

2024 Canadian Energy Efficiency Scorecard: Provinces and Territories

Alyssa Nippard, Carol Maas, Matthew Wu, James Gaede,
and Brendan Haley



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2024 Canadian Energy Efficiency Scorecard

Provinces and Territories

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The authors take full responsibility for all final decisions regarding the Canadian Energy Efficiency Scorecard methodological design, as well as any errors or omissions.

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About Efficiency Canada

Efficiency Canada is the national voice for an energy-efficient economy. Our mission is to create a sustainable environment and better life for all Canadians by making our country a global leader in energy efficiency policy, technology, and jobs. Efficiency Canada is housed at Carleton University's Sustainable Energy Research Centre, which is located on the traditional unceded territories of the Algonquin nation.

The views expressed, as well as any errors or omissions, are the sole responsibility of the authors.

Executive summary

Efficiency Canada's fifth Energy Efficiency Scorecard assesses policy and outcomes realized within the 18-month window between January 2023 and June 2024. This assessment window allows us to accommodate calendar and fiscal reporting periods, and to capture more recent policy developments introduced or implemented by provincial and territorial governments in the first half of 2024. We release it alongside our [online policy database](#), which includes qualitative descriptions of the various policy contexts across Canada. We produce the Scorecard and database to inform and inspire leadership among policymakers and energy efficiency professionals.

It has been two years since our last Scorecard, and much has happened in the world of energy efficiency policy and programs. In 2022, Canada's national model building codes were released. The federal government's 2030 Emissions Reduction Plan had called for the creation of a codes acceleration fund, increased support for energy management systems, and tighter timelines for net-zero vehicle mandates. Provincial energy efficiency programs were recovering from the worst stages of the COVID-19 pandemic, and national energy savings had increased by 30 per cent over the previous year. The federal Greener Homes program was in full swing, though it was broadly not accessible to low-income households lacking the ability to pay upfront costs or take on additional debt. The federal government's commitment to produce a Green Buildings Strategy gave hope for a path to energy-efficient, net-zero emissions buildings.

This year, progress in these policy areas has continued, albeit unevenly, at times slowly, and not always with the desired results. Provincial energy savings have hit a new high, surpassing the previous record set in 2017, and provincial spending exceeded \$1.5 billion in 2023. Federal initiatives like the Codes Acceleration Fund and Green Industrial Facilities Manufacturing program were launched, though funding has only recently been distributed. Provincial adoption of the 2020 national model building codes has lacked ambition, with few setting clear targets to reach net-zero energy-ready buildings by 2030. The Greener Homes grant ended early due to funding exhaustion with a new Greener Homes Affordability program slated for 2025 to better target those most in need. Finally, after nearly two years of development, the federal government released its

long-awaited Green Buildings Strategy in July 2024, but it lacks the necessary investments and regulations to meet net-zero emissions buildings goals.¹

This Scorecard continues our tradition of providing a comprehensive, evidence-based comparison of provincial and territorial energy efficiency policies and programs. While some results are encouraging, others reveal untapped opportunities. Governments at all levels in Canada still have many occasions to drive continued progress and realize the affordability and resiliency benefits of energy efficiency.

Below, we outline the methodological changes for the 2024 Scorecard and highlight the key results.

Methodology

The 2024 Scorecard retains the overall scope and structure of previous reports. We track 45 metrics across 16 topics and categorize them within five policy areas: energy efficiency programs, enabling policies, buildings, transportation, and industry. We continue to score provinces out of a total of 100 points. Most topics include both “outcome” metrics, which measure the performance of a jurisdiction (such as energy savings achieved or number of energy efficiency-related certifications), and “policy” metrics based on a qualitative yes/no assessment. Some metrics include both policy and outcome components and are thus “mixed.” In general, we apply more weight to outcome metrics. Table 1 lists points available by metric type.

Metric type	Points available
Outcome	51.5
Policy	38.5
Mixed	10
Total	100

Table 1. Points available by metric type

¹ Haley, “What’s in the Canada Green Buildings Strategy.”

Maximum scores for each metric represent “stretch” goals – best-in-class policies and performances consistent with the ambition needed to grapple with climate change, energy poverty,² and productivity challenges while meeting national policy goals. We encourage readers to think about a score of 100 points as a stretch goal or a summit to strive for. Scores should not be interpreted as percentage grades. For a complete list of policy areas, topics, and metrics weighting, see Table 5.

For the 2024 Scorecard, we conducted a comprehensive review of the list of metrics previously evaluated as well as emerging policies and issues that would be valuable additions to our report. The goal was to simplify policy areas and/or metrics where possible and focus more squarely on policies that have the greatest direct impact on energy efficiency and for which we consider there to be significant potential for movement.

Several new metrics were added, including efficient space and water heating policies, provincial participation in national appliance and equipment standards development, certifications of new construction tradespersons, and electric vehicle-to-grid interactivity initiatives. We also moved some metrics to the buildings chapter and re-weighted existing metrics in this chapter to provide further emphasis on policies to advance the efficiency of existing buildings. In a few cases, we chose to remove metrics we had tracked previously for which the policy space has not evolved significantly since our last report or to make room for new metrics.

Adjustments to policy area metrics and re-weighting are listed below:

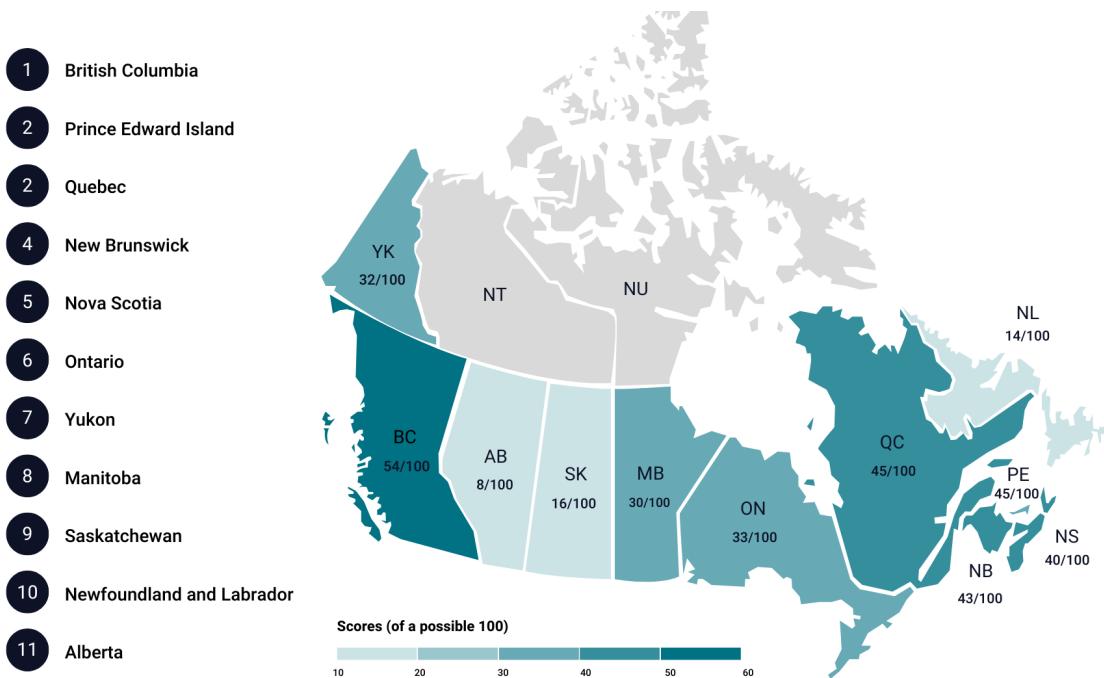
- The **energy efficiency programs** policy area was reduced by two and a half points due to the removal of metrics on compensation for public interest intervenors (0.5 points) and fuel switching (two points).
- The **enabling policies** section was reduced by 6.5 points. We removed several metrics: use of carbon pricing revenues (0.5 points), capital mobilization (one point), research institutes (0.5 points), community energy planning (one point),

²Energy poverty occurs when high energy bills lead to inadequate energy services and social exclusion, preventing some households from gaining access to other necessities of life. For more information: Efficiency Canada. “Energy Poverty in Canada.”

and conservation voltage reduction (0.5 points). We replaced our former training and professionalization (three points) with a metric on construction trades certifications in the buildings chapter. The Certified Energy Managers metric (two points) was also moved to the buildings chapter this year. We refined our metrics on advanced metering infrastructure policies and coverage to consider only the use of this infrastructure for energy efficiency. We increased the weight of the non-wires alternative metric by 0.5 points. We increased the value of pilots and program innovation by one point. We expanded our metric on PACE programming to include commercial programs and increased available points from one to two.

- The **buildings** policy area increased by eight points through the addition of new metrics and re-weighting past metrics to give more prominence to policies for existing buildings. The code compliance metric was reduced by two points, and the building codes metrics were reduced by one point combined. Municipal flexibility to adopt tiered codes was increased by a half point. In the existing buildings policy area, both mandatory rating and disclosure and building performance standards were increased by two points. The codes for alterations to existing buildings metric was increased from half a point to one point. We added a new metric looking at provincial efforts to improve efficiency in space and water heating systems, worth three points. The workforce section includes energy advisors, as well as the certified energy managers (two points) and construction trades (two points) metrics noted above.
- While minor adjustments were made to the **transportation** chapter, total available points have not changed since 2022. We re-weighted our electric vehicles incentives metric to give equal points for both consumer and commercial incentives (resulting in a half point increase). We restricted our evaluation of electric vehicle charging infrastructure to the availability of public charging and provisions for charging infrastructure in building codes and/or municipal bylaws (resulting in a decrease of 1.5 points). We increased the weight of the EV charging capacity metric by half a point. Finally, we added a new metric (worth one point) looking at vehicle-to-grid programs and pilots.
- The **industry** policy area increased by one point, for a total of eight points, to give more equal weighting to the components of energy management programming and to reward the existence of incentives for industry to pursue EnMS certification.

Overall results



This year, British Columbia and Québec remain in the top three. Prince Edward Island moved from fourth to tie Québec for second place. New Brunswick moved up three spots to finish fourth, while Nova Scotia, previously in second, moved to fifth place. Ontario, Manitoba, and Yukon once again ranked in the middle of the pack. Saskatchewan moved from last to ninth place. Alberta dropped to last place, with points decreasing in most categories. Newfoundland retained its tenth-place ranking.

British Columbia continues to lead in buildings but Ontario narrowly took the lead in enabling policies. Québec again places first in transportation and industry. New Brunswick dramatically improved its performance in the programs policy area, and its commitments to adopt Tier 2 of the national model codes in 2025 and to reach net zero energy-ready requirements for new buildings by 2030 helped to boost it ahead of Ontario, jumping from seventh to fifth place.

The table below shows scores for each province by policy area. In the second column, we depict ranking changes between 2022 and 2024. Due to adjustments made to topics and metrics, changes in specific policy areas and overall scores may not be directly comparable with previous scores.

Rank	Rank change	Province/territory	Programs (37.5 points)	Enabling (9.5 points)	Buildings (27.5 points)	Transportation (17.5 points)	Industry (8 points)	Total (100 points)
1	-	BC	14	6	15	12	7	54
2	+2	PE	24	4	7	8	3	45
2	+1	QC	12	5	7	13	8	45
4	+3	NB	22	4	7	5	6	43
5	-3	NS	18	4	5	6	7	40
6	-1	ON	10	6	8	3	6	33
7	-1	YT	17	5	5	6	0	32
8	-	MB	11	6	3	4	6	30
9	+2	SK	4	5	5	2	0	16
10	-	NL	4	2	3	3	2	14
11	-2	AB	1	3	2	2	0	8

Table 2. Overall scoring results

* Note: Scores rounded to the nearest whole number. Totals might not sum due to rounding.

The names of the Canadian provinces and territories are abbreviated throughout this report using the postal abbreviation: Alberta (AB), British Columbia (BC), Manitoba (MB), New Brunswick (NB), Newfoundland and Labrador (NL), Northwest Territories (NT), Nova Scotia (NS), Nunavut (NU), Ontario (ON), Prince Edward Island (PE), Québec (QC), Saskatchewan (SK), Yukon (YT).

Canada-wide savings and spending

Our research shows that national, net annual incremental energy savings in 2023 increased by 25 per cent over 2022, hitting 25.44 petajoules (see Figure 1 below) and finally surpassing the previous highest energy savings achieved in 2017. Electricity savings increased by 23 per cent and natural gas savings increased 33 per cent. Total energy efficiency portfolio spending has continued to grow since 2019, surpassing \$1.5 billion in 2023 a 27 per cent increase over 2022. The largest portion of spending is

attributed to the “multi-fuel” category, for which Efficiency Canada is not able to differentiate spending by target energy type.

Net annual incremental energy savings (PJ)

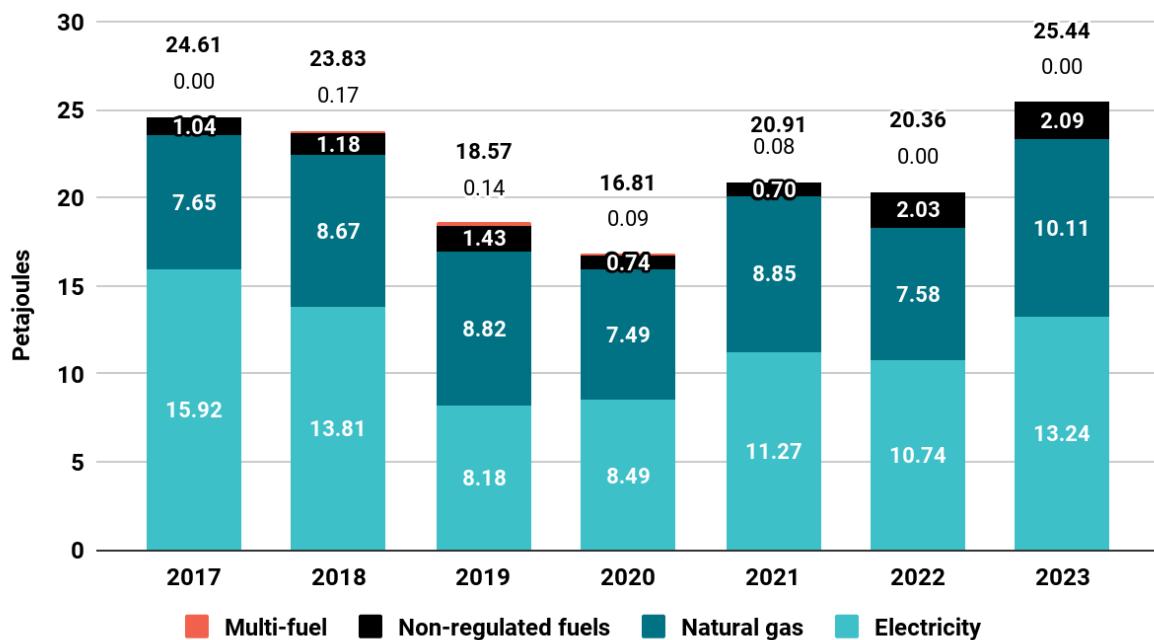


Figure 1. Net annual incremental energy savings (PJ), 2017-2023

Energy efficiency portfolio spending (\$M), by energy type

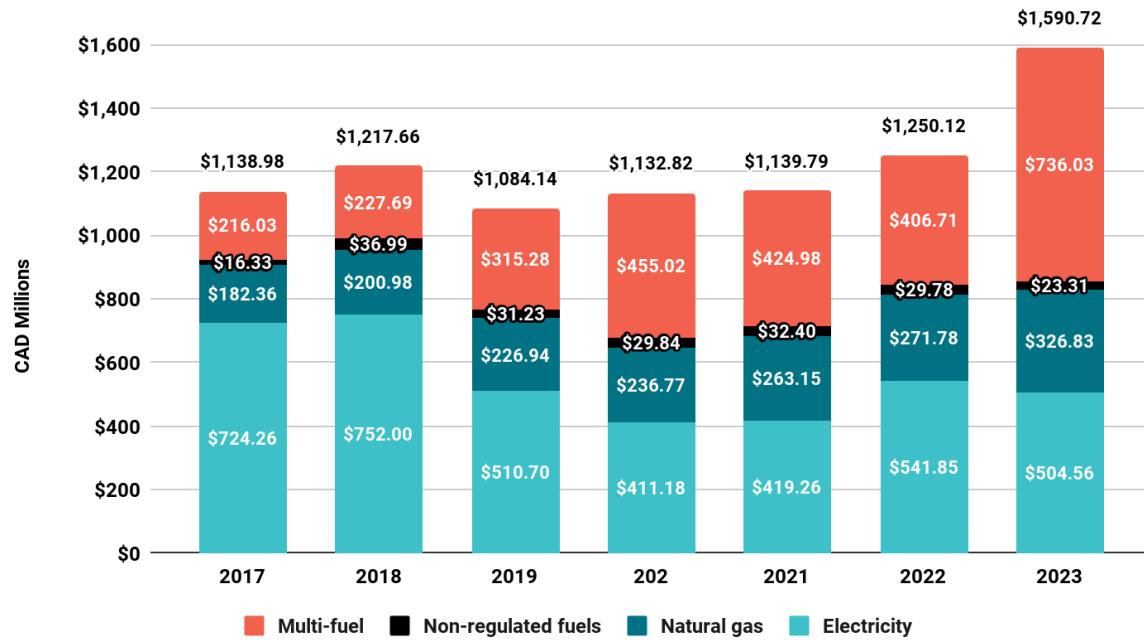


Figure 2. Energy efficiency program spending (\$CAD millions), 2017-2023

Provincial/territorial strengths and opportunities

In each Scorecard, we highlight key trends and observations for each province. Below, you will find a discussion for each province and Yukon. This includes major events over the past year and context setting, as well as strengths and opportunities highlighted for each province. These highlights allow us to also discuss policy plans and more recent events that were outside of the scoring timeline. A discussion of Northwest Territories and Nunavut can be found in the section “Energy efficiency in the territories.”

We base both strengths and opportunities for improvement on a combination of Scorecard findings and our understanding of provincial policy contexts. Opportunities for improvement are a combination of areas where a province might score relatively lower and/or where the province is poised to take advantage of existing strengths. We also attempt to avoid repeating the same opportunities each year for a given province. These are highlights and not exclusive recommendations. We encourage readers to drill down into specific topic areas and previous years’ highlights to understand a given province’s relative performance and policy mix, and to find ideas for policy actions to

improve energy efficiency in each jurisdiction.

Province/ territory	Strengths	Opportunities
AB	<ul style="list-style-type: none"> Municipal energy efficiency. 	<ul style="list-style-type: none"> Demand-side management. Building codes.
BC	<ul style="list-style-type: none"> Highest Efficiency Equipment Standards (HEES). 	<ul style="list-style-type: none"> Building energy labelling and disclosure. Clear mandate for all cost-effective energy efficiency. Clean Heat Standard.
MB	<ul style="list-style-type: none"> EV incentives. Developing national standards. 	<ul style="list-style-type: none"> Energy poverty strategy.
NB	<ul style="list-style-type: none"> Energy efficiency programs. Addressing energy poverty. 	<ul style="list-style-type: none"> Building codes. Energy rating and disclosure.
NL	<ul style="list-style-type: none"> EV charging infrastructure. 	<ul style="list-style-type: none"> Electrification.
NS	<ul style="list-style-type: none"> Energy efficiency programs. 	<ul style="list-style-type: none"> High-performance building codes. Demand flexibility. Mandatory Building Performance Standards.
ON	<ul style="list-style-type: none"> Electricity savings. Capacity savings. 	<ul style="list-style-type: none"> Natural gas DSM. Energy rating and disclosure.
PE	<ul style="list-style-type: none"> Efficiency programs. 	<ul style="list-style-type: none"> Building energy performance labels and minimum standards. Net-zero building codes.
QC	<ul style="list-style-type: none"> Transportation electrification. Existing building performance. 	<ul style="list-style-type: none"> Electricity savings. Heating equipment mandates. Low-income energy efficiency.
SK	<ul style="list-style-type: none"> Building codes. 	<ul style="list-style-type: none"> Energy efficiency programs.
YT	<ul style="list-style-type: none"> PACE programs. 	<ul style="list-style-type: none"> Energy management programming.

Table 3. Provincial strengths and opportunities

Federal policy recommendations

In each Scorecard we consider the role of federal policy in supporting better provincial energy efficiency performance. This year we identify four areas for action:

- 1. Modernize the Energy Efficiency Act:** The federal Energy Efficiency Act needs an update. The potential for more sophisticated demand management at the provincial-territorial level can be enabled by modernizing the regulatory framework to require “demand flexibility” capabilities in Canadian products,³ to require all air conditioners to be heat pumps,⁴ and to remove expensive and polluting heating oil heating equipment from the Canadian market.⁵ For example, a renewal of the Act could establish a national standard requiring all new heating and hot water systems to be at least 100 per cent efficient, following British Columbia’s example.
- 2. Re-balance clean electricity policy towards demand side:** The current mix of federal policies to decarbonize electricity systems is lopsided towards supply-side solutions, neglecting lower-cost and higher-benefit demand-side options. The May 2024 report by the Canada Electricity Advisory Council recognized this supply-side bias, noting that “significant improvements to energy efficiency and load flexibility can dramatically reduce the need for expensive new electricity infrastructure.”⁶ One of the Council’s recommendations was reorienting the Smart Renewables and Electrification Program (SREPs) toward demand-side solutions. We recommend the federal government match annual provincial DSM spending (approximately \$1.5 billion in 2023) while maintaining separate funding for Indigenous-led efficiency projects.
- 3. Build it right the first time in Canada’s Housing Plan:** Scorecard 2024 shows that few provinces are on track to requiring net-zero energy-ready buildings by 2030.

³ See Sarah Riddell, Malinowski, and Cox, “How to Modernize Canada’s Energy Efficiency Act.”

⁴ Gard-Murray et al., “The Cool Way to Heat Homes: Installing Heat Pumps Instead of Central Air Conditioners in Canada.”

⁵ Riddell and Haley, “Why Canada Should Phase Out Fuel Oil for Space and Water Heating.”

⁶ Haley, “Canada Electricity Advisory Council Recognizes the Demand Side.”

The federal government can lead by example by 1) Requiring buildings constructed with federal government housing development funds to consider material emissions, meet net-zero energy-ready requirements from the 2020 codes, and reach the top level for operational GHG emission performance in the 2025 codes, and; 2) Requiring provinces and territories receiving funds from the Housing Infrastructure Fund to progressively adopt higher tiers of the 2020 and 2025 building codes, leading to the adoption of the top tiers for energy efficiency and operational GHG emissions by 2030.

4. **Make eliminating energy poverty a national priority:** A national energy poverty strategy will provide a framework for consistent public support to ensure no Canadian finds themselves in poverty because they can't afford their energy bills or access adequate energy services. Such a framework should include a national definition and measurement of energy poverty, the creation of an Independent Advisory Body modelled after the U.K. Committee on Fuel Poverty,⁷ and sufficient funding for the upcoming Greener Homes Affordability Program to avoid the same abrupt ending that the former Greener Homes Grant faced.

⁷ UK Committee on Fuel Poverty is an advisory non-departmental public body that provides guidance to the UK government on the effectiveness of policies aimed at reducing fuel poverty, and encourages greater coordination across the organisations working to reduce fuel poverty. Government of United Kingdom, "Committee on Fuel Poverty."

Introduction

Efficiency Canada's fifth Energy Efficiency Scorecard assesses policy and outcomes realized within the 18-month window between January 2023 and June 2024. This assessment window allows us to accommodate calendar and fiscal reporting periods, and to capture more recent policy developments introduced or implemented by provincial and territorial governments in the first half of 2024. We release it alongside our [online policy database](#), which includes qualitative descriptions of the various policy contexts across Canada. We produce the Scorecard and database to inform and inspire leadership among policymakers and energy efficiency professionals.

It has been two years since our last Scorecard, and much has happened in the world of energy efficiency policy and programs. In 2022, Canada's national model building codes were released. The federal government's 2030 Emissions Reduction Plan had called for the creation of a codes acceleration fund, increased support for energy management systems, and tighter timelines for net-zero vehicle mandates. Provincial energy efficiency programs were recovering from the worst stages of the COVID-19 pandemic, and national energy savings had increased by 30 per cent over the previous year. The federal Greener Homes program was in full swing, though it was broadly not accessible to low-income households lacking the ability to pay upfront costs or take on additional debt. The federal government's commitment to produce a Green Buildings Strategy gave hope for a path to energy-efficient, net-zero emissions buildings.

This year, progress in these policy areas has continued, albeit unevenly, at times slowly, and not always with the desired results. Provincial energy savings have hit a new high, surpassing the previous record set in 2017, and provincial spending exceeded \$1.5 billion in 2023. Federal initiatives like the Codes Acceleration Fund and Green Industrial Facilities Manufacturing program were launched, though funding has only recently been distributed. Provincial adoption of the 2020 national model building codes has lacked ambition, with few setting clear targets to reach net-zero energy-ready buildings by 2030. The Greener Homes grant ended early due to funding exhaustion with a new Greener Homes Affordability program slated for 2025 to better target those most in need. Finally, after nearly two years of development, the federal government released its

long-awaited Green Buildings Strategy in July 2024, but it lacks the necessary investments and regulations to meet net-zero emissions buildings goals.⁸

This Scorecard continues our tradition of providing a comprehensive, evidence-based comparison of provincial and territorial energy efficiency policies and programs. While some results are encouraging, others reveal untapped opportunities. Governments at all levels in Canada still have many opportunities to drive continued progress and realize the affordability and resiliency benefits of energy efficiency.

Below, we outline the methodological changes for the 2024 Scorecard and highlight the key results.

Methodology

We base our Scorecard upon three sources of information: An information request issued to provincial/territorial government representatives, utilities, and energy efficiency program administrators in April 2024; our independent desk research, both to verify or clarify information received in the request or to address issues not covered in the request; and publicly available datasets provided by government agencies such as Statistics Canada and Natural Resources Canada (NRCan).

Our information request to provinces takes the form of two separate documents developed in Microsoft Excel: a policy information request and a programs workbook. The aim of the workbook is to gather quantitative performance data at the program level (e.g., a list of programs, savings, spending, and targets). The documents were organized as follows:

Information request:

- Six sections (planning, administration and programs; enabling policies; buildings; appliance and equipment standards; transportation; and industry), covering 29 topics.

Programs workbook:

- Five sections (programs, targets, outcomes, additional details and utility operational data).

⁸ Haley, "What's in the Canada Green Buildings Strategy."

We received, compiled, analyzed, and evaluated responses throughout the summer. In September 2024, we circulated a draft report with initial findings to information request respondents and subject-matter expert advisors for peer review and a final accuracy check. Based on this feedback, we revised the scorecard and prepared the final report for release in the fall of 2024.

Time period covered

The Scorecard captures energy efficiency policies and performance in the most recent year (12 months) for which complete data is available. For the 2024 Scorecard, this period occurs within the 18-month window between January 2023 and June 2024. This window is longer than one year for two reasons: we need to accommodate program administrators on fiscal year reporting periods (typically ending March 31); and we allow a policy implementation grace period of six months into year two. This helps to ensure that our Scorecard reflects a current picture of the energy efficiency policy landscape in the year it is published.

Figure 3 below summarizes the period coverage of the Scorecard. For reference, “Scorecard year” is the year of the data we report (2023, in this report), and “production year” is the version year of the published Scorecard (this is the 2024 Scorecard).

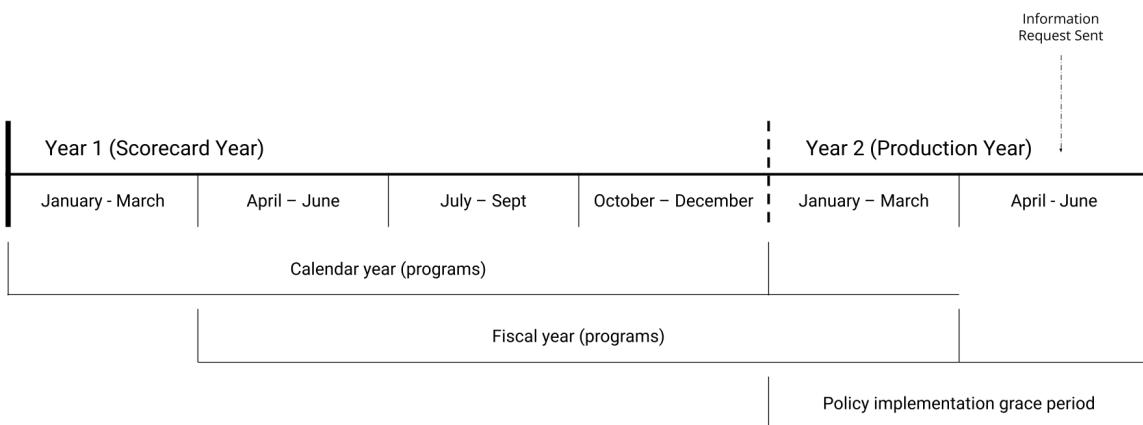


Figure 3. Scorecard coverage period

In cases where we obtained data from third parties, we used the latest information available or information compiled over a series of years that best fit the context of the

metric being tracked. For instance, some information came from the 2021 Canadian Census, while Statistics Canada's energy demand data so far only runs to 2022. Some metrics may use a longer time frame consistent with the period over which such activities typically unfold to ensure a relevant and up-to-date analysis (e.g., building code compliance, construction trades certifications).

This report also tracks qualitative policy indicators for each jurisdiction surveyed via yes/no questions on the presence of specific policies, such as a particular building code or the presence of third-party verification. To receive full points on such metrics, the respective policy must have been active or implemented within the above 18-month window. We award partial points in some cases, such as if a province cancelled a policy or reported planned activities that it has not yet implemented. Should a province cancel a policy earlier in our time period, we may award no points.

Topics and scoring

This Scorecard tracks 45 separate metrics, representing 16 topics, across five policy areas: energy efficiency programs, enabling policies, buildings, transportation, and industry. Total scoring is out of 100 points. We encourage readers to think about a score of 100 points as "summiting a mountain that all provinces can climb." Full points represent a stretch goal that we can strive towards. The scores are not percentage grades. Table 4 lists points available by metric type. We provide an overview of the policy areas, topics and scoring weights in Table 5.

Our choice of topics, metrics, and scoring methodology reflects the following considerations:

- **Measurable:** Could we objectively measure policy performance?
- **Comparable:** Were the policy areas relevant and replicable across provinces/territories?
- **Actionable:** Could provinces/territories improve outcomes and/or add to the policy mix?
- **Data availability:** Could we access either quantitative or qualitative data?
- **Consensus:** Was there a general agreement on the importance of this policy area?
- **Capacity:** Do we have the financial and human resources necessary to analyze information in time?

Many topics include both “outcome” metrics, which measure the performance of a jurisdiction (such as energy savings achieved or the number of energy efficiency-related certifications), and “policy” metrics based on a qualitative yes/no assessment. Some metrics include both policy and outcome components and are thus “mixed.” In general, we applied more weight to outcome metrics. Maximum scores for each metric represent “stretch” goals; they reflect best-in-class policies and performances consistent with the ambition needed to grapple with climate change, energy poverty, and productivity challenges, while meeting national policy goals.

Metric type	Points available
Outcome	51.5
Policy	38.5
Mixed	10
Total	100

Table 4. Points available by metric type

For the 2024 Scorecard, we conducted a comprehensive review of the list of metrics previously evaluated as well as emerging policies and issues that would be valuable additions to our report. The goal was to simplify policy areas and/or metrics where possible and focus more squarely on policies that have the greatest direct impact on energy efficiency and for which we consider there to be significant potential for movement.

Several new metrics were added, including efficient space and water heating policies, provincial participation in national appliance and equipment standards development, certifications of new construction tradespersons, and electric vehicle-to-grid interactivity initiatives. We also moved some metrics to the buildings chapter and re-weighted existing metrics in this chapter to provide further emphasis on policies to advance the efficiency of existing buildings. In a few cases, we chose to remove metrics we had tracked previously for which the policy space has not evolved significantly since our last report or to make room for new metrics.

