directors of the Institute's research departments who are responsible for ensuring all research published by the Institute passes through the appropriate peer review. If a dispute about the recommendations of the reviewers should arise during the Institute's peer review process, the Institute has an Editorial Advisory Board, a panel of scholars from Canada, the United States, and Europe to whom it can turn for help in resolving the dispute.

# Editorial Advisory Board