State of the Green Economy 2
Sizing Canada's Clean Economy

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Sizing Canada's Clean Economy

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FRASER INSTITUTE 50 YEARS

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Terms and Abbreviations

Terms and definitions below follow StatCan for the purpose of describing and analysing Canada's clean economy.

Clean Tech Goods
Goods falling under the StatCan definition for the purpose of estimating their dollar value in the economy (StatCan definitions and categories appear in Section I).

Clean Tech Services
Services falling under the StatCan definition for the purpose of estimating their dollar value in the economy (StatCan definitions and categories appear in Section I).

E&CT
Environmental and Clean Technology abbreviation.

E&CT Goods
Refers to the goods share of the ECTPEA, or simply to environmental and clean tech goods, to the exclusion of services.

E&CT Products
The overarching category of data produced by StatCan, encompasses both goods and services.

E&CT Services
refers to the services share of the ECTPEA, or simply to environmental and clean tech services, to the exclusion of goods.

ECTPEA
Environmental and Clean Tech Products Economic Account, released annually by StatCan. This represents the principal data tables released December 20, 2024, on which the majority of our figures and analyses are based.

Environmental Goods
Goods falling under the StatCan definition for the purpose of estimating their dollar value in the economy (StatCan definitions and categories appear in Section I).

Environmental Services
Services falling under the StatCan definition for the purpose of estimating their dollar value in the economy (StatCan definitions and categories appear in Section I).

GDP Contribution

Adjusted data tables released by StatCan showing the value-added value of output/contribution to Canada's gross domestic product (GDP).

Gross Output

Unadjusted data tables released by StatCan showing the gross or unadjusted value of output of environmental and clean tech goods and services.

StatCan

Statistics Canada, Canada's official statistics agency.

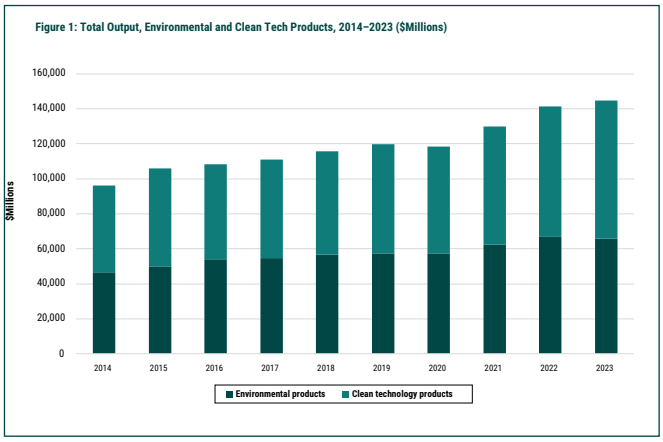
Survey of Environmental Goods and Services (SEGS)

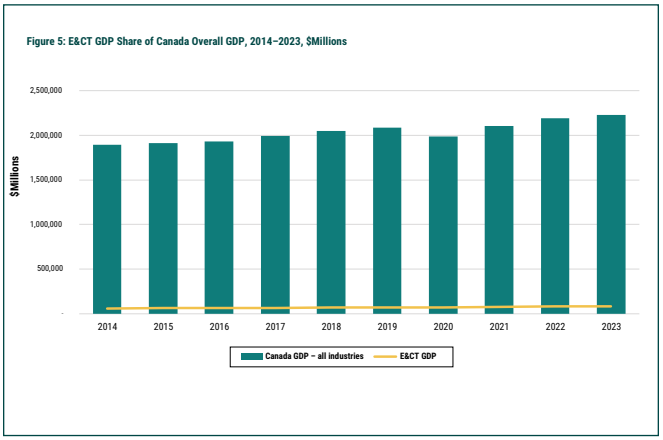
An analytical product collected and released annual by StatCan

Executive Summary

This study analyzes data in Statistics Canada's December 2024 release of its annual Environmental and Clean Technology Products Economic Account (ECTPEA). We assess what this study refers to as the Canadian "clean economy's" composition, growth, gross output, share of Gross Domestic Product (GDP), employment, and average compensation for the several specific industry segments making up the broader sector. We also explore the drivers of this growth, including supportive public policies and global demand for environmental and clean technology (E&CT) goods and services. Finally, we situate Canada's clean economy within the larger international setting and consider risks to its future growth and the appropriate mix of domestic public policies.

Canada's environmental and clean tech products sector produced $144.6 billion in output (both goods and services) in 2023. The trend over the decade is one of modest growth, similar to the total Canadian economy. Canada's various E&CT industries collectively have accounted for between 3.07% and 3.62% of all-industry GDP1 over the 10-year period from 2014–2023. While it has grown, the sector as a whole has not been expanding at a pace that meaningfully exceeds the growth of the overall Canadian economy, despite the significant policy attention and mounting public subsidies that have been directed to the clean economy by the federal and most provincial governments since the mid-2010s. Figures 1 and 5 shown below, and on pages 11 and 14 respectively, highlight this sluggish expansion.





1 As discussed later, this measure of GDP excludes the output of the public and non-profit sectors.

Canadians' support for investments in and the development and deployment of environmentally beneficial or less-impactful technologies has remained stable over the past decade. These priorities have led to government policy responses aimed at accelerating the shift to an economy that increasingly utilizes the products, technologies, and processes associated with the clean/green economy.

Despite adoption being uneven geographically and by technology, international data suggest that environmental goods and services and clean economy technologies, particularly renewable energy and its supporting technologies, are well on the path to mainstream deployment. This study argues that the time has come for Canadian public policy interventions, including heavy investments of scarce taxpayer dollars in the much-discussed clean energy transition, to be scaled back, as these energy sources and a number of their supporting technologies have become established and cost competitive.

The clean economy represents a respectable and relatively stable share of Canada's $3.3 trillion economy, generally in line with many peer jurisdictions. It is important to maintain a sense of perspective in thinking about the sector: the clean/green economy remains a small part of Canada's broader industrial mix, it is not a major source of export earnings, and it is not about to supplant the many other industries that underpin the country's prosperity and dominate its international exports.

Ultimately, Canada's economic well-being depends on being able to sell competitively priced goods and services into global markets, on boosting productivity across the economy, and on creating an attractive business environment that encourages long-term capital formation, entrepreneurial activity and the upskilling of the workforce. The scale and growth of clean economy industries are unlikely to be a principal factor determining Canada's economic success or the trajectory of average income growth in the next two decades. We argue that public policy attention and limited taxpayer resources should not be unduly focused on the clean/green economy, particularly at a time when Canada is facing severe challenges around stagnant productivity, many years of sluggish business investment, waning global competitiveness, large fiscal deficits, and the risks posed by America's sharp protectionist and mercantilist turn under President Donald Trump.

I. Introduction

Statistics Canada's release on December 20, 2024, of the 2023 Environmental and Clean Technology Products Economic Account (ECTPEA) offers an update on Canada's performance in the environmental and clean technology (E&CT) sector (see Statistics Canada [StatCan], 2024a). The ECTPEA provides data on the composition, gross output, share of Gross Domestic Product (GDP), employment, and average compensation for the industry segments making up the broader sector.

This study analyzes these data, together with related metrics including information on business revenues, exports and imports of E&CT products, to assist in understanding the size and growth of Canada's "clean economy" over time. We also explore the drivers of this growth, including supportive public policies and rising global demand for E&CT goods and services. Lastly, we situate Canada's clean economy within the larger international setting and consider risks to its future growth from uncertainties around the adoption of clean technologies, goods and services in the face of intense competition from other supplier jurisdictions and heightened global political and policy turbulence.

1. Definitions and methods: What is the clean economy, and how to count it?

Measuring the clean economy has been somewhat problematic for researchers and statistical agencies, including in Canada. However, adjustments made by Statistics Canada (StatCan) in data collection and categorization over the last few years have improved clarity and precision in defining and gathering information on the types of economic activities that can be attributed to E&CT products and services.

Governments wanting to highlight their environmental credentials and advocacy organizations focused on championing the clean economy can be tempted to use very broad definitions to demonstrate rapid progress in the sector's development and growth. Owing to the absence of a universally accepted definition of the clean economy, there has been room for debate on this issue. In practice, different studies and government reports have employed somewhat different definitions of the sector. This can give rise to questions about how to classify and count clean economic activity, such as the following:

- To what extent must the product, technology, or process be unique in fostering or contributing to an identifiable environmental benefit, in order for it to be included in the clean economy?

- Can economic activity within an established or traditional industry (e.g., retail or construction) exhibit clean economy characteristics, and if so, should it be included within the definition of the sector?
- Must the purpose of the economic activity be to improve environmental outcomes if it is to be counted as part of the clean economy?

2. International definitions and methods

Countries' definitions of what constitutes the clean/green economy vary. In the United States, a landmark albeit somewhat dated Brookings Institution study defined the clean economy this way:

> The clean economy is economic activity—measured in terms of establishments and the jobs associated with them—that produces goods and services with an environmental benefit or adds value to such products using skills or technologies that are uniquely applied to those products. (Muro, Rothwell, and Saha, 2011)

The US Bureau of Economic Analysis (BEA), in a 2023 report, defines the clean/green economy, or the environmental goods and services sector as "economic activities whose primary purpose is to reduce or eliminate pressures on the environment or to make efficient use of natural resources" (Wentland, 2023). The classifications are 1) environmental protection activities, and 2) environmental resource management activities in the account in the economy as currently measured (Wentland, 2023). The BEA estimated that the environmental goods and services sector comprised about 1.9% of American gross domestic output in 2019 ($725 billion), of which public sector expenditures (governments at all levels) accounted for 27% or $197 billion (Wentland, 2023).

By contrast, Eurostat—the European Union's statistical agency—defines the environmental goods and services sector (EGSS) more narrowly than the BEA, in that its chosen definition does not encompass the efficient use of natural resources. Instead, only the activities and products to preserve and safeguard them from depletion are included.

> Only goods and services produced for environmental purposes are included in the scope of the environmental goods and services sector. "Environmental purpose" means that a good or service helps either 1) preventing, reducing and eliminating pollution and any other degradation of the environment or 2) preserving and maintaining the stock of natural resources and hence safeguarding against depletion. (Eurostat, 2024)

The European Environment Agency's (EEA) most recent quantitative report on EU environmental goods and services (June 26, 2024) estimated the sector's contribution (in value added terms) at approximately 2.5% of Euro-wide output in 2021, or €315 billion, up from 2.1% of output in 2010 (EEA, 2024). Growth was largely attributed to increased production and related economic activity in the areas of renewable energy, energy efficiency, and waste management services.

