Canadian Climate Policy Inventory Methodology[†]

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Summary

Governments have implemented a variety of policies to reduce greenhouse gas emissions and mitigate the impacts of climate change. Canada's climate policy landscape is marked by variation in timing, effort, and approach, and driven by differences in economic structures, political ideologies, energy resources, and emissions among provinces and territories. To bridge this gap in understanding, the Canadian Climate Policy Partnership (C2P2) is developing a comprehensive and dynamic inventory of climate policies in Canada, which allows for direct comparisons and a better understanding of potential policy interactions and overlap. This methodology paper outlines the steps taken to establish an initial inventory of 327 emissions-mitigation policies in Canada, and the coding protocol used to assess policy

[†] This paper is an abridged version of Scott et al. (2025) which describes part of the activities of the Canadian Climate Policy Partnership (C2P2) led by Dr. Jennifer Winter at the University of Calgary. C2P2 brings together more than 20 climate policy scholars and 7 community partners to develop a comprehensive and dynamic inventory of climate policies in Canada and provide direct comparison of the stringency, coverage, and interactions of climate policy mixes. We are grateful for the contributions of Runa Das, Brett Dolter, Kathryn Harrison, Christina Hoicka, Amy Janzwood, Andrew Leach, Ross Linden-Fraser, Pat Lloyd-Smith, Nikita Lyssenko, Julie MacArthur, Geoff McCarney, Heather Millar, Rémi Morin Chassé, Nouri Najjar, Nancy Olewiler, Emily Peden, Daniel Rosenbloom, Charles Séguin, and Patrick Withey. We thank Ignacio Aguilar, Chloé Boutron, Orland Clark, Francisco Chang, Shabnam (Zahra) Edalatnia, Emily Jones, Josh Medicoff, Katherine Matos, Rafael Morales-Guzman, Elise Moreau, Edan Pounder, Dylan Rama, Grace Schaan, and Maya Willard-Stepan for excellent research assistance. We also appreciate the feedback received from Environment and Climate Change Canada, Statistics Canada, the Ministry of Environment and Climate Change Strategy (British Columbia), the Ministry of Environment (Saskatchewan), the Department of Environment and Climate Change (Manitoba), the Ministry of the Environment, Conservation and Parks (Ontario), le Bureau de la transition climatique et énergétique (BTCE) (Quebec), le Ministère de l'Économie, de l'Innovation et de l'Énergie (Quebec), the Department of Environment and Local Government (New Brunswick), the Department of Environment, Energy and Climate Action (Prince Edward Island), the Department of Environment and Climate Change (Newfoundland and Labrador), the Climate Change Secretariat (Yukon), and the Government of the Northwest Territories. This research is supported in part by funding from the Canadian Climate Institute, Mitacs (grant IT28956), the Social Sciences and Humanities Research Council (PDG 890-2022-0076), the Office of the Vice-President (Research) at the University of Calgary, the School of Public Policy at the University of Calgary, and the Government of Canada through the Environmental Damages Fund (grant EDF-CA-2022g009).

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design elements. By shedding light on the complex web of climate policies in Canada, this inventory provides researchers, policymakers and businesses with a clear picture of the ongoing efforts to reduce GHG emissions.

1. Inventory Methodology

To limit the impacts of climate change, jurisdictions have implemented a wide range of policies and programs to reduce greenhouse gas (GHG) emissions. These climate policy mixes have become increasingly complex and exhibit significant variation in terms of their instrument mix, design, coverage, and stringency. Tracking and evaluating the complex mix of climate policies is particularly challenging in federations like Canada where authority for regulating GHG emissions falls under both federal and provincial/territorial jurisdiction (Becklumb 2019).

This research begins to address that challenge by developing a comprehensive climate policy inventory of federal, provincial, and territorial climate mitigation policy in Canada. Our research question in developing this inventory is *what is the current universe of federal, provincial, and territorial climate-change-mitigation policy in Canada*?

The following sections explain the inventory methodology and coding protocol, describing inclusion criteria for policy, data sources, and the coding process and coding categories.

1.1. Scope: Inclusion criteria

As a first step, it was necessary to determine the scope for inclusion as a climate change mitigation policy in the inventory.[1] For this inventory, we define **a climate change mitigation policy as a policy instrument implemented by a federal, provincial, or territorial government with the primary purpose of reducing greenhouse gas emissions**.

The inclusion criteria stemming from this definition rest on two important dimensions determining the inventory enumeration:

i) The unit of measurement that distinguishes an individual policy; and,
ii) What constitutes a *climate change mitigation* policy.

What distinguishes an individual "policy"?

Jenkins (1978) defines public policy as "a set of interrelated decisions taken by a political actor or group of actors concerning the selection of goals and the means of achieving them within a specified situation where those decisions should, in principle, be within the power of those actors to achieve". This importantly emphasizes that a policy is composed of both goals and the means to achieve them (Howlett & Cashore 2020). Therefore, for this inventory, an individual policy is distinguished by the policy instrument being employed to achieve the goal of reducing GHG emissions (see below for additional detail).

[1] We intend to expand the database in the future to include additional types of policies, such as those that support adaptation to climate change.

In contrast, a program may comprise one or multiple policy instruments. For example, British Columbia's Go Electric Program includes a variety of policy instruments intended to electrify personal, commercial, and public transportation and reduce GHG emissions. These include public funding of electric vehicle charging, household purchase rebates for EVs and home charging equipment, rebates for commercial EV purchases, and procurement of electric school buses. Multiple policies can (and often are) used to achieve the same objective.