Adjustments to policy area metrics and re-weighting are listed below:

- The **energy efficiency programs** policy area was reduced by two and a half points due to the removal of metrics on compensation for public interest intervenors (0.5 points) and fuel switching (two points).
- The **enabling policies** section was reduced by 6.5 points. We removed several metrics: use of carbon pricing revenues (0.5 points), capital mobilization (one point), research institutes (0.5 points), community energy planning (one point), and conservation voltage reduction (0.5 points). In the Buildings chapter, we replaced our former training and professionalization (three points) with a metric on construction trades certifications. Certified Energy Managers metrics (two points) was also moved to the buildings chapter this year. We refined our metrics on advanced metering infrastructure policies and coverage to consider only the use of this infrastructure for energy efficiency and increased the weight of the non-wires alternative metric by half a point. We increased the value of pilots and program innovation by one point. We expanded our metric on PACE programming to include commercial programs and increased available points from one to two.
- The **buildings** policy area increased by eight points through the addition of new metrics and re-weighting past metrics to give more prominence to policies for existing buildings. The code compliance metric was reduced by two points, and the building codes metrics were reduced by one point combined. Municipal flexibility to adopt tiered codes was increased by a half point. In the existing buildings policy area, both mandatory rating and disclosure and building performance standards were increased by two points. The codes for alterations to existing buildings metric was increased from half a point to one point. We added a new metric looking at provincial efforts to improve efficiency in space and water heating systems, worth three points. The workforce section includes energy advisors, as well as the certified energy managers (two points) and construction trades (two points) metrics noted above.
- While minor adjustments were made to the **transportation** chapter, total available points have not changed since 2022. We re-weighted our electric vehicles incentives metric to give equal points for both consumer and commercial incentives (resulting in a half point increase). We restricted our evaluation of electric vehicle charging infrastructure to the availability of public charging and provisions for charging infrastructure in building codes and/or municipal bylaws (resulting in a decrease of 1.5 points). We increased the weight of the EV

charging capacity metric by half a point. Finally, we added a new metric (worth 1 point) looking at vehicle-to-grid programs and pilots.

- The **industry** policy area increased by one point, for a total of eight points, to give more equal weighting to the components of energy management programming and to reward the existence of incentives for industry to pursue EnMS certification.

In addition to the above, we changed the evaluation and scoring methodology and the weighting of some metrics within these topic areas. We detail these revisions in the relevant sections below.

The result of our metric revisions and re-weighting is a Scorecard that gives more priority to programs and buildings policy than our previous Scorecards, and less priority toward enabling policies. The weighting of the transportation section is unchanged. Notably, the two sections that are weighted more heavily (programs and buildings) also contain several “cross-cutting” metrics, which enable or lead directly to energy savings in other policy areas. Appliance and equipment standards metrics are also included in the buildings chapter, contributing to its higher weighting. This scoring approach is transparent and offers valuable insights into areas of provincial/territorial policy strength.

We also caution that this assessment is unique to Canada; readers should not compare provincial/territorial scores with those of states in the American Council for an Energy-Efficiency Economy (ACEEE) scorecard. Comparison on individual metrics may be instructive, however. An example is a comparison of state and provincial program savings and targets we previously published.⁹

In future reports, we will continue adjusting the allocation of points to reflect emerging trends in energy efficiency and updates in the policy landscape. We therefore ask readers to view the Scorecard as an evolving indicator rather than a standardized index.

⁹ Nippard and Gaede, “Benchmarking 2021 Canadian Province/Territory and American State Energy Efficiency Program Savings and Spending.”

Energy efficiency programs	37.5
Program savings	18
Program spending	10
Equity and inclusion	4
Energy efficiency targets	5.5
Enabling policies	9.5
Financing	3
Research, development and demonstration, and program innovation	4
Grid modernization	2.5
Buildings	27.5
New building	9
Existing buildings	8
Appliances and equipment standards	4.5
Workforce	6
Transportation	17.5
Zero-emission vehicles	7
Transport electrification infrastructure	5.5
Active transportation	2
Public transportation	3
Industry	8
Industrial energy management programs	8
Total	100

Table 5. Policy areas, topics, and metrics weighting

Scope and limitations

The Scorecard focuses on provincial/territorial policies and outcomes. We only consider the role of federal policy where it might enable provincial/territorial action. Similarly, our scoring mostly excludes local government activity, except where provincial/territorial actions might enable or impede municipal efficiency initiatives, such as building performance standards, or project funding through local improvement charges and/or Property Assessed Clean Energy (PACE) programs. Where federal and provincial actors have collaborated on programs or initiatives (e.g., co-delivery of certain programs associated with the federal Greener Homes program), we have done our best to include only the provincial contribution.

The Scorecard measures policy best practices and performance, not overall energy intensity. We also focus more on the role of governments and other public organizations (e.g., efficiency program administrators) rather than the private sector. However, public policy and the private sector are intertwined, and we report indicators where private sector actors contribute to public policy success, and/or where policy influences the private sector.

The Scorecard's transportation section focuses primarily on the integration of private transport with buildings and grids. We track progress in vehicle electrification and novel policy areas such as the development of EV-ready building codes and vehicle-to-grid integration. We focused on electrification and passenger vehicle efficiency to align with the largest efficiency potential identified in the IEA/NRCan national potential study noted above. A broader set of policies and indicators could include freight transport and urban design. The QUEST Smart Cities Benchmark and the Pembina Institute's work on freight transport provide more information on these policy areas.¹⁰

Several of the chapters below discuss future considerations for improved benchmarking, scoring, and information collection. Data limitations prevent quantitative-based scoring in some metrics (e.g., appliance and equipment standard impacts, dedicated funding for innovation, and other construction trades relevant to energy efficiency); we discuss these in more detail where applicable. We also used data sets that helped illuminate the state of play in areas such as university-based R&D. At times, we used such data for scoring or provided it for illustrative purposes only.

¹⁰ Wiginton et al., "Fuel Savings and Emissions Reductions in Heavy-Duty Trucking: A Blueprint for Further Action in Canada."

Overall results

This year, British Columbia and Québec remain in the top three. Prince Edward Island moved from fourth to tie Québec for second place. New Brunswick moved up three spots to finish fourth, while Nova Scotia, previously in second, moved to fifth place. Ontario, Manitoba, and Yukon once again ranked in the middle of the pack. Saskatchewan moved from last to ninth place. Alberta dropped to last place, with points decreasing in most categories. Newfoundland retained its tenth-place ranking.

British Columbia continues to lead in buildings, but Ontario narrowly took the lead in enabling policies. Québec again places first in transportation and industry. New Brunswick dramatically improved its performance in the programs policy area, and its commitments to adopt Tier 2 of the national model codes in 2025 and to reach net zero energy-ready requirements for new buildings by 2030 helped to boost it ahead of Ontario, jumping from seventh to fifth place.

The table below shows scores for each province by policy area. In the second column, we depict ranking changes between 2022 and 2024. Due to adjustments made to topics and metrics, changes in specific policy areas and overall scores may not be directly comparable with previous scores.

Rank	Rank change	Province/territory	Programs (37.5 points)	Enabling (9.5 points)	Buildings (27.5 points)	Transportation (17.5 points)	Industry (8 points)	Total (100 points)
1	-	BC	13.75	6.00	15.00	11.75	7.00	53.50
2	+2	PE	23.50	4.00	6.50	7.50	3.00	44.50
2	+1	QC	12.25	4.75	6.75	12.75	8.00	44.50
4	+3	NB	21.75	3.50	7.00	5.00	5.50	42.75
5	-3	NS	18.00	4.25	5.00	6.00	6.50	39.75
6	-1	ON	10.00	6.25	8.00	3.25	5.50	33.00
7	-1	YT	16.50	5.00	4.75	6.00	0.00	32.25
8	-	MB	11.25	6.00	2.75	3.50	6.00	29.50
9	+2	SK	3.75	5.25	4.75	1.75	0.00	15.50
10	-	NL	3.75	1.75	3.00	3.00	2.00	13.50
11	-2	AB	0.50	2.75	2.00	2.25	0.00	7.50

Table 6. Overall scoring results

The names of the Canadian provinces and territories are abbreviated throughout this report using the postal abbreviation: Alberta (AB), British Columbia (BC), Manitoba (MB), New Brunswick (NB), Newfoundland and Labrador (NL), Northwest Territories (NT), Nova Scotia (NS), Nunavut (NU), Ontario (ON), Prince Edward Island (PE), Québec (QC), Saskatchewan (SK), Yukon (YT).

Energy efficiency in the territories

Canada's territories have historically presented a challenge for tracking and benchmarking energy efficiency policy and outcomes. In previous years, we have excluded the territories in our regular scoring due to data limitations and the unique context of their energy systems. Despite our best efforts and those of our contacts in each territory, we have struggled to acquire the data and information necessary to score each territory alongside the provinces. This is in part due to resource constraints both at Efficiency Canada and in the territories. However, in some cases, it is also a consequence of less standardized reporting practices in the territories or our lack of contacts with access to the information needed to calculate our metrics. Additionally, the smaller populations, colder climates, more decentralized energy and transportation systems, and varying governance arrangements can produce results quite different than

those observed in the provinces, leading to concerns about the comparability between the territories and the provinces.

Nevertheless, in Scorecard 2022, we were able to include Yukon in the Scorecard benchmarking alongside provinces for the first time due to additional data collection work. Yukon's energy efficiency programs and policy outcomes are once again benchmarked alongside provinces in Scorecard 2024. As such, information on the territory can be found in the main body of the report rather than in the territories update below. Note that some data limitations still exist. For example, we used Canadian Urban Transit Association (CUTA) data to track public transit funding, ridership, and fleet electrification. CUTA reports territorial data only as a cumulative total rather than per respective territory and so we did not assess Yukon in this policy area. Please see the provincial/territorial highlights section or read through the main body of the Scorecard for greater detail on energy efficiency in Yukon.

Northwest Territories and Nunavut are not included in our 2024 Scorecard benchmarking. Instead, we discuss energy efficiency in these territories separately below. Where quantitative analysis was possible for Northwest Territories, we compared the territory's performance against the Canadian average and/or the performance of other provinces/territories. Please note that significant information gaps and limitations remain and that readers should consider these comparisons for illustrative purposes only. Quantitative analysis is not possible for Nunavut due to the limitations associated with data availability. Instead, we offer a qualitative discussion.

Northwest Territories

The Northwest Territories' 2030 Energy Strategy contains six strategic objectives outlining the territory's long-term approach to supporting secure, affordable, and sustainable energy.¹¹ Two of these objectives relate to energy efficiency and will be explained in the following summary. Energy efficiency programs and services are delivered in partnership with the Arctic Energy Alliance (AEA).

It is important to note that barriers to energy efficiency in the north can include limited access to certain resources, technologies and qualified trades in many communities, the capacity for communities to manage energy efficiency or renewable energy

¹¹ Government of the Northwest Territories, "2030 Energy Strategy - A Path for More Affordable, Secure and Sustainable Energy in the Northwest Territories."

projects, and the high cost of energy and measures. As such, applying the same net-to-gross ratios used in our analysis for provincial programs savings may not be appropriate in this context. We have chosen to do so for consistency's sake, but readers should interpret the results accordingly.

The AEA reported electricity, natural gas and non-regulated fuel program savings in its 2023–2024 annual report.¹² Savings are not evaluated by an independent third party. Electricity savings results were assumed to be gross savings and as such we applied our standard net-to-gross ratios as used for the provinces.

Electricity sales data were collected from Northwest Territories Power Corporation's 2022–2023 NTPC Annual Report of Finances.¹³ As electricity sales are based on the previous year's sales figures, we assumed a two per cent load growth rate for 2023.¹⁴ Based on this data, the territory saved 0.37 per cent of annual domestic sales in 2023. This is below the 2023 Canadian average of 0.66 per cent. As per the AEA's annual report, the Energy Efficiency Incentive Program – a rebate program incentivizing the purchase of energy-efficient products – achieved the highest total electricity savings out of all energy efficiency programs in the territory in 2023.

To calculate the natural gas and non-regulated fuel savings metric, we use the same Statistics Canada end-use demand resources found in the natural gas and non-regulated fuel savings metric methodology description. In 2023 the Northwest Territories saved 0.42 per cent of end-use demand. This is slightly below the Canadian average savings rate of 0.50 per cent.

In 2023 the Northwest Territories spent \$55.85 per capita on energy efficiency programs and supporting activities. This places the territory amongst the top half of spenders when compared with the other jurisdictions in the Scorecard and above the Canadian average of \$39 per capita.

We evaluated low-income efficiency program spending based on the Designated Income Home Winterization Program. This program provides homeowners with the supplies, knowledge, and other resources to winterize their homes and save on heating fuel. It also provides LED light bulbs, low-flow shower heads, and faucet aerators to

¹² Arctic Energy Alliance, "2023/24 Annual Report."

¹³ Northwest Territories Power Corporation and Northwest Territories Hydro Corporation, "Annual Report 2022-23."

¹⁴ See Electricity savings target section for explanation of load growth assumptions.

reduce the consumption of electricity and water. The Government of the Northwest Territories Department of Infrastructure and the Government of Canada funded this \$190,000 program in 2023. It is based on a community partnership, under which five community organizations partnered with the AEA. Each community partner hired a community liaison worker on a temporary contract to ground the project in the community, raise awareness and capacity around winterization, and support local employment. The total value of incentives across the program in 2023 was \$57,000: 137 energy efficiency kits were distributed at an average incentive of \$420.¹⁵

The territory's Energy Efficiency Incentive Program provides rebates to residents purchasing new energy-efficient products and appliances with the goal of reducing energy costs and emissions. In 2024, rebates were significantly reduced following a decision by the federal government to stop funding non-renewable heating systems. Consequently, the program no longer offers rebates for higher efficiency fossil fuel-burning heating systems, posing a challenge to reducing emissions and costs in the territory due to the lack of renewable alternatives. Furthermore, communities powered by hydroelectricity are no longer eligible for LED lighting rebates, discouraging affected residents from switching to solutions that could further reduce energy use and costs.

Many residents are facing difficulties accessing the Canada Greener Homes Initiative, which offers grants and loans to cover eligible home retrofits. One of the program's requirements is a pre-retrofit home energy evaluation. However, the AEA, as the sole organization certified to conduct such assessments in the Northwest Territories, is facing wait times of up to two years as a result of COVID-19 backlogs and the lack of energy advisors in the territory.¹⁶ While residents are able to bring evaluators in from other provinces, AEA evaluations are heavily subsidized by the government. Bringing in evaluators requires residents to pay market rate for the evaluation, in addition to travel costs, presenting an additional barrier.

The Government of the Northwest Territories and Environment and Climate Change Canada offered funding support for large-scale emission reduction projects through the GHG Grant Program. The program accepted government, commercial, and industrial applications annually, with the final application deadline closing in July 2023. There is no maximum for which an applicant may apply. Eligible projects include building energy retrofits and fuel switching. While funding for the GHG Grant Program concluded in

¹⁵ Arctic Energy Alliance, "2023/24 Annual Report."

¹⁶ Blake, "Greener Homes Program 'Practically Inaccessible' to Northerners."

March 2024, the territorial and federal governments are discussing potential avenues for continuing the program.

The Northwest Territories currently follows the 2015 National Building Code (NBC) and has introduced regulatory amendments to adopt the 2020 Model Codes. At the time of writing, the amendment is undergoing public consultation set to conclude in August 2024. Following review of any feedback received, a finalized proposal will be published. However, the National Energy Code for Buildings (NECB), though recommended by the government, has not been adopted at the territorial level. Rather, action on the latter appears to have been taken at the municipal level in Yellowknife. With the release of the 2020 Model Codes, Yellowknife has again led the territory by immediately adopting Tier 1 of both the NBC and NECB into bylaw in May 2022.

Strategic Objective 5 of the Northwest Territories' 2030 Energy Strategy is to increase commercial, residential, and institutional building energy efficiency by 15 per cent. The AEA, with the support of the territorial and federal governments, partnered with Housing NWT to install two air-source heat pumps in a single building to study the suitability of heat pumps in the territory's cold climate.¹⁷ The project began in winter 2022–23, and data will be collected over two years to determine the technology's feasibility.

In the 2030 Energy Strategy, Strategic Objective 3 is to reduce transportation emissions by ten per cent per capita, with increasing EV use being recognized as one of the main ways to achieve this goal. The AEA launched the Electric Vehicle Incentive Program in June 2020, which provides support for the purchase of electric vehicles (EV) (up to \$5,000) and Level 2 charging station installation (up to \$500). In 2023, the AEA expanded the rebate to include specialty vehicles such as electric bikes, snowmobiles, ATVs, and boat motors. Rebates for EVs and charging stations are available in nine communities that are served by hydroelectricity while rebates for specialty vehicles are available throughout the territory. A total of 117 rebates (which supported the purchase of 19 EVs, 90 e-bikes, and the installation of eight charging stations) were provided, totalling \$210,000 with an average rebate value of \$1,800.¹⁸ Ninety-eight of the rebates were awarded within the community of Yellowknife.

¹⁷ Government of the Northwest Territories, "Energy Initiatives Report - Reporting on Actions under the 2030 Energy Strategy."

¹⁸ Arctic Energy Alliance, "2023/24 Annual Report."

In Summer 2022, the federal and territorial governments announced plans to install one Level 3 and 72 Level 2 electric vehicle charging stations by 2024. Furthermore, the territory announced plans to develop a corridor of Level 3 chargers around hydroelectric communities around the Great Slave Lake connecting to Alberta. At the time of writing, two Level 3 and one Level 2 charging stations have been installed, all of which are located in Yellowknife.¹⁹

Nunavut

The Government of Nunavut outlines various energy efficiency priorities in its Business Plan for 2024–2026.²⁰ The Department of Environment states that it will investigate the potential for alternative building technologies to be used and manufactured in the territory, with an emphasis on energy-efficient and climate-friendly construction, via quarterly meetings held by the Climate Change Secretariat with various department and agency leads. Since there are no certified energy auditors in the territory, the department is partnering with the Arctic Renewable Society to secure funding and support the training of local energy auditors.

The Department of Community and Government Services is studying existing construction practices in the territory to determine their ability to meet the NECB with the goal of adopting their own energy code. At the time of writing, data collection and review are underway with public consultations scheduled to begin in 2024. The department aims to develop an energy code and implementation plan in 2025. The department is also contributing toward energy efficiency initiatives through energy modelling on the design of new buildings to assess post-construction performance in various metrics, including energy efficiency.

With support from the federal Low Carbon Economy Fund, the Nunavut Housing Corporation undertook 64 projects replacing windows, doors, boilers, hot water tanks and furnaces to improve energy efficiency in targeted units for nine communities. This work was completed in March 2024. Under the Nunavut Housing Corporation's Home Renovation Program, participants can receive a forgivable loan to cover the cost of materials, freight, and labour, to a maximum contribution of \$100,000, depending on household income.

¹⁹ Natural Resources Canada, "Electric Charging and Alternative Fuelling Stations Locator."

²⁰ Government of Nunavut, "Business Plan Government of Nunavut & Territorial Corporations 2024-2026."

The Qulliq Energy Corporation (QEC) has finalized an independent power producer policy that would inform power purchase agreements. On September 6, 2022, QEC announced it received interim ministerial approval to begin accepting Independent Power Producer technical feasibility study applications from Inuit organizations, Inuit-owned organizations and hamlets. On December 19, 2023, the utility's IPP policy was approved and entered into effect for a duration of three years. Information about the policy is publicly available on the QEC's website. The QEC was working on a project to convert all of the territory's streetlights to LED which was on track for completion by December 2023. At the time of writing, this was the most recent update, and we do not know if the project has concluded.

In addition to territorial initiatives, Nunavut initiated various smaller projects aimed at improving energy efficiency in local communities. The first large-scale implementation of heat pumps was installed at the Aqsarniit Hotel in Iqaluit. This Inuit-led sustainable initiative was completed under the Clean Energy Microgrid project, with the goal of powering new developments on Inuit-owned land in Iqaluit and being independent from the community's electricity grid. As the territory's grid is entirely dependent on fossil fuels, the use of high-efficiency heat pumps will enable the hotel to reduce its diesel consumption by 15 per cent at minimum.

Outside of Iqaluit, ArchTech is leading a project to construct high-performance, energy-efficient residential and commercial buildings in the community of Baker Lake.²¹ These buildings, made from shipping containers installed with solar PVs on the roof, serve to demonstrate the feasibility of designing high-performance buildings in extreme Arctic environments that are energy efficient and durable.

In Sanikiluaq, the Arctic Elder Society completed the construction of a new multi-purpose research centre to support Inuit-led stewardship and conservation in the area. Powered by solar PVs and three air-to-water heat pumps, it aims to be the first net-zero building in Nunavut and encourage similar projects throughout the territory.²²

²¹ Natural Resources Canada, "High Performance Residential and Commercial Buildings in Baker Lake, NU."

²² Picklyk, "Net Zero in Nunavut."

Energy efficiency programs

Energy efficiency programs secure energy savings through various strategies such as audits, retrofits, training for building tradespeople, “people-centred”²³ or behavioural efficiency strategies, and customized industrial programs. Natural gas and electric utilities, governments and government agencies, and energy efficiency utilities or third parties such as Efficiency Nova Scotia, Efficiency Manitoba and efficiencyPEI administer these programs.²⁴

These entities generally develop and administer programs under a regulatory framework that recognizes efficiency as an energy-system resource on par with power plants, wind turbines, transmission lines, and similar infrastructure. Efficiency resources, however, often provide energy services at a much lower cost and at lower risk than new sources of supply,²⁵ and deliver numerous co-benefits such as improved comfort, more income in the local economy, and reduced energy poverty.

For this year’s scorecard, we collected information and allocated scores for the following policy areas or metrics:

- **Program savings** (eighteen points total):
 - Net annual incremental savings from electricity efficiency programs (nine points).
 - Net annual incremental savings from natural gas and/or non-regulated fuels efficiency programs (six points).
 - Electricity capacity savings (three points).
- **Program spending** (ten points total):
 - Efficiency program portfolio spending per capita, all fuels (ten points).
- **Supporting equity and inclusion** (four points total):
 - Low-income program spending (two points).
 - Indigenous program spending (two points).
- **Efficiency resource planning** (five and a half points total):
 - Long-term energy efficiency resource policies (one point).

²³ Ehrhardt-Martinez and Laitner, “Rebound, Technology and People.”

²⁴ Haley et al., “From Utility Demand Side Management to Low-Carbon Transitions: Opportunities and Challenges for Energy Efficiency Governance in a New Era.”

²⁵ Binz et al., “Practicing Risk-Aware Electricity Regulation”; Gilleo, “New Data, Same Results – Saving Energy Is Still Cheaper than Making Energy.”

- Electricity savings targets (two and a half points).
- Natural gas/non-regulated fuels savings targets (two points).

We weigh electricity more heavily than natural gas/non-regulated fuel (NRF) savings because these programs typically have greater energy savings potential to align with the methodology used in the ACEEE state scorecard.²⁶

However, compared to the U.S. scorecard, we place relatively greater weight on natural gas and NRF savings compared to electricity because Canadian provinces with lower-carbon electricity systems may choose to prioritize fossil fuel savings or fuel switching/strategic electrification to meet climate goals.

Province/ territory	Program savings (18 points)	Program spending (10 points)	Equity and inclusion (4 points)	Resource planning (5.5 points)	Score (37.5 points)
PE	11.00	10.00	2.00	0.50	23.50
NB	8.25	8.50	2.75	2.25	21.75
NS	9.00	5.00	3.00	1.00	18.00
YT	4.50	10.00	2.00	0.00	16.50
BC	4.75	4.00	3.25	1.75	13.75
QC	6.50	4.00	0.00	1.75	12.25
MB	5.25	3.00	0.75	2.25	11.25
ON	7.25	1.00	0.50	1.25	10.00
SK	2.25	0.50	0.75	0.25	3.75
NL	2.75	1.00	0.00	0.00	3.75
AB	0.50	0.00	0.00	0.00	0.50

Table 7. Energy efficiency programs scoring summary

²⁶ U.S. figures show electricity programs typically achieve more than two times the energy savings of natural gas programs. Subramanian et al., “2022 State Energy Efficiency Scorecard.”

Canada-wide savings and spending

Our research shows that national net annual incremental energy savings in 2023 increased by 25 per cent over 2022, hitting 25.44 petajoules and finally surpassing the previous highest energy savings achieved in 2017. Electricity savings increased by 23 per cent and natural gas savings increased 33 per cent. Total energy efficiency portfolio spending has continued to grow since 2019, surpassing \$1.5 billion in 2023 – a 27 per cent increase over 2022. The largest portion of spending is attributed to the “multi-fuel” category, for which Efficiency Canada is not able to differentiate spending by target energy type.

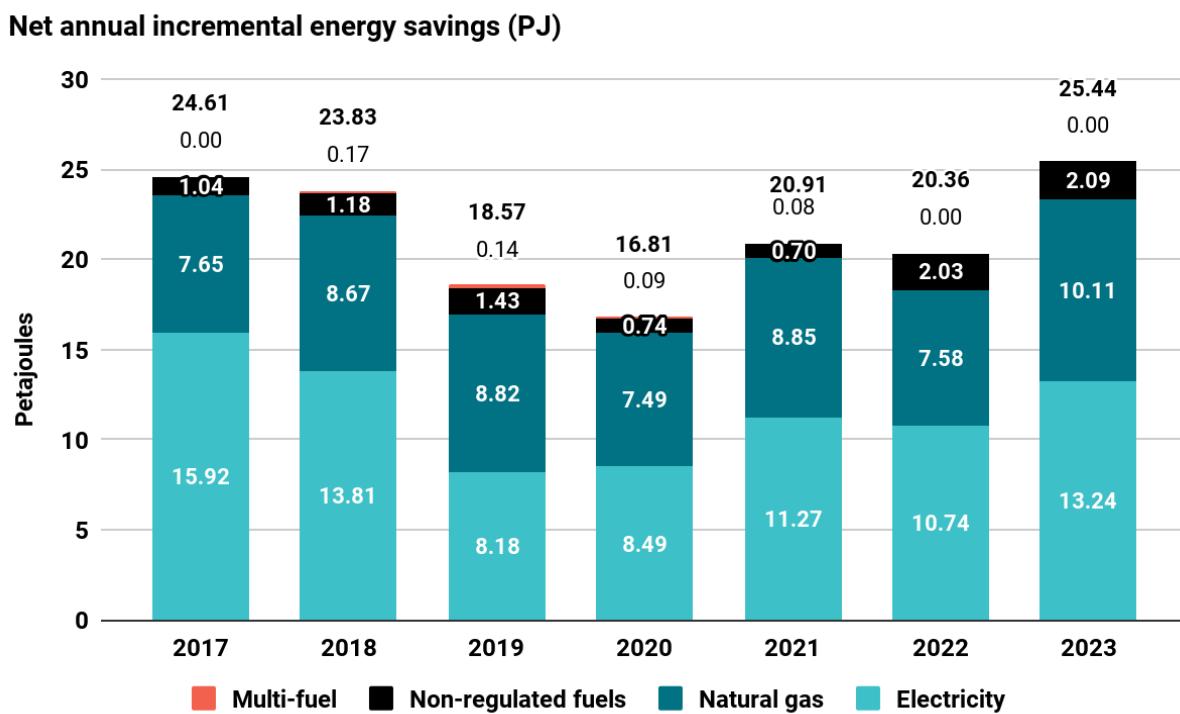


Figure 4. Net annual incremental energy savings (PJ), 2017-2023

Energy efficiency portfolio spending (\$M), by energy type

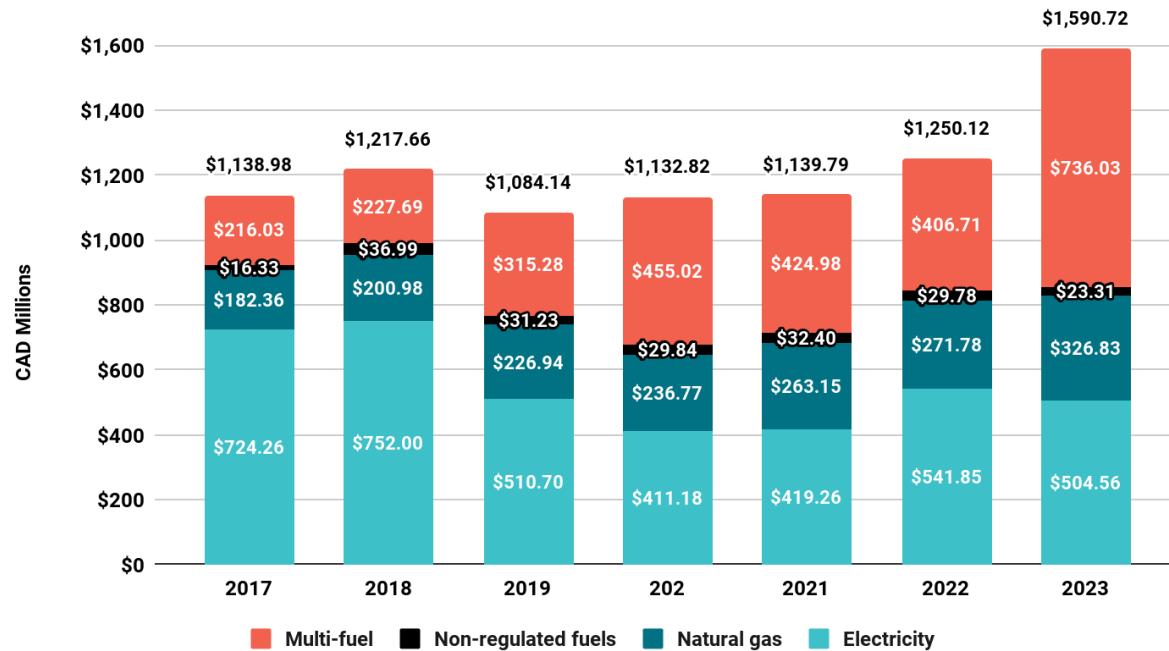


Figure 5. Energy efficiency program spending (\$CAD millions), 2017-2023

Program savings

Our Scorecard tracks net incremental energy savings from electricity, natural gas and non-regulated fuels (e.g., propane, heating oil, wood), and electricity capacity savings and resources from programs and other demand-side management activities across Canada.

Incremental savings are those realized in the year a program was run and exclude cumulative savings from measures undertaken or installed in previous years. “Net” savings refer to those directly attributable to program activities, including “spillovers” that can occur when program activities lead to additional, non incentivized energy savings, and exclude savings from free riders or weather.²⁷

²⁷ Free riders are energy efficiency program participants who would have taken energy saving actions on their own without inducement from the program. Spillover refers to additional energy savings that occur because a program participant implements additional measures beyond those targeted by the program, or due to non-participants engaging in energy savings activities because of the program’s influence.

Incremental savings estimated below exclude savings from non-program activities, including codes and standards, rate design, distributed generation or load displacement, innovation and research and development and transportation fuel savings programs. For electricity savings reported at the generation level, we adjusted figures using the average line loss factor provided by respondents to convert savings to the meter level. In instances where respondents only reported gross savings, we adjusted figures using Canadian average net-to-gross ratios of 87.2 per cent for electricity, 82.8 per cent for natural gas, and 80.2 per cent for non-regulated fuels savings (based on estimates from data received from respondents).²⁸ We provide further details on scoring methodology in the subsections below.

Electricity efficiency programs

We scored net annual incremental electricity savings at the meter level as a percentage of domestic electricity sales on an eight-point scale, with savings exceeding 2.5 per cent as the top threshold. Canadian jurisdictions that reach this level of energy savings will capture significant economic benefits, according to a 2018 economic impact study produced for Clean Energy Canada and Efficiency Canada.²⁹ In past years, leading U.S. states have met or exceeded this top threshold, and discussions of aggressive electricity savings suggest a target of three per cent a year.³⁰ We awarded provinces and territories an additional point if an independent third-party has evaluated their net savings figures, and half points if only some of the claimed energy savings were evaluated by a third party.

²⁸ We calculated NTG values using net and gross figures provided by the following respondents between 2016 and 2019. Electricity: Efficiency Nova Scotia, IESO, Newfoundland Power, Newfoundland and Labrador Hydro, and Energy Efficiency Alberta. Natural gas: Énergir, SaskEnergy, and Energy Efficiency Alberta. Non-regulated fuels: Energy Efficiency Alberta. We excluded Enbridge-provided net and gross values from the natural gas calculation as outliers (averaging 43.9 per cent between 2016 and 2018).

²⁹ Duns & Bradly Energy Consulting, "The Economic Impact of Improved Energy Efficiency in Canada: Employment and Other Economic Outcomes from the Pan-Canadian Framework's Energy Efficiency Measures."

³⁰ Neme and Grevatt, "The Next Quantum Leap in Efficiency: 30 Percent Electric Savings in Ten Years."