The United Kingdom estimates the size of the clean economy by counting 17 economic activities that entail producing goods and services for environmental protection and resource management purposes. It defines the UK's Environmental Goods and Services Sector (EGSS) as follows:

> Although there is no commonly accepted definition of the "green economy," the EGSS framework, adopted under the SEEA [United Nations System of Environmental-Economic Accounts], provides a set definition and specification of activities that could make up the green economy. The EGSS includes areas of the economy engaged in producing goods and services for environmental protection purposes, as well as those engaged in conserving and maintaining natural resources.
>
> Excluded from the scope of EGSS are goods and services produced for purposes that, while beneficial to the environment, primarily satisfy technical, human and economic needs or that are requirements for health and safety. Goods and services related to minimising the impact of natural hazards and those related to the extraction, mobilisation and exploitation of natural resources are also excluded. (United Kingdom Office for National Statistics, 2024: 5)

The official definitions used in Europe and the UK are slightly more restrictive than those commonly adopted in Canada for determinixrng which types of production qualify for inclusion in the clean economy. Canada's official methodology is somewhat broader, mainly because it includes certain industrial activities and employment in environmental or clean technology-related roles within established sectors as part of the broader clean economy.

3. Statistics Canada's methodology

For rigour and to permit time series analysis, we follow StatCan's methodology used in generating its Environmental and Clean Technology Products Economic Account. StatCan's approach is consistent with standard national income accounting, which classifies industry

sectors based on the nature of their output. Using this approach, StatCan measures economic activities occurring within the various industry sectors that the agency deems to be part of Canada's clean economy.

StatCan's (2024a) definition, for the purpose of producing the ECTPEA, is as follows:

> Environmental and clean technology products are defined as any process, product or service that reduces environmental impacts through any of the following three strategies:
>
> - 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;
> - and the use of goods that have been adapted to be significantly less energy or resource intensive than the industry standard.

StatCan presents data on the clean economy in two general categories: environmental products and clean technology products.[2] Within each of these, the data are further broken down between goods and services-producing industry segments, yielding four sub-categories, which we use as the basis for the figures presented in this study.

To address the question of whether the environmental or clean technology attributes of established sectors (particularly extractive resource industries) may also be counted, we reference a separate StatCan report—the agency's annual *Survey of Environmental Goods and Services* (SEGS) (see StatCan, 2024b). *Clean Technologies and the Survey of Environmental Goods and Services: A Technical Reference Guide* (herein referred to as *Technical Reference Guide*) (StatCan, 2024c) for the SEGS sets out a working definition for what is covered:

Clean technologies are defined as follows:

- 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.

Tables in the *Technical Reference Guide* identify the specific activities within economic sectors that qualify under the above definition. Referencing the second part of the definition, for example, **Table 5: Sustainable Resource Activities – Minerals,** the category

2 The term "products," as used by StatCan, captures both goods and services.

Green mining and processing captures the following specific activities: Enhanced solvent extraction and Sustainable mineral processing; and the category Waste management captures the activity Recycling and reprocessing (StatCan, 2024c).

The detailed level of activity generated by the *Survey of Environmental Goods and Services* supports an expansive count of environmental and clean technology activities within the Canadian economy (see StatCan, 2024b). While we use the ECTPEA for the majority of our analysis in this study, we turn to data in the SEGS to underpin our assessment of clean economy revenues and domestic sales. The data generated by StatCan's SEGS is less comprehensive than the ECTPEA, partly because the data collection method is survey-based, and partly because the latter includes activities in the public and non-profit sectors.

This is relevant for our analysis of the clean economy's share of Canada's GDP: we use the broader ECTPEA for measuring the size of the clean economy, but turn to the GDP All Industry at Basic Prices table as the basis for determining Canadian GDP (see StatCan, 2024d). This compares all activity in the clean economy to industry-generated activity in the aggregate economy (i.e., excluding public and non-profit sector activity). As much as possible, we compare private sector activity in the environmental and clean technology sectors (using data in the ECTPEA) to overall private sector activity in the Canadian economy. This method gives a slight additional boost to the size and role of the clean economy (although the public- and non-profit sectors do not count for a significant share of activity), and it is used for the period we cover below, between 2014 and 2023. It should be noted that all data presented on output are in constant 2017 dollars.

A final methodological note: StatCan states that the ECTPEA tables for 2023 and 2022 are estimates and may be revised; and it advises that some province-level data within the ECTPEA may be of medium or low quality (footnoted in the source tables).

The ECTPEA data are released annually.[3] We follow the nomenclature used by StatCan, summarized by category (below). Environmental and Clean Tech Products—the over-

3 See StatCan (2024a) "Note to readers: The Environmental and Clean Technology Products Economic Account (ECTPEA) measures the economic contribution of environmental and clean technology products in terms of output, value added—defined as gross domestic product (GDP)—employment (number of jobs) and other economic variables. Estimates are directly comparable with national results for the Canadian economy. Estimates of GDP referred to in this release are measured at basic prices. Estimates for 2022 and 2023 are preliminary and will be revised when updated data become available, including the supply and use tables for those reference years."

all category generating the top-line figures in Section II below—are defined either as Environmental or Clean Technology output and categorized as Goods or Services. This yields four analytical categories:

Overall Category: Environmental and Clean Tech Products

Environmental

Goods

- Clean electricity (sub-grouped by renewable electricity, and nuclear)
- Biofuels and primary goods (the latter include minimally processed wood or minerals)
- Waste and scrap goods

Services

- Consists entirely of waste management and remediation services

Clean Tech

Goods

- Consists of manufactured goods and physical equipment, not further sub-grouped in the ECTPEA tables

Services

- Scientific, research and development services
- Support services
- Construction services

II. Scope of Canada's Clean Economy

In this section, we produce a dynamic picture of Canada's clean economy over 10 years, including the growth of gross output for environmental and clean tech goods and services, the sector's contribution to GDP, international trade, employment, and trends in average employee compensation.

A topline table (table 1) is presented below to summarize the major category data for 2014, 2019, and 2023, drawn directly from StatCan's ECTPEA output account, as presented in the original data tables. Sub-categories sum (upward) to each main category heading in bold, which in turn sum to the overall ECTPEA total (top line) of $144,602 million in gross output.

StatCan presents the ECTPEA data in two ways: gross output, on which figures 1 through 4 are based, and by value-added contribution to GDP (figure 5). It also produces data by industry sector, to estimate the role of E&CT output, employment, and compensation. Detailed methodology and data sources are discussed in each section.

For the figures below, we rely on the ECTPEA (except as specified and cited under each figure), and analyse the data variously by environmental vs clean tech products category, or by goods vs services—as signalled in each figure caption—to draw out relative performance over time of the various categories of environmental and clean tech products comprising Canada's clean economy.

Before we present figures assessing the country's clean economy in more detail, we draw some preliminary observations from the summary output data in table 1. First, output in the overall sector is weighted slightly more heavily to Clean Tech Goods and Services (54.6% of the 2023 total) than to Environmental Goods and Services (45.5% of the 2023 total). Second, in aggregate, output in the sector (the Environmental and Clean Tech Products line) grew by 50.2% in the 10 years from 2014, and 20.8% in the five years from 2019—slightly slower than in the previous five-year period (24.3%). Output rose 2.2% year-over-year from 2022 to 2023.

The bulk of the E&CT sector's output is drawn from pre-existing or traditional economic sectors. This includes Waste management and remediation services, Waste and scrap goods, and Construction services, together comprising 36% of the 2023 output total, and each experiencing double-digit growth over 10 years: 53.5% growth in Waste management and remediation services, 68% growth in Waste and scrap goods, and 31.9% in Construction services (table 1).

Table 1: Environmental and Clean Tech Products Economic Account—Categories and Summary Data

Category Levels	Terms	2014 Output ($ millions)	2019 Output ($ millions)	2023 Output ($ millions)	% of Total (2023)
Overall (ECTPEA)	Environmental & Clean Tech "Products"	96,263	119,669	144,602	100%
Category	Environmental Goods	36,277	42,120	49,707	34.4%
Consists of:	• Clean electricity (sub-grouped by renewable electricity, and nuclear)	31,870	36,614	41,174	28.5%
	• Biofuels and primary goods	3,164	3,952	6,466	4.5%
	• Waste and scrap goods	1,243	1,555	2,093	1.4%
Category	Environmental Services	10,440	15,317	16,029	11.1%
Consists of:	• Waste management and remediation services	10,440	15,317	16,029	11.1%
Category	Clean Tech Goods	6,789	10,851	13,280	9.2%
Consists of:	• Manufactured goods and physical equipment	6,789	10,851	13,280	9.2%
Category	Clean Tech Services	42,756	51,381	65,586	45.4%
Consists of:	• Scientific, research and development services	7,118	8,343	9,440	6.5%
	• Support services	9,783	15,331	22,053	15.3%
	• Construction services	25,855	27,708	34,093	23.6%

Source: StatCan, 2024e.