What is a "climate change mitigation" policy?
The policies we include in this inventory are those defined by governments as climate mitigation policies, with the primary purpose of reducing greenhouse gas emissions. This notably excludes policies that may contribute to GHG mitigation but are not implemented specifically for that objective (for example gasoline excise taxes). Additionally, this excludes policies that directly contradict the goals of climate change mitigation but may nevertheless be implemented to achieve some other government objective.[2]

There are also a host of policies that could reasonably be considered part of the climate policy mix but are not explicitly designed to reduce GHG emissions. These may include policies intended to support the transition to a low-carbon economy. For example, the Government of Canada's Sectoral Workforce Solutions program aids "workers and employers by supporting solutions to address current and emerging workforce needs" (ECCC 2022a), including through funding allocations to the clean energy sector[3]. Another example of a policy with an indirect effect on emissions output — and therefore excluded — is British Columbia's Active Transportation Education and Encouragement program. The primary goal of this program is to inform people of all ages and abilities how to get started with active transportation, improve safety for all road users and encourage active transportation as an alternative for more trips (British Columbia 2024). While this may be an important component of the energy transition, the policy is not explicitly designed to mitigate GHG emissions and is therefore excluded from the current inventory. Future expansions of the inventory may create a framework to identify and consistently include such indirect policies.

Additionally, several jurisdictions have implemented various efficiency programs to support building retrofits and provide rebates for purchasing equipment such as heat pumps. To maintain consistency in the database, we have grouped these different types of rebates and grants under the broader energy efficiency programs that fund them, such as Saskatchewan's Energy Efficiency Rebates. Future expansions of the database will enhance the granularity of these overarching programs by identifying and incorporating the related sub-programs and efficiency initiatives.

We also exclude adaptation policies, as their primary purpose is not to reduce emissions. Although governments label these as climate change policies, adaptation measures are designed to adjust to environmental impacts caused by climate change, such as disaster prevention,

[2] Future versions of the database may expand to include policies that counteract emissions mitigation goals.
[3] The clean energy sector in Canada encompasses renewable resources to produce energy, including moving water, wind, biomass, solar, geothermal, and ocean energy (NRCAN 2024).

enhancing building resilience to forest fires, or adopting agricultural innovations to secure Canada's food supply. For some climate policies, governments have developed both adaptation and mitigation streams. In these cases, the inventory includes only those programs explicitly designed to reduce emissions.

Future work may seek to broaden the scope of the policy inventory with the potential inclusion of adaptation policies, industrial policies, and policies implemented by other orders of government including municipalities and Indigenous governments.

1.2. Sources

The database was initially populated primarily based on three major sources: Canada's biennial reporting to the United Nations Framework Convention on Climate Change (ECCC, 2019, 2022a), a policy inventory compiled by Navius Research Inc. and augmented by the Canadian Climate Institute (Canadian Climate Institute and Navius Research 2022)[4], and earlier work by some of the project team on climate policy mixes in Canada (Scott et al. 2023). Additional policy initiatives and further policy details were identified following academic and government reviews, reviewing budget documents, through government websites, press releases, jurisdictional policy documents, and annual reports from Crown corporations.

1.3. Coding protocol

The coding guide was developed by the authors and validated by more than 20 academics and partner organization representatives that are part of the Canadian Climate Policy Partnership (C2P2). Initial coding based on the coding guide was completed by one of the authors. Coding for each jurisdiction was then reviewed for accuracy and completeness by two members of the broader academic team between November 2023 and February 2024. A core team of lead reviewers (the authors) then reviewed the feedback from jurisdictional reviewers between December 2023 and March 2024, accepting or flagging suggested changes (Figure 1). Any uncertainties in the suggested changes were discussed by the core team, and decisions to reject or accept the changes were by consensus.

Following the academic review process, we sent the inventory for a given jurisdiction to government representatives of that jurisdiction for review in April 2024, covering applicable ministries. For example, the database was sent to Environment and Climate Change Canada, Finance Canada, Natural Resources Canada, and Statistics Canada to review federal policies. The review package included the subset of the database for each jurisdiction and the coding protocol documentation. In addition to reviewing the coding of the policies in the database for accuracy and completeness, we also asked governments to identify any missing policies, including announced policies not captured in the draft version.

[4] In 2022, the Canadian Climate Institute commissioned Navius Research to produce a list of federal, provincial, and territorial emissions reduction policies. The preliminary list of 309 policies was developed based on a review of key policy documents, including Navius' internal policy lists, the federal government's 2030 Emissions Reduction Plan, the 2020 Pan-Canadian Framework on Clean Growth and Climate Change, and provincial and territorial climate strategies.

The government review process took place between April 2024 and May 2024. We received feedback from Canada, British Columbia, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, Yukon and Northwest Territories. No changes were requested by Alberta and Nunavut. The feedback from governments was reviewed by one of the authors between April 2024 and June 2024, accepting or flagging suggested changes for the core team to discuss. Similar to the academic review, any uncertainties in the suggested changes were discussed by the core team, and decisions to reject or accept the changes were by consensus (Figure 1).

Version 1.0 of the database, published on August 22, 2024, reflects 327 implemented, proposed, and announced policies across federal, provincial, and territorial jurisdictions up to and including April 30, 2024. Version 1.0 incorporates feedback from Canada, British Columbia, Saskatchewan, Manitoba, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador, Yukon and Northwest Territories. Ontario gave its feedback after the submission deadline and this not incorporated in version 1.0.

Version 2.0 of the database, published on November 11, 2024, incorporates feedback received from the Government of Ontario as well as updates identified by the research team for the province of Quebec, increasing the number of implemented, proposed, and announced policies from 327 to 341.