Savings as a % of domestic sales (>=)	Score	Evaluated by a third party
2.50%	8	
2.34%	7.5	
2.19%	7	
2.03%	6.5	
1.88%	6	
1.72%	5.5	
1.56%	5	
1.41%	4.5	
1.25%	4	+1
1.09%	3.5	
0.94%	3	
0.78%	2.5	
0.63%	2	
0.47%	1.5	
0.31%	1	
0.16%	0.5	

Table 8. Electricity savings scoring methodology

Province/territory	Savings (GWh)	Domestic end-use sales (GWh)	Savings % of domestic sales	2022-2023 % points change	Third-party evaluation (+1 point)	Score (8 + 1 points)
ON	1,662.8	137,100.0	1.20%	0.53	Yes	4.5
NS	121.6	10,442.0	1.15%	0.08	Yes	4.5
PE*	16.9	1,517.8	1.10%	-0.15	Yes	4.5
BC	279.6	58,891.0	0.47%	0.00	Yes	2.5
MB	105.0	21,996.0	0.48%	0.05	Yes	2.5
NB	62.7	13,557.0	0.46%	0.00	Yes	2
NL	29.8	9,418.9	0.32%	-0.01	Yes	2
QC~	1,007.7	177,329.0	0.57%	0.02	Partially	2
SK	5.3	24,278.7	0.02%	0.02	Yes	1
YT*~	0.9	512.5	0.17%	0.07	No	0.5
AB~	51.3	49,807.6	0.10%	0.06	No	0
National total	3,343.5	504,850.5	0.66%	0.15		

Table 9. Net incremental electricity savings (2023)

* 2023 sales figures with 2% load growth assumed (see [Electricity savings target](#) section for explanation of load growth assumption); PE sales are an estimate based on recorded MECL sales as 90% of provincial total.

~ Some gross savings converted to net savings using an estimate of 0.872 NTG.

We derived savings and sales data from program administrator annual reporting and/or utility regulatory documents, as well as through our information requests to utilities and program administrators. Figures do not include data from smaller utilities. Values for previous years savings are updated with revised values from our information requests, if provided. We provide a list of program administrators reporting savings data in GWh in Appendix B.

While total national-level net incremental electricity savings from provincial and territorial programs increased by 34 per cent in 2023, the change in savings as a percentage of sales was slight (an increase of 0.16 percentage points, from 0.5 per cent to 0.66 per cent). Ontario achieved the most significant increase in savings as a

percentage of domestic electricity sales (+0.53), surpassing one per cent for the first time since 2018 (yet still falling short of its historic high of 1.41 per cent in 2017), though a considerable portion of these savings derive from delayed program completion from past efficiency frameworks.

Natural gas and/or non-regulated fuels efficiency programs

This Scorecard combines program savings from natural gas and non-regulated fuels (NRFs) such as heating oil, propane, diesel, and wood into a single metric. Atlantic provinces and the territories use very little natural gas in buildings, and as such do not typically operate programs targeting natural gas savings (the exception being New Brunswick). Conversely, other Canadian provinces use proportionally much fewer NRFs than the Atlantic provinces and the territories. Combining natural gas and non-regulated fuels into a single metric allows us to compare provinces and territories with different contexts.

This metric is calculated by combining natural gas and non-regulated fuels' annual incremental savings by province/territory (in Terajoules), and dividing them by distribution deliveries of natural gas (residential, commercial/institutional, and industrial) and end-use demand for select non-regulated fuels (diesel fuel oil, natural gas liquids, light fuel oil, and wood/wood pellets) in the residential, commercial, public administration, and industrial-manufacturing end-use sectors.³¹ The savings figures provided below include any savings from switching to more efficient and lower carbon fuel sources, principally electricity. Finally, it is important to note that the program administrators listed in the table below do not all offer both natural gas and non-regulated fuel programs.

Where provinces have co-delivered a program with the federal government (e.g., the Greener Homes Program or the Oil to Heat Pump Affordability Program), we have

³¹ End-use energy data excludes non-energy uses, and is obtained from the following Statistics Canada tables: Statistics Canada, "Table 25-10-0059-01: Canadian Monthly Natural Gas Distribution, Canada and Provinces"; Statistics Canada, "Table 25-10-0029-01 Supply and Demand of Primary and Secondary Energy in Terajoules, Annual"; Statistics Canada, "Table 25-10-0083-01 Residential Use of Wood and Wood Pellets."

included, to the best of our ability, all savings achieved by the program, regardless of funding source.³²

Savings rates are scored on a five-point scale, using 1.75 per cent savings over sales as the top threshold. A 2018 Canadian economic impact study, produced for Clean Energy Canada and Efficiency Canada, modelled this level of savings in its “aggressive” efficiency scenario.³³ Provinces receive up to one additional point if a third party evaluates the reported savings or adds another layer of oversight in addition to internal or third-party evaluation.

Savings as a % of end-use demand (>=)	Score	Evaluated by a third party
1.75%	5	
1.58%	4.5	
1.40%	4	
1.23%	3.5	
1.05%	3	
0.88%	2.5	+1
0.70%	2	
0.53%	1.5	
0.35%	1	
0.18%	0.5	

Table 10. Natural gas savings scoring methodology

³² While most provinces with co-delivery arrangements with the federal government claim all of the associated energy savings, Enbridge claims only the portion associated with ratepayer funding. To ensure fair comparison across the provinces, we have included the portion of savings from the Home Efficiency Rebate Plus co-delivered program that were attributed to the federal government in Ontario's result.

³³ Dunsky Energy Consulting, “The Economic Impact of Improved Energy Efficiency in Canada: Employment and Other Economic Outcomes from the Pan-Canadian Framework’s Energy Efficiency Measures.”

Province/territory	Natural gas + NRF savings (TJ)	End-use demand (2022) (TJ)	% of demand	2022-2023 % points change	Third-party evaluation (+1 point)	Score (5 + 1 points)
NB	344.4	20,021.5	1.69%	1.18	Yes	5.5
PE	246.5	5,161.0	4.56%	2.03	No	5
QC*	4,795.1	324,794.3	1.45%	0.51	Partially	4.5
YT	8.9	577.0	1.52%	0.61	No	4
NS*	339.3	35,245.2	0.95%	0.43	Yes	3.5
BC	1,325.8	257,040.7	0.52%	0.09	Yes	2
MB	460.3	95,210.4	0.48%	0.14	Yes	2
ON~†	3,569.6	1,172,261.4	0.30%	0.03	Yes	1.5
SK*	48.9	86,254.3	0.06%	0.02	Yes	1
AB*	926.8	381,431.2	0.24%	0.00	No	0.5
NL	-	11,219.0	-	0.00	-	-
National total	12,065.7	2,389,216.0	0.50%	0.13		

Table 11. Net incremental natural gas and non-regulated fuel savings (2023)

* Net savings for some respondents estimated using 0.828 and 0.802 net-to-gross ratios for natural gas and non-regulated fuels, respectively.

~ We note that Ontario natural gas programs have a low net-to-gross ratio compared to other jurisdictions. Gross savings were 0.68% of natural gas distribution deliveries in 2023.

† Ontario's total savings includes the portion of savings attributed to the federal government from the co-delivered Home Efficiency Rebate Plus program (261.1 TJ) to allow for accurate comparison across provinces. Please note that Enbridge could not confirm the accuracy of this value.

We derived savings data from information requests to utilities and program administrators, and supplemented or verified the data via annual reports, utility regulatory documents, or other documents, and may not reflect true provincial totals (e.g., some smaller utilities are not included).

Values for previous years savings are updated with revised values from our information requests, if provided. We provide a list of program administrators reporting savings data in TJ in Appendix C.

National fossil fuel savings as a percentage of demand increased 0.13 percentage points over 2022. New Brunswick and Prince Edward Island experienced the highest increase in savings; 1.18 and 2.03 percentage points, respectively, compared to 2022. New Brunswick achieved a savings rate of 1.69 per cent of end-used demand. The province's Enhanced Energy Savings Program and Industrial Energy Efficiency programs achieved the highest savings totals. Prince Edward Island achieved savings equivalent to 4.56 per cent of end-use demand. This is largely a result of the province's three free programs (heat pump, water heater, insulation). No jurisdiction reported a decrease in natural gas and non-regulated fuel savings.

Electricity capacity savings

Whereas energy savings are the reduction in the actual amount of energy consumed by a measure over a given period (and thus measured by energy content, e.g., megawatt hours), capacity savings are a reduction in the demand for energy at a specific time (and are thus measured in megawatts).

Energy efficiency programs deliver both energy savings and capacity savings. In Canada, some systems anticipate, or are experiencing, capacity constraints even though they can experience bulk energy surpluses. Some regions are also aggressively deploying electric heat pumps, which can create peak power demands that demand-side strategies can manage. Like energy savings, capacity savings help reduce system costs, avoid outages, and enable utilities to defer or avoid investment in new supply or distribution infrastructure. Utilities can undertake other demand-side management activities to secure additional capacity resources that may be called upon during periods of high energy demand. However, these may not lead to any reductions in energy consumption.

For this year's Scorecard, we asked respondents to delineate electricity capacity savings from efficiency programs and capacity resources available from other demand-side management sources (such as demand response programs, or interruptible rates), and to provide the annual peak demand. In its 2020 edition of the Utility Scorecard, ACEEE scores utilities on peak demand reductions as a percentage of total peak demand from energy efficiency programs only, using a scale with a top threshold of two per cent. It pegged the U.S. average at 0.81 per cent.³⁴

³⁴ Relf et al., "2020 Utility Energy Efficiency Scorecard."

We scored this component with the same savings threshold as ACEEE for capacity savings from energy efficiency programs, but also awarded points for savings from demand response and similar capacity-focused initiatives, in recognition of its importance in managing grid constraints. We give preference to capacity savings from energy efficiency programs in our scoring methodology because these programs deliver both energy and capacity benefits, as well as customer benefits. Table 13 provides capacity savings from efficiency programs and capacity resources from other demand-side activities separately, as percentages of peak demand.

The scoring methodology is explained in the following table.

Efficiency programs		Related activities	
Capacity savings/peak demand (>=)	Score (energy efficiency)	Capacity savings/peak demand (>=)	Score (demand response & related activities)
2.00%	2	7.00%	1
1.75%	1.75		
1.50%	1.5	5.00%	0.75
1.25%	1.25		
1.00%	1	3.00%	0.5
0.75%	0.75		
0.50%	0.5	1.00%	0.25
0.25%	0.25		

Table 12. Capacity resources scoring methodology

Province/ territory	Capacity resources as a % of peak demand					Score (3 points)
	Efficiency programs	2022–2023 % points change	Other demand-side management activities	2022–2023 % points change		
PE~†	1.52%	0.00	-	-	-	1.5
ON~	0.93%	0.50	4.36%	0.46	-	1.25
NS~	1.12%	-0.29	-	-	-	1
MB	0.39%	0.34	4.03%	-0.47	-	0.75
NB	0.59%	0.03	1.18%	1.02	-	0.75
NL*	0.90%	-0.05	0.83%	-0.08	-	0.75
BC*	0.36%	-0.02	0.53%	0.44	-	0.25
SK	0.02%	0.02	2.08%	0.06	-	0.25
AB~	-	-	0.03%	0.00	-	0
QC	-	-	0.20%	0.20	-	0
YT	-	-	-	-	-	0

Table 13. Capacity resources

* For jurisdictions with two or more electricity utilities reporting capacity savings, we estimate this metric based on the utility reporting higher savings (Newfoundland Power, BC Hydro).

~ We obtained peak demand data for AB, NS, ON, and PE from the following respective reports: Alberta Electric System Operator's Annual Market Statistics Report; Nova Scotia Power's Hourly Total Net Nova Scotia Load 2023; IESO Year-End Data 2023 Year in Review; Maritime Electric's 2020 Integrated System Plan.

† Where 2023 peak demand was not available, we used the most recent peak demand reported.

Research for the Scorecard found that many provinces are increasingly exploring demand-side strategies for providing grid flexibility. British Columbia, Nova Scotia, New

Brunswick and Yukon, reported pilots and programs involving remotely dispatched/controlled equipment such as water heaters and/or thermostats in order to manage load during times of expected peak energy demand. Nova Scotia is piloting a Home Battery Pilot program which offers rebates for energy storage systems to be paired with a new or existing solar system. Yukon Energy is installing large capacity battery storage. The IESO launched a residential “Peak Perks” program in June 2023, where participants with smart thermostats agree to have the temperature of their home adjusted during times of peak demand. Hydro-Québec’s Hilo smart home system allows customers to participate in energy saving challenges to reduce demand during peak demand times, and the utility also offers incentives for the installation of an electric thermal storage system. Future Scorecards will continue to refine and expand tracking of ‘demand flexibility’ programs and initiatives.

Program spending

The Scorecard tracks program spending, as well as energy savings. While spending often coincides with energy savings, the addition of a spending indicator picks up on several other factors. For instance, jurisdictions with higher spending could be going after more expensive and challenging to reach energy savings. Program administrators could also be engaging in activities like codes and standards advocacy, market transformation, and innovation (termed “enabling/supporting” below) that are not recorded in energy savings figures. Jurisdictions might also have different evaluation protocols that result in different savings figures. Tracking spending helps control for such differences.

We evaluate this metric on a 10-point scale, based on provincial/territorial program spending per capita across all fuels.³⁵ Our top threshold for per capita spending has remained unchanged since 2019 at \$100. To account for inflation (approximately 18 per cent since 2019) and observed provincial best practices, we have increased it to \$150 per capita for the 2024 Scorecard. A jurisdiction spending \$150/capita or greater will thus be given a score of 10 with scoring decreasing by a half point every \$7.50 reduction (e.g., \$142.50 = 9.5 points; \$135.00 = 9 points).

Where provinces have co-delivered a program with the federal government (i.e. the Greener Homes Program or the Oil to Heat Pump Affordability Program) we have, to the

³⁵ Statistics Canada, “Table 17-10-0009-01: Population Estimates, Quarterly.”

best of our ability, included only the provincial / utility portion of that funding, excluding the federal contribution.³⁶

Spending per capita	Score
\$150.00	10
\$142.50	9.5
\$135.00	9
\$127.50	8.5
\$120.00	8
\$112.50	7.5
\$105.00	7
\$97.50	6.5
\$90.00	6
\$82.50	5.5
\$75.00	5
\$67.50	4.5
\$60.00	4
\$52.50	3.5
\$45.00	3
\$37.50	2.5
\$30.00	2
\$22.50	1.5
\$15.00	1
\$7.50	0.5

Table 14. Spending on efficiency programs and enabling/supporting activities scoring methodology

³⁶ The only exception, to the best of our knowledge, is that we were unable to confirm the exact federal contribution to Québec's Rénoclimat program.

Province /territory	Efficiency programs (\$M)	Enabling/ supporting (\$M)	Total spending (\$M)	Total spending per capita (\$)	2022-2023 Change in spending per capita (\$)	Score (10 points)
YT	\$15.71	\$0.44	\$16.15	\$357.79	\$125.78	10
PE	\$36.92	\$0.04	\$36.96	\$210.19	\$32.55	10
NB	\$103.97	\$7.59	\$111.56	\$132.38	\$60.86	8.5
NS	\$83.24	\$3.90	\$87.14	\$81.71	\$12.36	5
QC	\$538.91	\$58.98	\$597.89	\$66.81	\$18.45	4
BC*	\$245.48	\$106.72	\$352.20	\$63.10	\$22.88	4
MB	\$43.44	\$29.03	\$72.47	\$49.45	\$16.45	3
ON	\$230.05	\$28.96	\$259.01	\$16.39	-\$7.29	1
NL	\$6.81	\$1.71	\$8.52	\$15.77	\$2.32	1
SK	\$11.18	\$2.11	\$13.28	\$10.89	\$3.91	0.5
AB	\$31.18	\$4.37	\$35.55	\$7.47	\$3.96	0
National total	\$1,346.90	\$243.84	\$1,590.74	\$39.33	\$7.45	

Table 15. Spending on efficiency programs and enabling/supporting activities, per capita (2023)

* We have included BC's Low Carbon Electrification (LCE) spending and categorized it under enabling and support activities. We have also updated BC's 2022 spending total to include LCE funding. Though not DSM spending, LCE funding supports electrification in industry, transportation, and buildings via various initiatives such as studies, training, research and incentives.

National-level spending per capita on energy efficiency programs and enabling and supporting activities increased \$7.45 year-over-year, reaching \$39.33 per person in 2023. Yukon, New Brunswick and Prince Edward Island all saw significant increases in spending per capita (\$126, \$61 and \$33 respectively) compared to 2022. The large jumps in spending per capita in Prince Edward Island and New Brunswick were associated with the free heat pump, insulation and water heater programs in the former province, and the Enhanced Energy Savings program in the latter (specifically, the 'Off Oil' component of this program). Yukon's spending increase is primarily a consequence

of three large commercial retrofit projects being completed in 2023 (though they were initiated in a previous year).

Equity and inclusion

Improving energy efficiency provides many more benefits than reducing the costs of energy systems – it improves living standards and comfort and, by extension, physical and mental health. Efficiency also reduces customer bills and pollutants associated with energy use, which provides indoor and outdoor environmental benefits. All these benefits – reduced consumer costs, coupled with improvements in health, thermal comfort, and well-being – are particularly beneficial to people from traditionally marginalized communities, for whom conventional energy efficiency programming is not accessible and/or not designed to address unique circumstances.

Conventional energy efficiency programming is not designed to ensure equitable participation by all communities. Barriers such as the upfront cost of the improvements, split incentives (e.g., between a building owner and its tenant), skepticism and mistrust of governments or utilities that administer efficiency programs, and accessibility (in cases of remote communities, or where language barriers exist) may prevent many from accessing energy efficiency programs. While programs targeting traditionally underprioritized customers can yield significant benefits, realizing them is often more capital-intensive and requires different outreach and engagement strategies, as well as delivery models. However, governments and energy efficiency program administrators across Canada must ensure that all may equally and inclusively share in the benefits that energy efficiency can provide.

Governments and program administrators need to invest effort, resources and ingenuity to break down barriers to equity and inclusion. Actions could include:

- Legislating or requiring efficiency programs for traditionally underserved communities, like lower-income households and Indigenous peoples.
- Including provisions in cost-effectiveness testing to allow for lower program-screening thresholds, inclusion of low-income program specific non-energy benefits, or exclusion from cost-effectiveness requirements.
- Establishing long-term funding stability for these programs.

In our Scorecard and public policy tracking database, we track such policies and program spending for two communities: Canadians experiencing energy poverty, and Indigenous peoples and communities.

Spending on programs for lower-income households

Energy poverty exists when high energy bills lead to inadequate energy services and social exclusion, preventing some households from gaining access to other necessities of life.³⁷ A common, yet partial, measure of energy poverty is households spending over six per cent of household income on energy costs. Our understanding of energy poverty is expanding, especially as we consider how to ensure all households can move toward net zero emission standards, and that households that might not pay an energy bill still experience inadequate energy services and vulnerabilities to adverse health, extreme heat and extreme cold. For more resources on understanding and addressing energy poverty, and its linkages with household income levels, see Efficiency Canada's [“Energy Poverty in Canada” resource hub.](#)³⁸

The Scorecard has previously benchmarked provincial spending on income-targeted energy efficiency programming against both a measure of households vulnerable to energy poverty (prior to 2022), and against the population of individuals falling below official low-income measure thresholds (in the 2022 Scorecard and 2023 Programs update). Neither, on their own, offer a complete picture of the extent to which provinces are working to address inequity in access to energy efficiency improvements. While most provinces offer one or more programs that are “income-targeted” (meaning their availability, design, and incentive levels may be tailored to specific income levels), none use a measure of energy poverty to structure their programs. But, benchmarking spending against official low-income measures fails to account for differences in the costs of energy services across Canada, and ignores that similar barriers often exist for Canadians who exceed such measures.³⁹

Using data from the 2021 Census, Efficiency Canada has updated estimates of households at risk of energy poverty, using both the six per cent of household income measure and a measure where more than 30 per cent of household expenses are on

³⁷ Boardman, *Fuel Poverty*.

³⁸ Efficiency Canada. “Energy Poverty in Canada.”

³⁹ Kantamneni and Haley, “Efficiency for All: A Review of Provincial/Territorial Low-Income Energy Efficiency Programs with Lessons for Federal Policy in Canada.”

energy services. This data is available from Efficiency Canada's Energy Poverty Vulnerability Map. For the 2024 Scorecard, we have chosen to benchmark spending on income targeted programming against the six per cent of household income measure, since it better accounts for the population of Canadians that stand to benefit from income-targeted programming. Previous research has found that two-thirds of the Canadians who spend more than six per cent of their income on energy were above the low-income cut-off.⁴⁰

Effective programming for Canadians who face barriers to participating in energy efficiency initiatives often need to offer higher incentives and turnkey solutions, making these programs more expensive per participant. Previous research by Efficiency Canada has found that direct install programs with major upgrades achieve participation rates of one to two per cent, with a range of program costs per participant between \$2,600 and \$11,000.⁴¹ This level of spending may not be enough to fully address equity concerns in the context of an energy system transition. Nevertheless, to set a top scoring threshold, we took a participation target of five per cent of households in energy poverty multiplied by a retrofit cost of \$10,000, divided by the Canadian total of households at risk of energy poverty. This yields a top scoring threshold of \$500 per household. We awarded a maximum of two points to provinces that exceed this threshold, and scaled points as shown in Table 16.

Spending per household	Score
\$500.00	2
\$437.50	1.75
\$375.00	1.5
\$312.50	1.25
\$250.00	1
\$187.50	0.75
\$125.00	0.5
\$62.50	0.25

Table 16. Low-income efficiency program spending scoring methodology

⁴⁰ Rezaei, "Power to the People."

⁴¹ Kantamneni and Haley, "Efficiency for All."

Province/territory	Program spending (\$M)	Households at risk of energy poverty	Spending per household	Score (2 points)
PE	\$46.50	16,975	\$2,739.32	2
NB	\$36.85	86,380	\$426.60	1.5
BC	\$67.08	211,080	\$317.77	1.25
NS	\$29.45	113,690	\$259.05	1
MB	\$6.15	61,990	\$99.21	0.25
ON	\$54.96	637,810	\$86.16	0.25
AB	-	261,750	\$0.00	0
NL	\$0.43	69,985	\$6.13	0
QC	\$3.71	374,105	\$9.92	0
SK	\$2.63	69,345	\$37.96	0
YT	-	4,145	\$0.00	0
National total	\$247.75	1,907,255	\$129.90	

Table 17. Low-income efficiency program spending (2023)

Overall, spending on income-targeted energy efficiency programs increased substantially between 2022 and 2023, more than doubling from \$118 million in 2022 to nearly \$250 million in 2023. The top six provinces all significantly increased total spending. Notably, Prince Edward Island far exceeded the benchmark thresholds used for this metric. This result is mainly due to the province's income-targeted free heat pump, insulation and water heating programs, which alone accounted for roughly 40 per cent of the province's total spending on energy efficiency programs.

Indigenous communities

Indigenous communities are using energy efficiency to achieve objectives such as greater energy sovereignty, local security, and economic well-being.⁴² The Pan-Canadian

⁴² Mercer et al., "That's Our Traditional Way as Indigenous Peoples."

Framework on Clean Growth and Climate Change (PCF) calls for the federal and provincial governments to work in partnership with Indigenous peoples to improve building standards and energy efficiency through building-renovation programs, in a manner that incorporates traditional knowledge and culture into building designs.⁴³ A specific focus on fostering Indigenous partnerships within energy efficiency policy strategies can be a pathway towards reconciliation, which is the responsibility of all Canadians.⁴⁴

Energy efficiency portfolios should include a specific focus on working with relevant Indigenous Nations, for a number of reasons. The United Nations Declaration on the Rights of Indigenous peoples outlines the Indigenous right to free, prior, and informed consent for any energy project that impacts Indigenous Nations or their territories, including energy efficiency projects. In addition, policy approaches in support of Indigenous housing have historically proven inadequate and often counterproductive. As of 2020, Indigenous people in Canada were three times more likely (16.4 per cent) than the non Indigenous population (5.7 per cent) to live in a dwelling in need of major repairs.⁴⁵ Previous government-directed housing initiatives that did not include meaningful partnerships with Indigenous Peoples, failed to build housing that fit local community needs for operational affordability and up-keep, taking into account local climatic and demographic contexts.⁴⁶

Our Scorecard tracks Indigenous-specific energy efficiency programs. These programs can build relationships with specific Nations and/or outreach to urban communities through organizations such as Friendship Centres. As with programs to combat energy poverty, we asked respondents to indicate whether legislative or regulatory requirements existed to develop programming in partnership with Indigenous peoples, whether provisions in cost-effectiveness testing procedures exist to remove regulatory barriers, and whether a stable, long-term funding arrangement exists to support these initiatives. These details can be found in our public policy tracking database.

⁴³ Environment and Climate Change Canada, "Pan-Canadian Framework on Clean Growth and Climate Change."

⁴⁴ Truth and Reconciliation Commission of Canada, "Honouring the Truth, Reconciling the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada."

⁴⁵ Statistics Canada, "Housing Conditions among First Nations People, Métis and Inuit in Canada from the 2021 Census."

⁴⁶ Hyslop, "BC First Nation Gets Active about Passive Housing."

We also track spending on these programs as a performance indicator to evaluate the emphasis provincial-level energy efficiency program portfolios place on improving energy efficiency in Indigenous communities. To benchmark spending across provinces, we divide total spending reported in our information request by the number of individuals in each province reporting “Indigenous identity” in the 2020 census.⁴⁷ It is important to note that participation rates among Indigenous people is lower for the census than the overall participation rate, so the actual population levels are likely higher.⁴⁸

As in previous Scorecards, we set the top threshold at \$40 per individual, which approximately corresponds with total program spending per capita. We note that this is a spending metric for the entire provincial Indigenous population, not a spending amount per program participant, and thus it is not a measure of the comprehensiveness of energy retrofits. Furthermore, we note that this threshold is lower than that used in our income-targeted spending metric, which uses household level data to benchmark provincial efforts. Indigenous peoples may participate in all energy efficiency programming, and this metric seeks to capture only the dedicated initiatives specifically for these communities. We awarded points based on the scale in Table 18.

Some important caveats: This metric only provides a partial view of Indigenous energy efficiency initiatives in Canada, as it only assesses provincial and/or program administrator spending. For instance, this approach would not capture Indigenous-led projects taking place without partnerships with provincial government agencies or program administrators.⁴⁹ We are also not capturing all energy efficiency upgrades supported by the federal government that do not involve a provincial-level government or utility partner. Furthermore, some program administrators note that Indigenous people may also benefit from income targeted programming. The kinds of programs assessed in this metric are those that are specifically for Indigenous peoples or communities, which we suggest is a best practice to ensure programs partner with Indigenous Nations and help meet community needs and aspirations.

⁴⁷ Statistics Canada, “Indigenous Identity by Registered or Treaty Indian Status and Residence by Indigenous Geography: Canada, Provinces and Territories.”

⁴⁸ Taylor, “Federal Department Questioned Quality of 2021 Indigenous Census Data: Documents | CBC News.”

⁴⁹ Indigenous Clean Energy, “Accelerating Transition: Economic Impacts of Indigenous Leadership in Catalyzing the Transition to a Clean Energy Future across Canada.”

Spending per individual	Score
\$40.00	2
\$35.00	1.75
\$30.00	1.5
\$25.00	1.25
\$20.00	1
\$15.00	0.75
\$10.00	0.5
\$5.00	0.25

Table 18. Indigenous peoples efficiency program spending scoring methodology

Province /territory	Indigenous program spending (\$M)	Indigenous program spending per individual with Indigenous identity (\$)	2022–2023 <i>Change in spending per individual</i> (\$)	Score (2 points)
BC	\$15.76	\$54.30	\$44.31	2
NS	\$3.68	\$70.19	\$12.97	2
YT	\$11.57	\$1,312.93	\$1,189.01	2
NB	\$0.97	\$29.13	\$29.13	1.25
SK	\$2.97	\$15.82	\$8.73	0.75
MB	\$2.91	\$12.27	\$8.14	0.5
ON	\$2.53	\$6.23	\$2.27	0.25
AB	-	-	\$0.00	0
NL	-	-	\$0.00	0
PE	-	-	-\$86.28	0
QC	-	-	-\$4.88	0
National total	\$40.39	\$23.00	\$16.05	

Table 19. Indigenous peoples efficiency program spending (2023)

National level Indigenous program spending per individual increased \$16.05 year-over-year. We note that the change in Indigenous program spending in Prince Edward Island is primarily the result of a previous program coming to a close.

Yukon's high level of spending on this metric is a consequence of reporting practices in the territory, where spending is attributed in the year a project is completed. The value here reflects the completion of three multi-million dollar commercial projects that were completed in 2023/24 but initiated earlier.

Resource planning and targets

Energy efficiency targets give program administrators and energy system managers clear direction. They reinforce the concept of efficiency as a quantifiable energy resource, the potential size of which can be identified in advance (i.e., through resource planning), and then pursued through a portfolio of energy efficiency programs and related activities.

That said, the question of what constitutes a “target” is less straightforward. At a high level, a target is an ambitious objective that pushes program administrators to achieve more energy savings than they might otherwise have captured. In the United States, ACEEE tracks energy efficiency resource standards (EERS), which are described as “quantitative, long-term energy savings target[s] for utilities,” wherein “utilities must procure a percentage of their future electricity and natural gas needs using energy efficiency measures, typically equal to a specific percentage of their load or projected load growth.”⁵⁰ According to ACEEE, states with EERS policies achieve on average three to four times the level of savings of those without an EERS.⁵¹ Our review of the most recent relevant state policies suggests that legislators or utility regulators typically establish EERS.

We can fairly assume the presence of a target is likely to lead to more energy savings than its absence. But what if this target, set ‘outside’ the utility or program administrator, i.e., by government or the utility regulator, amounts to less than what potential studies suggest is possible or traditionally achieved? Alternatively, what if this long-term target, initially considered ambitious, is over time shown to be considerably short of what the true potential for energy savings was when it was made? What

⁵⁰ American Council for an Energy Efficient Economy (ACEEE), “Energy Efficiency Resource Standards.”

⁵¹ Molina and Kushler, “Policies Matter.”

happens if program administrators miss their targets (i.e., in what sense are they mandatory)?

Due to the complicated nature of energy efficiency targets, we distinguish between two main types in the 2024 Scorecard. These are:

1. **Long-term energy efficiency resource policies.** Long-term (greater than five years) energy savings targets that are either economy-wide (not applicable to a specific fuel) or that specify targets for electricity and natural gas/non-regulated fuels and are set either in legislation or a utility regulatory board ruling.
2. **Specific savings targets.** Energy savings targets for electricity, natural gas, and/or non-regulated fuels, electrification or fuel-neutral targets achieved by programs (i.e., not based on economy-wide energy intensity) that are set by the utility or program administrator and/or negotiated and approved as part of a demand-side management planning process with a planning cycle period of two to five years.

Long-term energy efficiency resource policies

The core objective of an energy savings target is to achieve higher savings than would have otherwise been accomplished in its absence. If legislated or rooted in a concrete and actionable energy/climate change plan, they also communicate political support for energy efficiency. Accordingly, a strong “target” would be a level of savings at the top of the benchmarks set in the program savings scoring and/or a clear planning rule that clearly maximizes energy efficiency opportunities before considering supply side resources, such as a regulatory requirement to pursue all cost-effective energy efficiency resources. For such a policy, we would award a full point, however our research shows that no such policy yet exists in Canada.

This leaves long-term savings targets set either in legislation, a regulatory planning rule, or in a concrete and actionable energy/climate change plan. Our scoring for target policies such as these is as follows:

- 0.25 points for a planning rule or target in legislation.
- 0.25 points more, if the planning rule is long-term (e.g., five years or more).
- 0.25 points more, if the rule is long-term with clear performance accountability for savings achievement (i.e., an organization or program administrator is responsible for specific savings or market transformation goals).

- 0.25 points more, if the long-term target clearly maximizes all energy efficiency opportunities and drives savings above business-as-usual levels.

This metric is therefore worth up to one point in total.