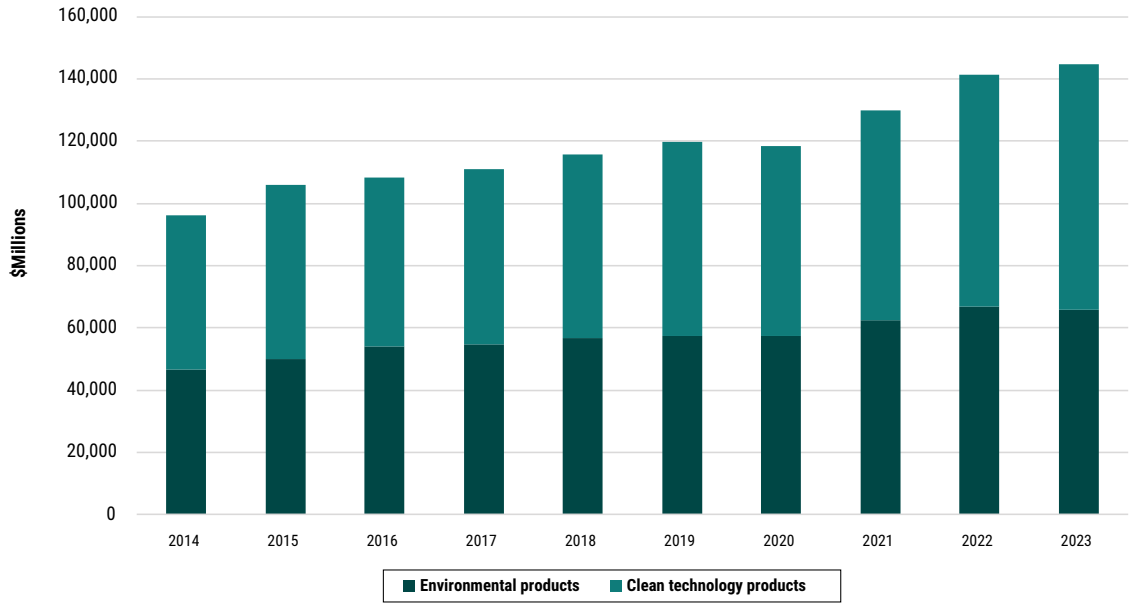
Clean economy sectors that might be considered newer and/or driven by more recent global trends in the demand for environmental goods and services (see discussion in Section III), include Renewable electricity (less applicable in regions heavily reliant on hydroelectricity for baseload power), Biofuels and primary goods, and Scientific, research and development services. Together, they comprise 33% of the 2023 output total and have also posted double-digit growth over 10 years, with 36.8% growth in Renewable electricity, 104.4% growth in Biofuels and primary goods, and 32.6% growth in Scientific, research and development services. Renewable electricity alone (the second largest individual sub-sector behind Construction services)—given its significant role in electricity generation in four provinces—accounts for 22.4% of the E&CT sector in 2023.

Thus, in thinking about the clean economy in the Canadian context, it is important to recognize that a substantial share of the GDP attributed to the broad sector reflects activity in more traditional industries, which have long been part of the private sector economy. The same is true when we consider the distribution of employment across the clean economy, as discussed later in the study.

1. Environmental and clean tech products output

In this section, we present and analyze the various facets and sub-sectors of Canada's clean economy.

Figure 1: Canada's Environmental and Clean Tech Products Output, 2014–2023 ($Millions)



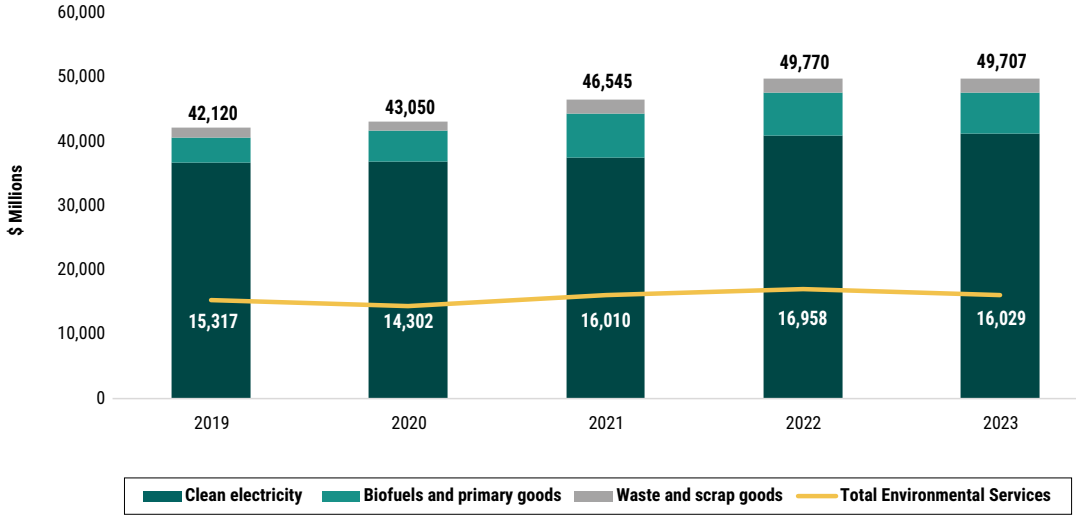
Source: StatCan, 2024e.

Canada's overall E&CT sector produced $144.6 billion in output (both goods and services) in 2023. This marked a 2.2% increase from 2022 and was 20.8% more than five years earlier (figure 1). The trend over the decade is generally one of positive growth (similar to the total Canadian economy). Despite the economic contraction in 2020, the two subsequent years more than made up for the pandemic-induced losses, posting growth rates of 9% each year before levelling off.

We break down the ECTPEA into its Environmental (figure 2) and Clean Tech (figure 3) components, presenting data over five years from 2019–2023. As set out in table 1, StatCan considers products to encompass both goods and services. In figure 2, Environmental Goods (represented by bars) accounted for $49.7 billion in output in 2023, a marginal drop of 0.1% from 2022 but up 18.0% from 2019 and 37% from 2014. Environmental Services (represented by the line) accounted for $16 billion in gross output in 2023, down 5.5% from 2022 but up 4.6% over the last five years and 53.5% higher than in 2014.

The sub-sectors making up Environmental Goods (see table 1) consist of Clean electricity, Biofuels and primary goods, and Waste and scrap goods. Renewable electricity

Figure 2: Environmental Goods and Services Output, 2019–2023 ($Millions)



Source: StatCan, 2024e.

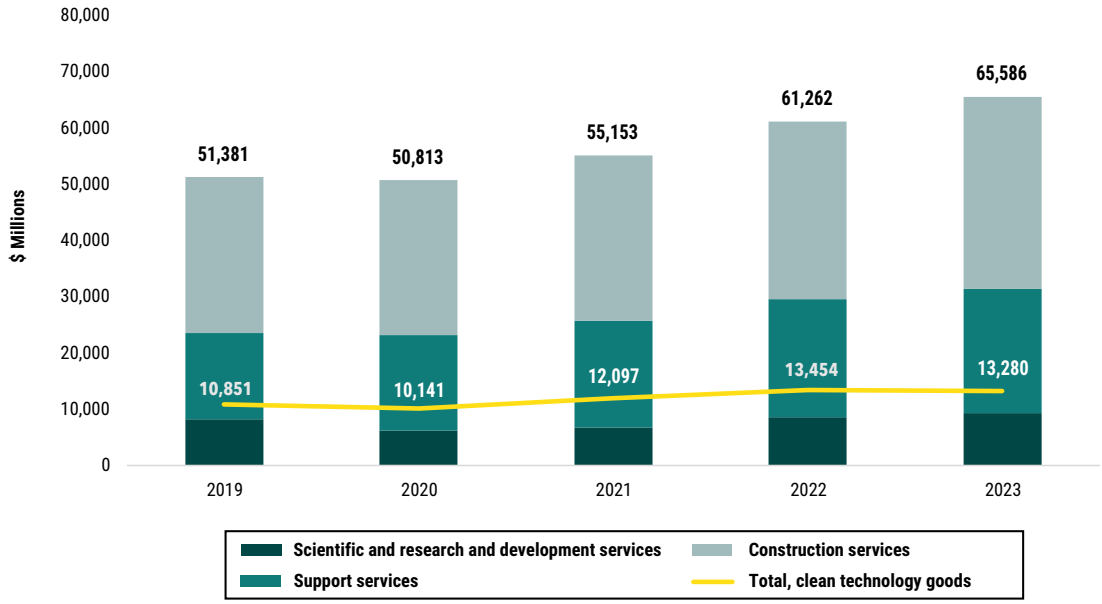
forms the largest share of the clean electricity account, with nuclear electricity comprising a smaller but growing portion. Renewable electricity sector output increased by 36.8% over the 10-year period; however, it declined by 0.8% between 2022 and 2023, due primarily to lower water levels available to produce hydroelectricity. Nuclear power has grown more slowly but in larger periodic increments, with its output increasing 6.6% over the 10 years from 2014, and by 5.9% between 2022 and 2023. Biofuels and primary goods output has doubled since 2014 but declined by 1.9% in 2023 from 2022.

In figure 3, Clean Tech Services (represented by bars) produced $65.6 billion in gross output in 2023, up 7.1% from 2022, 27.6% from 2019, and 53.4% from 2014. The largest sub-category of Clean Tech Services (see table 1) is Construction services, with $34.0 billion of output in 2023, followed by Support services at $22.0 billion and Scientific research and development services at $9.4 billion. Of these, the fastest growing over 2022–23 was Scientific, research and development services, at 8.6% in 2023 (and up 32.6% over the past decade). Construction services grew 7.9% in 2023 vs 2022 and by 31% in the decade from 2014.

Clean Tech Goods (represented by the line and consisting of manufactured goods and physical equipment) generated $13.2 billion in gross output in 2023, down 1.3% from 2022, but up 22.4% over five years and 95.6% more than in 2014.

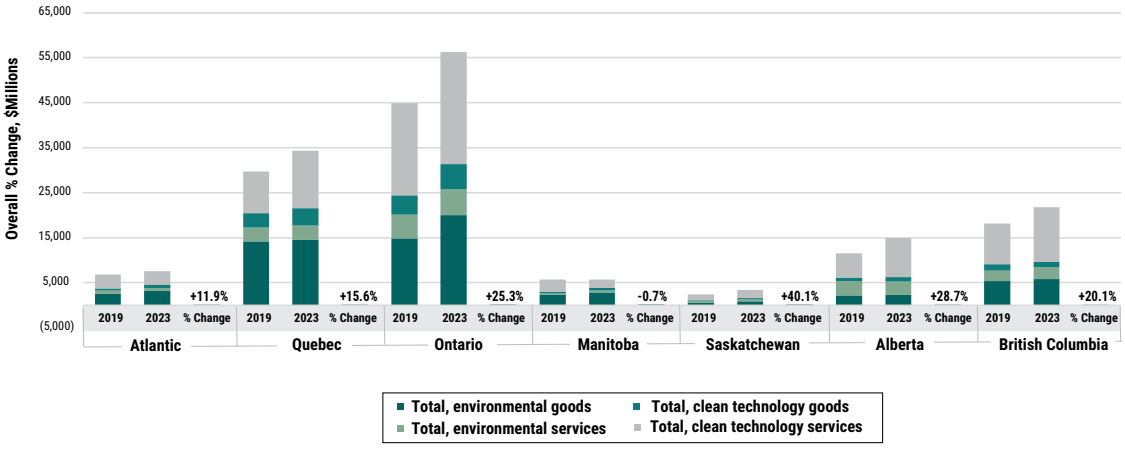
Measured by province (figure 4), E&CT sector gross output is largest in Ontario, at $56.2 billion in 2023, followed by Québec at $34.3 billion. British Columbia produced $21.8

Figure 3: Clean Technology Goods and Services Output, Canada, 2019–2023 ($Millions)



Source: StatCan, 2024e.