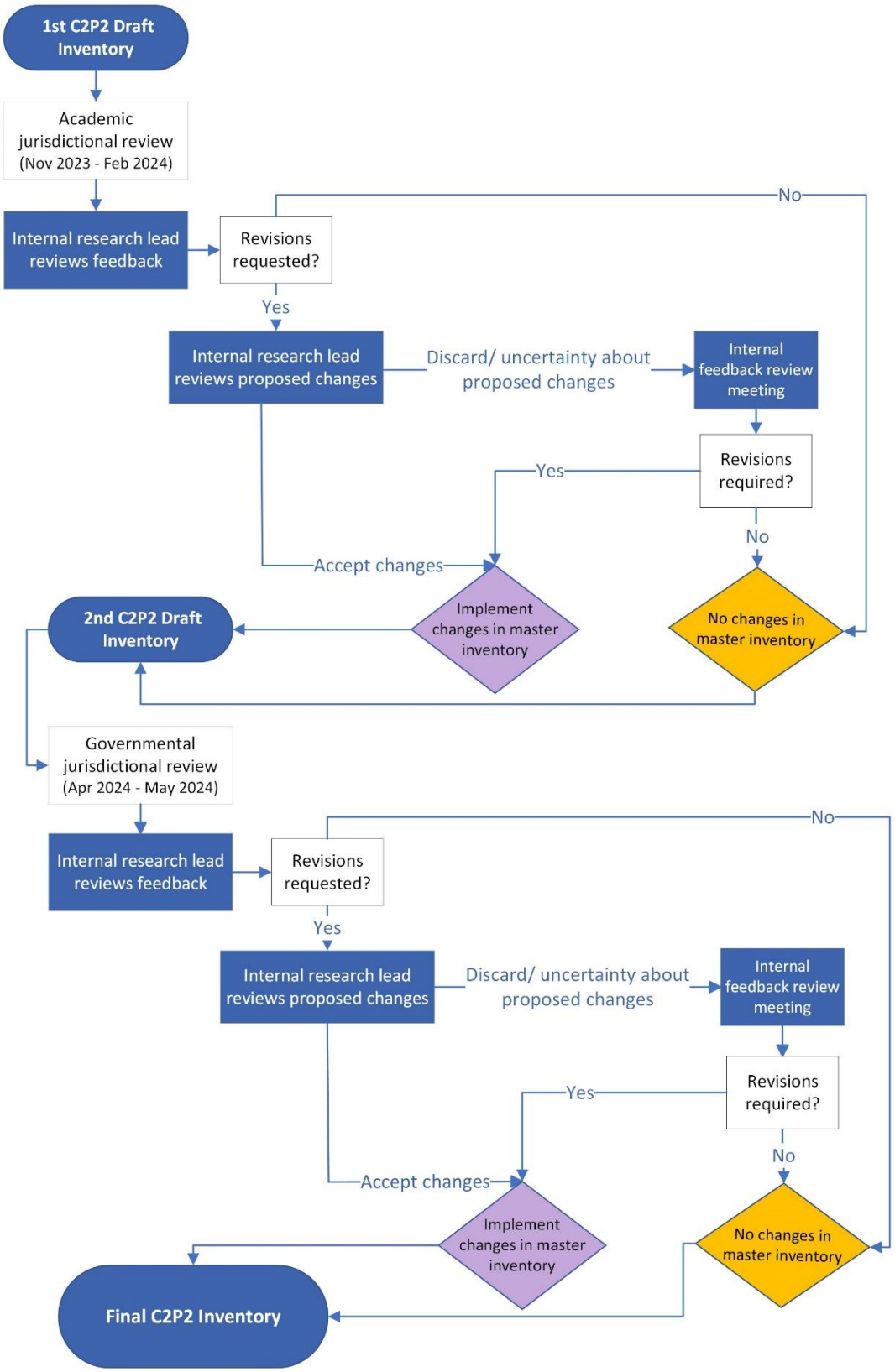
Version 3.0 of the database, published on November 29, 2024, contains minor corrections. In the English version of the database, the entry "Agriculture and land-use" was corrected in the Sector category, column J (10th column). In the French version of the database, we added the French translation for "Enabling legislation" in the Instrument category, column M (13th column).

Version 4.0 of the database, published on March 11, 2025, contains minor corrections across the database, including the removal of redundant text in a few data entries and the addition of references (URLs). The final policy count of implemented, proposed and announced policies remains at 341.

Version 5.0 of the database includes major updates to the implementation status of several policies, including the addition of four new status categories: Concluded, Funding allocated, Suspended and Cancelled. A new column L (12th column), "Detailed Status Changes" documents changes to individual policies over time. Ten additional columns (X – AG; 24th to 33rd columns) provide information about the sectors policies affect using the North American Industry Classification System (NAICS), detailing Level 1 – 5 coding[5] for each of the policies in the database. Newly added columns AH and AI (34th and 35th columns) include information about the jurisdictional and detailed jurisdictional coverage of each policy, based on geography and location-based exceptions. The total number of columns increased from 23 to 36 and the total policy count increased by five from 341 to 346. Minor corrections were also made to policy names, descriptions, and references.

[5] Level 1 defines sectors (two-digit codes), level 2 is subsectors (three-digit codes), level 3 is industry groups (four-digit codes), level 4 is industries (five-digit codes), and level 5 is Canadian industries (six-digit codes).