Province/ territory	Description	Score (1 point)
MB	<ul style="list-style-type: none"> • The Efficiency Manitoba Act legislates long-term energy efficiency savings targets over 15 years (2020-2035) of minimum net annual electricity savings at least equal to 1.5 per cent of electricity consumption in the immediately preceding year, and minimum net annual natural gas savings equal to 0.75 per cent of natural gas consumption in the immediately preceding year. Any shortfalls and surpluses in annual net savings carry forward over the 15-year period to reach cumulative annual percentage savings equal to 22.5 per cent for electricity and 11.25 per cent for natural gas. 	0.75
NB	<ul style="list-style-type: none"> • In 2022, the Energy Efficiency Regulation (2022-74) under the Electricity Act introduced minimum annual electricity savings targets as a percentage of forecasted in-province electricity sales. Prescribed targets gradually increase between fiscal 2024 and 2029 from 0.50 per cent to 0.75 per cent after which, each subsequent year must achieve 0.75 per cent savings. If savings targets are not achieved, the utility must provide the government a plan of how they will achieve the minimum target the following year. 	0.75
BC	<ul style="list-style-type: none"> • Under the Utilities Commission Act, British Columbia utilities are required to consider cost-effective demand-side measures first, and to explain to the regulator why subsequently proposed supply-side investments could not be met with demand-side management in long-term resource planning. The 2019 Energy Statutes Amendment Act removed BC Hydro's former exemption from this requirement. 	0.5
QC	<ul style="list-style-type: none"> • Government directive 537-2017 directed Transition énergétique Québec (now the Government of Québec) to create a plan that improves energy efficiency at least one per cent per year, on average, and to reduce consumption of petroleum products by five per cent. • The resulting 2018–2023 Master Plan targeted an “economy wide” improvement in energy efficiency by about 1.2 per cent per year, on 	0.5

average, and a deduction of petroleum use of 12 per cent in 2023, relative to 2013. In 2022, this plan was extended to 2026.

- The Master Plan is an important policy tool in the province's 2030 Energy Plan, which targets energy efficiency improvements of 15 per cent and a reduction in petroleum use of 40 per cent by 2030, from a 2013 base year.

AB	-	0
NL	-	0
NS	-	0
ON	-	0
PE	-	0
SK	-	0
YT	-	0

Table 20. Long-term energy efficiency resource policies

Aside from these select target setting policies, program administrators in most jurisdictions in Canada operate in a similar manner. A program administrator or utility first proposes energy efficiency savings targets and associated spending budgets to the regulatory board as part of a demand-side management plan that usually covers three to five years. The regulator and intervening stakeholders then assess the plan to consider issues such as cost-effectiveness, rate and bill impacts, and social equity. After a period of quasi-judicial review by the board, and potential negotiation with intervening parties, the regulator approves a plan. Each year, the program administrator or utility reports progress on achieving these plans to the regulatory board, and/or sometimes a provincial government ministry, for oversight and approval.

As in previous years, we assess these plans by evaluating the targeted net annual incremental energy savings as a percentage of projected domestic sales (averaging both over the planning period reported by the program administrator) and score them using the same savings rate thresholds as in our program savings metrics above. We also award a quarter point for provinces able to provide targets for three or more years into the future.

Electricity savings targets

Provinces are awarded up to two and half points for electricity savings targets, based on the scale provided in Table 21. Savings targets provided here are for efficiency programs only. Though some jurisdictions include savings from related activities in their demand-side management plans, we do not include these in our metric. We award an additional quarter point for targets provided for three or more years into the future. (Note: we provide savings targets including codes and standards, for those jurisdictions that count them as part of their target, for illustrative purposes).

In previous Scorecards, we benchmarked provincial electricity efficiency targets using load forecasts provided by information request respondents, or from internal desk research where necessary. Increasing rates of electrification, combined with ongoing Efficiency Canada research on utility resource planning practices, suggests that historic utility load forecasts may no longer be a satisfactory benchmarking mechanism for this metric. Load forecasts have been increasing steadily in some provinces, necessitating accelerated or expanded efforts to increase demand-side savings or supply-side resources (e.g., British Columbia, Nova Scotia, Ontario, Québec). Additionally, load forecast data that Efficiency Canada is able to acquire may not be comparable across provinces, due to different methodologies in producing forecasts and the way in which demand-side management activities are incorporated in them.

Consequently, we have modified our methodology for benchmarking electricity savings to account for provincial differences in forecast methodologies and the increased uncertainty resulting from electrification. A 2023 study of national net-zero pathway modelling studies by the Transition Accelerator found that, on average, these studies find roughly 1.8x electricity demand and 2.5x the capacity requirements by 2050 for Canada as a whole, owing to widespread electrification.⁵² A total system growth of 1.8x current requirements equates to approximately a 2.5 per cent annual growth rate between 2025 and 2050. Observed load growth rates are not yet reaching this level. Nevertheless, substantial electricity demand growth should be expected as provinces and territories electrify to improve efficiency and reduce greenhouse gas emissions.

⁵² The Transitions Accelerator, “Putting Canadian Deep Decarbonization Electricity Modeling Studies to Use.”

For the 2024 Scorecard, we have taken the most recent year of observed electricity demand in each province and assumed a two per cent annual growth rate over the electricity saving targets period. While this is both lower than what would be required to meet estimates from national net-zero pathway studies and higher than what is currently being observed, we believe that long-term efficiency targets should be evaluated according to a load growth assumption aligned with long-term electrification studies, and in a way that is transparent, simple, and comparable across provinces, regardless of their starting point or utility forecasting methodologies.

Approximate annual incremental electricity program savings as % of sales (>=)	Score	Targets provided for three or more years into the future
2.50%	2.25	
2.22%	2	
1.94%	1.75	
1.66%	1.5	
1.38%	1.25	+0.25
1.10%	1	
0.82%	0.75	
0.54%	0.5	
0.26%	0.25	

Table 21. Electricity programs savings targets scoring methodology

Province/ territory	Program administrator	2024	2025	2026	2027	2028	2029	Avg annual program savings/sales (2.25 points)	Score (2.25 + 0.25 points)
NS	Efficiency Nova Scotia	1.24%	1.28%					1.26%	1
ON	IESO	1.16%						1.16%	1
	BC Hydro	0.52%							
BC†	FortisBC	0.77%	0.79%	0.80%	0.83%			0.77%	0.75
	<i>Combined</i>	<i>0.64%</i>							
NB	NB Power	0.50%	0.57%	0.60%	0.65%			0.58%	0.75
MB†	Efficiency Manitoba	0.61%	0.68%	0.65%				0.65%	0.75
PE	efficiencyPEI	0.64%	0.65%					0.65%	0.50
QC	Hydro-Québec	0.50%	0.49%	0.48%	0.52%	0.51%	0.55%	0.51%	0.50
AB*	Emissions Reduction Alberta	0.05%						0.05%	0
	NFLD Power	0.39%	0.40%						
NL*	NFLD Hydro	0.02%	0.02%					0.21%	0
	<i>Combined</i>	<i>0.21%</i>	<i>0.21%</i>						
SK									0
YT									0
Average target		0.58%	0.61%	0.63%	0.67%	0.51%	0.55%	0.65%	

Table 22. Electricity programs savings targets

Targets may differ from official targets due to a difference in the methodology for estimating electricity sales. We base electricity sales forecasts off of the latest reported real annual sales total and assume two per cent annual load growth in each year that follows.

† Some administrators may have targets that include savings from other demand-side management activities, such as rates, demand response programs, and codes and standards work. These include the following: BC Hydro 1.15 per cent (2024); and Efficiency Manitoba 1.51 per cent (2024); 1.48 per cent (2025); 1.44 per cent (2026).

* Some gross savings targets converted to net savings targets using an estimate of 0.872 NTG.

Natural gas/non-regulated fuels savings targets

In keeping with our natural gas and non-regulated fuels savings metric above, we combined targets for natural gas and non-regulated program savings targets per province. The savings targets cover programs only (excluding codes and standards, though we provide these for informational purposes in jurisdictions that include these within their domestic targets). We used the same natural gas/non-regulated fuels denominator as in the savings metric above but assumed no growth in demand (due to observed flat or declining demand in non-regulated fuels). It is important to note that the program administrators listed in the table below do not all offer both natural gas and non-regulated fuel programs.

We based scoring on the same threshold values used in the savings metric as well, with a maximum available score of 1.75 points, plus an additional 0.25 points for provinces able to provide savings targets for three or more years into the future.

Approximate annual incremental natural gas / NRF program savings as % of sales (>=)	Score	Targets provided for three or more years into the future
1.75%	1.75	
1.50%	1.5	
1.25%	1.25	
1.00%	1	+0.25
0.75%	0.75	
0.5%	0.5	
0.25%	0.25	

Table 23. Natural gas and non-regulated fuels programs savings targets scoring methodology

Province/ territory	Program administrator	2024	2025	2026	2027	2028	2029	Avg annual program savings/sales (2.25 points)	Score (2.25 + 0.25 points)
QC	Énergir	0.63%	0.64%	0.66%				0.64%	0.75
NB	NB Power	0.77%	0.57%	0.55%	0.56%			0.61%	0.75
MB†	Efficiency Manitoba	0.66%	0.69%	0.70%				0.68%	0.75
BC	FortisBC	0.33%	0.35%	0.40%	0.44%			0.38%	0.5
ON~	Enbridge	0.44%	0.33%					0.38%	0.25
SK*	SaskEnergy	0.06%	0.07%	0.07%	0.08%	0.08%		0.07%	0.25
AB									0
NL									0
NS	Efficiency Nova Scotia								0
PE									0
YT									0
Average target		0.48%	0.44%	0.47%	0.36%	0.08%		0.46%	

Table 24. Natural gas and non-regulated fuels programs savings targets

Targets may differ from official target due to a difference in the methodology for estimating natural gas and non-regulated fuel end-use demand.

† Some administrators may have targets that include savings from other demand-side management activities, such as rates, demand response programs, and codes and standards work. This includes the following: Efficiency Manitoba 0.82 per cent (2024); 0.89 per cent (2025); 0.91 per cent (2026).

* Some gross savings targets converted to net savings targets using estimate of 0.828 NTG.

~ The Ontario Energy Board expects that Enbridge's long-term natural gas savings targets will be equivalent to a minimum of 0.6 per cent in 2026, 0.8 per cent in 2027 and 1.0 per cent per year from 2028 through 2030, relative to the prior year's sales. See [here](#).

Enabling policies

Enabling policies refers to policies, regulations, and other activities that build supportive infrastructure and policy frameworks to advance provincial energy efficiency. They might cross several sectors and reinforce program strategies and other policy areas discussed in this Scorecard. Many of these policies are important for scaling up energy savings. They are also important to ensure the “energy efficiency resource” has the capacity to continuously renew itself and produce new energy savings opportunities as older strategies and technologies (e.g., lighting) mature.

We collected information and allocated scores for the following policy topics and metrics:

- Financing and market creation (three points total).
 - Soft loans and on bill financing (one point).
 - PACE legislation and support (two points).
- Research, development and demonstration and program innovation (four points total).
 - Efficiency research funding (one point).
 - Innovation, pilots and demonstration funding and activities (three points).
- Grid modernization (two and a half points total).
 - Leveraging advanced metering infrastructure (one point).
 - Non-wires alternatives (one and half point).

We provide summary scoring results for these topics in the table below.

Province/territory	Financing (3 points)	RD&D (4 points)	Grid modernization (2.5 points)	Score (9.5 points)
ON	0.50	3.50	2.25	6.25
BC	0.25	4.00	1.75	6.00
MB	0.75	3.75	1.50	6.00
SK	0.50	3.25	1.50	5.25
YT	2.00	2.00	1.00	5.00
QC	1.00	3.00	0.75	4.75
NS	1.00	2.00	1.25	4.25
PE	2.00	2.00	0.00	4.00
NB	0.00	2.25	1.25	3.50
AB	2.00	0.25	0.50	2.75
NL	0.25	1.00	0.50	1.75

Table 25. Enabling policies scoring summary

Financing energy efficiency

Energy efficiency programs mobilize private investment in energy efficiency improvements. The rate at which programs mobilize investment is referred to as the leverage ratio, which studies estimate can range from 1.4 to 2.2 times program expenditures.⁵³ Many programs leverage investment by providing incentives to individuals or businesses that reduce the up-front costs of new and more efficient technologies.

That said, upfront costs are only one of several obstacles to private investment in energy efficiency. Other relevant barriers include high transaction costs that can be alleviated by innovative financing platforms, uncertainty about the risks, benefits, and potential return on investments in efficiency (particularly among potential financiers

⁵³ International Energy Agency, “Market-Based Instruments for Energy Efficiency: Policy Choice and Design.”

such as banks and credit unions), and the associated lack of ability or willingness of potential program participants to obtain third-party financing to cover the remaining costs of deeper energy efficiency improvements.⁵⁴

Governments and program administrators have several options to address these barriers and mobilize private capital. Provincial governments can enable repayment mechanisms such as low-interest loans that can be paid back on property tax or utility bills to remove financing barriers to building owners.⁵⁵ Energy service agreements are another form of repayment mechanism. Repayment mechanisms address some specific challenges associated with energy efficiency investment by homeowners or building operators, such as the need for long-term lending, simplified purchase and repayment, and transferability of repayment obligations to the party who benefits from the initial investment.

Provinces can also offer credit enhancements to incentivize private finance. Credit enhancements help de-risk energy efficiency investments to attract more private finance participation. Examples include: loan loss reserves, which involve establishing a reserve fund to cover a portion of the losses incurred by lenders due to borrowing defaults; loan guarantees, under which a government or public agency acts as a guarantor of loans to consumers, thereby improving borrowing terms; interest rate buy-downs, an arrangement in which a government or public agency reduces the interest rate on private loans. Governments can also issue bonds or create a specialized institution, such as a Green Bank.

As the green financing sector evolves, the Scorecard will explore a wider range of financing initiatives. To date the provinces have reported initiatives in the following two areas:

- Soft loans and on-bill financing (one point).
- Property Assessed Clean Energy financing (two points).

⁵⁴ Energy and Mines Ministers' Conference, "Financing Energy Efficient Retrofits in the Built Environment."

⁵⁵ The Atmospheric Fund (TAF) and Dunsby Energy Consulting, "Energy Efficiency Financing Tools for the Canadian Context."

Soft loans and on-bill financing

Low interest loans and the ability to make payments directly on a utility bill can facilitate greater participation of homeowners and businesses in energy efficiency retrofits, and allow the amortization of costs over a longer period of time. On-bill financing is one variant of this where the program administrator – typically a utility – sources capital and administers the program and loans are repaid through utility bills. On-bill repayment programs are similar, but require a third-party lender (e.g. municipality, bank, etc.) to provide capital and underwrite loans for repayment through utility bills. Governments also can provide “soft loans” with lower interest rates or longer repayment terms.

For this Scorecard, we awarded up to one point for provinces that demonstrated the existence of repayment mechanisms to support financing for energy efficiency improvements. Full points were awarded for robust repayment programs with province-wide scope: loans of \$25,000 or greater, eligibility for a suite of energy efficiency retrofits, an interest rate below Prime, and repayment terms greater than ten years. Partial points were awarded based on the terms of the program, the energy savings potential of the technologies supported, and the extent of support for energy efficiency in general.

We provide a summary of the results and scoring in Table 26.

Province/territory	Program type	Administrator	Max loan per building	Interest rate	Term (years)	Eligible technologies	Score (1 point)
PE	Soft Loan	Finance PEI and efficiencyPEI	\$10,000	5%	7	Many	1
			\$25,000	5%	15	Solar	
QC	Soft Loan	Competivert	\$50,000	No repayment for 48 months	25	Many	1
MB	On Bill Financing	Manitoba Hydro	\$12,500*	6.9%	5	Many	0.75
		Efficiency Manitoba	\$20,000	6.9%	15	Solar/Geothermal	
BC	On Bill Financing	FortisBC	\$6,500	1.9%	10	Heat pumps	0.25
		Nelson Hydro	\$16,000	3.5%	2-10	Many	
NL	On Bill Financing	City of Penticton	\$10,000	Prime + 0.5%	10	Many	0.25
		NL Power & NL Hydro	\$40,000***	Prime + 4%	3-5	Many	
AB	-	-	-	-	-	-	0
NB	-	-	-	-	-	-	0
NS	-	-	-	-	-	-	0
ON	-	-	-	-	-	-	0
SK	-	-	-	-	-	-	0
YT	-	-	-	-	-	-	0

Table 26. Soft loans and on bill programs

- * Manitoba: technology specific loan amounts to a maximum per property of \$12,500 repaid over 5 years;
- maximum increases to \$20,000 repaid over 15 years with installation of geothermal or solar;
- ** The Energy Efficiency Assistance Program for income qualifying households offers furnace upgrades at \$9.50 per month for 5 years when replacing a standard furnace; \$25/month when replacing a mid-efficiency furnace.
- *** Newfoundland: customers apply for individual technology upgrades, each with their own loan maximum and repayment term.

British Columbia's CleanBC Better Homes low interest financing program closed in March 2024, and Efficiency Nova Scotia's residential loans and Nova Scotia Power's heat pump loans are no longer available. Prince Edward Island's soft loan program for households remains open, Manitoba, Newfoundland and select cities in British Columbia continue to have on-bill financing for efficiency upgrades, and Québec's Competivert energy efficiency and clean technology loan for businesses was still open at the time of writing.

Local improvement charges/PACE

Local improvement charges (LICs) allow municipalities to amortize the costs of local infrastructure improvements through property taxes. Similarly, Property Assessed Clean Energy (PACE) financing allows a building owner to repay the cost of an energy retrofit through their own property taxes. LIC/PACE financing arrangements are thus repayment mechanisms, but differ from on-bill and soft loan programs in that the cost of the improvement is attached to the property, not the owner, and is transferable in the event the property is sold. PACE programs may be either residential (R-PACE) or commercial (C-PACE).

Though LIC/PACE financing are local government initiatives, provinces and other actors still have important roles to play in enabling and implementing them. Provincial governments must pass or amend legislation, typically in Municipal Acts, to permit municipalities to use property taxes for improvements to private properties. Though many municipalities have received a Federation of Canadian Municipalities' Community Efficiency Financing (CEF) loan to capitalize their home energy retrofit LIC/PACE

programs,⁵⁶ provinces can also provide funding for the initial loan. They can further support municipalities in development of bylaws and program design and in some cases even administer the program.⁵⁷

We asked information respondents to outline provincial activities to enable or support LICs/PACE financing for energy efficiency and to describe active LIC/PACE financing in their jurisdiction. We award a half point to provinces that have passed PACE-enabling legislation, another half point for providing support for municipal bylaw and program development, a half point for a residential PACE loan and an additional half point if they also offer commercial PACE loans. We provide results in the table below.

⁵⁶ Federation of Canadian Municipalities, “Capital Program: Loan or Credit Enhancement for Local Home-Energy Upgrade Financing Program.”

⁵⁷ Volta Research, “A Toolkit for Affordability Driven Home Energy Efficiency Retrofits Through Local Improvement Charge Programs.”

Province/territory	Provincial government			Outcomes	Maximum loan per building	Interest rate	Term (years)	Score (2 points)
	Enabling (0.5 points)	Support (0.5 points)	Residential + commercial (1 point)					
AB	●	●	●	20 municipalities*	\$50,000 Res	3-4%	20	2
				Edmonton; Sturgeon County	\$300,000 Com	6.95%		
YT	●	●	●	8 municipalities*	\$50,000 Res \$100,000 Com	Prime	5-15	2
NS	●	●	-	11+ municipalities*	\$10 – \$40,000 Res	1% – Prime%	10-15	1
PE	●	●	-	Charlottetown; Stratford	\$40,000 Res	0	1-14	1
ON	●	-	-	Kingston; Toronto; Others	\$40 – \$125,000 Res	0% – 4.59%	5-20	0.5
SK	●	-	-	Saskatoon***	\$60,000 Res	0.0486	5-20	0.5
BC	-	-	-	-	-	-	-	0
MB	-	-	-	-	-	-	-	0
NB	-	-	-	-	-	-	-	0
NL	-	-	-	-	-	-	-	0
QC	-	-	-	-	-	-	-	0

Table 27. Enabling and support for PACE programs

Note: PACE loans typically require municipal partners. Loan terms are established at the municipal level and therefore vary within a province.

* Alberta Municipal Services Corporation (AMSC) (operating as Alberta Municipalities) partners with 20 [Albertan municipalities](#) on the residential Clean Energy Improvement Program (CEIP).

Nova Scotia offers direct support to municipalities and has multiple PACE administrators; some municipalities are listed [here](#).

Yukon Better Buildings LIC Program has partnered with all 8 municipalities, listed [here](#).

** efficiencyPEI helped establish a Community Interest Corporation (CIC) to administer PACE programs in Atlantic Canada - SwitchPACE.

*** Saskatoon: \$60,000 is available for projects reducing energy use by 50 per cent; otherwise the maximum is \$40,000.

Alberta's Clean Energy Improvement Program continues to grow the number of municipalities offering PACE loans. They now have 22 municipalities with active programs and 28 communities with bylaws in 2024, two of which are commercial PACE programs. Yukon's Better Buildings program launched in 2022 and already has eight municipalities signed on to offer loans to both residents and businesses of up to 25 per cent of the property value. Nova Scotia also offers support to municipalities and had 11 active local PACE programs at the time of writing.

Research and development, and program innovation

If Canada is to realize energy efficiency's full potential, the nation will need to continue research, development, and demonstration (RD&D) of novel energy efficiency technologies and experiment with innovative program designs and delivery methods. For the purposes of this report, RD&D and innovation activities span the range from fundamental or early-stage scientific and technology research to piloting and demonstration activities of proven technologies and/or program strategies that are novel to a jurisdiction. The latter could incorporate innovations in logistics, technologies, market design, and marketing and administration.

According to the International Energy Agency, between 2013 and 2023 energy efficiency RD&D averaged 28.0 per cent of all energy-related RD&D expenditures by Canadian federal, provincial, and territorial governments. Energy efficiency's share of annual RD&D expenditures has increased significantly in recent years, from 22 per cent in 2017 to 44 per cent in 2023. Energy efficiency is now first among other energy technologies in share of total RD&D expenditures (see Figure 6).

Public expenditure on all energy RD&D, Canada

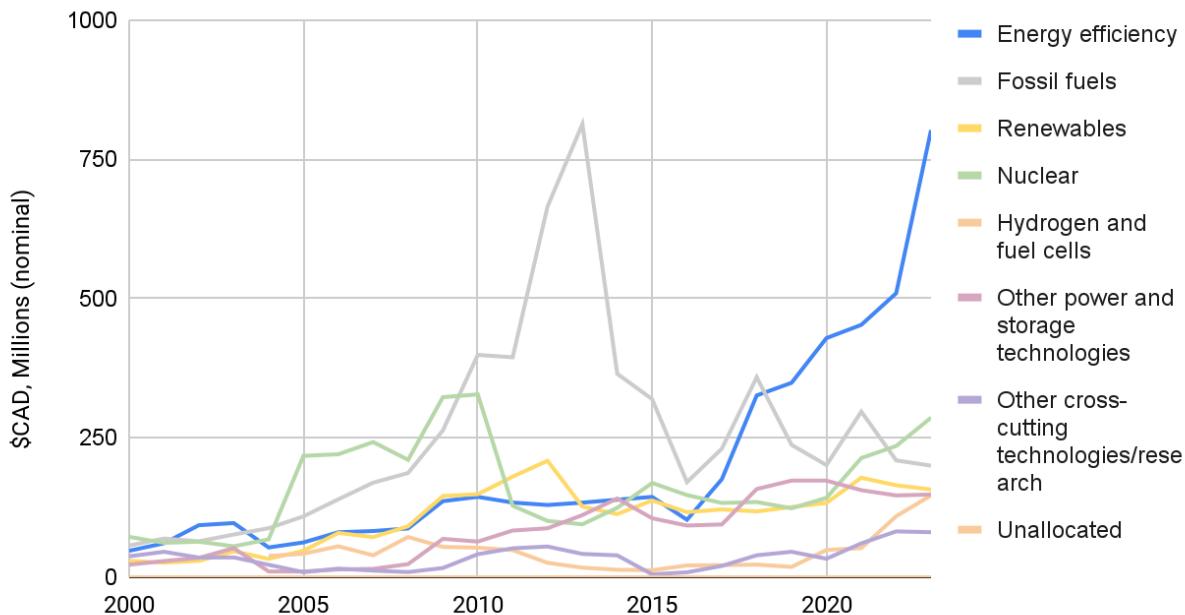


Figure 6. Public expenditures on energy efficiency RD&D⁵⁸

According to Statistics Canada's Research and Development in Canadian Industry (RDCI) survey, industry expenditures on all energy-related RD&D totalled \$2.35 billion in 2021. Energy efficiency expenditures accounted for \$487 million, or roughly 21 per cent of the total – a decrease of approximately 2.2 percentage points from 2020. This marks the second year in a row that industry expenditures on energy efficiency RD&D has decreased, relative to other energy RD&D spending.⁵⁹

Neither the IEA nor Statistics Canada provide provincial-level breakdowns of RD&D spending. Accordingly, to score provinces on their energy efficiency-related RD&D and innovation activities, we looked at two different metrics: research grants for energy efficiency-related research at universities and colleges; and whether DSM program administrators had dedicated funds to support RD&D and program innovation.

⁵⁸ International Energy Agency, "Energy Technology RD&D Budgets."

⁵⁹ Statistics Canada, "Table 27-10-0347-01 Industrial Energy Research and Development Expenditures by Area of Technology, by Industry Group Based on the North American Industry Classification System (NAICS) and Country of Control (x 1,000,000)."

Research grants for energy efficiency RD&D

Though capacity varies across the country, research institutions in all provinces study energy resources. For this reason, we regard the share of energy RD&D that a given province devotes to efficiency as a measurement of energy efficiency research intensity or priority. The International Energy Agency takes the same approach when presenting energy efficiency RD&D expenditures.

The Natural Sciences and Engineering Research Council (NSERC), a federal government agency, funds academic research. It maintains an online award database that can be filtered by area of application. The database lists energy efficiency as a subset of a broader category of energy resources that also includes electrical energy, energy resource production, exploration, processing, distribution and use, energy storage and conversion, nuclear energy, alternative energy sources, and oil, gas and coal. The database can supply a summary table of funding by year, area of application, and province.⁶⁰ Overall, NSERC funding for energy efficiency totalled \$7.2 million in 2022-2023, accounting for roughly 10.1 per cent of the total \$70.7 million in funding for energy-related research.

To benchmark across the provinces, relative to their internal research capabilities, we considered funding for energy efficiency research as a proportion of funding for all energy resources research. The NSERC database has seven subcategories for energy resource research, meaning that if energy efficiency is treated on par with all other energy resources, the share of total energy research grant funding would be approximately 14.3 per cent. Our scoring is based around this value, awarding one point to provinces where the share of energy efficiency research grant funding exceeded 15 per cent of total energy resource grant funding, with subsequent thresholds declining by five per cent (and 2.5 per cent for the lowest available score).

⁶⁰ Natural Sciences and Engineering Research Council of Canada, "NSERC's Awards Database."

Energy efficiency research intensity rate	Score
15%	1
10%	0.75
5%	0.5
2.5%	0.25

Table 28. NSERC funding scoring methodology

Province/ territory	Total energy-related NSERC grants (\$) (FY 2022/23)	Energy efficiency NSERC grants (\$) (FY 2022/23)	Energy efficiency research intensity	Change from 2022 Scorecard	Score (1 point)
BC	\$6,650,253	\$1,332,280	20.0%	\$804,080	1
QC	\$15,802,407	\$3,031,799	19.2%	\$38,100	1
MB	\$883,542	\$88,000	10.0%	-\$4,000	0.75
ON	\$22,828,673	\$2,070,763	9.1%	-\$129,086	0.5
AB	\$18,252,659	\$544,033	3.0%	-\$240,292	0.25
NB	\$720,793	\$24,000	3.3%	-\$362,838	0.25
SK	\$1,634,141	\$75,000	4.6%	-\$328,685	0.25
NL	\$470,000	\$0	0.0%	-\$33,000	0
NS	\$2,957,123	\$0	0.0%	-\$29,000	0
PE	\$259,318	\$0	0.0%	\$0	0
YT	\$200,000	\$0	0.0%	\$0	0

Table 29. NSERC funding for energy efficiency

The large increase in funding for energy efficiency research in British Columbia is associated with two research projects. One project led by Dr. Zhengbo Zou at the University of British Columbia aims to develop automated robots that can scan buildings for HVAC defects and guide proactive maintenance approaches. Another

initiative led by Dr. Ralph Evans at the University of Victoria focuses on training computer models to evaluate building performance for creating evidence-based policy on reducing energy use.

Dedicated program innovation funding and activities

While academic research on energy efficiency is important, so too is experimentation with new program delivery models or methods, and piloting and demonstrating technological improvements or processes that, while not necessarily unproven, are nonetheless new to provincial energy systems.

Rigorous evaluation, measurement, and verification are essential to ensuring that DSM investments from regulated entities are justifiable and cost-effective. However, experimentation with new programs and processes can be difficult to justify under these frameworks, as they could potentially fail to produce the desired outcomes. Accordingly, it is important that efficiency program administrators include dedicated funding to support experimentation, program innovation, and pilot projects.

We assessed the extent of program administrator and government investment in energy efficiency technology and program innovation by considering three elements:

- The existence of dedicated innovation, pilot and demonstration funding that includes support for energy efficiency-related pilots and demonstrations (one point).
- Technology-related pilot and demonstration projects carried out in 2023 (one point).
- Program-related innovation activities, particularly pertaining to improvements in the scale and scope of building energy retrofitting and equitable program accessibility (one point).

The following table summarizes the presence of dedicated provincial funding for innovation and the amount of innovation spending in 2023 (where available). We awarded provinces one point for the presence of dedicated funding for energy efficiency innovation.

Province/territory	Dedicated innovation funding	Annual spending (\$Mil)	Description	Score (1 point)
BC	Yes	\$10.8	<ul style="list-style-type: none"> FortisBC: Innovative Technology Funding is considered a "specified demand-side measure" in the DSM Portfolio. It supports feasibility studies, technology pilots, and field studies to assess the potential for these technologies. BC Hydro: Innovative Technology Expenditures for innovation activities are included at the portfolio level for assessment of cost-effectiveness. However, cost details are not readily available, as they are included within a number of budget line items. 	1
MB	Yes	\$0.9	<ul style="list-style-type: none"> Efficiency Manitoba: Innovation Fund (\$750,000): supports organizations looking to advance new and innovative Technology Demonstration or Market Capacity building energy efficiency opportunities. Additional dollars are budgeted for staff time to consult with applicants, research new program design and technologies, and review innovative opportunities in the Manitoba market. 	1
NS	Yes	\$2.8	<ul style="list-style-type: none"> Efficiency One: The 2023-2025 DSM identified innovation, pilots, and emerging technologies as an area of focus within the development and research category of its Enabling Strategies. An annual innovation plan describes emerging business areas and proposes pilots to the Province for funding consideration. 	1
ON	Yes	\$12.4	<ul style="list-style-type: none"> Enbridge: \$2.06M on DSM Research Innovation Fund; \$0.84M on Market Data Research in 2023. Funds can be used for innovation, pilot programs, research and collaboration with other organizations. IESO: \$9.5M 2024 Grid Innovation Fund for Electrification and Demand Management; focus on demand flexibility via controllable electrified end uses in the transportation and heating/cooling sectors. 	1

PE	Yes, in 2024		<ul style="list-style-type: none"> • efficiencyPEI: 2024 Energy Efficiency and Conservation plan has a budget for DSM pilot programs. 	1
QC	Yes	\$0.5	<ul style="list-style-type: none"> • Government of Québec: The Technoclimat program provides funding for pre-commercial technological innovation or demonstration testing of technology in energy efficiency, renewable energy, bioenergy, or GHG emission reduction. The total amount of this fund was \$20.6M in 2023-2024 (not all projects are efficiency-related). This total is not included in the \$0.5 million reported by Énergor. 	1
SK	Yes	\$0.4	-	1
YT	Yes	\$1.1	-	1
AB	No	-	-	0
NB	No	-	<ul style="list-style-type: none"> • The province and NB Power undertake research and innovation activities as needed. These initiatives are included within the enabling category of their DSM. Although research and program innovation projects may be included in their plan, a dedicated fund for innovation doesn't exist. 	0
NL	No	-	<ul style="list-style-type: none"> • The utilities do not have a specific budget to support innovation. However, pilots and studies are undertaken as needed when more data is required to validate cost-effectiveness, and are included within their Enabling budget of \$0.6 million. 	0

Table 30. Dedicated innovation funding for energy efficiency

The next table lists specific pilots and demonstrations in each province, denotes which projects have graduated to full programs with a check mark, and describes innovations in program delivery. With considerations for space, we note that the following table may not refer to all energy efficiency-related innovation activities in each province, but we have tried to include activities with the most relevance to energy efficiency. The presence of pilots and demonstrations were awarded one point and program innovation efforts an additional point.