Figure 4: Environmental Goods and Services Output by Province 2019–2023 with Overall % Change



Source: StatCan, 2024e.

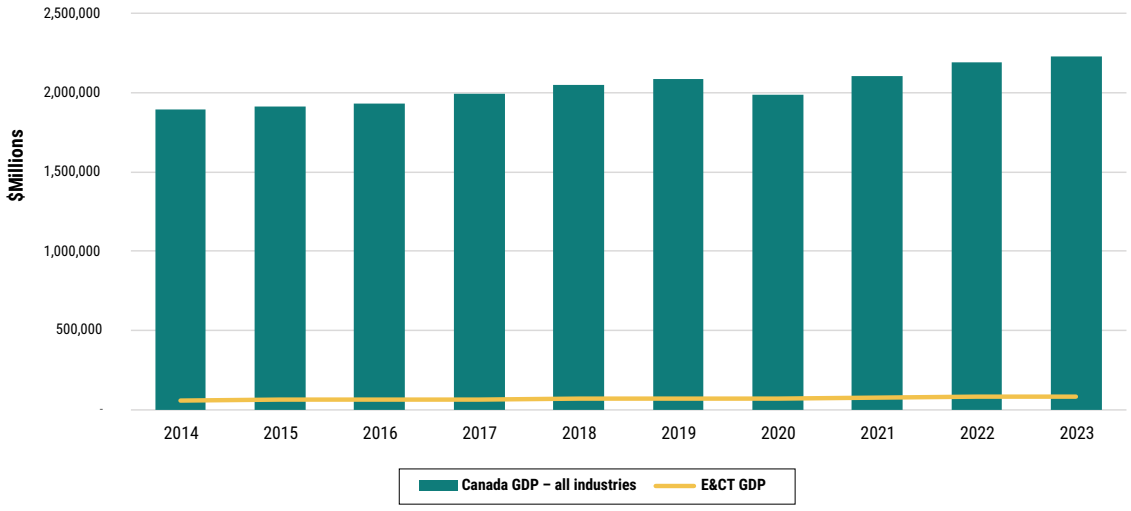
billion of the sector's gross national output in 2023, while Alberta's E&CT output reached $14.9 billion.[4] Growth over the past five years was strongest in Saskatchewan at 40.1%, albeit from a small base, fueled by Environmental Goods and Clean Tech Services. Of the large provinces, Ontario's five-year growth was 25.3%, driven mainly by goods. Alberta's five-year growth across the broad sector came principally from Clean Tech Services.

Notable growth bright spots in 2023 were a 38% increase in Québec's Clean Tech Services output, a 34% jump in British Columbia's Clean Tech Services output, a 33% gain in Manitoba's Clean Tech Goods output, and 23% growth in Environmental Goods output in the Atlantic region. Sizable declines in 2023 occurred in a few segments—for example, Manitoba's 31% decrease in Clean Tech Services output, BC's 13% drop in Clean Tech Goods output, and a 9% decline in Alberta's Environmental Services output.

2. Economic contribution: GDP, sales, and trade

In this part, we assess the contribution of E&CT sectors to Canada's overall GDP, and present a picture of domestic sales, as well as exports and imports. The data sources partly diverge from the ECTPEA (as explained in the methodology discussion in Section I), as indicated in the text below and the sources associated with each figure.

Figure 5: Environmental and Clean Tech GDP as Share of Canada All-Industry GDP



Sources: StatCan, 2024d, 2024f.

4 The provincial shares of overall clean economy GDP are roughly in line with the provincial shares of the Canadian population.

To analyze the E&CT sectors' share of Canada's GDP, we used the E&CT GDP data (value-added contribution as opposed to the gross output data presented in figures 1 through 4), indicated in the StatCan sources table for figure 5. We then compare it to Canada's all-industry GDP (not overall GDP, which also includes public sector and non-profit sector value-added contributions to GDP) over the past 10 years at basic prices (in constant 2017 dollars), in order to highlight the share of Canada's private sector economy occupied by E&CT sectors.

Measured by contribution to Canada's all-industry GDP measured at factor cost (figure 5), the various E&CT sectors collectively generated $80.27 billion of value-added in 2023 (in other words, $63.75 million less than—or 56% of—the $144.6 billion gross output total presented in table 1 above, once intermediate purchases are stripped out).

Over the past decade, Canada's E&CT sectors added together have accounted for between 3.07% and 3.62% of all-industry GDP. (The same E&CT sectors account for 3.0% when calculated as a share of Canada's total GDP, including the public and non-profit sectors.) The trend has broadly been one of growth. However, the sector as a whole has not been expanding at a pace that meaningfully exceeds the growth of the overall Canadian economy, despite the significant policy attention and mounting public subsidies that have been directed to the clean economy by the federal and most provincial governments since the mid-2010s (see Lester, 2024).

E&CT sector GDP in 2023 was little changed from 2022 (a 0.75% gain), but 17.4% more than in 2019 and up 38.7% over the decade from 2014. Of interest, E&CT sector value-added growth underperformed all-industry GDP growth over the most recent year for which there is official data, but it outpaced the growth of Canada's all-industry GDP over the past five years (6.7%), as well as over the decade from 2014 (17.6%).

To place this in context, we reiterate the observation made above, that just under 50% of the clean economy, as defined in the gross output tables in StatCan's ECTPEA, is made up of established sectors: construction services, waste management and remediation, waste and scrap goods, and a significant proportion of renewable electricity. Commentators and environmental advocacy organizations that promote the clean economy rarely mention the large portion of the sector's value-added that is attributable to more traditional industries that most people do not have in mind when pondering the overall clean sector.

As inferred from the topline E&CT data presented in table 1, when measured by Canada's industry classification codes (the North American Industry Classification

Table 2: GDP Contribution by E&CT Sectors vs All-Industry, 2023

	GDP – E&CT Account $ millions	GDP – All Industry $ millions	% Share of All-Industry GDP
Agriculture, forestry, fishing, and hunting	751	39,134	1.9%
Mining, quarrying, and oil and gas extraction	677	111,768	0.6%
Utilities	29,960	45,584	65.1%
Construction	16,433	165,762	9.9%
Manufacturing	6,533	213,743	3.1%
Wholesale, retail, and transportation and warehousing services	657	217,227	0.3%
Professional, scientific and technical services	7,191	163,386	4.4%
Administrative and support, waste management and remediation services	7,162	58,730	12.2%
Government services	11,113	N/A	N/A

Sources: StatCan, 2024d, 2024f.

System—NAICS),[5] established industries tend to account for larger shares of economic activity in E&CT sectors (table 2). Utilities is by far the highest-contributing E&CT sector to Canada's all-industry GDP, at 65% of overall value-added economic activity in the sector. This is followed by Administrative and support, waste management and remediation services at 12.2%, Construction with a nearly 10% share, and Professional, scientific and technical services at 4.4% of the overall sector.

Data for domestic sales is collected by StatCan (2024b) using *the Annual Survey of Environmental Goods and Services* (see figures 6 and 7). Data are presented for 2018–2022, the most recent period for which SEGS results were available at time of writing. Note that Goods (i.e., both Environmental and Clean Tech) and Services (both Environmental and Clean Tech) are each aggregated for presentation here.

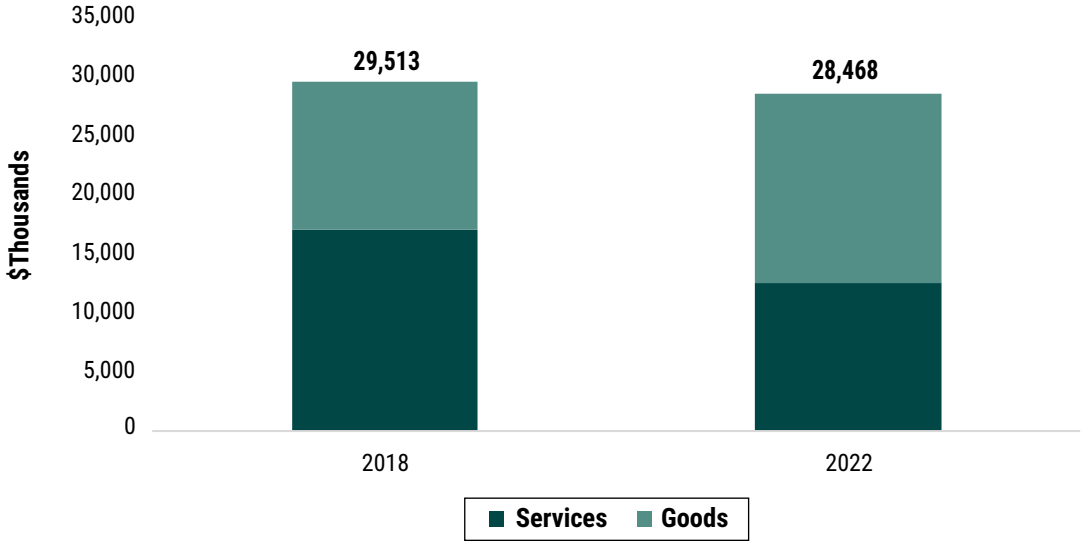
Domestic sales of E&CT goods and services (figure 6) amounted to $28.5 billion in 2022, down 3.5% from 2018. Domestic E&CT Services sales dropped by 26% over the same period, partially offset by a roughly 27% increase in sales of E&CT Goods.

When released, data for 2023 may show that domestic sales of E&CT services have recovered further from earlier pandemic-related slowdowns.