Figure 1. Policy Inventory Academic and Government Review Process



1.4. Coding categories

We coded the policies to create a searchable database of relevant policy characteristics. Details of the relevant categories and definitions applied are described in the following sub-sections. Descriptive information such as jurisdiction, policy name, and a brief policy description were taken directly from government sources, where available.

1.4.1. Sector

We coded policies according to the economic sector in which they seek to reduce GHG emissions. This classification follows the economic sector definitions used in Canada's National Inventory Report (NIR) to attribute GHG emissions (ECCC 2022b) with the addition of a "multiple sector" classification for policies targeting emissions reductions in more than one sector, such as the federal fuel charge.

We made three modifications to consolidate our sectoral categorizations from the NIR definitions. We include the NIR sector 'Coal Production' category with the 'Oil and Gas' category to group all fossil fuel production activities. Second, we disaggregated the NIR sector of 'Light Manufacturing, Construction and Forest Resources'. Policies that target construction emissions were grouped with the buildings sector. Policies that target forestry emissions were grouped with agriculture to form the agriculture, forestry, and land-use sector. Light manufacturing[6] is not solely targeted by any policy and is therefore only included under multi-sector policies.

Table 1 provides an overview of the sector classification; further disaggregation and detailed definitions of Canada's economic sectors are available in Canada's National Inventory Report 2023 Part 3 (ECCC, 2022b, pg. 10). This classification was chosen based on its intuitive nature — distinguishing major sectoral sources of emissions in Canada at a level that corresponds with policy implementation. Categorizing policies based on the economic sector that they regulate allows for a clear understanding of the distribution of climate-policy effort across industries. Continued development of the inventory will include categorizing policies by North American Industry Classification System (NAICS) codes to allow for broader comparison.

[6] Light manufacturing is defined as "all other manufacturing industries not included in the Heavy Industry category" (ECCC 2022b).

Table 1. Policy sector overview

NIR Economic Sector	Definition
Agriculture and land-use	Emissions resulting from on-farm fuel use, crop production, and animal production. Crop production includes application of biosolids and inorganic nitrogen fertilizers, decomposition of crop residues, loss of soil organic carbon, cultivation of organic soils, indirect emissions from leaching and volatilization, field burning of agricultural residues, liming, and urea application. Animal production includes animal housing, manure storage, manure deposited by grazing animals, and application of manure to managed soils.
Buildings	Energy use or emissions in commercial, residential, or public buildings. This includes stationary combustion and process emissions (i.e., air conditioning) as well as post-meter, unintentional leaks from natural gas appliances, and construction.
Electricity	Combustion and process emissions from utility electricity generation, steam production (for sale) and transmission. Excludes utility owned cogeneration at industrial sites.
Heavy Industry	Emissions from stationary combustion, on-site transportation, electricity and steam production, and process emissions from mining, smelting and refining, pulp and paper, iron and steel, cement, lime and gypsum, and chemicals and fertilizer industries.
Oil and gas	Emissions from stationary combustion, on-site transportation, electricity and steam production, fugitive and process emissions from natural gas, coal, and oil production and processing, petroleum refining, and local distribution of natural gas.
Transportation	Mobile related emissions including all fossil fuels and non-CO_2 emission from biofuels. Includes passenger and freight transport, aviation and marine fuels, and recreational fuel use, and portable engines.
Waste	Non-CO_2 emissions resulting from solid waste, wastewater, and waste incineration including landfills.
Multi-sector	Emissions from more than one of the above-listed economic sectors.

Source: Authors' compilation from ECCC (2022b).

1.4.2. North American Industry Classification System (NAICS)

We code policies using the North American Industry Classification System (NAICS) Canada 2022 Version 1.0 (Statistics Canada 2022a), including levels 1 (two-digit codes) to 5 (six-digit codes) and the associated official economic activity names (a set of 10 columns). This set of coding allows for enhanced economic sector analysis and supports more effective comparisons and exploration of policy coverage from the sector to industry levels. The classification begins with the sector level, which is identified by a two-digit numerical code. This is followed by the sub-sector level with a three-digit code, the industry group with a four-digit code, the industry

with a five-digit code, and the Canadian industry with a six-digit code. Each additional digit in the code provides more detail, allowing for a progressively granular view of the climate policy landscape.

Coding of mandatory policies only includes the sectors and industries) where the abatement is required explicitly identified in the policy's documentation. For abatement support policies, coding is limited to the sectors and industries where the incentive to reduce emissions occurs. For indirect policies, policy coding is the sectors and industries where abatement is aided. Policies targeting non-industry actors, such as consumers, are excluded from the coding, receiving an entry of NA (not applicable), as only industries are represented in NAICS.

Table 2. NAICS Coding Examples

Instrument Type	NAICS Example
Mandatory	Alberta's *Renewable Electricity Act* (AB0001) is a regulatory policy which mandates 30% of electric energy generation in the province must be sourced from renewables by 2030. It is coded under the utilities sector (22) and the electric power generation industry (22111) because the act requires emission abatement actions from electricity generators.
Abatement Support	Prince Edward Island's Rural Transit Pilot Program (PE0021) is an infrastructure subsidy which supports the development of a province-wide public transportation system. It is coded under the transportation sector (48) and the urban transit systems (48511) and interurban and rural bus transportation (48521) industries because the incentive to reduce emissions is in public transportation infrastructure.
Indirect	British Columbia's Energy Step Code (BC0006) is an indirect policy which provides an optional building code for local governments to use or require to incentivise energy efficiency standards in new buildings. It is coded as construction (23) sector and the residential building construction, industrial building and structure construction, and commercial and institutional building construction (23611, 23621, 23622) because abatement is supported in the development of new buildings with greater energy efficiency.