Province/ territory	Pilots and demonstrations (1 point)	Program innovation (1 point)	Score (2 points)
BC	<p><u>FortisBC Pilots:</u></p> <ul style="list-style-type: none"> • Residential Hybrid Heating Pilot. • Residential Electric Heat Pump Study. • Commercial Gas-Driven Heat Pump Pilot. • Deep Energy Retrofit Pilot Program: Part 3 and 9. 	<p>Better Homes BC:</p> <ul style="list-style-type: none"> • <u>Home Improvement Rebate Bonus</u> performance based rebate for three or more upgrades – \$20 for every percentage reduction in EnerGuide rating (GJ/year) (e.g. a 50 per cent energy reduction would result in a \$1000 bonus). • <u>BC Home Energy Upgrade</u> pilot offers an online energy assessment tool including information on rebates and loans. 	2
MB	<p>Efficiency Manitoba:</p> <ul style="list-style-type: none"> • Battery energy storage for solar PV. • Ground source heat pumps, smart controllers and district-level systems. • Solar lighting systems. • Manufactured, modular, sustainable homes. • Matrix composite roofing insulation system. • First Nations Communities Cold Climate Air Source Heat Pumps. 	<ul style="list-style-type: none"> • CRM/DSM Online Tracking System: customer / supplier portal, integration with NRCan lists of approved products, find-a-supplier directory. • <u>Virtual Energy Review</u>: online tool with energy use and opportunities to save. • <u>Neighbourhood Project</u>: partnered with local Community Renewal Corporation to fund Energy Efficiency Advocates. Homes in that neighbourhood automatically income-qualified. • <u>Strategic Energy Manager (SEM) Initiative</u>: funding to hire an energy manager, coaching, Equipment Lending Library, Marketing Tool Kit. • <u>Commercial Deep Energy Retrofit Program</u>: performance based incentive. 20 per cent reduction = \$0.2/m²; 50 per cent reduction = 	2

		<p>\$0.60/m2.</p> <ul style="list-style-type: none"> • <u>Home Energy Retrofit Program</u>: Pay Per Performance program where rebate doubles for reducing energy use below a typical new home: \$150/GJ saved. At least 50 per cent of energy use reduction from building envelope upgrades. 	
NB		<p>New Brunswick Power:</p> <ul style="list-style-type: none"> • New Construction, Commercial and Industrial Energy Efficiency Pilot. <input checked="" type="checkbox"/> • Strategic Energy Management Pilot. <input checked="" type="checkbox"/> • Aggregator pilot to increase accessibility of demand response programs for smaller industrial consumers. 	<ul style="list-style-type: none"> • A Navigator service facilitates improved access for median-income households to financing through the Canada Greener Homes Loan. • Peak Rebate Program: redesigned and expanded upon based on curtailment threshold during or outside of peak hours (allowing participants to maintain "interruptability") to reach the larger industrial customers.
ON		<p>Enbridge:</p> <ul style="list-style-type: none"> • <u>Clean Home (Hybrid) Heating Initiative</u>. • <u>Ultra-Low Overnight (ULO) price pilot</u>. <input checked="" type="checkbox"/> <p>IESO and OEB (Innovation Sandbox and Grid Innovation Fund):</p> <ul style="list-style-type: none"> • Joint Targeted Call on Distribution Energy Resource integration. 	<ul style="list-style-type: none"> • Green Button: Ontario's Energy Data Regulation (O.Reg.633/21) requires regulated electricity and natural gas utilities in the province to provide energy usage data in Green Button format to their customers by November 1, 2023. 55 utilities have successfully implemented.

	<p>Sask Energy/Sask Power:</p> <ul style="list-style-type: none"> • Hybrid heat pump demonstration. <p>SaskEnergy/SaskPower:</p> <ul style="list-style-type: none"> • Program delivery collaboration (rebates). • Online Home Energy Assessment: information on upgrades and incentives. • Virtual Program Delivery – to improve accessibility to low-income program. • Partnering with Indigenous communities to pilot more accessible alternative program delivery models. 	2
NL	<ul style="list-style-type: none"> • Direct Install (lighting and water) Pilot for businesses. • Ductless mini split heat pumps impact on peak load. • Pilot on EV Load Management. 	1
NS	<p>Efficiency Nova Scotia:</p> <ul style="list-style-type: none"> • Electric vehicle supply equipment for MURBS Pilot. □ • Heating Research Pilot (oil to heat pump). • Deep Retrofit Navigator Pilot. • Heat Pump Water Heater Market Transformation Pilot. • Touchless (virtual) audits pilots (2022). □ • Eco Shift domestic hot water heater controls. □ <p>Nova Scotia Power:</p> <ul style="list-style-type: none"> • <u>Home Battery Pilot</u>. 	1

	efficiencyPEI:		
PE	<ul style="list-style-type: none"> • Demand response pilot programs. • PEI Home Energy Labelling and Disclosure (HELD) Pilot Program. ☐- 2025 • Netzero Ready Prefab Tiny homes. ☐ 	-	1
	Hydro-Québec/Énergir:		
QC	<ul style="list-style-type: none"> • Energy management system financing pilot. <p>Énergir:</p> <ul style="list-style-type: none"> • Natural gas heat pump. • Other projects in <u>Appendix A</u> of Énergir's Annual Energy Efficiency Report. 	-	1
YT	<ul style="list-style-type: none"> • Medium and heavy-duty electric vehicles Pilot. ☐ • Heat Pump Pilot (cold climate). • Distributed solar energy monitoring. • Old Crow Fuel and Electricity Metering Project. • Peak Smart Pilot (thermostats/hot water). ☐ 	-	1
AB	-	-	0

Table 31. Program innovation, pilots and demonstrations

✓ Pilot has graduated to a full program

Grid modernization

Electricity grids, and the institutional structures that manage and govern them, evolved in the 20th century to deliver vast amounts of electricity from centralized generation plants to consumers spread out across a wide service area. Several recent developments have challenged this model, particularly increased integration of variable renewable sources of electricity, such as wind and solar power, either at grid scale or on or near homes and businesses. Consumer preferences have changed as well, as some end users have sought more information and control over their electricity consumption. Natural gas networks are undergoing similar transformations, as utilities and regulators explore peak shaving and “non-pipe” solutions to avoid more costly natural gas infrastructure, and to strategically retire pipes that are aging, unsafe (e.g., Aldyl-A plastic pipes), or in neighbourhoods prioritized for electrification.⁶¹

As utilities and governments have come to appreciate the multiple benefits of demand-side management – including energy efficiency and demand response measures – they have adopted new practices and pursued new technologies to manage energy systems. Increasingly, they are recognizing the flexibility benefits of demand-side resources, that is, the ability to rapidly change energy demands at certain times, or in specific locations, to improve energy network efficiency. For example, demand-side flexibility might be readily available, and would be a cost-effective way to accommodate a higher share of renewable energy on a grid.⁶²

Grid modernization broadly describes the introduction of new technologies and practices to enhance resiliency. System operators can implement multiple smart grid technologies and practices to modernize both electricity and natural gas grids. In this section, we focus on efforts taken in provinces to develop and strategically use advanced metering infrastructure to achieve energy savings. We also examine planning processes and piloting of geo-targeted energy efficiency as a “non-wire” alternative in transmission or distribution grid planning.

⁶¹ Gerdes, “Can Non-Pipeline Alternatives Curb New York’s Rising Natural Gas Demand?”

⁶² Potter, Stuart, and Cappers, “Barriers and Opportunities to Broader Adoption of Integrated Demand Side Management at Electric Utilities.”

Advanced metering infrastructure

Utilities have traditionally measured electricity and natural gas consumption with simple meters at the customer's location; these record only total consumption and thus require periodic, manual meter readings. A core component of grid modernization is the replacement of traditional meters with smart meters, which record consumption more frequently (often hourly) and communicate the information directly to the utility via a wired or wireless network. Smart meters are part of a broader advanced metering infrastructure, alongside the communications networks and data management systems that enable two-way communication between utilities and customers.

According to the U.S. Department of Energy, advanced metering infrastructure (AMI) provides several important functions associated with smart grids, including the ability to record consumption automatically and remotely. Yet one-way automated reading is, on its own, not equivalent to AMI. Other functions that can be provided include the ability to remotely connect and disconnect service, detect tampering, identify and isolate outages, and monitor voltage. When combined with more advanced two-way communicating meters and behind-the-meter technologies that provide information to the user and communicate with the meter, AMI also enables utilities to offer time-of-use-based rate programs and other incentives for customers to reduce or shift their energy consumption,⁶³ leading to both cost and energy savings.

For this Scorecard, we describe the extent of AMI coverage but focus the scoring on activities to leverage AMI infrastructure to provide energy savings.

Leveraging AMI for energy savings

Advanced metering infrastructure (AMI) is an important component of grid management and modernization, but it can also be leveraged to facilitate energy savings and conservation. An ACEEE report emphasized that AMI needs complementary program strategies to leverage the technology to its full potential.⁶⁴

Such strategies can include:

⁶³ Office of Electricity Delivery and Energy Reliability, "Advanced Metering Infrastructure and Customer Systems: Results from the Smart Grid Investment Grant Program."

⁶⁴ Gold and York, "Leveraging Advanced Metering Infrastructure to Save Energy."

- Feedback to customers and use of behavioural insights to help them reduce energy use.
- Providing price signals such as time-of-use rates.
- Data disaggregation to target energy savings initiatives, evaluate programs, and use innovation program designs such as “pay for performance”.
- Using grid connectivity to promote grid-interactive efficient buildings and use of conservation voltage reduction.

For this Scorecard, we asked information request respondents to identify activities in each of these four areas. We assembled AMI coverage in Table 32 based on information responses and desk research, however this data was not scored. To score this metric, we awarded a quarter point for clear evidence of activities by one or more utilities in each province for each area. We provide a summary of responses and scoring in Table 33.

Province/ territory	Utility	AMI (smart meter) coverage	
		Res	Non-Res
BC	Electric (BC Hydro)	100%	100%
	Gas (FortisBC)	<u>100% by 2028</u>	
AB	Electric	Unclear*	
	Gas	Unclear*	
SK	Electric (SaskPower)	16% (100% by 2027)	98%
	Gas	100%	100%
MB	Electric (Manitoba Hydro)	Limited	
	Gas (Centra Gas)	Limited	
ON	Electric (IESO)	93%	7%
	Gas (Enbridge)	Limited	
QC	Electric (Hydro-Québec)	<u>98%</u>	<u>98%</u>
	Gas (Énergir)	Limited	
NS	Electric (NS Power / Efficiency One)	95%	95%
NL	Electricity	Limited	
NB	Electric (NB Power)	100% by 2026	100% by 2027
	Gas	Limited/Unclear	
PE	Electric (Maritime Electric)	<u>100% by 2025</u>	
YT	Electric	None	

Table 32. AMI smart meter coverage

* Installation of AMI in Alberta is ultimately the decision of the distribution utilities. A recent report by the AUC into the distribution system notes AMI infrastructure coverage varies from utility.

Province/territory	Utility	Customer feedback (0.25 points)	Price signals (0.25 points)	Data disaggregation (0.25 points)	Grid-interactive buildings (0.25 points)	Score (1 point)
BC	BC Hydro	<ul style="list-style-type: none"> Online access to energy use data, analyze trends and compare against similar buildings. Behaviour Program (residential) and Optimization Offer (commercial) use enhanced day-after and near real-time energy usage. 	<ul style="list-style-type: none"> <u>Residential time-of-day residential pricing</u> launched in June 2024 provides discount overnight and surcharge at peak times to benefit customers charging EV vehicles. 	<ul style="list-style-type: none"> Disaggregation of AMI data used for load analysis in system planning, customer service, demand response activities, anomaly detection and program design. 	-	0.75
NB	NB Power	<ul style="list-style-type: none"> Customer portal shares consumption information at 15-minute intervals, 24 hours after data is collected. Energy Usage Alert program alerts customers when usage is 30 per cent higher than the 	<ul style="list-style-type: none"> Time-of-day rate price signals are enabled; waiting for approval through the NB Energy and Utilities Board. Testing Time of Use Rates as part of the Smart Grid Atlantic research project. 	<ul style="list-style-type: none"> Intend to use AMI to enable better planning, targeted programming, and improved program evaluation, measurement, and verification. 	<ul style="list-style-type: none"> Saint John Energy's <u>smart grid</u> will allow smart residential appliances to become part of the interconnected efficiency system. <u>Shediac Smart</u> 	0.75

		<p>same month the previous year.</p>	<p><u>Energy Study.</u></p> <ul style="list-style-type: none"> • NB Power incents a Smart Home Charger with two-way communication. 	
NS	NS Power and Efficiency NS	<ul style="list-style-type: none"> • MyEnergy Insights tool provides homeowners and small businesses hourly energy usage by appliance; high usage alerts; <u>Efficiency One</u> provides energy efficiency tips, rebate information and a home energy report. • Residential and Commercial: <u>piloting time-varying pricing rates</u> that utilize AMI meters. • Residential: <u>time of day price plan</u> requires thermal storage. 	<ul style="list-style-type: none"> • Efficiency NS: <u>Pay for Performance</u> program. • AMI data also used for business development activities (identifying opportunities, providing customers with insights), measurement and evaluation. 	- 0.75
ON	IESO	<ul style="list-style-type: none"> • Residential and Small General Service: time-of-use and tiered rates (< 50kW). 	<ul style="list-style-type: none"> • Industrial Commercial Institutional: <u>Energy Performance Program</u>, 300+ participants, hourly data allows pay-for-performance incentives of • Customers can participate as Demand Response resources in the wholesale market; hourly usage data verifies 	0.75

			\$0.15/kWh during summer peak and \$0.04/kWh otherwise.	performance.
QC	Hydro-Québec	<ul style="list-style-type: none"> Energy Performance Indicator provides electricity use data at a glance. Customers can track and analyze energy end-uses (e.g. space heating, lighting) and receive personalized advice for saving energy. <ul style="list-style-type: none"> <u>Dynamic pricing rate options</u> (adjusted during peak demands). 	-	<ul style="list-style-type: none"> Hilo Smart Home subscription service provides real-time consumption, a home automation network, transmits utility requests for consumption reduction.
MB	Manitoba Hydro	<ul style="list-style-type: none"> EnerTrend tool allows industrial/commercial customers to access near real-time data and identify opportunities to reduce load. 	-	<ul style="list-style-type: none"> Efficiency Manitoba, Custom Energy Solutions: <u>Pay for Performance</u> incentives \$0.15/kWh and \$0.30 m3 of annual energy saved for industrial and commercial customers.

SK	SaskPower	<ul style="list-style-type: none"> Customer Portal provides consumption information. ICI: Power Support Service and Energy Optimization Programs provide energy review, identification of load reduction and energy efficiency projects. Industrial time-of-use rates. 	-	-	-	0.5
AB		-	-	-	-	0
NL		-	-	-	-	0
PE		-	-	-	-	0
YT		-	-	-	-	0

Table 33. Leveraging AMI to promote efficiency

Non-wires/pipes solutions

Energy efficiency and demand response can avoid the need to build system infrastructure, especially when targeting specific geographies and coupled with other strategies such as energy storage or distributed generation. However, there are regulatory and institutional barriers to incorporating these “non-wires alternatives” in grid planning processes, such as limited familiarity with the practice among utilities and regulators, which prevent utilities from evaluating and bringing forth such proposals.⁶⁵ Provinces can take action to facilitate non-wire/pipe solutions by introducing clear regulatory requirements and guidance for incorporating them into system planning, upgrading, and/or expansion.

Following our approach in the previous Scorecard, we asked information request respondents to describe how/whether non-wires/pipes solutions are incorporated in system planning practices in their province. We also asked them to identify any ongoing projects where geo-targeted, distributed energy resource initiatives were utilized to alleviate a grid capacity constraint.

We award 0.75 points to provinces or territories where there are clear requirements for evaluating non-wire (NWA) or non-pipe alternatives (NPA) in system planning, upgrading, and/or expansion; 0.25 points are awarded if NWA/NPA is allowed but not required. An additional quarter point is awarded to provinces or territories where projects, pilots, or demonstration projects are underway in which demand-side solutions are important components.

⁶⁵ IESO, “Barriers to Implementing Non-Wires Alternatives in Regional Planning.”

Province/ territory	Utility	NWA/NPA consideration in planning (1 point)	Projects, pilots and demonstrations (0.5 points)	Score (1.5 points)
ON	Electricity	<ul style="list-style-type: none"> In March 2024, the Ontario Energy Board released updated guidance for electricity distributors on the consideration of non-wires alternatives in regional planning processes. Non-wires solutions can encompass traditional demand-side management activities, as well as third-party DERs like energy storage and distributed generation. 	<ul style="list-style-type: none"> IESO: Local Initiative Programs (LIPs) deliver unique incentive programs in one or more targeted regions with identified needs. <u>The Essex Powerlines Distribution System Operator (DSO) Pilot Project</u> is a near real-time electricity market; the Benefit Stacking Transmission and Distribution System Non-Wires Alternatives Pilot Project launched by Toronto Hydro were both funded by the IESO Grid Innovation Fund. 	1.5
	Gas	<ul style="list-style-type: none"> The OEB provides directions for considering, but not requiring, non-pipe alternatives, including energy efficiency in infrastructure planning, to meet its system needs. 	<ul style="list-style-type: none"> <u>York Region Non-Wires Alternative Demonstration</u>. <u>Enbridge Gas</u>: The first-generation IRP framework instructs Enbridge to develop and implement a non-pipes alternative pilot program. Enbridge has applied for approval of its Southern Lake Huron Pilot Project. The application (OEB File No. EB-2022-0335) is currently going through the regulatory process for approval. 	

BC	Electricity	<ul style="list-style-type: none"> Both electric and natural gas utilities are permitted to propose non-wires/pipes projects, but are not required to do so. 	<ul style="list-style-type: none"> BC Hydro's 2023-2025 DSM Plan includes a Non-Wires Alternative (NWA) program that can defer the need to upgrade capital assets by increasing participation in energy efficiency and demand response programs in specific areas. 	1
SK	Electricity	<ul style="list-style-type: none"> Both SK utilities can implement NWA/PA projects if they choose to and reported to us that they do consider them in their system planning. 	<ul style="list-style-type: none"> SaskPower: The utility has several microgrid projects aimed at providing NWAs. A Smart Charge Rewards program aims to reduce EV peak. It is also piloting battery storage projects. 	1
	Gas		-	
YT	Electricity	<ul style="list-style-type: none"> NWA/NPA solutions can be proposed and considered in utility planning, however, none have been identified as of writing. 	<ul style="list-style-type: none"> A grid modernization strategy will be completed in the coming year (2024/25) via the Demand-side Management working group which will identify NWA/NPA solutions. Investing in grid-scale battery to provide peak demand management; testing electric thermal storage units, programmable thermostats and programmable electric hot water tank controllers as load-shifting tools. 	1
MB	Electricity	<ul style="list-style-type: none"> Distribution and Transmission planning processes allow for but do not require NWA/NPA solutions to be included in the evaluation of options to meet local/regional 	<ul style="list-style-type: none"> Manitoba Hydro: developing a location-specific DSM marginal value to identify system constraints that could benefit from geotargeting. 	1

		<p>investment in infrastructure.</p> <ul style="list-style-type: none"> Efficiency Manitoba: To promote insulation offers, it targeted a number of electrically heated communities in rural Manitoba, in areas that were capacity constrained. 	
NL	Electricity	<ul style="list-style-type: none"> Both Newfoundland utilities planning processes allow for the evaluation of NWA where applicable. 	- 0.5
NB	Electricity	<ul style="list-style-type: none"> There are no formal requirements for NWA/PA in New Brunswick. NB Power is reviewing the potential for distributed energy resource (DER) programming (study to be complete in 2025). This study will inform the DSM Plan, and the Integrated Resource Plan. 	• NB Power: The Local Energy Generation Opportunities (LEGO) project is investigating a combination of on-site generation and storage (mini-grid) instead of a poles and wires upgrade. If successful, this option could be expanded to other areas of the province where the cost of infrastructure exceeds the cost of local generation. 0.5
AB	Electricity	<ul style="list-style-type: none"> The <u>Electricity Statutes</u> Amendment Act (Modernizing Alberta's Electricity Grid) allows distribution utilities to procure non-wires alternatives in the form of energy storage facilities connected to the distribution system. 	- 0.5
NS	Electricity	<ul style="list-style-type: none"> At the time of writing there are no formal requirements for NWA in Nova Scotia. In 2016 the Nova Scotia Utility and Review Board (NSUARB) ordered Efficiency Nova 	• In 2020, NS Power produced updated avoided costs of transmission and distribution reports, which are available publicly at the NSUARB. 0.5

	Scotia and NS Power to begin investigating non-wires alternatives and locational DSM (geotargeting) techniques. Three reports on the topic have been provided under board proceeding number M07815, and provide conceptual design information and proposed preliminary techniques for economic comparison.		
PE	-	-	0
QC	-	-	0

Table 34. Non-wires/pipes planning processes, projects, and pilots and demonstrations

Note: NWA = Non-wire alternatives; NPA = Non-pipe alternatives

Buildings, appliances, and equipment

Buildings are Canada's third-largest source of GHG emissions. They account for 13 per cent of direct emissions or 18 per cent when electricity-related emissions are included.⁶⁶ Canada's buildings sector is also the largest source of potential energy savings (28 per cent), according to the IEA/NRCan national level energy efficiency potential study.⁶⁷ Buildings are where we spend a significant amount of time in our cold-climate country as dangerous periods of extreme heat or poor air quality increase in number. Buildings are a significant and often neglected component of Canada's infrastructure, and high-performance buildings are increasingly important for our quality of life, physical and mental health, and economic productivity.

This year we are structuring the building sector into four categories: new buildings, existing buildings, appliances and equipment, and the workforce required to achieve energy efficiency in each of these areas. We have also re-balanced the metrics' scoring weights between new and existing buildings sections; this will place greater emphasis on energy efficiency in existing buildings and appliances and equipment. Many strategies can influence the energy efficiency of our built environment, and provinces have numerous opportunities to demonstrate leadership.

- **New buildings** (nine points total):
 - Building codes for houses and small buildings (three and a half points).
 - Building codes for commercial, institutional, and multi-unit residential buildings (three and a half points).
 - Municipal flexibility to adopt higher performance codes (one point).
 - Building code compliance activities (one point).
- **Existing buildings** (eight points total):
 - Mandatory rating and disclosure (four points).
 - Building performance standards and municipal flexibility (three points).
 - Retrofit code development (one point).
- **Appliances and equipment** (four and a half points):

⁶⁶ Government Of Canada, "A Healthy Environment and a Healthy Economy: Canada's Strengthened Climate Plan to Create Jobs and Support People, Communities and the Planet."

⁶⁷ International Energy Agency and Natural Resources Canada, "Energy Efficiency Potential in Canada to 2050."

- Efficient space and water heating (three points).
- Other products, appliances and equipment (one point).
- Participation in federal standards development (half point).
- **Workforce** (six points total):
 - Numbers of energy advisors (two points).
 - Numbers of Certified Energy Managers (two points).
 - Numbers of refrigeration and air conditioning mechanics (two points).

We list overall scores by province and by topic in Table 35.

Province/territory	New buildings (9 points)	Existing buildings (8 points)	Appliances and equipment standards (4.5 points)	Workforce (6 points)	Total (27.5 points)
BC	6.75	1.50	2.75	4.00	15.00
ON	1.00	2.00	2.50	2.50	8.00
NB	2.25	1.00	0.75	3.00	7.00
QC	1.00	2.50	1.50	1.75	6.75
PE	2.50	1.00	0.00	3.00	6.50
NS	0.50	0.00	0.75	3.75	5.00
SK	2.75	0.00	0.25	1.75	4.75
YT	1.75	0.00	0.00	3.00	4.75
NL	1.25	0.00	0.00	1.75	3.00
MB	0.75	0.00	0.50	1.50	2.75
AB	0.50	0.00	0.00	1.50	2.00

Table 35. Building scoring results

New buildings

Canada must build 5.8 million housing units by 2030 to restore affordability.⁶⁸ Building those homes to current standards would lock in approximately 12.9 megatonnes of GHG emissions annually. Building codes set minimum standards for new construction, including energy efficiency requirements. Those that require higher energy efficiency performance effectively “lock in” significant long-term energy savings and avoid the need for costlier, more difficult retrofits later.

Provinces and territories hold responsibility for adopting new building codes and can further delegate that responsibility to local governments. The Canadian Board for Harmonized Construction Codes (CBHCC) replaced the Canadian Commission on Building and Fire Codes (CCBFC) in November 2022 as the organization responsible for developing Canada’s model codes that provinces can adopt and amend. Section 9.36 of the National Building Code (NBC) establishes energy efficiency performance requirements for houses and small buildings.⁶⁹ The National Energy Code for Buildings (NECB) prescribes minimum performance levels for all types of buildings, and is the standard for commercial, institutional, and high-rise residential buildings (Part 3 of the National Building Code). Residential buildings are responsible for about three-fifths of total building energy use in Canada, with commercial and institutional buildings accounting for the balance.⁷⁰

Codes Canada, a unit of the National Research Council Canada, released the 2020 national model codes in March 2022. The 2020 codes are tiered codes, consisting of a base code followed by progressive tiers moving toward a longer-term performance target consistent with a “net zero energy-ready” standard.⁷¹ Tiered codes offer provinces, territories, and (potentially) local governments more flexibility in higher performance code adoption and implementation. They also offer all building sector

⁶⁸ Lockhart and Simon, “Making Canada’s New Housing Supply High Performance and Climate Ready.”

⁶⁹ Canadian Commission on Building and Fire Codes, “Long-Term Strategy for Developing and Implementing More Ambitious Energy Codes: A Position Paper.”

⁷⁰ Natural Resources Canada, “Canada’s Secondary Energy Use (Final Demand) by Sector, End Use and Subsector.”

⁷¹ Lockhart, “What You Need to Know about the New Building Codes.”

stakeholders regulatory certainty and an anchor by which to develop a long-term strategy to cut energy waste and decarbonize the buildings sector.

In 2019, the Regulatory Reconciliation and Cooperation Table (RCT) endorsed the Construction Codes Reconciliation Agreement, aiming to reduce or eliminate variations in provincial building codes and to establish a standardized period of adoption of new model codes as they are published. This Agreement was ratified by all provinces and territories in 2020 agreeing to implement the 2020 National Codes within 24 months of publication and subsequent codes within 18 months of publication.

The 2022 Scorecard combined information about the base code energy efficiency level, inclusion of tiers, adoption plans and/or timelines for moving up tiers, and net zero energy and net zero emission code commitments into a single metric. According to the Construction Codes Reconciliation Agreement, all provinces committed to implementing the 2020 National Codes prior to March 2024.⁷² We are therefore revising the buildings section to consider the energy efficiency of each province's current base code, firm dates for higher tiers and any commitments to reach net zero ready or net zero emission codes in one metric. Provinces and territories who adopted the 2020 National Codes are assumed to each have a tiered code, though dates for individual tiers may not be specified.

[Building codes for houses and small buildings \(Part 9\)](#)

As noted above, section 9.36 of the National Building Code (NBC) establishes energy efficiency performance requirements for houses and small buildings. The 2012 and 2015 versions of the NBC and Tier 1 of the 2020 model code are functionally equivalent in terms of energy efficiency requirements.⁷³ Adopting a higher tier leads to progressively higher energy efficiency requirements from the provincial base code and is thus awarded higher points.

We scale points for current building codes (or building code equivalency) according to the schedule below.

⁷² 24 months following publication of the 2020 Codes in March 2022; 18 Months after each subsequent update.

⁷³ Based on discussions with experts at Natural Resources Canada.

NBC 2020 Tier	Score
Tier 1	0
Tier 2	0.5
Tier 3	1
Tier 4	1.5
Tier 5	2

Table 36. NBC tier equivalency scoring methodology

We also award half a point for provinces and territories who have established target dates for requiring: higher tier; net zero energy ready (NZER); and/or net zero emissions building codes as described in the table below.

Province/ territory	Energy efficiency of enforced code (2 points)		Adoption dates for higher tiers (0.5 points)	NZER (Tier 5) (0.5 points)	Net-zero emissions (0.5 points)	Score (3.5 points)
	Provincial code	Functional equivalency to NBC 2020				
BC	BC ESC: Step 3*	Tier 3	<u>Step 4 - 2027</u>	<u>2032</u>	2030	2.5
NB	NBC 2015	Tier 1	Tier 2 - 2025	2030		1
SK	NBC 2020	Tier 2	Tier 3 - 2026			1
ON	<u>OBC 2024: SB12**</u>	Tier 2/3				0.75
PE	NBC 2020	Tier 1		2030		0.5
YT	NBC 2020	Tier 1		<u>2032</u>		0.5
AB	NBC 2020	Tier 1				0
MB	NBC 2020	Tier 1				0
NL	NBC 2020					0
NS	NBC 2015	Tier 1				0
QC	QCC: NBC 2015***	Tier 1				0

Table 37. Building codes – houses and small buildings

*BC's Energy Step Code, Step 3 is functionally equivalent to Tier 3 according to Efficiency Canada research.

**Ontario's current building code and supplemental SB12, based on the prescriptive point system, is functionally equivalent to between Tiers 2 and 3 according to Efficiency Canada research.

***Québec Construction Code (QCC) is based on the NBC 2015 with amendments.

At time of writing, Alberta, Manitoba, Prince Edward Island and Yukon have all adopted the NBC 2020 tiered model codes enforcing Tier 1 and Saskatchewan has adopted Tier 2. British Columbia has advanced to Step 3 of their Energy Step Code as of May 1, 2023,

functionally equivalent to Tier 3 of the NBC 2020. Following a period of consultation, Ontario did not adopt the NBC 2020 tiered codes, and will instead continue to set efficiency requirements under the Supplementary Bulletin (SB) SB12, which is functionally equivalent to Tier 3 of the 2020 model codes. Saskatchewan originally planned to move to Tier 3 in 2025, but announced in September 2024 they would delay adoption to 2026.

New Brunswick has not yet adopted the 2020 codes, but reported they intend to adopt Tier 2 in January 2025 and have established a working group to develop a code adoption roadmap. Prince Edward Island reported they are aiming to adopt Tier 2 for both the NBC and NECB, but this will be determined by a feasibility study to be conducted later this year, so it was not awarded points. Nova Scotia announced in September 2024 (which is outside the window for consideration in this Scorecard) that they will adopt Tier 1 of the NBC and set adoption dates of 2026 for Tier 2 and 2027 for Tier 3. Newfoundland has no provincial building code per se, but the Municipalities Act requires municipal councils to adopt “the National Building Code of Canada and supplements or amendments to that Code” which automatically adopts the most recent version of the NBC. Québec is also not adopting the tiered framework at this time, citing updates to their provincial building code made in recent years and the need for industry to absorb those changes and continues to reference the NBC 2015 with amendments for energy efficiency.

British Columbia, Prince Edward Island, New Brunswick and Yukon have made clear commitments to have net zero energy ready (NZER) building codes in place by a specific date. British Columbia is the only province to have set a target for reaching net zero emissions, to release a Zero Carbon Step Code (in May 2023)⁷⁴ and to set interim timelines for all tiers in their climate action plan.⁷⁵

Building Codes for commercial, institutional, and large multi-unit residential buildings (Part 3)

Unlike the NBC, the three most recent versions of the National Energy Code for Buildings (NECB) have progressively higher energy efficiency requirements for commercial, institutional, and large multi-unit residential buildings. The NECB 2017 was

⁷⁴ Government of British Columbia, “Zero Carbon Step Code | Energy Step Code.”

⁷⁵ Ministry of Environment and Climate Change Strategy, “CleanBC Roadmap to 2030.”

estimated to improve energy efficiency by 10–14 per cent over the NECB 2011.⁷⁶ Given that the oldest version still in use is more than 10 years old, and that two subsequent versions have been released since (not including the 2020 model codes), we no longer award any points for NECB 2011 or NECB 2015. Tier 1 of the new 2020 NECB is expected to have a further increase of 3–5 per cent performance improvement in general over the 2017 version, according to communication with Natural Resource Canada personnel.

Points for current building codes (or building code equivalency) are thus scaled according to Table 38 below.

NEBC 2020 Version	Score
NECB 2011/2015	0
NECB 2017	0.25
NECB 2020: Tier 1	0.5
NECB 2020: Tier 2	1
NECB 2020: Tier 3	1.5
NECB 2020: Tier 4	2

Table 38. NECB code/tier equivalency scoring methodology

We also award half a point for provinces and territories who have established target dates for requiring: higher tier; net zero energy ready (NZER); and/or net zero emissions building codes as described in the table below.

⁷⁶ National Research Council Canada, “National Energy Code of Canada for Buildings 2017.”