In terms of domestic sales by province (figure 7), Ontario accounted for the largest share in the E&CT sector at $12 billion in 2022, up 2.5% over five years. Québec sales

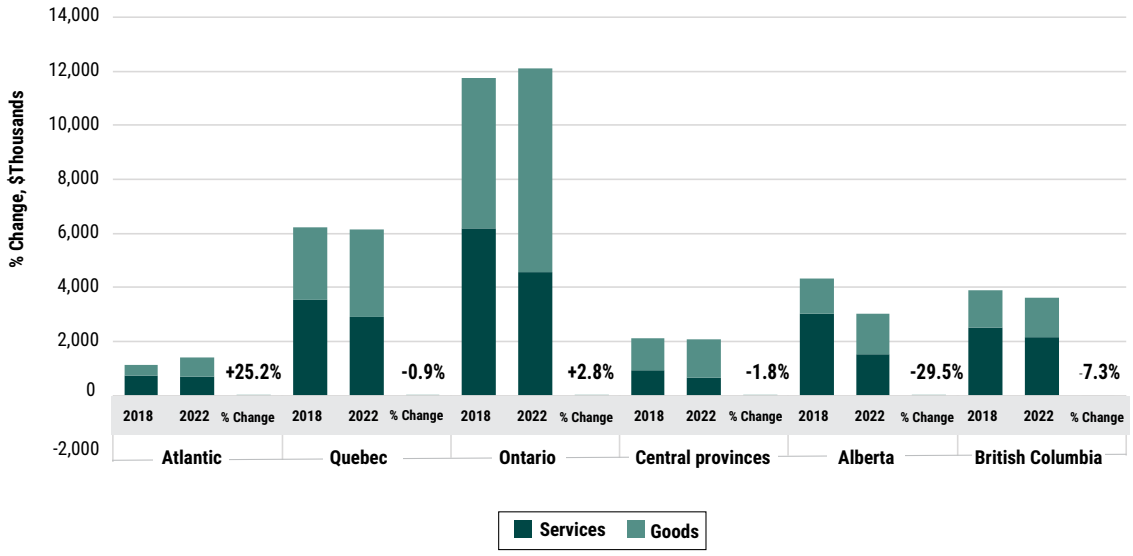
5 These are also presented in the ECTPEA, but using the NAICS method of classifying data by industry.

Figure 6: Domestic Sales of E&CT Goods & Services, 2018–2022 ($Thousands)



Source: StatCan, 2024g.

Figure 7: Domestic Sales of E&CT Goods and Services by Province, 2018–2022, % Change ($Thousands)

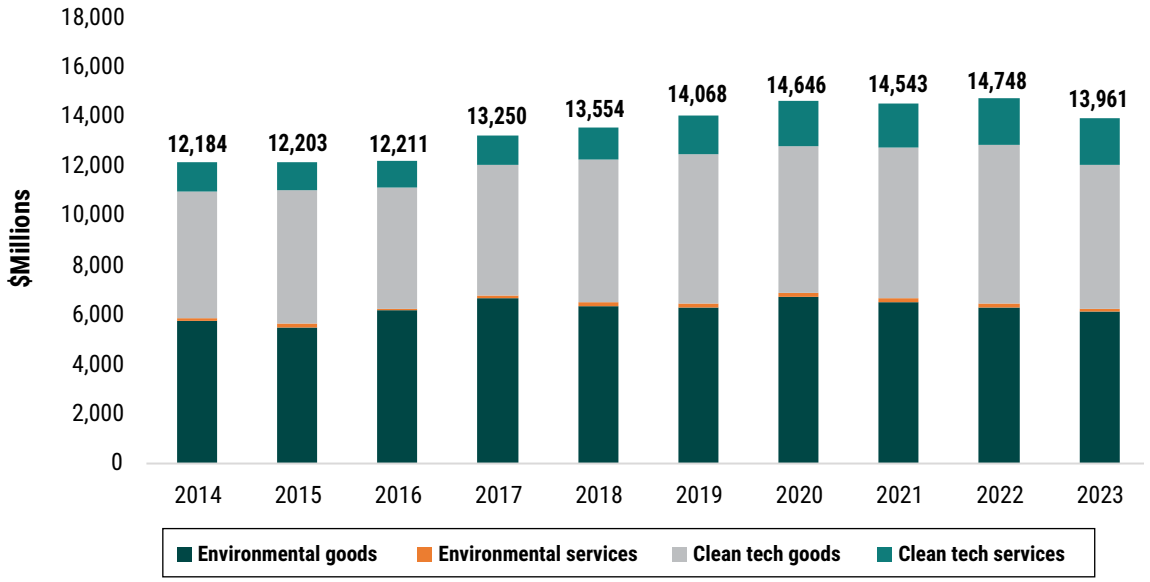


Source: StatCan, 2024g.

reached $6.1 billion in the same year, down approximately 1% from 2018. Domestic sales fell by almost 30% in Alberta and also dropped in British Columbia (by 7%). Declines in sales of E&CT services in 2022 (most recent annual data) are likely pandemic related. StatCan cautions that some sales data by province are not of high quality, so we do not analyze them further here.

To develop a picture of Canada's trade in environmental and clean tech goods and services, we refer to the ECTPEA tables (StatCan, 2024h; see figures 8 through 10) covering exports and imports over a 10-year period.

Figure 8: Exports of Environmental and Clean Tech Goods and Services, All Countries, 2014–2023 ($Millions)



Source: StatCan, 2024h.

Canada's overall E&CT sector reported $13.9 billion in export sales in 2023 (figure 8). The net decline in exports from 2022 to 2023 was largely due to a 12% drop in clean electricity exports (an Environmental Good), along with a 10% decrease in Clean Technology export sales. StatCan attributes the decline in exports in the clean electricity part of the environmental goods account to hot and dry weather in 2023, leading to lower production and diminished export sales.

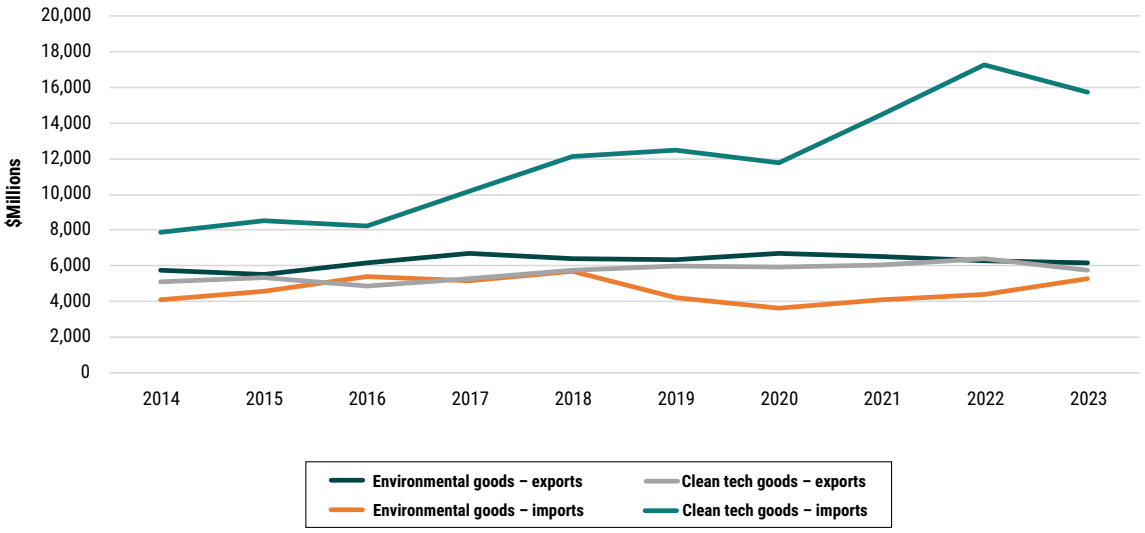
Despite pandemic-related disruptions in various sectors, Canada's E&CT exports were at their highest in 2020 and 2022, led by goods (clean electricity, waste and scrap, and clean tech goods) over services.

According to Global Affairs Canada, Small and Medium Size Enterprises (SMEs) in the clean tech sector exhibit an above-average level of engagement with international markets, having a higher proportion of export sales (25%) than SMEs in the general economy (12%) in 2021.

Canadian expertise in environmental services, particularly consulting services provided to natural resources sectors, could underpin stronger export performance to countries with sizable agricultural or extractive industries, for example agri-tech, fisheries, critical minerals, and energy.

In the next two figures, generated by StatCan's December 2024 ECTPEA release (see StatCan, 2024h), we show exports and imports specifically of Goods (figure 9) and Services (figure 10) in both the Environmental and Clean Tech categories.

Figure 9: Exports and Imports of Environmental Goods and Clean Tech Goods, 2014–2023 ($Millions)

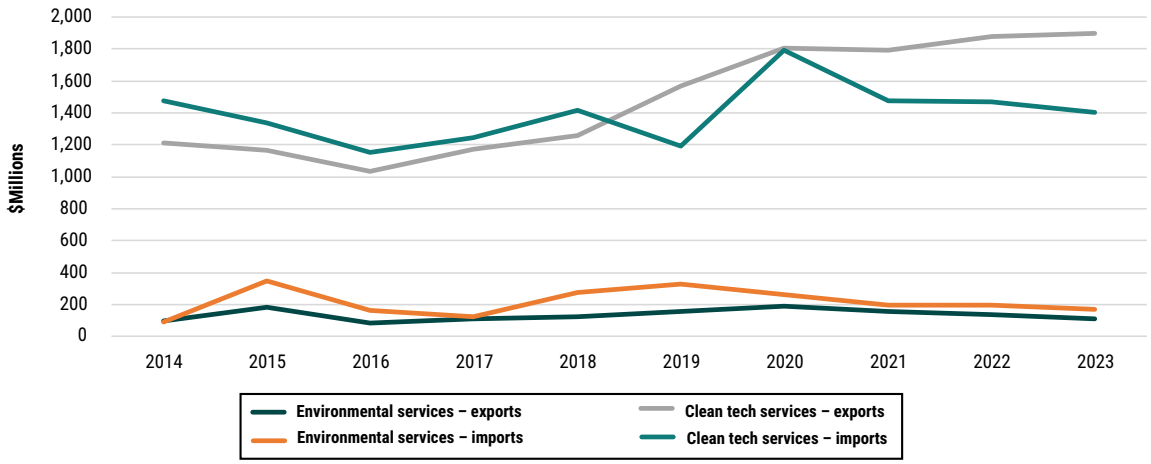


Source: StatCan, 2024h.