Some policies in the inventory have broad eligibility and target multiple industries, requiring adjustments to ensure accuracy. Some policies are so broad that accurate NAICS coding at any level is not possible. For example, the federal Climate Action and Awareness Fund (CA0051) provides support for capacity building projects that help to reduce Canada's GHG emissions. Given the broad range of potential projects eligible under this funding, *Insufficient Information* is used in place of NAICS codes to ensure accuracy.

When a policy applies to 15 or more sub-sectors, only the two-digit sector and three-digit sub-sector codes are fully coded. In these cases, the more detailed four-, five-, and six-digit codes are truncated with "X" placeholders (e.g. 123X, 123XX, 123XXX). If official documentation referencing NAICS codes is available, coding is extended to the level of detail supported by that documentation. When this is the case, we include the full list of attached industry-group, industry, and Canadian industry codes in the database entry.

When a policy references industrial businesses without specifying specific activities or business-types, we code the policy using Statistics Canada's Industrial Production NAICS variant

(Statistics Canada 2022b), which includes mining, quarrying, and oil and gas extraction (21), utilities (22) and manufacturing (31-33) sectors, as well as the waste management and remediation services (562) subsector. The sector coding for these policies is mining, quarrying, and oil and gas extraction (21); utilities (22); manufacturing (31-33); and administrative and support, waste management and remediation services (56). The subsector coding includes all three-digit codes under those sectors except 561 (administrative and support services).

When a policy references commercial businesses without identifying specific activities or business-types, we code the policy using Statistics Canada's Commercial and Institutional Energy Use Survey (Statistics Canada 2019), as no NAICS variant exists for commercial businesses. The targeted commercial businesses in this survey are bank branches, residential care facilities, hotels, motels, hostels, lodges, restaurants, food and beverage stores, retail stores, office space, recreation centres, performing arts centres, cinemas, places of worship, museums or galleries, libraries or archives, warehouses, vehicle dealerships, and vehicle repair and storage facilities. Therefore, the sector coding for these policies is retail trade (44-45); transportation and warehousing (48-49); information and cultural industries (51); finance and insurance (52), real estate and rental and leasing (53), health care and social assistance (62); arts, entertainment and recreation (71); accommodation and food services (72); and other services except public administration (81).

NAICS is designed to classify sectors and industries; policies targeting non-industry actors or activities outside of the NAICS coding scope receive a designation of NA (not applicable). This includes policies exclusively targeting consumers because consumers do not constitute an industry and therefore fall outside the scope of industry-based classification. For example, Manitoba's Electric Vehicle Incentive Program (MB0008) provides financial subsidies directly to consumers purchasing an electric vehicle. Because the policy targets consumers, rather than the businesses involved in the production or sale of electric vehicles, the coding is NA. In cases where policies include multiple instruments, such as a policy which provides a subsidy to both consumers and producers, the coding is only for the producer's industry. As another example, the federal government's Nature Smart Climate Solutions Fund (CA0054) is an infrastructure subsidy which supports projects that conserve, restore and improve the management of wetland, peatland, grassland, and forest ecosystems with broad eligibility criteria for types of projects and applicants. As the environment is not a codable sector and the emissions impact of conservation occurs outside of NAICS classifications, this policy is coded NA (not applicable).

1.4.3. Timing

The climate policy landscape is constantly changing with new policies, programs, and targets being announced regularly. In addition, governments sometimes repeal the policies of their predecessors. To track past, current, and forthcoming policies and programs we code policies based on their implementation status. Future policies (proposed and announced) are coded based on the extent of detail available. Table 2 provides definitions for the timing coding categories.

Policies that have been cancelled, expired, completed or superseded were not included in the initial inventory (versions 1.0 to 4.0), since the initial list of past policies from the original Navius compilation was far from exhaustive. This represents an important gap and an area for

future development of the policy inventory to be able to track changes in policy mix through time. With changes in policy from the initial C2P2 inventory (version 1), we are now tracking changes and have developed new definitions as of version 05 (17 October 2025). Concluded policies are those that ended as planned. This includes infrastructure-related programs such as Alberta's coal-powered electricity phaseout (AB0007), or programs that were folded into new initiatives, such as PEI's Net Zero Free Heat Pump Program (PE0007), which was incorporated into the new Net Zero Free Programs. Funding allocated refers to policies where the budgeted funding envelope is fully subscribed or committed to applicants, and where there is no additional information to indicate a policy's conclusion. Examples include BC's CleanBC Go Electric Passenger Vehicle Rebate Program (BC0019), which paused new applications in May 2025, and Canada's Emissions Reduction Fund (Offshore Deployment Program) (CA0059), for which all funding was allocated in March 2023. Suspended policies are those that have been paused but may be reinstated, revised, or permanently cancelled or repealed at a later date. An example is the BC Carbon Tax (BC0014); the Government of British Columbia passed legislation to drop the rate to $0 CAD, effective April 1, 2025.

Table 3. Policy Status

Status	Definition
Implemented	Compliance with the policy is currently required or support from the policy is currently available.
Proposed	Policy details have been released, design is clear, but compliance is not yet required, or support is not yet available.
Announced	A policy has been announced but timelines or design elements are unclear.
Concluded	A policy ends as scheduled or has been integrated into another initiative or superseded by a new policy.
Funding allocated	This category applies to abatement support policies, such as consumer or producer subsidies, that have been fully subscribed and intake is subsequently paused, but projects may still be ongoing.
Suspended	A policy has been temporarily paused. These policies are not currently in effect but may be reinstated, revised, or permanently cancelled or repealed at a later date.
Cancelled	A policy has been terminated before its scheduled end date.