Province/ territory	Energy efficiency of enforced code (2 points)		Adoption dates for higher tiers (0.5 points)	NZER (Tier 4) (0.5 points)	Net-zero emissions (0.5 points)	Score (3.5 points)
	Provincial code	Functional equivalency to NECB 2020				
BC	BC ESC: Step 2	Tier 1/2	<u>2027</u>	<u>2032</u>	2030	2.25
NB	NECB 2011	-	Tier 2 - 2025	2030	-	1
AB	NECB 2020	Tier 1	-	-	-	0.5
MB	NECB 2020	Tier 1	-	-	-	0.5
PE	NECB 2020	Tier 1	-	-	-	0.5
SK	NECB 2020	Tier 1	-	-	-	0.5
NL	-	-	-	-	-	0
NS	NECB 2017	-	-	-	-	0
ON	OBC 2024: SB10	-	-	-	-	0
QC	QCC: NECB 2015	-	-	-	-	0
YT	-	**	-	-	-	0

Table 39. Building Codes – commercial, institutional and multi-unit residential

Notes: Ontario's SB10 references NECB 2015, but prescriptive tables are aligned with NECB 2017.

Québec references NECB 2015 with amendments to strengthen some energy efficiency requirements.

* B.C.'s Energy Step Code, Step 2 for large buildings is functionally equivalent to between Tier 1 and 2 according to EC research; B.C. is targeting 40 per cent higher efficiency by 2027 which is between Steps 2 (20-40 per cent) and Step 3 (50 per cent).

** City of Whitehorse requires buildings to meet current NECB requirements (NECB 2020, Tier 1). Given that a large portion of the territory's population lives in this city, we award partial points to Yukon.

Alberta, Manitoba, Saskatchewan and Prince Edward Island have implemented Tier 1 of the NECB 2020 model codes for large buildings. Nova Scotia announced in September 2024 they will adopt the 2020 NECB at Tier 1 in April 2025; Tier 2 will be adopted in 2027 and Tier 3 in 2029. Ontario and Québec have opted to retain their existing codes for Part 3 buildings at this time. As of May 1, 2023, British Columbia has advanced to Step 2 of the Energy Step Code. Newfoundland and Yukon do not have a code for commercial/institutional buildings.

Municipal flexibility to adopt higher performance codes

The 2020 national model codes are tiered codes, which are intended to establish a clear pathway toward net-zero energy-ready homes and buildings by 2030. This objective is only possible when provincial governments include recognition of the existence of tiers (even if adopting the lowest tier as the base code) when adopting the codes and establish an adoption timeline for higher tiers.

The benefits of a tiered code are further realized if local governments, often the ‘authorities having jurisdiction’ over building code enforcement, are granted the flexibility by the province/territory to enforce a higher tier in their jurisdiction. Allowing this flexibility doesn’t counteract the benefits of harmonization since, as outlined in the original strategy document making the case for federal tiered codes, harmony exists “within each of the different tiers” and any jurisdiction adopting the same tiers can use the same set of solutions.⁷⁷

Local authorities can be enabled (or prohibited) from adopting construction standards requirements above the provincial level, typically within Construction Code or Municipal Acts. For example, the Manitoba and Nova Scotia building codes were reported to prevent municipalities from adopting bylaws or policies that impose requirements inconsistent with the provincial code, whereas Saskatchewan clearly establishes municipal jurisdiction in its Construction Codes Act that allows municipalities to implement higher standards. Newfoundland and Labrador, Yukon, and British Columbia all enable development of local bylaws to require more energy efficient building practices within their respective provincial Municipal Acts.

⁷⁷ Canadian Commission on Building and Fire Codes, “Long-Term Strategy for Developing and Implementing More Ambitious Energy Codes: A Position Paper.”

One point was awarded to provinces who have clearly enabled municipalities to enforce higher tiers; a half point is awarded if municipalities are enabled to adopt higher standards but the province does not have a tiered code.

Province/territory	Flexibility to adopt higher tiers	Description	Score (1 point)
BC	Yes	<ul style="list-style-type: none"> Municipalities can write bylaws or implement policies and programs that require new buildings to be constructed to a higher step of the BC Energy Step Code than currently enforced. 	1
NL	Yes	<ul style="list-style-type: none"> The Municipalities Act (Sect 414 (3)) allows municipal councils to adopt standards that exceed the requirements of the National Building Code of Canada, plus supplements and amendments. NL refers municipalities to the NBC 2020, so they can adopt any tier. 	1
PE	Yes	<ul style="list-style-type: none"> There is no limitation to the level of adoption targeted by municipalities but none have applied to go above the provincially adopted tier. 	1
SK	Yes	<ul style="list-style-type: none"> Provincial legislation (Construction Codes Act, Building Code Regulations, Energy Code Regulations) allows local authorities to adopt construction standards requirements above the provincial level. 	1
YT	Yes	<ul style="list-style-type: none"> Section 265 Municipal Act – A council may pass bylaws for municipal purposes respecting the following matters: (h) subject to the Building Standards Act, building standards or codes, and regulation, the construction, demolition, removal, or alteration of any building or other structure. 	1
QC	Yes	<ul style="list-style-type: none"> <u>Environmental Performance Act (Bill 41)</u>: Provincial approval must be requested for local bylaws; any buildings standard must be higher performing than the provincial requirement. While the Law on the Environmental Performance of Buildings enables Québec municipalities to adopt standards more stringent than provincial codes, the province has not adopted the new codes and does not plan to recognize tiers. 	0.5

AB	-	<ul style="list-style-type: none"> Alberta recently rescinded the ability for Calgary and Edmonton to introduce bylaws concerning building energy efficiency. 	0
MB	-	<ul style="list-style-type: none"> Only the Province has the authority to establish construction standards according to the Building Code Act. 	0
NB	-	-	0
NS	-	<ul style="list-style-type: none"> The province is the authority having jurisdiction for building code adoption. 	0
ON	-	<ul style="list-style-type: none"> Only the Province has the authority to establish construction standards according to the Building Code Act. 	0

Table 40. Municipal flexibility to adopt higher steps/tiers

Code compliance and enforcement

Building energy codes only save energy if builders comply with them and building officials enforce them. Creating a robust policy and support framework for code compliance can also help build capacity for more stringent energy codes in the future. For example, provinces (or utilities) can conduct code compliance studies to assess gaps in implementation, develop and provide code compliance tools and resources to builders and building officials, or establish stakeholder groups to promote opportunities for learning and coordination.

Governments and utilities can also dedicate resources, such as funding, to support these activities. For example, building on recommendations made by Efficiency Canada and others, the federal government established a Codes Acceleration Fund (CAF) in 2023 to support provincial governments, municipalities, and other organizations to promote code compliance and to accelerate adoption of higher building tiers. The federal Green Building Strategy, released in July 2024, provided a list of supported initiatives under this program, many of which are being led by municipalities. Yukon and New Brunswick were the only two provinces/territories to receive funding directly. St. John's, Newfoundland also received funding to accelerate the adoption of higher tiered codes.

Consistent with the methodology used by ACEEE, this Scorecard awarded a province half a point if it had conducted a compliance study within the past five years. We also

award a quarter point if a province could clearly demonstrate that specific resources were dedicated to compliance with energy efficiency standards, either in terms of budgets or full-time equivalent personnel.

We award a quarter point for evidence of ongoing relevant activities, including code training and technical assistance for building officials and/or the design and building community; involvement of utilities in promoting compliance; creation of tools such as energy models to promote compliance; and/or the presence of a stakeholder group or collaborative prioritizing code compliance. We summarize these activities and scores in Table 41.

Province/ territory	Compliance study in the last 5 years (0.5 points)	Dedicated resources (0.25 points)	Other activities (0.25 points for any activity)				Score (1 point)
			Code training and technical assistance	Compliance tools	Utility involvement	Stakeholder group or compliance collaborative	
BC	●					-	1
PE	-			-	-	-	0.5
QC	-				-	-	0.5
MB	-	-		-		-	0.25
NB	-	-		-		-	0.25
NL	-	-	-	-	-	-	0.25
NS	-	-		-	-	-	0.25
ON	-	-	-		-	-	0.25
SK	-	-		-		-	0.25
AB	-	-	-	-	-	-	0
YT	-	-	-	-	-	-	0

Table 41. Compliance activities scoring results

Only British Columbia has reported having had a code compliance survey in the past five years. British Columbia's compliance study was co-funded by electric and gas utilities.

British Columbia continues to maintain an active website supporting Energy Step code compliance tools and training for builders, including links to checklists and video training, and now includes information on the Zero Carbon Step Code.⁷⁸ New Brunswick reported rolling out code training resources in 2024 using the CAF funding described above. Saskatchewan held information sessions on newly adopted construction codes (NBC 2020, NECB 2020) complete with understanding of the tiered requirements. Prince Edward Island also reported that they have increased from two to four full-time building officials and efficiencyPEI partners with Holland College to provide a building/energy code training course.

Existing buildings

Existing buildings are not only a significant source of greenhouse gas (GHG) emissions, they often fail to meet modern energy efficiency, comfort, and health standards. Most buildings occupied today will still be in use in 2050. To meet our climate goals, deep energy efficiency retrofits are required in almost every existing building in Canada. The scale of this challenge is daunting and will require novel and innovative approaches to policy and program design.⁷⁹

Improvements in energy efficiency in existing buildings can be achieved sequentially through a process with the following steps:

- Benchmarking: evaluating and measuring energy use and rating and benchmarking that energy use against best and average performing buildings.
- Retrofit Action: with benchmarking information, improvements can be identified and recommended to the owner.
- Disclosure: the energy use ratings can be disclosed to the building owner, potential buyers, lenders, and/or to contractors or the public.

⁷⁸ Government of British Columbia, "Compliance Tools for Part 3 Buildings | Energy Step Code."

⁷⁹ Haley and Torrie, "Canada's Climate Retrofit Mission: Why the Climate Emergency Demands an Innovation-Oriented Policy for Building Retrofits."

- Mandatory Standards: energy efficiency can be secured by mandating the efficiency performance of the building.

Measuring the energy use of a building is a crucial first step in providing the data and information necessary to motivate building owners to invest in energy efficiency improvements. This data can be used to rate the building's performance and benchmark how the energy use stacks up against similar buildings. Energy use ratings and benchmarking help energy auditors, managers and building owners identify energy saving measures and/or build a business case for undertaking the improvements.

Energy use information can influence how buildings are valued. If disclosed publicly, in real estate listings for example, it can help to integrate the value of energy efficiency into building financing, lending and/or insurance markets. This helps to alleviate owner concerns related to realizing a return on their investments. Comprehensive energy use performance databases could also spur innovation in information and communications technology, inform energy efficiency policy and program design, and target energy efficiency upgrades and retrofits for the worst performing buildings.

Energy efficiency performance can be regulated in two ways: codes for alterations to existing buildings ("retrofit codes") and whole-building performance standards.

Retrofit building codes can require energy performance standards as part of the building permit process for alterations such as additions, major renovations and heating system replacements. A whole-building performance standard is, in contrast, a requirement for existing buildings (or buildings of a certain class or subtype, e.g., rental properties) to meet a specified energy efficiency and/or carbon emissions performance target. Mandatory building performance standards could play an important role in increasing the speed and scope of building retrofitting.

Accordingly, three metrics were considered in this Scorecard. The existing buildings section was given additional weight this year to acknowledge the significance of this sector in meeting climate change targets:

- Mandatory rating, benchmarking and disclosure (four points).
- Mandatory building performance standards (three points).
- Codes for alterations to existing buildings (one point).

Mandatory rating, benchmarking and disclosure

Building performance ratings can take different forms. For example, EnerGuide is an energy consumption rating framework used in Canada for residential buildings. Homes are benchmarked against a net zero home (0 GJ/yr), a typical new home built to code with the same square footage, and a worse performing home, all compared on a continuum of energy use. Another example is the Energy Performance Certificates (EPCs) in Europe that provide an easy to understand letter grade from A to G; in some countries the ratings are disclosed publicly or at the time of sale.

The value of energy use performance rating and disclosure has been widely recognized in Canada. The final report of the Expert Panel on Sustainable Finance identified energy rating and disclosure policies as an important driver for a private building retrofit market. The Panel recommended a mandatory labelling and public disclosure program for building performance, and disclosure requirements on residential homes at the point of sale, lease, or transfer.⁸⁰ Canada's Green Building Strategy earmarked \$30 million over five years, starting in 2024–25, to continue developing a national approach to energy labelling.⁸¹

Voluntary programs may pave the way for future mandatory ratings and provide insight to building owners. However, the limited scope of these programs is unlikely to unlock the broader policy goals of increasing the value of energy efficient buildings in real estate transactions, providing data for more targeted policy making and programs and enabling new contractor business models that target inefficient buildings for upgrades. A province- or Canada-wide labelling program would ideally consider a range of policy goals, balancing the ease of generating ratings and disclosure mechanisms for all buildings with an appropriate level of accuracy. Ratings for large buildings would also ideally be publicly accessible by building address to provide transparency as opposed to aggregated or anonymized information. One example of transparent public disclosure is in Montreal, where large buildings 2,000 m² or more must display the GHG performance of the building at entrance doors using a rating system ranging from A to F.⁸²

⁸⁰ Expert Panel on Sustainable Finance and Environment and Climate Change Canada, *Final Report of the Expert Panel on Sustainable Finance*.

⁸¹ Department of Finance Canada, "Budget 2024 Chapter 1: More Affordable Homes."

⁸² City of Montreal, "Bâtiments Zéro Émission d'ici 2040 : Feuille de Route."

In the 2024 Scorecard, we have prioritized mandatory, province-wide rating and disclosure initiatives that apply to all buildings of a certain type. We awarded one point to provinces that have established mandatory, province-wide home or building energy rating policies for each of Part 9 or Part 3 buildings. An additional two points are provided for Part 9 and Part 3 disclosure policies, given the additional benefits of publicly disclosing energy ratings (such as at the time of sale or lease). A quarter point is awarded for clear plans, with some preliminary action taken, to enforce rating and disclosure. No points were awarded for voluntary programs.

Province/ territory	Mandatory rating		Mandatory disclosure		Score (4 points)
	Part 9 (1 point)	Part 3 (1 point)	Part 9 (1 point)	Part 3 (1 point)	
ON	●				1.5
NB					1
PE					1
QC					1
AB	-	-	-	-	0
BC	-	-	-	-	0
MB	-	-	-	-	0
NL	-	-	-	-	0
NS	-	-	-	-	0
SK	-	-	-	-	0
YT	-	-	-	-	0

Table 42. Mandatory rating and disclosure

● Mandatory rating or disclosure enforced

Mandatory disclosure enforced, but anonymized

Commitment to implement mandatory rating or disclosure

Ontario remains the only province to mandate energy performance ratings for buildings. Ontario Regulation 506/18 requires commercial, industrial, and multi-residential buildings (with more than 10 units) that are 50,000 square feet or larger to report their energy and water use annually. Disclosure of performance is required, but buildings are anonymized in the public database.⁸³ Ontario launched an interactive web map and dashboard to visualize reported energy and water consumption data in October 2024. In March 2024, Québec enacted Bill 41, giving the province authority to mandate performance reporting and to maintain a public registry of building performance ratings.⁸⁴

New Brunswick and Prince Edward Island both committed to disclosing energy use for residential and commercial buildings at the time of sale by 2030. New Brunswick allocated \$500,000 in 2023/2024 to pilot home energy labelling. PE received \$285,200 from the Towards Net Zero Homes and Communities Funding in 2024 to produce home energy labels for 100 per cent of homes in PE via virtual pre-retrofit assessments.⁸⁵

Nova Scotia also piloted remote home energy assessments.⁸⁶

In his November 2020 mandate letter, the Premier of British Columbia directed the Minister of Finance to work with the Ministry of Energy, Mines, and Low Carbon Innovation to require inclusion of energy ratings in home real estate listings, and the CleanBC website indicates that a virtual home energy rating system is being developed. British Columbia is piloting the BC Home Energy Planner in four communities, an online tool that uses voluntary homeowner input to provide energy retrofit recommendations and program information. However, mandatory rating and disclosure does not seem to be part of this initiative and it remains unclear when the rating system will be implemented more widely, therefore points were not awarded. Software developer OPEN Technologies launched Building Benchmark BC in 2020, a voluntary benchmarking and disclosure program for both residential and commercial/industrial

⁸³ Government of Ontario, "Energy and Water Usage of Large Buildings in Ontario - Dataset - Ontario Data Catalogue."

⁸⁴ Charette, An Act to enact the Act respecting the environmental performance of buildings and to amend various provisions regarding energy transition.

⁸⁵ Government of Canada, "Funded Initiatives Announced with the Canada Green Buildings Strategy."

⁸⁶ MacDonald, Kelly, and Morton, "Remote Energy Assessments for Residential Homes."

buildings, with funding support from Natural Resources Canada and the Province of British Columbia.⁸⁷

Efficiency Manitoba intends to launch an online portal in 2024 for all residential customers to access a Home Energy Report, including household energy usage patterns, and benchmarking performance against similar homes. Like BC, this is a voluntary initiative and no points were awarded.

Building performance standards

A whole-building performance standard is, in short, a requirement for existing buildings (or buildings of a certain class or subtype, e.g., rental properties) to meet a specified energy efficiency and/or carbon emissions performance target. This target may be expressed as an established energy rating system level and/or benchmarking system level (e.g., total energy demand intensity, thermal energy demand intensity, GHG intensity). A building owner would be required to pursue a retrofit if their building falls under a performance baseline. A 2020 ACEEE study identified a number of such standards in place worldwide – typically applying for large buildings only – and outlined a number of key policy and design decisions.⁸⁸

Provinces can legislate mandatory building performance standards (MBPS) for existing buildings province-wide, but municipalities can also take the initiative (as our research shows some are doing in Canada) and develop performance standards on their own, absent explicit rules from the provinces preventing them from doing so. For Scorecard 2024, we award two points for mandatory, whole-building, province-wide performance standards, and partial points for a provincial commitment to develop MBPS. In recognition of the role that municipalities can take to lead in this area, we award one point to provinces where one or more municipalities has implemented an MBPS, and partial points for clear actions toward developing and implementing municipal MBPS.

⁸⁷ Details are available at buildingbenchmarkbc.ca.

⁸⁸ Nadel and Hinge, "Mandatory Building Performance Standards: A Key Policy for Achieving Climate Goals."

Province/ territory	Municipal action (1 point)	Provincial commitment to develop mandatory building performance standards (MBPS) (2 points)	Score (3 points)
QC	○	<ul style="list-style-type: none"> • <u>Environmental Performance Act (Bill 41)</u> – respecting the environmental performance of buildings was passed into law on March 27, 2024. The Act gives the Minister of Environment, the Fight against Climate Change, Wildlife and Parks the authority to set by regulation mandatory environmental performance reporting pertaining to the carbon footprint, energy consumption, and materials and equipment used in construction of buildings. It also gives the government the power to establish standards regarding environmental performance. The government will keep a public registry of performance ratings, and can assign monetary penalties for non-compliance with rating and reporting requirements. Municipalities can adopt BPS under the same Act above, however, the standards must be higher than any provincial standard and they must receive approval from the provincial government. <ul style="list-style-type: none"> • Montreal's 'By-law concerning greenhouse gas emission disclosure and ratings of large buildings' came into force in September 2021, setting out a schedule by which commercial/institutional and multi-unit residential buildings of progressively smaller size would be required to disclose building energy data to the city. The by-law is the city's first step on following through with its commitment to introduce performance thresholds in its 2020-2030 Climate Plan, though at time of writing rules regarding performance thresholds have not yet been set. 	1.5
BC	●	<ul style="list-style-type: none"> • The City of Vancouver passed its "Annual greenhouse gas and energy limits" by-law in July 2022, introducing rating and disclosure requirements and emissions and heat energy intensity limits for large existing buildings. The earliest compliance date for emissions requirements is January 2026, and heat energy limits will enter into force on January 1, 2040. 	1

		<ul style="list-style-type: none"> Under the Municipal Act lower and upper-tier municipalities may pass by-laws, subject to the rules set out in subsection (4), with regards to economic, social and environmental well-being of the municipality, including respecting climate change, so long as these rules do not supersede construction standards in areas regulated by the Building Code. 	
ON	○	<ul style="list-style-type: none"> While the province has had energy rating and disclosure requirements for large commercial buildings in place for several years, it has yet to announce plans to develop performance standards within this initiative. 	0.5
AB	-	<ul style="list-style-type: none"> One of the nine key actions in Toronto's "Net Zero Existing Buildings Strategy" is to establish mandatory emissions performance standards for all existing buildings. The "Emissions Performance Standards By-Law" is slated to go before city council in 2025. 	0
MB	-	-	0
NB	-	-	0
NL	-	-	0
NS	-	-	0
PE	-	-	0
SK	-	-	0
YT	-	-	0

Table 43. Mandatory building performance standards

- - municipal rules in place with energy or emissions performance compliance dates
- municipal rules in place or in progress, without energy or emissions performance compliance dates

No province or territory has introduced regulations for mandatory, whole-building performance standards for existing buildings, though Québec's Bill 41 would give the province authority to mandate building performance standards in the future.⁸⁹

Some municipalities are also taking the lead in this area. The City of Vancouver introduced a by-law that set dates for emissions and heat energy limits compliance in 2022, and both Montreal and Toronto are planning mandatory building performance standards for large buildings.⁹⁰ Only Québec and Yukon reported in our information request that municipalities have jurisdiction to pass mandatory building performance bylaws.

[Codes for alterations to existing buildings \("retrofit codes"\)](#)

Each existing building undergoing alterations or renovations presents an opportunity to improve energy efficiency simultaneously. In recognition of this, the Pan-Canadian Framework on Clean Growth and Climate Change outlined a specific goal to develop a model code for existing buildings that would help guide energy efficiency improvements during renovations.

In 2016, the CCBFC and the Provincial and Territorial Advisory Committee on Codes (PTPACC) convened a joint task group to explore the development of a new building code for alterations to existing buildings. This group issued its final report in 2020, recommending that the issue be addressed through a new Part in the NBC, National Plumbing Code (NPC), and NECB.⁹¹

In April 2024, a public review of the proposed 2025 changes to the National Building Code (NBC) and the National Energy Code of Canada for Buildings (NECB) was conducted. This review included the development and implementation of the Alterations to Existing Buildings (AEB) code through a newly proposed Part 13.⁹² This proposed change adds requirements defining how Part 13 of the NECB applies to the building envelope subjected to alteration and HVAC systems where significant thermal

⁸⁹ Charette, "An Act to enact the Act respecting the environmental performance of buildings and to amend various provisions regarding energy transition."

⁹⁰ City of Toronto, "Item - 2023.IE6.4."

⁹¹ Joint CCBFC/PTPACC Task Group on Alterations to Existing Buildings, "Final Report - Alterations to Existing Buildings Joint CCBFC/PTPACC Task Group on Alterations to Existing Buildings."

⁹² Lockhart, "Public Review of Proposed Changes to the 2020 National Model Codes."

loads or lengths of ductwork are added. It also includes requirements for altered lighting systems to be replaced with LED lighting technology and lighting controls that monitor occupancy.

We asked respondents to indicate whether they have or are currently developing energy efficiency requirements for alterations to existing buildings and/or building retrofits and whether they intend to adopt the AEB in 2025. We award half a point to provinces that were either planning or actively developing an alteration/retrofit code or were able to provide an anticipated date for implementation of such a code. As in previous years, British Columbia was the only province that was found to have taken action to develop its own “retrofit” code.

Province/ territory	Description	Score (1 point)
BC	<ul style="list-style-type: none"> • In British Columbia, the Building and Safety Standards branch (BSSB) of the Ministry of Municipal Affairs and Housing has been working to develop guidelines for an alteration to existing buildings code since 2019. The BSSB convened two consultation sessions with stakeholders and issued a summary report in 2019. The process moved into its second phase in <u>2021/2022</u>, consisting of further stakeholder consultation to discuss policy options. According to EC's research, the objective is behind the original timeline, but the province still hopes to introduce a code for alterations to existing buildings by 2024. 	0.5
AB	-	0
SK	-	0
MB	-	0
ON	-	0
QC	-	0
NS	-	0
NL	-	0
NB	-	0
PE	-	0
YT	-	0

Table 44. Provincial energy efficiency requirements for alterations to existing buildings

Appliance and equipment

The federal government regulates energy efficiency and testing standards and labelling requirements for energy-using products through the Energy Efficiency Regulations, which were first introduced in 1995 under the Energy Efficiency Act. These regulations are amended regularly to add new products or update existing standards. According to Natural Resources Canada, the next amendment, expected to enter into force in late 2025, is estimated to have net benefits valuing \$51 billion, a total annual reduction of

energy consumption in Canada of about 58 petajoules, and 3.3 megatonnes of greenhouse gas emission reductions in 2050.⁹³

Federal standards apply to products that are imported or shipped between provinces for sale or lease, while provinces have jurisdiction over products sold within their borders. In the United States, federal pre-emption overrides state standards for federally regulated products, but this is not the case in Canada. Historically, several provinces have maintained their own appliance and equipment regulations – for federally regulated products or for products not regulated by the federal government at the time (or both).

The Vancouver Declaration, where First Ministers from provinces and territories agreed to develop the Pan-Canadian Framework on Clean Growth and Climate Change, included a commitment to harmonizing energy efficiency standards across Canada and with North American partners. This commitment was formalized in the “Encouraging Market Transformation Through Collaboration on Energy Efficiency Standards” framework, developed at the Energy and Mines Ministers’ Conference in August 2016.⁹⁴

In 2019, Regulatory Reconciliation and Cooperation Table (RCT) endorsed the Energy Efficiency Requirements for Household Appliances Reconciliation Agreement, which aims to harmonize standards across Canada for some products. Provinces that had maintained their own standards (British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, and Québec) have all ratified this agreement.⁹⁵ Nevertheless, all regulations across the country are not yet harmonized – provincial regulations remain in place that exceed federal rules or apply to products not yet regulated by the federal government.

Provinces retain the ability to demonstrate leadership in this area by regulating above harmonized standards or products not yet covered. Provincial efficiency regulations can thus create a benchmark for the development of future federal standards.

⁹³ Government Of Canada, “Canada Gazette, Part I, Volume 158, Number 25: Regulations Amending the Energy Efficiency Regulations, 2016 (Amendment 18).”

⁹⁴ Natural Resources Canada, “Encouraging Market Transformation Through Collaboration on Energy Efficiency Standards: A Federal-Provincial-Territorial Framework.”

⁹⁵ Regulatory Reconciliation and Cooperation Table, “Reconciliation Agreement on Energy Efficiency Requirements for Household Appliances.”

In Scorecard 2024, we consider three aspects of appliance and equipment standards:

- Efficient and low carbon space and water heating (three points).
- Efficiency standards for other equipment and appliances (one point).
- Participation in federal standards development (0.5 points).

Efficient water and space heating

Space heating is the largest contributor to both residential (61 per cent) and commercial (57 per cent) energy use in Canada.⁹⁶ Water heating accounts for an additional 18 per cent of the energy used in Canadian homes and six per cent in businesses and institutions.⁹⁷ Together, space and water heating comprise almost all of a buildings' operating emissions (>96 per cent).⁹⁸ Market transformation plans established at the Energy and Mines' Ministers Conference 2016, prompted by the Pan-Canadian Framework, established aspirational goals for energy-using heating equipment for sale in Canada.⁹⁹ This included a target that all space and water heating technologies for sale in Canada meet an energy performance of more than 100 per cent by 2035 – effectively necessitating a full or partial switch to heat pumps for space and water heating.

In the 2024 Scorecard, we are introducing a space and water heating metric, distinct from efficiency standards for other appliances, in recognition of the significance of heating on energy use in buildings. We asked provinces and territories to share any policies that set requirements for efficient and/or low-carbon space or water heating in buildings. The results are a mix of energy efficiency standards and low carbon regulations and are assembled in Table 46. Planned initiatives, not yet enforced, have a target year included.

Each province's suite of water and space heating policies was rated as having a high, medium or low impact, with scoring outlined in Table 45. Provinces were also awarded

⁹⁶ Waters, "Gas-Fueled Systems Under Fire."

⁹⁷ Natural Resources Canada, "Table 37: Space Heating Secondary Energy Use and GHG Emissions by Energy Source."

⁹⁸ Government Of Canada, "The Canada Green Buildings Strategy: Transforming Canada's Buildings Sector for a Net-Zero and Resilient Future."

⁹⁹ Natural Resources Canada, "Encouraging Market Transformation Through Collaboration on Energy Efficiency Standards: A Federal-Provincial-Territorial Framework."

a quarter point for leadership in mandating efficiency in a category of equipment not yet regulated federally (e.g. Ontario's instantaneous electric water heaters). Planned initiatives, not yet in force, were awarded partial points.

Potential impact	Description	Score
High	<ul style="list-style-type: none"> • Suite of provincial policies impacts most of the equipment stock with an improvement in energy efficiency > five per cent. 	3
Medium	<ul style="list-style-type: none"> • Suite of provincial policies impacts a significant segment of the equipment stock (e.g. most commercial boilers) with an improvement in energy efficiency > five per cent. 	1
Leadership	<ul style="list-style-type: none"> • Although the policy is anticipated to impact a very small portion of the equipment stock, the policy signals a future direction for other provinces or federal policy makers. 	0.5
Low	<ul style="list-style-type: none"> • Policy impacts a fraction of a single segment of the equipment stock, or the efficiency gain is < five per cent. 	0.25

Table 45. Efficient space and water heating scoring methodology

Province/ territory	Equipment	Year targeted or enforced	Potential impact	Score (3 points)
	All residential space and water heating ≥ 100 per cent efficient.	2030	High	
BC	Commercial gas boilers > 90 per cent efficient.	Enforced	Medium	1.5
	Residential gas water and space heating.	Enforced	Low	
	Commercial gas boilers in new buildings > 90 per cent efficient.		Medium	
	Commercial oil and gas furnaces.			
	Commercial heat pump, internal water loop.			
ON	Commercial electric boilers.	Enforced		1.0
	Floor and wall furnaces.		Leadership	
	Heat pumps – various liquid technologies.			
	Residential instantaneous electric water heaters.			
QC	Prohibits installation or repair of oil fired space and water heating.	Enforced	Leadership	0.5
	Residential gas water heaters.	Enforced		
NB	Phase out oil-fired space and water heating	2030	Leadership (not yet enforced)	0.25
	Solid fuel burning heating appliances	Enforced		
AB	-			0.00
SK	-			0.00
MB	-			0.00

NS	-	0.00
NL	-	0.00
PE	-	0.00
YT	-	0.00

Table 46. Efficient and low carbon space and water heating policies

As of January 2025, most provinces will harmonize water and space heating equipment energy efficiency standards with federal regulations.¹⁰⁰ However, British Columbia has demonstrated leadership in this category with their proposed Highest Efficiency Equipment Standards (HEES) for Space and Water Heating – Point of Sale Regulations.¹⁰¹ The province has completed a consultation on this regulation that would mandate a minimum of 100 per cent efficiency, effectively requiring the installation of low carbon equipment reliant on electricity such as heat pumps, electric resistance and dual fuel systems in the residential sector. Québec has prohibited installation of oil-fired space and water heating since 2023 in both existing and new buildings and New Brunswick has allocated funding for 2024–2025 to explore a plan for phasing out heating oil. Ontario has been a leader in setting higher efficiency standards for space and water heating equipment, however national standards are now in place for many of those units.

Other appliance and equipment standards

Our approach to scoring this metric in the 2024 Scorecard will consider four categories of products above or outside federal standards: heating/cooling, lighting, fenestration and miscellaneous. The inclusion of these categories is based on the energy intensity end-use or impacts and is adapted from the ACEEE International Scorecard.¹⁰² We include a column to note which standards are also regulated federally, in which case the

¹⁰⁰ Government of Canada, "Amendments to the Energy Efficiency Regulations, 2016."

¹⁰¹ Riddell et al., "Response to the Request for Written Comments and Submissions on British Columbia's Highest Efficiency Equipment Standards (HEES) for Space and Water Heating - Point of Sale Regulations."

¹⁰² Subramanian et al., "2022 International Energy Efficiency Scorecard."

provincial standard exceeds the federal. Table 47 excludes primary space and water heating/cooling (e.g. furnaces, boilers, water heaters) which have been moved to a new metric this year.

We award 0.25 points for each category of equipment where provinces and territories regulate efficiency standards, to a maximum of one point.