Analyzing international trade in Canada's clean economy goods (figure 9), Environmental Goods exports slightly exceeded imports for most of the past decade. However, Canada imported significantly more Clean Technology Goods than it exported throughout the same period.

Analyzing international trade in Canada's clean economy services (figure 10), Clean Tech Services exports have exceeded imports for the past five years, before which imports exceeded exports. Environmental services imports consist solely of waste management

Figure 10: Exports and Imports of Environmental Services and Clean Tech Services, 2014–2023 ($Millions)



Source: StatCan, 2024h.

and remediation services—which are not internationally traded in significant amounts. Imports of Clean Tech Services track slightly higher than exports over the decade.

Note that Goods are shown separately from Services for clarity of the data: the dollar value of trade in goods is significantly higher than that in services. Even so, the latter is an area of export opportunity for Canadian firms with expertise in various E&CT services.

3. Employment and compensation

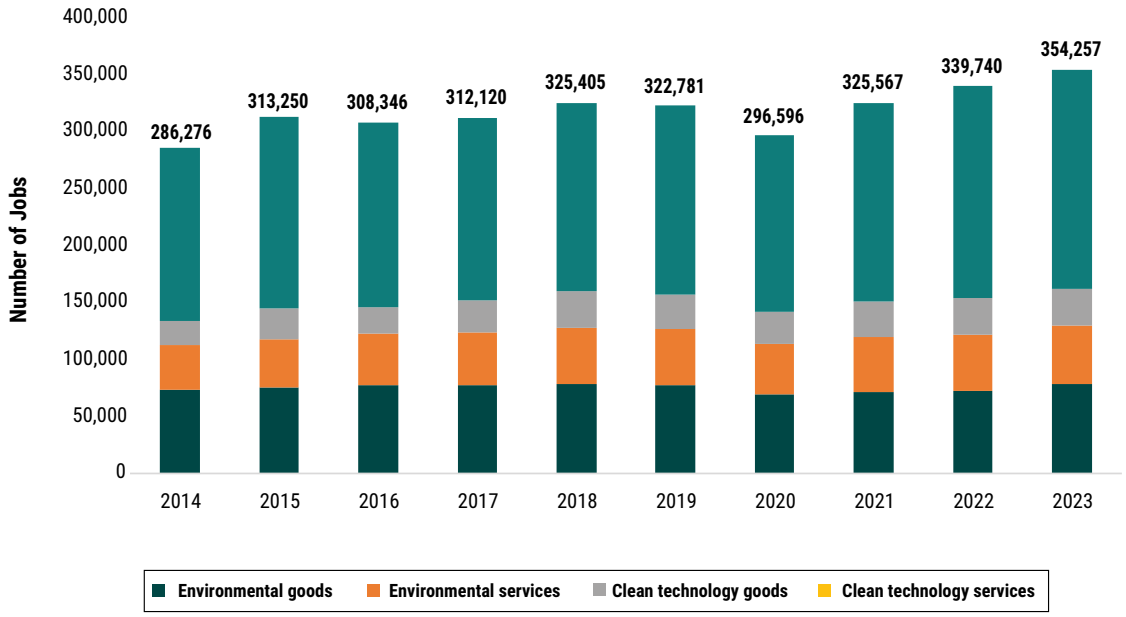
In this part, we examine employment and compensation for jobs in Canada's E&CT sector.

We use ECTPEA data tables to generate a picture of jobs in the categories making up the sector. The source data tables for figure 11 present the information in the same categories and format as table 1 above, spanning the period from 2014–2023.

Employment in Canada's broad E&CT sector (figure 11) has trended higher over time, growing by 23.7% in the decade from 2014, and by 9.8% in the five years from 2019. Employment in the sector grew 4.3% between 2022 and 2023, modestly outpacing job growth in the overall economy.

The largest sub-sector by job count is Clean Tech Services (which includes Scientific, construction and support services), accounting for 63% of total E&CT employment in 2023. In Environmental Services (Waste management and remediation), employment increased by 32% over the decade from 2014, while in Clean Tech Goods (the smallest job category) it rose by 49.4% over the same period. Employment in Environmental

Figure 11: Employment by Environmental and Clean Tech Goods and Services, 2014–2023



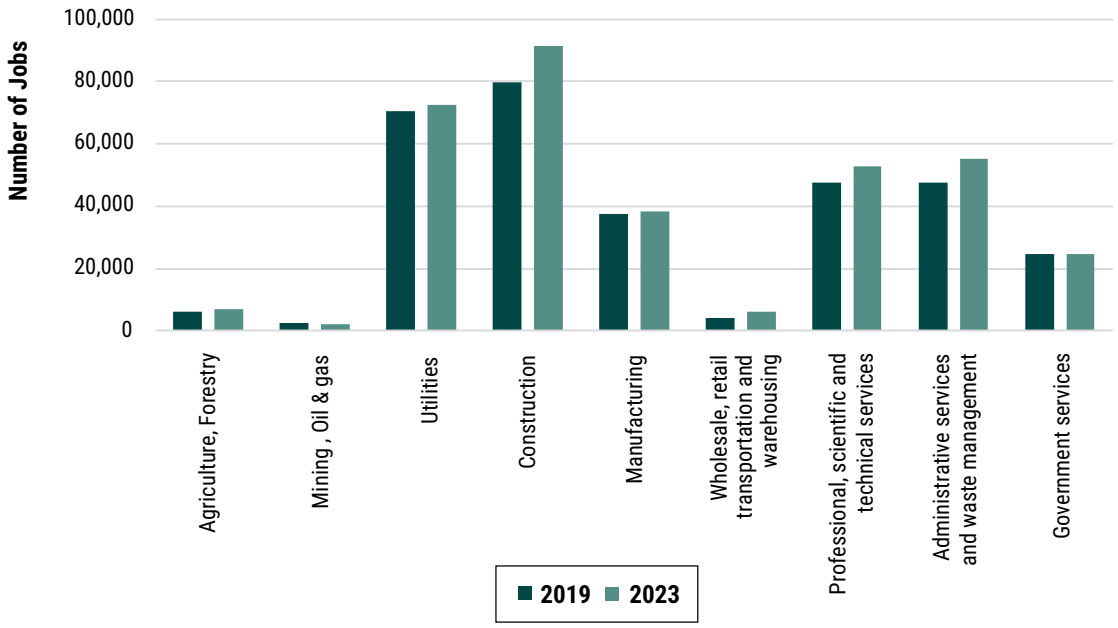
Source: StatCan, 2024i.

Goods, the second largest category measured by total jobs, climbed by just 6.6% over the decade to 2023. A likely explanation for the latter finding is that many jobs counted in Environmental Goods are found in an array of general industry sectors, as discussed in the text accompanying table 1 above.

StatCan produces the E&CT employment data in two ways: by the principal ECTPEA categories shown in figure 11 above, and by industry classification (i.e., the NAICS code). While the StatCan data sources match for the topline number of E&CT jobs in Canada (354,257 in 2023), we are unable to fully reconcile the quantum of jobs counted in several subsectors against the topline number when using the StatCan table utilizing the NAICS data (a 3,815 difference). This could be a categorization mismatch in aggregating the NAICS subsector totals. Since the discrepancy only amounts to approximately 1% of the employment total, it is unlikely to materially alter the composition of the job counts.

Analyzing the composition of employment in industry sectors in which E&CT jobs are identified (via NAICS, figure 12), a substantial proportion is in traditional or established industry sectors, including construction, utilities, professional services, and waste management. Construction is the largest sector for E&CT employment, with 91,300 jobs (25.8% of all identified E&CT positions) in 2023, up 14.3% in the five years from 2019. The second largest employment category is Utilities, with 72,600 jobs, or 20.5% of E&CT

Figure 12: Environmental and Clean Tech Sector Employment by Relevant Industry, 2019 and 2023



Source: StatCan, 2024j.

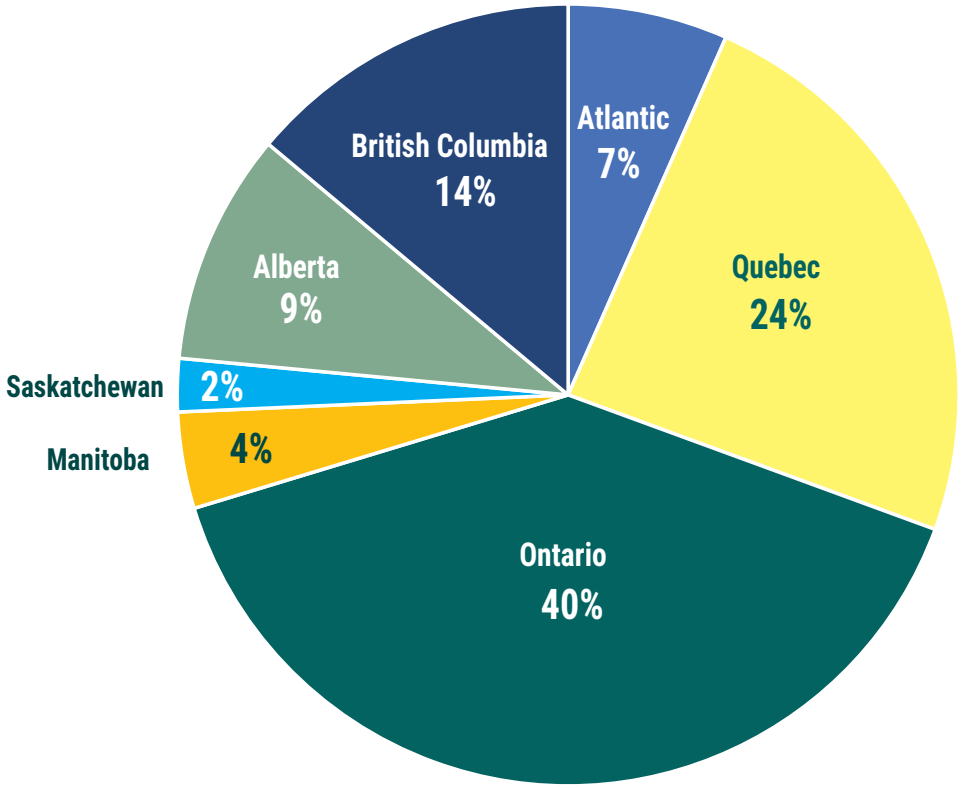
employment in 2023, albeit with a lower rate of growth (3.2% over five years). Waste management and administrative services, and Professional, technical and scientific services each account for about 15% of E&CT employment, although E&CT job growth in the Waste management sector is higher (15.8% over five years) than in the Professional services sector (11.3% from 2019). The only sector where E&CT employment declined is Government services, where it dipped 1.7% over five years.[6]

Regarding the provincial distribution of E&CT employment (figure 13), it is broadly in line with the country's population by province (as at the December 2024 population release; see StatCan, 2024k): Ontario accounts for 40% of E&CT jobs, mirroring its population share, while Québec is home to 24% of such jobs—a little higher than its 21% national population share. Atlantic Canada's E&CT job counts roughly match the region's population share, as is also the case for British Columbia. Alberta's E&CT employment at 9% of the national total slightly lags its share of Canada's population at 12%.