The Detailed Status Changes column provides additional context on changes to policy status. For example, for the Federal Fuel Charge (CA0025), we note that the price was set to $0 as of April 1, 2025. This column may also include information such as funding top-ups, notes on superseded policies, or other relevant updates — even if these changes do not result in a status change as defined by our methodology (see Table 2).

Additionally, we code policies according to their implementation and end dates, where available. We define the implementation date as the year during which the policy first enters into force.

This may be the first year that regulated entities must comply with the requirements of the policy or the first year that funding may be applied for or allocated. End year refers to the prescribed conclusion of a policy (if there is one) or the last known date that funding has been allocated for a policy, where information is available.

1.4.4. Instrument

The most widely used classification for climate-change-mitigation policy instruments was developed by the Intergovernmental Panel on Climate Change (IPCC) and is often used by countries in their biennial reporting to the UNFCCC (Somanathan et al. 2014). The IPCC categorization includes five instrument types:

(*i) Economic:* refers to "market-based" instruments including forms of carbon pricing and subsidies, but not tradeable performance standards.
(ii) Regulatory: includes performance standards, technology mandates, and product standards.
(iii) Information: helps to inform consumption and production decisions (e.g., eco-labelling).
(iv) Government procurement and provision: refers to the provision of public goods and services by governments to address GHG emissions, such as public transit and R&D funding.
(v) Voluntary: accounts for actions taken by non-government entities (firms, NGOs, or other actors).

However, this approach fails to distinguish policy instruments in a comparable way. Therefore, we have developed a tiered categorization of policy instruments that expands the IPCC categorization approach for greater specificity and to facilitate further analysis of comparable policy types. At the broadest level, we classify policies as an "instrument type" based on the approach through which they seek to reduce GHG emissions. We then classify policies as one of 11 individual policy instruments. We display a crosswalk from the IPCC categorization to our tiered approach in Table 3.

Table 4. Crosswalk between instrument categorization from this study and the IPCC categorization

Instrument Type	Instrument	IPCC Category
Mandatory	Prescriptive Regulation	Regulatory
	Tradeable performance standard	
	Emissions price	Economic
Abatement support	Consumer subsidy	
	Producer subsidy	
	Infrastructure subsidy	
	Financing	
	Research and development funding	Government provision and procurement
	Public Procurement	
Indirect	Enabling policy	
	Information	Information

(out of scope)	Voluntary

Instrument Type

In this initial inventory, we focus on three main instrument types: mandatory instruments, abatement support instruments, and indirect instruments. A convenient heuristic distinction between the first two instrument types is that mandatory policies can be thought of as policy "sticks" and abatement support policies as "carrots".

Mandatory instruments are policies which impose a compulsory requirement on regulated parties. For example, mandatory policies may impose an emissions price on the purchase of fossil fuels, phase out the use of coal-fired electricity generation, require a certain proportion of electricity to be generated by renewable electricity, or require a reduction in the emissions intensity of the transportation fuel supply.

Abatement support instruments are policies that seek to incentivize the voluntary adoption, production, or development of lower emissions processes and products. These instruments generally provide a subsidy for desirable actions.

Indirect instruments are policies that do not require or do not directly incentivize abatement, but may nevertheless contribute to emissions abatement. These include enabling policies that allow for new or additional abatement activities such as blending higher quantities of low-carbon fuel. They also include information measures that help inform choices for decarbonization but do not directly require or incentivize emissions reductions (i.e., home energy labelling).

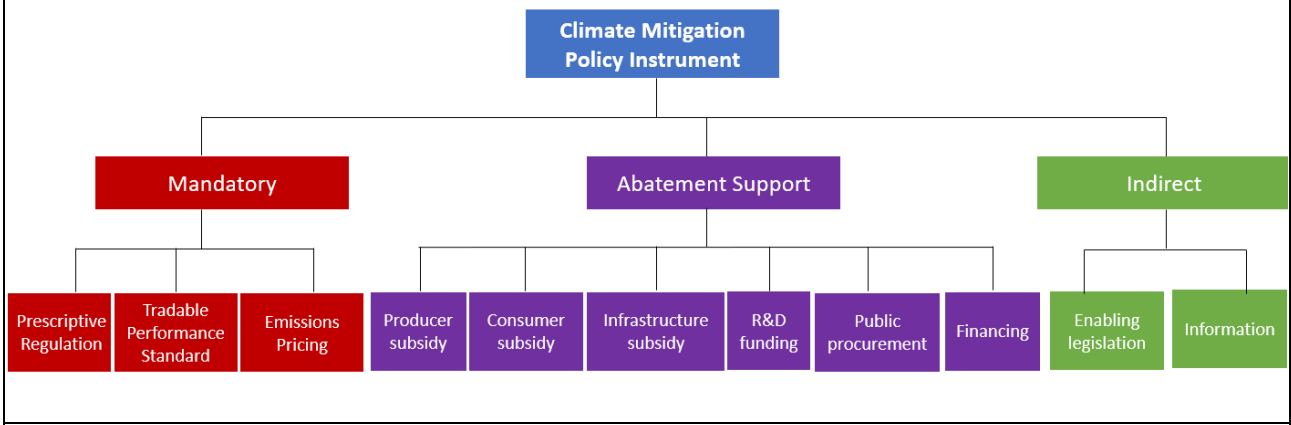
Notably excluded from this categorization are policy frameworks, strategies, and targets. We deliberately omit these since they do not directly contribute to reducing GHG emissions in and of themselves. The specific policy instruments found within strategies or frameworks have been included and categorized based on their instrument type.[7]

Instrument

Within each of the instrument types, we add further granularity and classify policies by policy instrument. We classify climate policies as one of 11 instruments defined below and illustrated in Figure 2.