Province/ territory	Federal regulation	Heating and cooling** (0.25 points)	Lighting (0.25 points)	Fenestration (0.25 points)	Misc (0.25 points)	Score (1 point)
	Province exceeds	-	<ul style="list-style-type: none"> General service lamp* $\geq 45 \text{ lm/W}$ 	-	-	
ON	None	<ul style="list-style-type: none"> Room heater, gas-fired. Air conditioner, computer room. Portable air conditioners. Swimming pool heater, oil-fired. Pool heater, gas-fired. Drinking water cooler, self-contained. Vending machine, for other than refrigerated bottled or canned beverages. 	<ul style="list-style-type: none"> Lamp, incandescent, candelabra and intermediate screwbase. Luminaire: <ul style="list-style-type: none"> Dusk-to-dawn; high mast; used for roadway lighting. 	<ul style="list-style-type: none"> Window, low-rise, residential. 	<ul style="list-style-type: none"> Clothes dryer, residential, gas-fired. Pumps, pool, dedicated purpose. Transformer, liquid-filled, distribution. Transformer, liquid-filled, power. Uninterruptible power supply. Air compressor. Thermostat for room electric space heater. 	1

	Province exceeds	-	<ul style="list-style-type: none"> General service lamps* $\geq 45 \text{ lm/W}$ 	-	-	
BC	None	-	<ul style="list-style-type: none"> Luminaires: dusk-to-dawn. 	<ul style="list-style-type: none"> Door slabs. Glazing products. Skylights. Windows, sliding glass doors, curtain walls, window walls and storefront windows (for smaller and larger buildings).* Hinged and bi-folding doors (for smaller buildings). 	<ul style="list-style-type: none"> Computers and monitors: <ul style="list-style-type: none"> desktop computers laptop computers Notebooks portable all-in-one computers mobile gaming systems thin clients small-scale servers Workstations high expandability computers computer monitors. 	0.75
QC	Province exceeds	-	<ul style="list-style-type: none"> General service lamps* $\geq 45 \text{ lm/W}$ 	-	-	0.5

	None	-	<ul style="list-style-type: none"> • Modified spectrum incandescent lamps. 	-	<ul style="list-style-type: none"> • Thermostats. 	
NS	None	-	<ul style="list-style-type: none"> • LED roadway lighting. 	-	-	0.25
AB	-	-	-	-	-	0
MB	-	-	-	-	-	0
NB	-	-	-	-	-	0
NL	-	-	-	-	-	0
PE	-	-	-	-	-	0
SK	-	-	-	-	-	0
YT	-	-	-	-	-	0

Table 47. Provincial appliances and equipment standards

*Federal regulation proposed in current amendments

**Excludes primary space and water heating that are in a separate metric

Participation in federal standards development

In 2024, we asked information request respondents about their involvement in the development and harmonization of federal energy efficiency standards. The Canadian Standards Association Steering Committee on the Performance of Energy Efficiency and Renewables (CSA-SCOPEER) develops standardized testing protocols to measure the energy performance of equipment devices and systems. Testing and efficiency standards developed, along with minimum performance standards, can then be mandated through provincial or federal regulation. CSA-SCOPEER relies on volunteer members and funding to operate. Provincial and utility representatives can participate in CSA committees at the leadership level, technical committee level or subcommittee level. Information on the contribution levels provided by information respondents are included in Table 48.

As part of the RCT 2023/2024 work plan, a Steering Committee on Energy Efficiency (SCEE) for household appliances composed of federal, provincial and territorial energy efficiency officials developed a “framework to cooperate when developing or modifying energy efficiency standards or test procedures; and address regulatory differences to reduce significant obstacles, if any, to trade across provincial and territorial border.”¹⁰³ Representatives from each province participated in this effort, and a finalized Framework was published in July 2024.¹⁰⁴

¹⁰³ Regulatory Reconciliation and Cooperation Table, “2023 Work Plan.”

¹⁰⁴ Fortier, “Final Report: A Federal-Provincial- Territorial Cooperation Framework on Energy Efficiency Standards and Regulations.”

Province/ territory	Description	Score (0.5 points)
BC	<ul style="list-style-type: none"> BC Hydro and the Ministry of Energy, Mines and Low Carbon Innovation (EMLI) staff participate in CSA-SCOPEER technical committees and subcommittees to develop provincial and federal energy efficiency standards. 	0.5
MB	<ul style="list-style-type: none"> Efficiency Manitoba staff participate in the CSA-SCOPEER including six technical subcommittees to develop provincial and federal energy efficiency standards. 	0.5
ON	<ul style="list-style-type: none"> Efficiency Manitoba also provides \$150,000 funding to SCOPEER. This funding helps support the development of new standards as well as the formation of new technical committees; in the 23–24 fiscal year for example, this included contributions towards the formation of a new technical committee on energy storage systems. 	0.5
QC	<ul style="list-style-type: none"> Government of Ontario and IESO staff participate in the CSA-SCOPEER including six Technical Committees, 27 Technical Subcommittees and a Steering Committee to develop provincial and federal energy efficiency standards. The IESO is one of the contributing funders of the CSA standards development process. 	0.5
QC	<ul style="list-style-type: none"> Government of Québec staff participate in the CSA-SCOPEER. Hydro-Québec is a voting member in the CSA-SCOPEER and member of nine Technical Committees. 	0.5
NS	<ul style="list-style-type: none"> Québec contributes \$92,000/year to SCOPEER and 0.2 FTE. Hydro-Québec contributes 1,000 hours and has a budget of \$150,000 per year for these activities. Efficiency One staff participate in the CSA – SCOPEER, the SCOPEER Resource Task Force (SRTF), and makes an annual financial contribution of \$25,000. 	0.5
NB	<ul style="list-style-type: none"> Government of NS is also a committee member of CSA Renewable Energy Deployment, Canadian Advisory Council on Energy Efficiency (CACEE), and CSA's cold load pick up committee. NB Power staff participate in C424, C403, C555 technical committees, CSA SCOPE Emerging Tech Task Force, C828 Task Force, the CSA-SCOPEER Advisory Group. The Government of New Brunswick is a member of the Canadian Advisory Council on Energy Efficiency (CACEE) and participated in the SCEE-RCT working group regarding the FPT cooperation framework on energy efficiency standards and regulations. 	0.5

SK	<ul style="list-style-type: none"> • SaskEnergy reviews appliance and equipment standards development and provides comments where applicable. 	0.25
AB	-	
NL	-	
PE	-	
YT	-	

Table 48. Contributions to Development of National Standards Workforce

Recent studies by BuildForce Canada, Canada Green Building Council and Eco Canada, among others, have highlighted the urgent need to build up energy efficiency related skills and attract more people to work in energy efficiency in Canada's building workforce.¹⁰⁵ Improving the energy efficiency of buildings requires knowledge and skills spanning multiple occupational groups. Professionals and/or tradespeople who have a direct impact on energy efficiency can be roughly categorized in three groups.

The first group is made up of those professionals who measure and model the energy use of buildings. Energy auditors or advisors, certified energy management professionals, and building scientists provide these services. They also recommend energy efficiency measures and monitor the resulting energy savings. Next are the people that design and construct new buildings and retrofits. Engineers and architects design the blueprints for high performance buildings. Insulators and air sealers, drywallers, window installers, roofers and carpenters make building envelopes air tight to regulate indoor temperatures and air quality. Heating, ventilation and air conditioning mechanics, sheet metal workers and electricians install energy efficient equipment and outfit buildings with decentralized energy generation and storage. Lastly, building officials and building code trainers versed in net zero and zero emission construction codes can improve compliance with energy efficiency standards. Thus they help avoid the poor execution of a potentially efficient design and so help to narrow the 'energy performance gap' between blueprint and building.

Each of these groups is governed by regulatory and licensing practices that may vary by occupation and across provinces and territories. The complexity of the policy landscape

¹⁰⁵ BuildForce Canada, "Building a Greener Future."

makes it difficult to identify best practices and establish clear benchmarking. In addition, data sources are not always sufficiently granular or frequent to evaluate the number of trade professionals in each province.

The following professional designations were selected for their clear contribution to energy efficiency in buildings and the availability of publicly-available data regarding workforce size and certification across provinces:

- Energy Advisors (two points).
- Certified Energy Managers (two points).
- Construction trades for green buildings (two points).

The absence of quantitative metrics for other trades, professionals, and officials should not imply that other workers noted above are not critical to the pursuit of energy efficiency in buildings. As this sector evolves, and our capacity at Efficiency Canada to track more fine-grained elements of building workforce policy develops, we expect that this section will become more comprehensive in future scorecards.

Energy Advisors

Energy Advisors conduct home energy efficiency inspections, delivering residential energy efficiency programs and homeowner education and awareness, and in facilitating deeper building retrofits. To benchmark provinces on the availability of Energy Advisors, we divided total EnerGuide v15 certifications by the number of single-detached and single-attached households.¹⁰⁶

This approach excludes apartments, mobile homes, and other movable dwellings. We excluded apartments because an Energy Advisor could serve many apartment units, and thus an advisor-per-building metric would not present a useful benchmark for provinces with many multi-unit residential dwellings. Energy Advisors have also been less active in these segments, and there is a need to train and certify advisors for multi-unit residential buildings.

¹⁰⁶ Building counts are available in Natural Resource Canada's comprehensive energy use database. The most recent data year available is 2019. Natural Resources Canada, "Residential Sector, Total Households by Building Type and Energy Source."

We score provinces on Energy Advisors per 10,000 houses using the values in Table 49. Estimates from personal communication with energy auditing experts suggest 150–200 initial, in-person, home energy audits can be completed annually by a single energy advisor. Approximately 75 per cent of those will also do a post-retrofit audit. At a retrofit rate of three per cent of homes/year and assuming all newly constructed homes also required energy auditors (for example, to conduct blower door testing for air leakage performance verification), Canada would need an estimated four auditors per 10,000 homes.

A maximum of two points were therefore awarded for provinces with four or more energy auditors per 10,000 houses. The current Canadian average of approximately two advisors per 10,000 houses was awarded one point. Points were then scaled between these two benchmarks in quarter point increments.

Energy advisors per 10,000 houses (single detached and attached) (>=)	Score
4	2
3.5	1.75
3	1.5
2.5	1.25
2	1
1.5	0.75
1	0.5
0.5	0.25

Table 49. Energy Advisor scoring methodology

Province/territory	ERS v15		Per 10,000 houses (single detached and attached)		Score (2 points)
	June 2024	Change from 2022 Scorecard	June 2024	Change from 2022 Scorecard	
YT	10	(+2)	8.5	(+1.4)	2
PE	25	(+4)	4.8	(+0.5)	2
NS	112	(+7)	3.6	(+0.2)	1.75
BC	351	(+105)	2.7	(+0.7)	1.25
NB	64	(+10)	2.4	(+0.3)	1
ON	736	(+217)	1.8	(+0.5)	0.75
QC	329	(+18)	1.6	(+0.1)	0.75
NL	28	(+6)	1.5	(+0.3)	0.75
AB	174	(+71)	1.4	(+0.6)	0.5
MB	34	(+18)	0.9	(+0.5)	0.25
SK	33	(+6)	0.9	(+0.1)	0.25

Table 50. Energy Advisor certification results

Certified Energy Managers

Certified Energy Managers (CEMs) can play important roles in energy efficiency program delivery, energy management, and evaluation, measurement, and verification of energy efficiency improvements. CEMs primarily work in commercial, institutional, and industrial buildings and facilities and, as such, educate and motivate managers and employees to adopt conservation behaviours.

To compare the provinces on energy management capacity, we consulted the Association of Energy Engineers Certified Professionals Directory for data on certified professionals. We tracked managers with a business address located in a province. Some of these practitioners might provide services within their larger region, especially in smaller or geographically proximate jurisdictions (e.g., the Maritimes or Prairie Provinces). We feel it is appropriate to provide extra credit to a province if its energy

experts are also providing services to its larger region. However, it is important to recognize that province-specific figures may not fully reflect energy consumers' access to energy professionals.

We award up to two points for Certified Energy Manager certifications per province, which could include CEM, CEM-International (I and II), and Energy Manager in Training (including International) certifications.¹⁰⁷ We divide the total certifications listed in a given province by the number of businesses in that province with 100 or more employees.¹⁰⁸ CEMs typically work in the commercial and institutional sectors, and in industrial facilities. To provide a consistent comparison that avoids biasing results against provinces with more small and medium sized businesses, we chose larger businesses likely to hire one or more CEMs. Of course, a CEM can be highly valuable to smaller companies or a consortium of small companies.¹⁰⁹ We used a per-business denominator because not all provinces had data to support a more relevant denominator based on the number of commercial-institutional buildings or total floor space in the sector.

Both the Canadian and United States nation-wide averages are approximately seven CEM/100 large businesses.¹¹⁰ We awarded one point for provinces and territories that have greater than seven CEMs/100 large businesses. A minimum threshold of two was adopted to represent the lowest provincial score. Quarter points were then scaled between two and seven; similarly quarter points were extrapolated above seven to a maximum score of two points for more than 12 CEMs/100 large businesses.

¹⁰⁷ Association of Energy Engineers, "AEE Certified Professionals Directory."

¹⁰⁸ Statistics Canada, "Table 33-10-0761-01 Canadian Business Counts, with Employees, June 2024."

¹⁰⁹ Nowak, "Big Opportunities for Small Business."

¹¹⁰ NAICS Association, "US Business Firmographics – Company Size."

Certified energy managers per 100 large businesses (>= 100 employees)	Score
12.0	2
10.8	1.75
9.5	1.5
8.3	1.25
7	1
5.8	0.75
4.5	0.5
3.3	0.25
2	0

Table 51. CEM scoring methodology

Province/territory	CEMs and EMITs		CEMs and EMITs per 100 large businesses (>= 100 employees)		Score (2 points)
	Jun 2024	<i>Change from 2022 Scorecard</i>	Jun 2024	<i>Change from 2022 Scorecard</i>	
NS	94	17	14.0	1.3	2
NB	71	25	13.1	3.8	2
BC	417	69	11.3	0.8	1.75
ON	1122	110	10.4	0.4	1.5
AB	256	29	7.4	0.3	1
YT	2	1	5.7	2.0	0.5
PE	7	4	5.5	2.7	0.5
SK	40	5	5.5	0.1	0.5
MB	34	5	3.5	0.4	0.25
QC	183	35	2.9	0.4	0
NL	8	6	2.7	2.0	0

Table 52. Certified Energy Managers and Energy Managers in Training certifications result

The number of energy managers per 100 large businesses has increased in all provinces since 2022. New Brunswick and Prince Edward Island saw the biggest improvement, with CEM certifications per large businesses increasing by 3.8 and 2.7 points respectively.

Construction trades for green buildings

As noted above, many different technical and general construction-related trades are involved in reducing emissions from and improving the energy efficiency of buildings in Canada. A 2024 BuildForce Canada study analysed how certain key construction-related trades and occupations would need to grow under a “Green Building Scenario” in which new residential construction and retrofit activity was aligned with federal emissions

reductions goals between 2023 and 2032. Across all the trades considered in the report, BuildForce Canada estimated a total of 56,900 additional jobs would need to be filled – 16,300 to support fuel-switching to electricity, and 40,600 to support energy efficiency retrofits.¹¹¹

The motivation for this metric is to track provincial and territorial progress in growing their construction trades workforce to meet such requirements, measured through annual certifications for graduating apprentices and/or for “trade qualifiers”, for trades of particular relevance to energy efficient buildings. However, this is complicated by a number of factors. For one, trade designation (which trades have apprenticeship training and certification) is under provincial/territorial jurisdiction and may vary across jurisdictions. Second, the provinces/territories also determine which designated trades are compulsory (i.e., requiring certification to work unsupervised) – this may also vary across jurisdictions. Finally, the primary national source for data on apprenticeship training and certification uses special trade groupings that do not match one-to-one with trade classification under the National Occupation Classification (NOC) system, and which was used in the BuildForce study.¹¹²

Accordingly, it is difficult to ensure an “apples-to-apples” comparison of workforce data across provinces that captures the true size of the workforce, and its growth, for energy efficiency-related trades. However, we can get a partial picture with greater confidence by focusing only on “Red Seal” trades, which the Statistics Canada Registered Apprenticeship Information System (RAIS) primarily tracks.¹¹³ The Red Seal program sets common standards for certain trades in Canada, and a Red Seal endorsement means that the certified apprentice meets an interprovincial standard recognized across the country. Limiting our analysis to Red Seal trades helps to ensure more consistency across provincial and territorial trade designation and governance (but may not fully mitigate the issue of non-compulsory trades and the true size of the workforce).

In the BuildForce Canada analysis, the Red Seal trades with the greatest importance to energy efficiency and fuel switching, and for which the greatest growth will be required,

¹¹¹ BuildForce Canada, “Building a Greener Future.”

¹¹² Assessing the energy efficiency workforce using the NOC system remains challenging because occupational categories do not specify energy efficiency professionals.

¹¹³ Statistics Canada, “Table: 37-10-0089-01: Registered Apprenticeship Information System (RAIS): Number of Certificates Granted to Registered Apprentices and Trade Qualifiers.”

include carpenters, electricians, drywall finishers and plasterers, concrete finishers, bricklayers, insulators, and refrigeration and air conditioning mechanics. The trade groupings used in the RAIS which best correspond to these trades are carpenters, electricians, and refrigeration and air conditioning mechanics, though these are not limited to residential employment (as they are in the BuildForce study). The RAIS also includes data on interior and exterior finishers, however these groups do not include the specific trades relevant to energy efficiency (e.g., insulators, drywall finishers and plasterer). We have thus limited our analysis to carpenters, electricians, and refrigeration and air conditioning mechanics.

According to the BuildForce Canada study, direct new employment in these three trades between 2023–2032 associated specifically with green building activity amounts to ~8,100 more refrigeration and air conditioning mechanics, ~4,100 more carpenters, and ~4,000 more electricians. This amounts to nearly 400 per cent, nine per cent, and 29 per cent growth in employment in this time frame, respectively. It is important to note that this is growth over and above what would be expected given current rates of efficiency retrofitting and fuel switching. All told, according to the BuildForce study, employment in residential construction trades will need to grow by 17 per cent by 2032 to achieve the necessary increases in energy efficiency and fuel switching activity.

There is considerable variation year-to-year in the numbers of trade certifications granted in these three trades in each province and territory. To minimize the effect of annual variation, we compared the most recent three year average (2020–2022) of certifications granted across these trades against the ten year average of certifications granted between 2011 and 2020. The goal is to identify provinces and territories that are exceeding historical rates of certification, and thus training more tradespersons.

To score this metric, we awarded up to half a point for both carpenter and electrician certifications and up to one point for heating and air conditioning mechanics (to reflect the relative magnitude of growth in employment needed in each trade) where the three year average of annual certifications exceeds the 10 year average. Partial points are awarded for average three year certifications between 100 per cent and 110 per cent of the 10 year average, full points are awarded for certifications exceeding 110 per cent (a percentage value less than 100 per cent thus showing the province/territory's three year average of annual certifications is below the 10 year average). Our reasoning for awarding full points to higher increases in certifications is that, as Red Seal trades, these tradespersons are capable of working in any province and thus higher certifications in one province can also help alleviate anticipated future national

shortages in the construction trades workforce.

Province/territory	Carpenters (0.5 points)	Electricians (0.5 points)	HVAC (1 point)	Score (2 points)
BC	79%	92%	114%	1
MB	78%	75%	138%	1
NL	72%	51%	136%	1
QC	111%	112%	91%	1
SK	58%	55%	147%	1
PE	136%	88%	95%	0.5
YT	54%	117%	-	0.5
ON	61%	101%	88%	0.25
AB	66%	66%	91%	0
NB	50%	86%	96%	0
NS	86%	78%	85%	0

Table 53. Construction trades certifications: Three-year average annual certifications compared to 10-year average

Transportation

Transportation accounts for 29 per cent of total energy consumption in Canada and stands to deliver 26 per cent of the country's potential energy savings by 2050.¹¹⁴ Achieving these savings would avert the release of 1.5 gigatons of GHG emissions through 2050, or one-third of the total potential emissions reductions.¹¹⁵

Light-duty passenger vehicles account for 60 per cent of Canada's transport energy demand. While several current and possible future policies and initiatives could improve passenger vehicle energy efficiency, electrification of personal transport will play a particularly important role. According to the U.S. Department of Energy, electric vehicles convert 59-60 per cent of electrical energy received from the grid to power at the wheels, while conventional vehicles convert only 17-21 per cent of the energy in gasoline to power.¹¹⁶

Scores for the transportation category reflect provincial policies and performance in energy efficiency – primarily in personal transportation – thereby targeting the integration of private transportation with buildings and electricity grids, though we also consider active transportation strategies and funding, and public transit.

We collected information on the following policy areas or metrics:

- **Zero-emission vehicles** (seven points total):
 - Zero-emissions vehicle mandate (one point).
 - Electric vehicle incentives (three points).
 - BEV/PHEV registrations per total vehicle registrations (three points).
- **Transport electrification infrastructure** (five and a half points total):
 - Availability of public charging ports (two points).
 - Stations with >50kW capacity per 100 registered EV/PHEVs (one and a half points).

¹¹⁴ Statistics Canada, "Table 25-10-0029-01: Supply and Demand of Primary and Secondary Energy in Terajoules, Annual"; Government of Canada, "NEB – Provincial and Territorial Energy Profiles – Canada."

¹¹⁵ International Energy Agency and Natural Resources Canada, "Energy Efficiency Potential in Canada to 2050."

¹¹⁶ Office of Energy Efficiency & Renewable Energy, "All-Electric Vehicles."

- Support for electric vehicles (EV) charging infrastructure in building codes and/or municipal bylaws (one point).
- Electric vehicle and grid interactivity (one point).
- **Active transportation** (two points total):
 - Active transportation plans or strategies and dedicated funding (two points).
- **Public transportation** (three points total):
 - Provincial funding (one point).
 - Ridership (one point).
 - Electrification (one point).

Total scores are presented in the table below.

Province/ territory	Zero emission vehicles (7 points)	Transportation electrification (5.5 points)	Active transportation (2 points)	Public transportation (3 points)	Total (17.5 points)
QC	7.00	2.00	2.00	1.75	12.75
BC	6.25	2.50	2.00	1.00	11.75
PE	3.25	2.25	2.00	0.00	7.50
NS	2.50	1.75	1.00	0.75	6.00
YT	3.50	2.50	0.00	0.00	6.00
NB	2.00	1.25	1.00	0.75	5.00
MB	1.25	0.50	1.00	0.75	3.50
ON	0.75	1.00	0.00	1.50	3.25
NL	1.25	1.25	0.00	0.50	3.00
AB	0.50	0.50	0.00	1.25	2.25
SK	0.00	1.25	0.00	0.50	1.75

Table 54. Transportation scoring summary

Zero-emissions vehicles

Zero-emission vehicle mandates

Governments can promote energy efficiency in personal vehicle transportation by adopting mandates requiring that zero-emission vehicles (ZEV) comprise a minimum share of all new vehicles sold in a given jurisdiction.

In December of 2023, the federal government published new regulations developing a zero-emission vehicle sales mandate for all new light-duty cars and passenger trucks under the *Passenger Automobile and Light Truck Greenhouse Gas Emission Regulations*. This announcement strengthened a former federal ZEV sales target by making sales goals mandatory and moved up the 100 per cent zero-emission sales deadline from 2040 to 2035.¹¹⁷ Under the new Electric Vehicle Availability Standard, auto manufacturers and importers must meet ZEV regulated sales targets. The targets begin for the 2026 model year, with a requirement that at least 20 per cent of new light-duty vehicles offered for sale in that year be ZEVs. The requirements increase annually to 60 percent by 2030 and 100 per cent for 2035.¹¹⁸ The federal government states that it will use a combination of investments and legislation to assist Canadians and industry in transitioning to 100 per cent zero-emission vehicle sales by 2035.

Future Scorecards will consider how provincial ZEV mandates exceed the federal ZEV mandate. Given that the mandate was only formalized in December 2023, at the tail-end of the period under consideration for this Scorecard, we have continued with our previous approach of awarding one point to provinces with their own, legislated ZEV mandate.

¹¹⁷ Transport Canada, "Canada's Zero-Emission Vehicle (ZEV) Sales Targets."

¹¹⁸ Environment and Climate Change Canada, "Canada's Electric Vehicle Availability Standard (Regulated Targets for Zero-Emission Vehicles)."

Province/ territory	Description	Score (1 point)
BC	<ul style="list-style-type: none"> British Columbia originally announced its intention to pass a ZEV mandate by 2020 in its Fall 2018 CleanBC climate strategy. The Zero-Emission Vehicles Act, passed in May 2019, implements a credit/debit system for auto manufacturers, requiring them to meet an escalating annual percentage of new light-duty ZEV sales and leases. In July 2020, the province introduced regulations for the Act, which included phased targets to be met each year, as well as compliance requirements. Changes to the ZEV Act received Royal Assent in fall 2023, revising current targets to 26 per cent by 2026, 90 per cent by 2030, and 100 per cent by 2035. 	1
QC	<ul style="list-style-type: none"> Québec introduced its Zero-Emission Vehicle (ZEV) Standard in 2016, which was first implemented in 2018. The standard established a credit/debit system for auto manufacturers, encouraging them to meet an escalating annual percentage of credit requirements through the sale and lease of new light-duty electric vehicles (EV). New tightened zero-emission vehicle standards for 2025–2035 were adopted in September 2023. The credit system changed (one ZEV generates one credit instead of four) and it aims to bring the market of ZEVs towards 22 per cent of vehicle sales by 2025, 60 per cent by 2028, 85 per cent by 2030, 95 per cent by 2032, and 100 per cent by 2035. 	1
AB	-	0
MB	-	0
NB	-	0
NL	-	0
NS	-	0
ON	-	0
PE	-	0
SK	-	0
YT	-	0

Table 55. Provincial zero emission vehicle mandates

Electric vehicle incentives

Consumer incentives are another form of transportation electrification policy support. The upfront purchase cost of electric vehicles (EVs include both battery electric (BEVs) or plug-in electric hybrid vehicles (PHEVs)) can be a barrier to consumer uptake, despite generally having much lower operating costs than conventional vehicles.¹¹⁹ Governments can reduce these barriers by offering financial incentives to consumers, such as tax credits, rebates, and sales tax exemptions.

In May 2019, the federal government launched the Incentives for Zero-Emission Vehicles (iZEV) Program. At time of writing, this program offers incentives of up to \$5,000 for the purchase or lease of new light-duty BEVs, PHEVs and fuel cell electric vehicles.¹²⁰ Up to ten incentives can be claimed by an organization for light-duty electric vehicle fleets. In July 2022 the government launched the Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles (iMHZEV) Program. This program offers incentives of up to \$1,000,000 per calendar year or a maximum of 10 total incentives (whichever comes first) to Canadian organizations and businesses for the purchase or lease of BEVs, PHEVs, or hydrogen fuel cell vehicles.

The Scorecard tracks and awards points based on the presence of provincial consumer and/or commercial fleet incentives. For consumer incentives, we include consideration of incentives for used vehicles, and non-automotive or specialty vehicles (e.g., e-bikes). We award up to a half point for new vehicle incentives (a full half point for incentives matching or exceeding the federal incentives; partial points for incentives below the federal amount); a half point for incentives that include used vehicles (no consideration of the incentive amount); and a half point for incentives for non-automotive/specialty vehicles.

¹¹⁹ Natural Resources Canada, "2019 Fuel Consumption Guide."

¹²⁰ Government Of Canada, "Zero-Emission Vehicles - Incentives."

Province / territory	New vehicles (0.5 points)	Used vehicles (0.5 points)	Non-automotive / speciality-use (0.5 points)	Score (1.5 points)
PE	\$2,500 - \$5,000	\$2,500 - \$5,000	Up to \$500 (e-bikes)	1.5
QC	\$5,000 - \$7,000	\$3,500	Up to \$2,000 for electric motorcycles; up to \$500 for electric scooters	1.5
YT	\$3,000 - \$5,000	Up to \$1,500	Up to \$2,500 (e-bikes, electric snowmobiles, electric motorcycles, electric boats)	1.5
BC	Up to \$4,000 (CleanBC)	PST exemption	\$350 - \$5,000 (e-bikes, electric motorcycles, low speed vehicles)	1.25
NS	\$2,000 - \$3,000	\$1,000 - \$2,000	\$500 (e-bikes)	1.25
NB	\$2,500 - \$5,000	\$1,000 - \$2,500	-	1
MB	Up to \$4,000	Up to \$2,500	-	0.75
NL	\$1,500 - \$2,500	\$1,500 - \$2,500	-	0.75
AB	-	-	-	0
ON	-	-	-	0
SK	-	-	-	0

Table 56. Consumer incentives for electric vehicles

We also consider medium and heavy duty electric vehicle incentives, and passenger and light-duty electric vehicle incentives for commercial and municipal fleets. We award up to half a point for incentives for fleets of light-duty electric vehicles (a full half point for incentives matching or exceeding the federal incentives; partial points for incentives below the federal amount or vehicle quantity), half a point for medium or heavy-duty electric vehicles, a quarter point for used electric vehicles and a quarter point for non-automotive specialty electric vehicles. Full points are awarded provided the incentives are available to businesses, non-profit organizations and First Nation and local governments; limited eligibility resulted in partial points.

Province/territory	Light duty (0.5 points)	Mid-heavy duty (0.5 points)	Used light duty (0.25 points)	Non-automotive / speciality-use (0.25 points)	Eligible organizations	Score (1.5 points)
QC	\$5,000 - \$7,000; unlimited vehicles	\$125,000 - \$175,000	\$3,500; unlimited vehicles	Up to \$2,000 for electric motorcycles; up to \$500 for electric scooters	Businesses, organizations, local governments	1.50
YT	\$3,000 - \$5,000; up to 10 per year	Up to \$10,000	Up to \$1500; up to 10 per year	Up to \$2,500 (e-bikes, electric snowmobiles, electric motorcycles, electric boats)	Businesses, organizations, local and First Nations governments.	1.50
BC	\$1,500 - \$3,000; up to 10 per year; car share up to 50 per year	\$150,000 or 33 per cent of the price; up to 10 per year	-	\$350 - \$5,000 (e-bikes, electric motorcycles, low speed vehicles); up to 10 per year	Businesses, non-profits, local and Indigenous governments	1
NS	\$2,000 - \$3,000; unlimited vehicles	\$10,000 - \$50,000; up to 10 per year	\$1,000 - \$2,000; unlimited vehicles	\$500 (e-bikes)	Businesses, organizations, local and First Nations governments	1.25
MB	Up to \$4,000; one vehicle per program	-	Up to \$2,500; one vehicle per program	-	Businesses, local and First Nations governments	0.5

NB	\$2,500 - \$5,000; up to 10 per year	-	\$1,000 - \$2,500; up to 10 per year	-	Businesses, non-profit organizations, local and First Nations governments	0.75
PE	\$2,500 - \$5,000; up to five per year	-	\$2,500 - \$5,000; up to five per year	Up to \$500 (e-bikes)	Businesses, non-profit organizations, local and First Nations governments	0.75
AB	Up to \$14,000	30 per cent of cost up to \$300,000	-	Up to \$50,000 for non-road electric vehicles (ice resurfacers, low-speed utility vehicles)	Local governments	0.5
NL	\$1,500 - \$2,500; no info on number of vehicles	-	\$1,500 - \$2,500; no info on number of vehicles	-	Businesses, non-profit organizations, and local governments	0.5
ON	-	-	-	-	-	0
SK	-	-	-	-	-	0

Table 57. Commercial fleet and non-light duty electric vehicle incentives

Electric vehicle registrations

Battery electric (BEV) and plug-in electric hybrid (PHEV) vehicle registrations provide a quantitative indicator of personal transportation electrification. This year, the Scorecard scores BEV/PHEV registrations as a share of all new motor vehicle sales, using only the most recent year. In previous years, this metric was measured as a share of new motor vehicle registrations and we used information requests and Statistics Canada data for BEV/PHEV registrations. However, due to vehicle registration data limitations for some provinces, we switched to using total new vehicle sales since there were figures available for more provinces. We found minimal differences between total new registrations and total new sales figures for provinces where both were present.¹²¹ This methodology allows for annual accounting and is consistent with federal and provincial sales mandates.

Under the new federal Zero Emission Vehicle (ZEV) mandate, there is a mandatory target for 20 per cent of all vehicles available for sale to be ZEVs by 2026.¹²² For the 2024 Scorecard, we awarded a maximum of three points for provinces and territories with more than 20 per cent of new vehicle registrations that are electric vehicles. We established a minimum threshold of 3.5 per cent and awarded quarter points for each 1.5 per cent increase in EV shares above that. Scoring methodology is provided in the table below, followed by the results.

¹²¹ Registrations refers to the number of vehicles registered in each province/territory. Sales refers to the number of new vehicles sold in retail.

¹²² Environment and Climate Change Canada, “Canada’s Electric Vehicle Availability Standard (Regulated Targets for Zero-Emission Vehicles).”