Referencing E&CT employment in relation to provincial populations is not particularly illuminating, but it does serve as an anchor when seeking to understand the role played by provincial policies in potentially spurring (or hindering) the growth of employment and

6 Note that the StatCan data set excludes detailed E&CT roles by sector prior to 2019.

Figure 13: Employment by Province in Environmental and Clean Tech Sectors, 2024



Source: StatCan, 2024j.

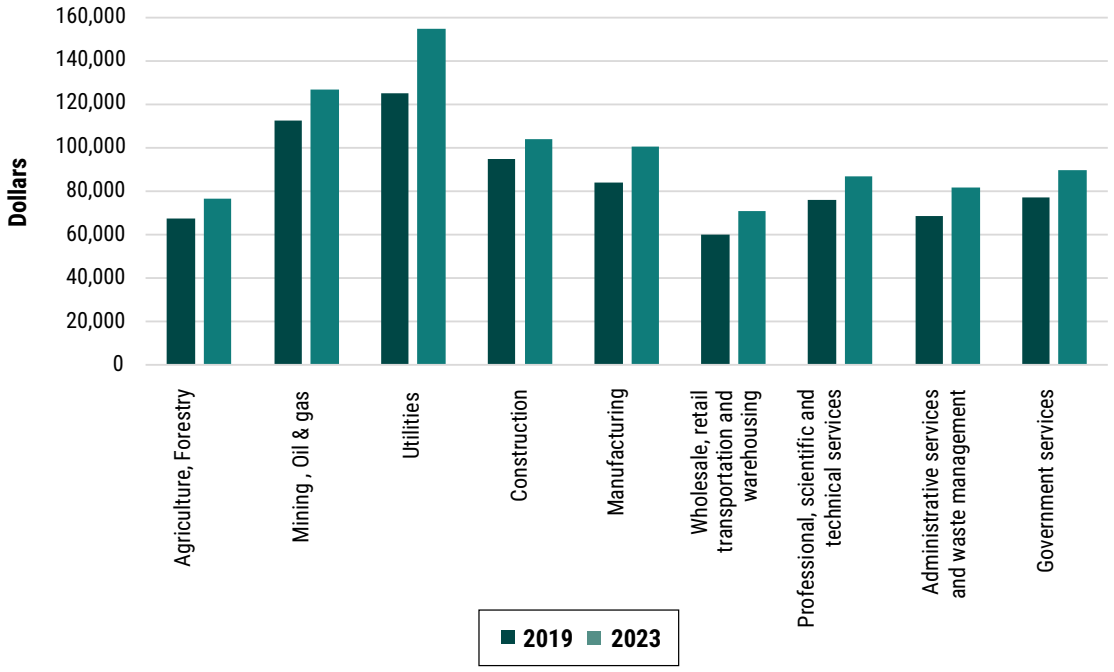
business activity in E&CT sectors, as well as in other parts of the economy where similar jobs are found. Such policies may include public investments in clean economy-related programs, economic and regional development initiatives, industry-specific subsidies and other supports, and environmental policy and regulation.

Turning to compensation for E&CT jobs, we utilize the ECTPEA account tables that present compensation by industry sector (NAICS).

Of the E&CT occupations in the various sectors that host such jobs, figure 14 indicates compensation growth in each industry between 2019 and 2023. The highest average annual compensation in both 2019 and 2023 was for E&CT occupations in Utilities, at $154,600, a 23.3% increase[7] from 2019. The next highest paying sector is Mining, oil & gas, at $126,800 in 2023, up 12.9% from 2019. E&CT occupations in Construction and Manufacturing each see close to $100,000 in average annual compensation in 2023. Compensation for Manufacturing E&CT occupations increased 19.4% from 2019, while it rose 9.4% for Construction E&CT occupations over the same period.

7 The compensation data are not adjusted for inflation.

Figure 14: Average Annual Compensation for E&CT Roles in Relevant Sectors, 2019 and 2023 (Dollars)



Source: StatCan, 2024f.

Average annual salaries for E&CT occupations in Wholesale, retail, transportation and warehousing, and Administration and support, waste management and remediation services each rose approximately 18% from 2019 to 2023.

Environmental and clean technology positions in larger Canadian economic sectors tend to be relatively high paying, likely reflecting two factors: the increasing importance of environmental performance for companies in some Canadian industries, and the specialized education, training, and expertise required in many of these occupations.

III. Perspectives on Drivers of Growth and Recalibrating Public Policy

In this section, we turn briefly to a consideration of the drivers for the growth of the clean economy, including demand-driven behaviour by consumers and firms and supply-driven public policies adopted by federal and provincial governments. We also situate Canada's clean economy within the international context, particularly relative to the United States, before concluding with some cautionary thoughts touching on the future of domestic demand, the longevity of elevated public investments in the environmental and clean technology sectors, and the prospect of ongoing private sector investment weakness in the face of political uncertainty, rising trade barriers, and an erosion in the competitiveness of the broader Canadian business environment since the mid-2010s.

1. Societal priorities/international context

Canadians' desire for elevated investments in and the rapid deployment of environmentally beneficial or less impactful technologies and goods has not shifted significantly over the past decade.[8] This reflects the priorities of many citizens in Canada, but also other countries, who want to reduce the impact of industrial and other human activity on the local and global environment. These priorities among members of the public, no doubt influenced by the efforts of environmental advocacy groups, have led to government policy responses aimed at accelerating the shift to an economy that increasingly utilizes the products, technologies, and processes associated with the clean/green economy.

At the international level, the International Energy Agency's (IEA) (IEA, 2023) report, *Tracking Clean Energy Progress 2023*, notes varying progress by a large group of countries across 50 components which the IEA judges to be relevant to achieving Net-Zero Emissions (NZE) by 2050. Progress has been most apparent in solar photovoltaic (PV) power generation, electric vehicles, and lighting. The IEA also identifies notable progress in the fields of nuclear energy capacity, heat pump sales, electrolyzer manufacturing capacity, and energy efficiency measures. In many other areas, the IEA sees the world falling short of the actions necessary to achieve net zero emissions.

8 Most surveys concentrate on attitudes to climate change, adaptation, and mitigation (see University of Ottawa Positive Energy Program, n.d.; McLeod Macy, 2020; and Campbell, 2022).

In a largely forward-looking report, anchored in the energy crisis precipitated by Russia's invasion of Ukraine, the IEA's (2022) *Renewables 2022, Analysis and Forecast to 2027* projected that renewables would become the largest individual source of global electricity generation by 2025, with their share of the power mix forecast to reach 38% by 2024. It further projected that 20% of the world's electricity generation would come from wind and solar PV in 2027.

Clearly, the data presented in Section II above, coupled with advances in capacity to produce and make use of E&CT goods and processes, indicate robust demand for many of these products and services. Undoubtedly, this trend is playing a role in driving clean economy innovation. We note that Canada's peer jurisdictions (the United States and European Union) post roughly consistent statistics for the share of the total economy represented by the clean/green economy—generally between 2.5% and 3.0% of GDP (with caveats for differences in measurement, definition, and reporting year).

However, the indicators are just that: they provide markers for increased uptake of E&CT products. We identify and briefly discuss two additional drivers of demand for E&CT products and technologies, in addition to the seemingly supportive attitudes held by most of the public.

One is the falling cost—in some cases, rapidly falling—of certain environmental and clean technologies, as well as their deployment at scale. According to the International Renewable Energy Agency (IRENA) (IRENA, 2024), the global weighted average levelized cost of electricity from renewable sources declined in 2023 for solar PV, onshore and offshore wind, and hydropower. Solar PV levelized cost fell 12% from 2022, and onshore wind declined by 3% over the same period. IRENA claims the global average levelized cost of electricity of installed solar PV was 56% lower in 2023 than that for fossil fuel-powered alternatives—although this ignores costs stemming from the intermittency of such renewable power, which necessitates back-up power sources, expensive energy storage systems, or both.

Another salient factor is that, while adoption is uneven geographically and by technology, the international data indicate that environmental goods and clean economy technologies, particularly renewable energy and its supporting technologies, are well on the path to mainstream deployment. This in turn suggests that public policy—including substantial investments of scarce public dollars in the clean energy transition—can and indeed should be retooled, with the taxpayer funds targeting such sectors scaled back, as these energy sources and related technologies become more established and cost competitive. In the Canadian context, we believe it is time to reconsider the wisdom of and need for heavily

weighting public funding and governmental industrial support programs towards the clean economy.

A final observation is that North America and the world in 2025 present a markedly different landscape than was apparent just a few years ago. Overstretched public treasuries in Canada (including provinces) and elsewhere, sluggish economic growth, rising geopolitical tensions and risks, combined with the destabilizing first inning of the second Trump Administration in the United States, argue not merely for prudence in developing policies for the clean economy, but for a reset of priorities by governments in Canada to re-emphasize the core functions of the state. As the Organisation for Economic Co-operation and Development (OECD) notes in its 2025 report on Canada, the country is confronting "several structural economic challenges, including weak productivity and high household debt coupled with low affordability…" (OECD, 2025). Improving Canada's dismal productivity performance—which lies at the heart of the country's relative economic decline—"requires a combination of policies, including rebalancing R&D support, reducing regulatory barriers in internal markets, enhancing competition and the digitalization of the economy, and fully utilizing women's skills and talents in the workforce" (OECD, 2025: 9). In our view, none of these goals will be significantly advanced if Canada continues to direct undue policy attention and fiscal resources to the clean economy.