[7] Future iterations of the database may include initiatives of this type.

Figure 2. Proposed Climate Mitigation Policy Instrument Taxonomy



We adapt these categories from the IPCC (Somanathan et al. 2014), with several modifications. For instance, we distinguish between emissions pricing (including both carbon taxes and cap-and-trade) and subsidies as economic support instruments that are applied as "sticks" and "carrots". We also seek to provide greater specificity to the policy instruments providing economic support to emissions abatement by delineating the range of approaches applied by governments that fall under the IPCC categorization of "economic instrument". We distinguish enabling legislation from other types of government procurement since it does not require any abatement to occur but rather clears a path for voluntary actions. We also distinguish the category of tradeable performance standards from other mandatory regulations to reflect the hybrid instrument design of flexible regulations that incorporate market-based elements through tradeable compliance credits (Rhodes et al. 2021). For some announced policies, the instrument has not yet been defined. Such cases are marked with "TBD" in the database.

Mandatory:

1. **Prescriptive Regulation:** mandates a specific outcome that must be achieved or technology to be adopted.
2. **Tradeable performance standard:** sets a performance requirement but allows flexibility for how it can be achieved in aggregate through a compliance credit market.
3. **Emissions price:** explicit pricing of emissions in the form of a carbon tax/levy or cap-and-trade program.

Abatement Support

4. **Producer subsidy:** transfers from government to organizations conditional on some emissions-reducing activity.
5. **Consumer subsidy:** transfers from government to individuals conditional on the adoption of an emissions-reducing technology or service.
6. **Infrastructure subsidy:** transfers from government to support public and community infrastructure.

7. **Research and development (R&D) funding:** financial support for (public or private) research and development of emissions-reducing technologies.
8. **Public procurement:** the use of government purchasing of low-carbon alternatives to reduce GHG emissions.
9. **Financing:** provides subsidized loan financing to enable emissions abatement activities (i.e., property-assessed clean energy programs).

Indirect

10. **Enabling policy:** enabling policy, legislation or regulation to reduce barriers to emissions-reducing alternatives (i.e., legislation that reduces regulatory barriers to distributed renewable generation).
11. **Information:** provides information that may contribute to reducing emissions (i.e., home energy labelling requirement).

1.4.5. Abatement channel

We also categorize policies by the abatement channel they target to reduce emissions (Table 4). Abatement channel refers to where in the energy system policies seek to drive abatement and are based loosely on the approach of the Kaya decomposition. The Kaya decomposition breaks down total GHG emissions as a product of factors that contribute. The original Kaya identity demonstrates that global GHG emissions are a product of population, GDP per capita, energy intensity of GDP, and the emissions intensity of energy (Kaya 1997). The modified version presented in Figure 3 allows us to illustrate the potential abatement channels through which policies may seek to reduce emissions. For example, policies may target the decarbonization of energy production, the efficiency with which energy or emissions are used in production, or total output produced. Additionally, policies may seek to switch end-uses from a high-emission to a low-emission fuel source. In practice, many policies target more than one abatement channel.

Figure 3. Abatement channel decomposition

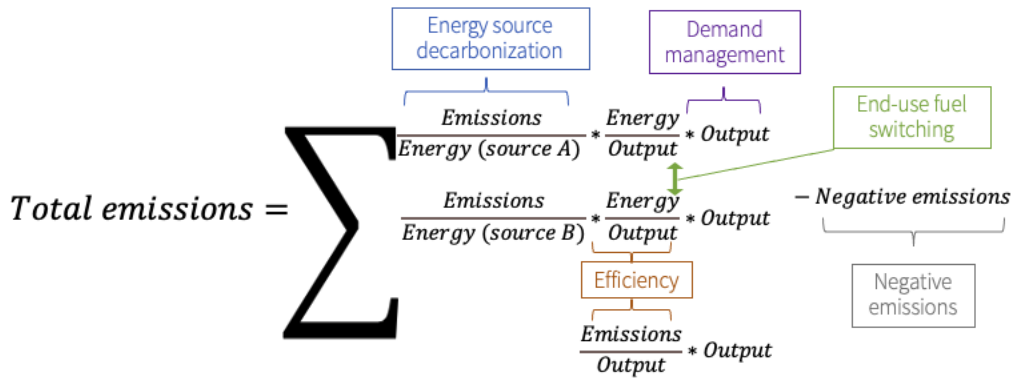


Table 5. Abatement channel coding

Abatement channel	Definition

Demand management	Reduces absolute energy consumption
Efficiency	Reduces the emissions or energy input required to achieve a certain outcome, including industrial process emissions.
End-use fuel switching	Switching from a high-emitting energy carrier to a lower-emitting energy carrier to achieve the desired end-use (e.g., switching from heating oil to an electric heat pump or a gasoline to an electric vehicle).
Energy source decarbonization	Reduction emissions from the production of an energy carrier (e.g., encouraging renewable electricity generation, reducing methane leaks from oil and gas production)
Negative emissions	Reduction in GHG emissions by sequestering carbon from the atmosphere (e.g., tree planting initiatives, installing carbon capture and sequestration technology)

1.4.6. Policy scope

Climate mitigation policies are applied at different levels of coverage, from broad-based policies that apply across multiple sectors of the economy to narrow programs that provide support on an individual project basis. Building on the approach used by Scott et al. (2023), we classify policies as one of five levels of scope defined in Table 5, listed from broadest to narrowest.