2. Domestic policy

The domestic policy context for the further development of Canada's clean economy brings forth two initial observations, before we turn to sketching a few policy prescriptions.

First, the data analyzed in Section II point to a relatively stable Canadian clean economy sector, with little evidence of a dramatic or imminent break-out in the growth of output or employment, or in the pace of displacement of fossil fuels with other energy sources. This picture runs counter to the sometimes breathless claims of some environmental advocacy groups and politicians regarding the so-called "energy transition."[9]

For example, Clean Energy Canada has championed Canada's progress (see Silva, 2018) on various clean economy metrics, including production, employment, domestic demand,

9 JP Morgan Asset Management's 15th Annual Energy Paper "Heliocentrism: Objects May Be Further Away than They Appear" points out that public policy-driven industrial transitions take time and investment: "Policymakers should be prepared for a long journey unless there's a step change in the production, transmission and consumption of energy. There's a big difference between high-tech transitions and S curves of accelerating adoption and this generation's energy transition which has been much more linear, at least so far. [F]ast historical industrial transitions financed themselves via returns accruing to innovators and early adopters, while the gradual and linear renewable transition … has required $9 trillion of global spending since 2010 to move along" (Cembalest, 2025).

and export potential, for many years. In a 2023 study, it predicted job growth in the clean energy sector of 7% annually between 2025 and 2050, and estimated that the productive capacity of the clean sector would be worth 63% more than that of Canada's combined fossil fuel industries as early as 2025 (Clean Energy Canada, 2023). However, a close look at the study reveals that these forecasts are predicated on the assumed theoretical achievement of a net-zero emissions Canadian economy by 2050. While we expect the clean economy to continue expanding, we do not see an NZE 2050 outcome as probable or indeed feasible. This is, in part, for the reasons explored below, but also because leading Canadian and global experts have raised well-founded doubts about reaching net zero based on what amount to politically manufactured timelines (e.g., Smil, 2024; McKitrick, 2025).

Second, the American Inflation Reduction Act of 2022 has had an outsized, distorting effect on Canada's clean economy sector, prompting different levels of government—especially Ottawa—to hastily ramp up costly subsidy programs and fueling unwarranted optimism about the inevitability of a broader clean transition. The enormous subsidies offered by the then-US government for clean economy investments (including some US$216 billion in corporate tax incentives, see Badlam et al., 2022) led to similar distortionary subsidies being rolled out in Canada and many European countries. The putative justification offered for this stupendous fiscal largesse is the need to compete with the US for private sector investments in environmental technologies and product segments such as advanced batteries and other electric vehicle components, renewable energy generation, and an array of other environmental activities.

This unfortunate penchant for subsidies and other costly incentive programs has fostered the introduction of lavish taxpayer-funded Canadian incentives aimed at attracting international battery and other electric vehicle parts producers—amounting to an estimated $52.5 billion by the Parliamentary Budget Office (see Giswold, 2024),[10] in exchange for an estimated $46 billion of private investment by companies like Ford, Stellantis, GM, Honda, Volkswagen, and others. While government officials have insisted these investment-attracting gambits will pay off for Canadian taxpayers, there were grounds for skepticism on this count even before Donald Trump won the 2024 US election. We acknowledge the made-in-Canada economic development opportunity for unlocking the country's reserves and Canadian firms' expertise in mining and mineral extraction, and perhaps in building capacity along the rest of the EV supply chain. However, the ground has shifted in the EV marketplace (see Yakub, 2024) and also in the political environment (see Friedman,

10 Of which $31.4 billion are federal government commitments and the rest consisting of provincial commitments.

2025). EV sales were softening throughout 2024 in several North American markets, leading, among other things, to announced pullbacks or cancellations of investments by Sweden's Northvolt (which has filed for bankruptcy), Ford's proposed EV production facility in Ontario, and Umicore, a battery manufacturer. Some smaller EV and battery companies have gone bankrupt. Other companies appear still to be advancing construction on their plants, albeit in some cases more slowly than anticipated.

While it is impossible to predict the full array of policy and funding changes the Trump Administration will bring to US federal clean economy programs in the next few years, the President's January 2025 executive order eliminating an (undefined) EV mandate, and other signs—including possibly striking down the Environmental Protection Agency's endangerment finding in 2009, on which most subsequent climate and clean economy federal and state legislation has rested—point to the scaling back or even outright cancellation of clean economy incentives adopted during the Biden era. This casts doubt on the durability—and in our view the soundness—of some of the clean economy/clean energy programs adopted in Canada.

This discussion of domestic policy around Canada's clean economy is necessarily brief, as the principal purpose of this study is to document the sector's size, scope, and rate of growth, while also providing some comments on the balance between public sector support and market-based, demand-driven signals to advance and guide the sector's development. However, below we highlight several federal programs and incentives that merit scrutiny as 2025 unfolds, in the face of the installation of a new Canadian prime minister, the re-election of the Liberal government in Ottawa, the deterioration of public finances in the country, and the shifting trade and national security agendas coming into view since the return of Donald Trump to the US White House.

Since the Trudeau Liberal government took office in late 2015, three national climate plans of note have been introduced, each promising billions of dollars in public funding for climate mitigation and to promote the clean economy: the *Pan-Canadian Framework on Clean Growth and Climate Change* (Environment and Climate Change Canada [ECCC], 2016), *A Healthy Environment and a Healthy Economy* (ECCC, 2020), and Canada's *2030 Emissions Reduction Plan* (ECCC, 2022). According to the Climate Action Network's report, *Spending What It Takes* (Lee, Brouillette, and Mertins-Kirkwood, 2023), federal government climate-related fiscal commitments—though not all involving clean economy initiatives—totaled $36.8 billion from 2016/17 to 2022/23, with a further $70.5 billion planned for 2023/24 to 2027/28. Combined, these commitments exceed $100 billion

of taxpayer money. In the same report, the Climate Action Network called for the forward-looking $70.5 billion commitment to be quadrupled to $286.8 billion, equivalent to about 9% of Canada's GDP.

The cumulative clean economy investments by public and private sector actors required to achieve NZE 2050 exceed $2 trillion, according to a Business Council of Canada (2023) submission on federal investment tax credits (ITCs) for clean technology development. The submission notes that promises of such ITCs appeared in the preceding three federal budgets, but none were yet in place, resulting, it claimed, in delayed or cancelled investment decisions to expand capacity in such fields as carbon capture and storage, clean electricity, and clean technology manufacturing. The announcement in the 2024 federal budget of an ITC for EV manufacturing is problematic, given the opaque terms of the agreements reached in 2023 between federal and some provincial governments and the above-noted international battery and EV component manufacturers.

We highlight these points to illustrate the significant quantum of public funding in question, the unevenness of application of climate and clean economy policy frameworks, and related government programming. In particular, we highlight the failure of the federal government to consistently apply its own rules to enable faster and larger-scale adoption of environmental and clean products, technologies, and processes in Canada.

Today, in a changed North American political and economic setting and against the backdrop of poor structural performance in key areas of the Canadian economy—business investment, productivity, innovation, and the growth of real national income per capita—along with the re-election of President Trump, an overwhelming Canadian focus on climate policy and the clean economy is out of step with the country's current circumstances.

Clean economic development encompasses a wide swath of private and public sector activity, from established industries like waste management, construction, and electricity generation to newer fields like scaled applications for hydrogen, nuclear, battery storage, and environmental remediation services. A reasonable policy response for Canada is to not dismiss or ignore these emerging fields, but rather to put greater emphasis on the overarching tasks of improving Canada's economic well-being, strengthening the competitiveness of our leading export-focused sectors (including energy, mining, and agri-food), bolstering Canada's defense capacity, and preparing to deal with America's markedly mercantilist turn under President Trump. In short, we believe a reorienting of Canadian government priorities is necessary.

Canadian energy and climate policymakers would also be wise to take note of recent developments in the private sector, including energy majors' changing investment

commitments in clean and renewable technologies. Announcements by global energy giants Shell, Equinor and BP (see Bousso, 2024; Jack, 2025; and Jack and Masud, 2025, respectively) in the last few months, reorienting their investment portfolios back towards oil and natural gas (and scaling back support for renewables and clean technologies), will likely have ripple effects on a global scale. Policymakers in Canada should reflect on these developments and resist pressure to keep the subsidy and incentive floodgates open at a time when government budgets will be under growing pressure for reasons unrelated to climate issues.

IV. Conclusion

While the clean economy represents a respectable and relatively stable share of Canada's $3.3 trillion economy—generally in line with many peer jurisdictions—it is important to maintain a sense of perspective. No matter what definition is used, the clean/green economy is a comparatively small part of Canada's broader industrial mix, and it is not about to supplant (or transform) the many other industries that largely underpin the country's prosperity. Ultimately, Canada's economic well-being depends on being able to sell competitively priced goods and services into global markets, on boosting productivity across the economy, and on creating an attractive business environment that encourages long-term capital formation, entrepreneurial activity, and the upskilling of the workforce. The scale and growth of clean economy industries are unlikely to be the principal factor determining Canada's overall economic success in the next two decades, despite repeated assertions to the contrary by Clean Energy Canada and other advocacy organizations.

In any case, the prevailing political and fiscal headwinds do not augur a near-term breakthrough in the sector's growth. Apart from eroding government fiscal capacity, Canada's stagnating prosperity and the risks emanating from the United States make it difficult to justify a $70 billion federal commitment to climate and clean economy initiatives in the next three years, let alone the NATO-equivalent commitment of an additional two percent of GDP (approximately $60 billion per year) proposed by the Climate Action Network.

In ordinary times, some may conclude that policy and public sector fiscal support for the clean economy is societally desirable. But even then, such spending should be geared toward encouraging investment by the private sector rather than continuing to build up politically favoured industrial sectors that are apt to need endless government largesse for their survival. Since these are not ordinary times, it is appropriate for federal and provincial policymakers to review all existing climate and clean economy mandates, programs, and funding pledges, with a view to scaling back overall fiscal commitments, strengthening provincial and federal balance sheets, and reducing governments' role in trying to direct and micro-manage economic and industrial development. Where investments meet a high bar of providing a net public benefit, governments should consider reallocating funds to initiatives deemed to yield the greatest pay-off for the economy, while shrinking or winding down lower-priority programs.

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