Table 6. Policy scope categories

Scope	Definition
Multi-sector	Policy applies across multiple economic sectors (e.g., Quebec cap and trade).
Sector	Policy applies to a single economic sector (e.g., low carbon fuel standard in transportation).
Class	Policy applies to a class of technologies or emissions (e.g., support for the adoption of a range of technologies to reduce methane emissions).
Technology	Policy targets or covers a specific technology type (e.g., technology-specific energy efficiency standards for appliances).
Project	Policy applies to a specific project or selection occurs on individual project application basis (e.g., funding for the Boundary Dam Carbon Capture and Storage facility).

1.4.7. Government and government level identification

We include three distinct categories in the database to capture the government level implementing each climate policy: the government responsible (Canada, province or territory), their internationally approved two-letter alpha code, and the government level (federal, provincial or territorial). Combined, these categories complement the Jurisdictional Coverage

category (see section 1.4.8), which focuses on the geographic applicability of policies rather than their institutional origin.

This distinction enables comparison of climate policies across federal, provincial and territorial governments, facilitates data integration with standardized regional identifiers (two-letter alpha codes), and supports the differentiation of policies by government level during analysis.

Table 7. Government and Institutional Level Categories.

Category Name	Definition	Possible values
Government	The government responsible for the policy (Canada, province name, or territory name).	Canada; British Columbia; Alberta; Saskatchewan; Manitoba; Ontario; Quebec; New Brunswick; Nova Scotia; Prince Edward Island; Newfoundland and Labrador; Yukon; Northwest Territories; Nunavut.
Government Abbreviation	The internationally approved two-letter alpha code of Canada and Canada's provinces and territories.	CA, BC, AB, SK, MB, ON, QC, NB, NS, PE, NL, YT, NT, NU.
Government Level	The institutional level of government at which a policy is implemented.	Federal, Provincial, Territorial.

1.4.8. Jurisdictional coverage

The Jurisdictional Coverage column lists the provinces and territories in which a given policy is applicable or where eligible applicants may be located. For provincial and territorial policies, coverage is the jurisdiction in question.[8] For federal policies, the column includes a list of the provinces and territories where a policy is in place. For some mandatory federal policies, provinces and territories may have their own policy or system that meets the applicable federal standard through an explicit equivalency agreement or other public guidance. In these instances, since the federal program is supplanted by an equivalent provincial/territorial system, the province/territory is not included in the coverage column of the federal policy. For example, under the *Greenhouse Gas Pollution Pricing Act,* provinces and territories may implement their own pricing systems provided they meet the federal benchmark. In instances where there is a provincial/territorial mandatory policy that is not supplanted by a federal policy — e.g., the federal *Clean Fuel Regulations* (CA0039) and Alberta's *Renewable Fuel Standards* (AB0009) — the province/territory is included in the Jurisdictional Coverage column.

Similarly, as abatement support and indirect policies do not have federal policies superseded by provincial/territorial equivalents, all provinces and territories are included in the coverage column unless the policy has specific exclusions. For example, the Northern Responsible Energy Approach for Community Heat and Electricity (Northern REACHE) Program (CA0029) supports energy transition exclusively in northern and Indigenous communities in Newfoundland and Labrador (Nunatsiavut), Northwest Territories, Nunavut, Quebec (Nunavik), and Yukon. The coverage coding for this policy is therefore Newfoundland and Labrador; Northwest Territories; Nunavut; Quebec; and Yukon.

[8] No provincial or territorial policy applies to activities by consumers, firms, or other actors outside their borders.

The Detailed Jurisdictional Coverage column describes specific geographic or location-based eligibility constraints, exceptions, and other nuances not reflected in the Jurisdictional Coverage coding. For example, the Oil to Heat Pump Affordability Program (CA0015) explicitly excludes applicants from Nunavut and remote areas of Quebec, as homes must be connected to an integrated electricity grid to be eligible. In some cases, a policy may remain eligible in a jurisdiction despite practical limitations that affect its ability to be accessed by eligible applicants because it was not explicitly excluded. For instance, the Agricultural Climate Solutions: Living Labs Program (CA0046) is available regardless of location; although there is no known agricultural land in Nunavut, the policy does not exclude this jurisdiction. Therefore, the territory remains eligible should recipients emerge in the future. These and similar specific geographic and location-based eligibility considerations are recorded in the Detailed Jurisdictional Coverage column to provide additional context for interpreting the jurisdictional scope and applicability of each policy.

The Detailed Jurisdictional Coverage column also identifies provinces or territories explicitly excluded from a regulation due to an equivalency agreement. For instance, the *Reduction of Carbon Dioxide Emissions from Coal-Fired Generation of Electricity Regulations* (CA0019) does not apply to Nova Scotia and Saskatchewan because of equivalency agreements between the federal government and the provinces.

For abatement support policies where eligible applicants include a wide range of public sector bodies or for-profit and non-profit organizations, the entry for the Detailed Jurisdictional Coverage column is “Eligibility not restricted.” In these cases, eligibility is broad within the jurisdiction identified in the Jurisdictional Coverage column. For Canada, this designation also applies when a policy is not limited to a specific province or territory.

For mandatory and indirect policies that apply without exemptions or special provisions, the entry for the Detailed Jurisdictional Coverage column is “No exceptions.” For federal policies, this indicates that the policy applies uniformly across all jurisdictions. For provincial or territorial policies, it means that the policy applies consistently across the entire jurisdiction identified in the Jurisdictional Coverage column.

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