Percentage of all passenger vehicle registrations that are BEV/PHEVs (>=)	Score
20	3
18.5	2.75
17	2.5
15.5	2.25
14	2
12.5	1.75
11	1.5
9.5	1.25
8	1
6.5	0.75
5	0.5
3.5	0.25

Table 58. BEV/PHEV registrations scoring methodology

Province/territory	2023 total	2021 total	% points change	Score (3 points)
BC	20.8%			3
QC	24.4%	8.9%	15.5	3
PE	8.7%	2.1%	6.6	1
ON	6.6%	3.1%	3.5	0.75
YT				0.5
NB	4.8%	1.3%	3.5	0.25
AB				0
MB	3.2%	1.4%	1.8	0
NL				0
NS	3.0%			0
SK	2.5%	1.1%	1.6	0

Table 59. Percent of all passenger vehicle registrations that are BEV/PHEVs*

* Available data is obtained from information requests and Statistics Canada. However, due to data sharing limitations, BEV/PHEV and total vehicles registration data for select provinces and territories are not available. For missing provinces, approximate scoring was generated using registration data from S&P Global. Efficiency Canada includes only BEV and PHEV in our calculation. S&P registration data also includes fuel cell and hybrid electric, but it is not possible to identify only BEV and PHEV values in that data. Provinces for which we used S&P data are thus scored only on BEV registrations. See [here](#).

Transport electrification infrastructure

Public charging availability

The ability to reliably and rapidly charge electric vehicles is a key factor in helping to overcome barriers to EV adoption stemming from range anxiety. This is particularly true in denser, urban areas, where access to home charging (which is the most common means of charging EVs) may be more limited. A sufficiently high ratio of public charging to EVs can counter concerns about range and allow for vehicles with smaller battery capacity (reducing material requirements and costs), yet a ratio that is too high may be

uneconomical.¹²³ The power capacity of available charging is also therefore critically important – a Level 2 charger can provide a maximum of 19.2 kW, while Level 3 chargers range from 50 - 500 kW.¹²⁴ Higher capacity means more vehicles can be served more quickly.

It is thus important for governments to ensure charging availabilities “keep paces” with the size of the EV fleet, and not to let low availability act as a deterrent to EV adoption. The federal government has set a target of 33,500 public charging ports by 2026, and administers the Zero Emission Vehicle Infrastructure Program, which provides funding support to public charging development.¹²⁵ A recent report from Dunsby Energy + Climate Advisors, prepared for Natural Resources Canada, estimates that nearly 680,000 public charging ports will be required – one port per 31 electric vehicles – or roughly 40,000 new ports per year until 2040 to meet forecasted growth.¹²⁶

Provincial governments and utilities must also play an important role in providing funding support and developing charging networks to meet these requirements. In our 2022 Scorecard, we compared provinces on the availability of public charging infrastructure by comparing the total number of electric vehicle charging stations (EVSE) with the extent of the provincial road network, and the number of charging ports per capita (a station is a site with one or more EV charging ports at the same address. The number of ports indicates the number of vehicles that can be charged at once). We also evaluated the number of stations with one or more Level 3 charging ports per 100 KMs of road infrastructure.

For the 2024 Scorecard, we have modified our methodology so as to consider both availability and capacity. For availability, we look at the total number of public Level 2 and 3 electric vehicle charging ports per 10,000 residents living in metropolitan areas. For capacity, we look at the number of stations with Level 3 charging capabilities per 100 registered BEV/PHEVs (the total fleet, not just annual registrations or sales). We

¹²³ International Energy Agency, “Trends in Electric Vehicle Charging.”

¹²⁴ Kurczewski, “What Are the Different EV Charging Levels?”

¹²⁵ Government Of Canada, “2023 Reports 6 to 10 of the Commissioner of the Environment and Sustainable Development to the Parliament of Canada.”

¹²⁶ Dunsby Energy Consulting, “Electric Vehicle Charging Infrastructure for Canada.”

obtained data on electric vehicle charging ports and station capacity from the NRCan Electric Charging and Alternative Fuelling Stations Locator.¹²⁷

A 2017 study by the International Council on Clean Transportation (ICCT) found considerable variation in charging points per population – leading countries (Netherlands and Norway) had over 15 charging points per 10,000 residents, while the next three highest countries (Switzerland, Australia, and Denmark) had approximately five charging ports per 10,000 people. Leading cities, however, had closer to 25 charging points per 10,000 people.¹²⁸ We have increased our scoring thresholds accordingly to align with international best practices. Two points are awarded to provinces that exceed 25 charging points per 10,000 people, with subsequent quarter point thresholds declining by three ports per capita.

Ports per 10,000 residents	Score
25	2
22	1.75
19	1.5
16	1.25
13	1
10	0.75
7	0.5
4	0.25

Table 60. EV charging ports per capita scoring methodology

¹²⁷ Natural Resources Canada, “Electric Charging and Alternative Fuelling Stations Locator.” To estimate stations with Level 3 charging capacity, we took the number of unique charging stations categorized as having greater than 50kW capacity.

¹²⁸ Hall and Lutsey, “Emerging Best Practices for Electric Vehicle Charging Infrastructure.”

Province/ territory	Charging ports in (August 2024)	Change in charging ports (2022–2024)	Charging ports	Change in ports	Score (2 points)
			per 10,000 residents, CMAs+CAs	per 10,000 residents, CMAs+CAs	
PE	308	225	27.9	+19.8	2
QC	10,237	3,731	14.1	+4.8	1
BC	5,671	2,482	11.4	+4.6	0.75
NB	446	201	8.3	+3.4	0.5
ON	9,853	4,569	7.0	+3.0	0.5
YT	30	13	8.3	+3.3	0.5
AB	1,567	941	4.0	+2.3	0.25
MB	465	314	4.4	+2.9	0.25
NL	183	89	6.3	+2.9	0.25
NS	445	217	6.0	+2.7	0.25
SK	363	208	4.5	+2.5	0.25

Table 61. Electric vehicle charging ports per 10,000 residents

Benchmarking provinces on BEV charging capacity is more difficult. Previously referenced studies by the IEA or the ICCT include data on the share of all charging points that are fast charging (with leading countries exceeding 75 per cent), and the former study also provides international comparisons of charging capacity (kW) per BEV. Following the former approach could bias results toward provinces with smaller networks (although the availability metric above should counter this bias). Following the latter approach is not possible due to data limitations (though we are able to estimate the number of stations with capacity >50kW from the NRCAN data). It is also important to note that, according to the IEA, ratios of charging capacity to EVs are typically higher in initial phases of infrastructure development and decline as the market matures.¹²⁹

¹²⁹ International Energy Agency, "Trends in Electric Vehicle Charging."

Nevertheless, a higher ratio of capacity to EVs should demonstrate provinces that have prioritized faster charging, even if they are in earlier stages of infrastructure roll out. Absent clear international best practices to benchmark this metric against, we have based our scoring on the observed results of our analysis. We measure charging capacity by calculating the number of stations with greater than 50kW capacity per 100 registered BEVs/PHEVs, using total charging stations from Natural Resources Canada¹³⁰ and dividing by total vehicle registration statistics provided by Statistics Canada.¹³¹ We award one and a half points to provinces or territories exceeding six stations per 100 vehicles, declining by one station every quarter point.

Stations / 100 registered EV/PHEVs	Score
6	1.5
5	1.25
4	1
3	0.75
2	0.5
1	0.25

Table 62. Charging capacity scoring methodology

¹³⁰ Natural Resources Canada, “Electric Charging and Alternative Fuelling Stations Locator.” To estimate stations with Level 3 charging capacity, we took the number of unique charging stations categorized as having greater than 50kW capacity.

¹³¹ Statistics Canada, “Vehicle Registrations, by Type of Vehicle and Fuel Type.”

Province/territory	Charging stations > 50kW (August 2024)	Total registered BEV/PHEVs (2022)	Stations / 100 registered BEV/PHEVs	Score (1.5 points)
YT	16	166	9.6	1.5
NL	33	680	4.9	1
NB	55	1,667	3.3	0.75
SK	48	1,557	3.1	0.75
AB	107	10,468	1.0	0.25
MB	47	2,563	1.8	0.25
NS	24	2,225	1.1	0.25
PE	8	703	1.1	0.25
BC	351	91,829	0.4	0
ON	403	87,299	0.5	0
QC	620	147,321	0.4	0

Table 63. Stations with >50kW capacity per 100 registered BEV/PHEVs

Support for charging infrastructure in building codes and municipal bylaws

While home charging is the most common method of charging EVs worldwide, North American electrical grids typically operate at ~120v in residential settings, which is prohibitively slow for charging modern electric vehicles. In order to facilitate higher speed Level 2 charging at home, the necessary infrastructure to extend 240v service to a convenient point (i.e., garage) must be in place before a homeowner can install a dedicated EV charger. This can present an additional barrier to EV adoption, if homeowners must also absorb the costs of that electrical work.

Provincial and municipal governments can help to reduce this barrier by including requirements – in building codes and/or municipal by-laws – for this infrastructure to be included in new buildings. In certain settings, it is more practical to include EV charging infrastructure requirements in municipal zoning bylaws, because the latter can

apply to the building lot, not just the building itself. As a result, these bylaws can encompass parking lots that would not be captured by building codes, as well as different types of use at these parking lots (short term at a restaurant, longer at an office building, etc.).¹³²

Local governments in every province technically have the ability to include EV charging infrastructure requirements in their bylaws, unless the province explicitly forbids it (though, to the best of our knowledge, this is not the case in any province). However, when provinces officially clarify this via legislation or official statements, they provide municipalities with the certainty and support they need to make changes.¹³³ Provinces can also provide capacity to municipalities through model bylaws, coaching, sharing of best practices, etc.

We award a half point to provinces that indicated requirements for EV infrastructure in their building codes directly and another half point if they explicitly enable municipalities the flexibility to require EV infrastructure in their bylaws. We award a quarter point if a province reported that municipalities can write such bylaws, but no local government has requirements in place. Information responses were supplemented with data from Electric Autonomy EV-ready bylaw tracker database and all results are summarized in the table below.¹³⁴

¹³² Benoit, “EV Group Says Zoning Law, Not Building Code Is Best for EV Infrastructure.”

¹³³ McEwen, “EV Readiness’ Requirements Framework.”

¹³⁴ Electric Autonomy Canada, “EV-Ready Bylaw Tracker for Condo, Strata and MURB Charging in Canada.”

Province/ territory	Building code requires EV charging provisions (0.5 points)	Municipal flexibility to require EV charging provisions (0.5 points)	Score (1 point)
QC	●	●	1
BC		●	0.75
ON	-	●	0.5
YT	●	-	0.5
NS	-		0.25
SK	-		0.25
AB	-	-	0
MB	-	-	0
NB	-	-	0
NL	-	-	0
PE	-	-	0

Table 64. EV charging requirements in building codes or municipal by-laws

BC requires Strata Owners to have an electrical planning report for installation of EV chargers.

Provinces reported they enable municipal EV bylaws support: Nova Scotia reported they would work with municipalities that wish to create EV bylaws for new developments. Halifax proposed a bylaw in 2023; Saskatchewan enables municipal EV bylaws, but none have done so.

Electric vehicle-to-grid interactivity

Provinces and territories can increase the value of electric vehicles for both consumers and the grid by supporting vehicle-to-grid (V2G) technology. Vehicle-to-grid integration allows electric vehicles to exchange energy with the grid. A plugged-in EV can not only charge its battery, it can also transfer unused power back to the grid to be used elsewhere during peak demand. This is referred to as bi-directional (two-way) charging. Grid interactivity also allows utilities to communicate when an EV should charge, and to

pause charging during periods of grid constraint. Thus, bi-directional charging is a form of energy storage helping utilities maintain grid stability and contribute toward transport electrification. Specialized infrastructure such as smart grids and bi-directional chargers are required to enable vehicle-to-grid interactivity.

We asked provinces and territories to describe any activities, pilot programs, or other initiatives to facilitate vehicle-to-grid interactivity. Initiatives to incent load shifting through time of use rates or other forms of "passive load management" of EVs were not the focus of this metric and were excluded.

The table below outlines provincial initiatives to support electric vehicle to grid interactivity. In Canada, bi-directional chargers remain an emerging technology. For this new metric, we therefore award one point to provinces that have commenced projects supporting EV and grid interactivity. In future scorecards, we will track new advancements as more provinces and utilities embark on bi-directional charging.

Province/ territory	Activities	Score (1 point)
BC	<ul style="list-style-type: none"> In fiscal 2024, BC Hydro undertook initial testing on vehicle-to-grid technologies. Additional testing is expected to take place in fiscal 2025. The bidirectional charging trial is exploring medium and heavy-duty (e.g. buses, transportation trucks) vehicle-to-grid interactivity as a potential flexible source of energy to meet demand. This project is a partnership between the utility, Powertech and Coast to Coast Experience with funding from CleanBC. 	1
NS	<ul style="list-style-type: none"> Nova Scotia is currently undertaking studies to determine the opportunity for vehicle-to-grid and vessel-to-grid (marine) integration. Studies include fleet sizing, signal development, as well as a vehicle-to-grid roadmap to guide the next steps in provincial policies and pilot projects. 	1
SK	-	0
ON	-	0
QC	-	0
NL	-	0
NB	-	0
AB	-	0
MB	-	0
PE	-	0
YT	-	0

Table 65. Electric vehicle and grid interactivity

Active transportation

Active transportation refers to forms of transportation where people physically power their own mobility through walking, biking, skateboarding, and similar modes. Such active transportation modes were one of several other forms of sustainable transportation we looked at in our previous Scorecard. Cycling is one of the most efficient forms of transportation,¹³⁵ and combining modes of sustainable transportation where there is a focus on reducing vehicular traffic will increase energy efficiency, while providing public health co-benefits.

While local governments typically take the lead on active transportation initiatives, provinces can assist the process through legislation, regulation, and policies.¹³⁶ This helps to establish consistent goals and regulations across the province and can establish funds for municipalities to improve and extend their active transportation infrastructure. Many provinces therefore have policies and legislation specifically designed to promote active transportation.

We award up to two points for provincial active transportation plans or strategies. We score provinces on active transportation plans or strategies (up to one point) and the existence of dedicated funding to support it (up to one point). We provide results in the table below.

¹³⁵ Dodge, "The Most Efficient Transportation on the Planet."

¹³⁶ Government Of Canada, "Mobilizing Knowledge on Active Transportation."

Province/ territory	Strategy (1 point)	Dedicated funding (1 point)	Score (2 points)
BC	<ul style="list-style-type: none"> CleanBC's <u>"Move. Commute. Connect"</u> active transportation strategy was launched in 2019 and <u>actions are ongoing</u>. Aims to make active transportation and public transit account for at least 30 per cent of all trips taken in the province by 2030 through funding for community projects, education and awareness, policy and regulatory adjustments, and research. 	<ul style="list-style-type: none"> BC Active Transportation Infrastructure Grant Program, for Indigenous and local governments, committed \$24 million to support <u>80 active transportation projects</u> across the province (2023/24). Funding is for both active transportation network plans, and travel infrastructure. 	2
PE	<ul style="list-style-type: none"> <u>Active Transportation Strategy</u> released in 2021 includes ten actions delivered over five years. Aims to double the province's active transportation rate by 2030. Currently, four of the ten actions have been completed. Actions include the creation of active transportation networks, bike-friendly policies on roads, and promotional campaigns. 	<ul style="list-style-type: none"> <u>Provincial Active Transportation Fund</u> provides \$5 million per year for active transportation projects across PE Municipalities, Indigenous communities and community groups can apply to develop plans, implement multi-use pathways, etc. 	2
QC	<ul style="list-style-type: none"> The <u>Sustainability Mobility Policy (2018-2030)</u> aims to use active transportation and public transit to reduce solo car trips by 20 per cent through working with municipalities to plan efficient land use. The <u>Action Plan for Active Transportation (2018-2023)</u>, implemented some of these objectives aiming to add 	<ul style="list-style-type: none"> <i>Programme d'aide financière au développement des transports actifs dans les périmètres urbains</i> to assist municipalities in creating active transportation infrastructure. The <u>2024-2029 Implementation Plan</u> increases funding for this program by \$48 million, 	2

	<p>858km to the Route Verte cycling infrastructure. 2030 Plan for a Green Economy also includes active transportation.</p>	<p>representing a total investment of \$188 million over five years.</p>
MB	<ul style="list-style-type: none"> The <u>Conservation and Climate Fund</u> supports projects occurring in Manitoba that incorporate actions to address and adapt to climate change and protect the environment. <p>Active transportation projects can and have been funded through this program. The maximum grant per applicant is \$150,000.</p>	1
NB	<ul style="list-style-type: none"> <u>From Surfaces to Services</u> (2017–2037) sustainable transportation plan. The plan recommends giving municipalities the lead on the development of active transportation infrastructure and proposes solutions such as "complete streets" and bike co-ops. 	1
NS	<ul style="list-style-type: none"> The Environmental Goals and Climate Change Reduction Act (Sect 9) commits to a <u>Provincial Active Transportation strategy</u> by 2023 and to complete core active transportation networks in 65 per cent of the Province's communities by 2030. As of <u>Connect2</u> grant program aims to make all trips under 2 kilometres possible using sustainable transportation. A total of \$400,000 in funding is available for walking, biking, and shared mobility projects (2024/25). 	1

	<p>2024, the strategy is still under development and has not been published.</p> <ul style="list-style-type: none"> • The Investing in Canada Infrastructure Program funded 12 Core Active Transportation Networks currently in design and construction phases (2018–2034). Total project costs are more than \$86 million and these costs are shared by federal, provincial and municipal governments.
AB	-
NL	-
ON	-
SK	-
YT	-

Table 66. Active transportation strategies and dedicated funding

Public transportation

In our 2021 Scorecard, we introduced benchmarking and scoring on public transportation provincial policy and outcomes. While electrification of personal vehicle transportation represents an efficiency improvement over fossil fuel-powered vehicles, a far more energy efficient mode of transportation is public transit, which can move a far greater number of people for a given unit of energy than a personal automobile. Access to effective public transit is also important from an equity standpoint, since not all Canadians can afford personal, electric automobiles.

Data for public transportation metrics is provided by the Canadian Urban Transportation Association (CUTA), whose members transit systems carry 95 per cent of all public transit riders in Canada. These systems encompass bus, light rail, heavy rail, commuter rail, and ferry boat transportation. The data we receive from CUTA combines the territories, so Yukon is not included in these metrics.

We look at three key metrics of provincial public transit outcomes:

- Total funding for public transit (one point).
- Ridership levels per capita (one point).
- Electric transit vehicles (one point).

These metrics complement each other in pursuit of a comprehensive picture of public transit support and effectiveness in each province. Each metric is worth one point, for a total of three points available for this topic.

Total funding

Public transportation relies on several different sources of funding to operate and expand their networks. This includes federal, provincial, and municipal funding, and other forms of investment, such as from transportation firms (such as TransLink, in British Columbia). Following our approach in the 2022 Scorecard, we combine both capital and operating funding from all sources for scoring, but note the provincial share of total funding to show how much provincial governments are supporting public transit.

We use the municipal population per province, sourced from the Canadian Urban Transit Association (CUTA), as the denominator. This includes the populations of the municipalities that CUTA member transit services have the right to operate in. Our scoring methodology is based upon the average amount of funding per capita and the amount of funding per capita of the top performing provinces. The average amount of per capita funding across the country was \$315 and the top performing province had \$925 in per capita funding. These values were similar to the 2022 Scorecard, so the scoring methodology was retained. Provinces that funded over \$1,000 per capita on public transportation received the full point, those who funded between \$650 and \$1,000 received 0.75 points, those who funded between \$350 and \$650 received 0.5 points, and those who funded between \$100 and \$350 received 0.25 points.

Funding per capita (\$CAD)	Score
\$1,000	1
\$650	0.75
\$350	0.5
\$100	0.25

Table 67. Total funding per capita scoring methodology

Province/territory	Municipal population (Millions)	Total funding (\$CAD Millions)	Provincial share of funding	Funding per capita (\$CAD)	Score (1 point)
ON	13.91	\$12,866	65.34%	\$925.20	0.75
QC	3.92	\$3,016	24.72%	\$769.86	0.75
BC	4.53	\$2,137	37.25%	\$471.65	0.5
AB	3.25	\$1,167	21.00%	\$358.72	0.5
MB	0.87	\$163	21.53%	\$188.09	0.25
NL	0.16	\$21	3.74%	\$134.58	0.25
NS	0.50	\$59	0.68%	\$118.87	0.25
SK	0.60	\$65	0.90%	\$107.70	0.25
NB	0.34	\$16	3.67%	\$47.06	0
PE	0.08	\$2.4	22.31%	\$30.05	0
National totals	28.1	\$19,513	52.44%	\$693.25	

Table 68. Total funding per capita (municipal population)

Ridership

Ridership refers to the total number of “linked trips,” or trips from origin to destination (i.e., trips using transfers are only counted once). This is a useful performance metric because it gives an indication of active usage of public transit in each province, which is not strictly tied to service levels (e.g., the number of buses on the road).

To evaluate this metric we calculate ridership per capita, using the population estimates for provincial service areas. This number includes all permanent residents who live within a specific distance from a transit stop, as reported by CUTA. To establish a scoring methodology, we reason that, in a highly effective transportation system, 25 per cent of commuters would use the system twice per workday, approximately 75 per cent of the time. This works out to a top threshold of approximately 100 trips per capita (service area population), per year.

Ridership per capita (>=)	Score
100	1
75	0.75
50	0.5
25	0.25

Table 69. Ridership per capita scoring methodology

Province/territory	Ridership (Millions)	Municipal service area population (Millions)	Ridership per capita	Score (1 point)
QC	473.08	3.92	120.75	1
BC	283.86	4.49	63.25	0.5
ON	750.95	12.82	58.58	0.5
MB	43.99	0.81	54.05	0.5
NS	19.44	0.37	51.95	0.5
AB	153.99	3.17	48.56	0.25
SK	23.16	0.60	38.51	0.25
NL	4.76	0.14	33.63	0.25
NB	5.46	0.31	17.70	0
PE	1.39	0.08	17.35	0

Table 70. Provincial public transit ridership per capita (municipal service area population)

Electric bus transit vehicles

Although public transit reduces greenhouse gas emissions, diesel buses emit GHG and air pollution. The average diesel bus emits 0.64 pounds of CO₂ per passenger mile at 25 per cent occupancy.¹³⁷ However, electrification of public transit bus fleets can reduce CO₂ emissions by between 15 per cent and 40 per cent because they are more energy efficient and can be fuelled from zero-carbon sources.¹³⁸

To support this electrification effort, the federal government launched the Zero Emission Transit Fund in 2021, which offers \$2.75 billion in support towards electrifying both public transit and school bus fleets. At the time of writing, the fund was still open to new applicants. Provinces and territories can apply for the fund, as well as municipal governments, transit agencies, Indigenous governments, not-for-profits, and privately owned accessible transit providers.¹³⁹

To score this component, we used a slightly modified methodology as used in our benchmarking of electric passenger vehicle registrations. We use the percentages of public transit buses that are electrified within a fleet, with a top threshold of ten per cent and maximum of one point awarded.

EV share of fleet	Score
10.00%	1
5.00%	0.75
2.50%	0.5
1.25%	0.25

Table 71. Electric vehicles in provincial public bus transit fleets scoring methodology

New Brunswick took the lead in this metric this year, adding six electric vehicles with EVs now comprising over five per cent of their bus transit fleet. Alberta continues to

¹³⁷ Hodges, "Public Transportation's Role in Responding to Climate Change."

¹³⁸ Ibid.

¹³⁹ Government Of Canada, "Zero Emission Transit Fund."

rank highly in this metric. Alberta added 31 additional EVs since our last Scorecard, the most in any province, with EVs now making up 3.31 per cent of their fleet.

Province /territory	Fleet size	EVs	Change in EVs from 2022 Scorecard	EV share of fleet	Score (1 point)
NB	112	6	6	5.36%	0.75
AB	2,508	83	31	3.31%	0.5
ON	6,903	90	8	1.30%	0.25
QC	3,811	37	0	0.97%	0
BC	2,563	6	6	0.23%	0
MB	633		-	0.00%	0
NL	54		-	0.00%	0
NS	374		-	0.00%	0
PE	20		-	0.00%	0
SK	275		-	0.00%	0

Table 72. Electric vehicles in provincial public bus transit fleets

Industry

‘Industry’ comprises three broad types: energy-intensive heavy manufacturing industries, such as iron and steel, cement, and chemicals manufacturing; less energy-intensive light manufacturing, such as textiles, automobiles, and electronics; and non-manufacturing industries such as mining, forestry, and construction. According to data from Statistics Canada, industry accounted for approximately 32 per cent of total final energy demand in 2022, second only to transportation at 36 per cent.¹⁴⁰ While the

¹⁴⁰ Statistics Canada, “Table 25-10-0029-01: Supply and Demand of Primary and Secondary Energy in Terajoules, Annual.”

energy intensity of Canada's industrial sector has decreased by roughly a third since 2000, it remains nearly double the level of all IEA member countries (0.9 MJ/GDP vs 0.5 MJ/GDP, in U.S. dollars).¹⁴¹

There is thus still considerable opportunity to improve industrial energy efficiency in Canada. According to the International Energy Agency, appropriate policies could decrease industrial energy intensity 38 per cent by 2050.¹⁴² Less energy-intensive manufacturing industries promise the greatest savings, around two-thirds of cumulative savings by 2050, while the cement industry is at the other end of the scale with two per cent of total savings. Different industrial subsectors also tend to be concentrated in different provinces: nearly 80 per cent of mining, oil and gas energy consumption is in Alberta, 82 per cent of iron and steel energy consumption is in Ontario, and 80 per cent of smelting and refining (i.e., aluminum production) energy consumption occurs in Québec.¹⁴³

The consequence is that potential efficiency savings in the industrial sector vary significantly from province to province, as do the technologies and processes that might be adopted to achieve them. Accordingly, we base our industrial scoring on energy management programs that are broadly applicable across industry subsectors and provinces.

Energy management for industry

'Energy management' is a broad term which denotes a spectrum of activities facilities may undertake to track, manage, and reduce energy use (or energy intensity). This spectrum runs from single, often shorter-term interventions, typically with a narrower scope (i.e., a particular system, not the facility or production process as a whole), to those that are intended to reshape organizational culture and management practices and build capacity to ensure continuous improvement in energy use. A related, though separate, distinction exists between technical or capital energy efficiency improvements and operational or behavioural change. Examples of the former include

¹⁴¹ International Energy Agency, "Energy End-Uses and Efficiency Indicators Data Explorer."

¹⁴² International Energy Agency and Natural Resources Canada, "Energy Efficiency Potential in Canada to 2050."

¹⁴³ Natural Resources Canada, "Comprehensive Energy Use Database."

conducting an energy audit or a feasibility study; examples of the latter include supporting embedded energy managers, or 'strategic energy management' (SEM) approaches.

Research has found considerable energy saving and GHG reduction potential in strategic energy management approaches, though the exact strategies for energy management and energy and GHG savings potential may vary from company to company.¹⁴⁴ Several international standards exist to provide a framework for the basic components of energy management systems – most notably, the ISO 50001 family of standards, and the related U.S. Department of Energy "Superior Energy Performance 50001" program. Standards allow for companies that have established compliant energy management systems to be certified and receive recognition for their efforts, demonstrating an internal commitment to continuous improvement, though our research has found that interest in attaining certification is low in Canada.

Our approach to evaluating industrial energy efficiency efforts examines the program supports provided in each province for important components of 'energy management' in general, up to and including the existence of a holistic SEM approach to encouraging industrial energy management systems. We look at supports across four broad aspects of energy management: assessment (including energy audits and feasibility studies); tracking, monitoring and benchmarking (including support for benchmarking via ENERGY STAR Portfolio Manager, and the installation of an energy management information system (EMIS)); and capacity building (consultation and technical support, support for an embedded energy manager, or workforce training and awareness). Finally, we consider whether these programs reflect an SEM approach to encouraging industrial energy management and whether clear incentives exist to support certification via an international standard.

¹⁴⁴ Whitlock, Rightor, and Hoffmeister, "Canadian Strategic Energy Management Market Study."

Province/ territory	Administrator	Assessment	Tracking, monitoring and benchmarking		Capacity-building			Strategic Energy Management		Total Score (8 points)
			Energy Audits (1 point)	Feasibility Studies (1 point)	Bench- marking (0.5 points)	EMIS (1 point)	Consultation and technical support (1 point)	Embedded energy managers (1 point)	Workforce training and awareness (0.5 points)	
QC	Hydro-Québec Énergir Government of Québec	●	-	-	-	-	-	-	-	8
BC	BC Hydro FortisBC		-	-	-	-	-	-	-	7
NS	Efficiency Nova Scotia		-	-	-	-	-	-	-	6.5
MB	Efficiency Manitoba Manitoba Hydro		-	-	-	-	-	-	-	6
ON	IESO		-	-	-	-	-	-	-	5.5

Table 73. Industrial energy management programs

Conclusion

Provincial/territorial highlights

In each Scorecard, we highlight key trends and observations for each province. Below, you will find a discussion for each province and Yukon, which includes major events over the past year and context setting, as well as strengths and opportunities highlighted for each province. These highlights allow us to also discuss policy plans and more recent events that were outside of the timeline for scoring.

We base both strengths and opportunities for improvement on a combination of Scorecard findings and our understanding of provincial policy contexts. Opportunities for improvement are a combination of areas where a province might score relatively lower and/or where the province is poised to take advantage of existing strengths. We also try to avoid repeating the same opportunities each year for a given province. These are highlights and not exclusive recommendations; we encourage readers to drill down into specific topic areas as well as previous years' highlights to understand a given province's relative performance and policy mix and to find ideas for policy actions to improve energy efficiency in each jurisdiction.

Alberta

Alberta ranked 11th in this year's Scorecard, earning 7.5 points out of 100 and falling two places since the 2022 report.

While Alberta has opportunities to improve across all five policy areas evaluated in this report, Programs presents the greatest potential. The province is one of very few jurisdictions in North America that do not allow utilities to undertake demand-side management (DSM) activities. While there are organizations in the province that deliver some forms of energy efficiency programs, these efforts are not institutionalized in the way they are in other jurisdictions that have non-utility led program administration models. The result is inconsistent investment and energy savings performance. This year, the province reported the lowest rate of electricity savings as a percentage of sales and second-to-last results for natural gas and non-regulated fuel savings.

However, there are signs that this may change in the future. In February 2023, several utilities and the Alberta Energy Efficiency Alliance issued a public request-for-proposals to develop recommendations on a DSM framework. In February 2024, the Minister of Affordability and Utilities, Nathan Neudorf, publicly acknowledged that DSM was something the government was looking at as it considers how to reform its power system.¹⁴⁵ The provincial government also recently announced \$18 million in new funding to support energy efficiency and energy management programs for municipalities.

In the event that the province does move toward a more consistent, institutionalized model for investing in energy efficiency, it will need to also put in place enabling mechanisms to realize the full potential of that investment. Building on its history and capacity to support municipalities, the government could reverse its proposed changes to the municipal charters for Calgary and Edmonton, which removed the ability for these cities to introduce by-laws regarding building energy consumption and heat retention. Doing so could allow these cities to demonstrate the kind of leadership other major Canadian municipalities (like Vancouver, Montreal, and Toronto) are taking to introduce higher performance energy efficiency code requirements, mandatory energy rating and disclosure policies, and building performance standards.

Five years ago, our Scorecard found that Alberta, primarily through Energy Efficiency Alberta, ranked fifth on electricity savings and fourth on natural gas savings. This shows that the province has considerable energy efficiency potential and can achieve great things when committed.

Strengths

Municipal energy efficiency: Alberta has consistently demonstrated support for municipal energy efficiency and recently announced \$18 million in new funding for the Municipal Climate Change Action Centre. The province also leads in our PACE programs metric with strong residential programs available across 20 municipalities, bylaws in 28 communities and commercial programs available in Edmonton and Sturgeon County.

¹⁴⁵ Varcoe, "Varcoe: Would Albertans Turned off Lights to Save Money?"

Opportunities

Demand-side management: Alberta once demonstrated relatively strong performance in its investment into energy efficiency, and can do so again. However, Energy Efficiency Alberta's funding was not linked to a "demand side management" economic case of investing in energy efficiency, which would allow it to avoid more considerable costs and risks in electricity and gas systems. Recent developments suggest there is movement in the province toward a more consistent and institutionalized approach to demand-side management, in recognition of its cost-saving and grid resilience potential. The province could look to Ontario or leading U.S. jurisdictions for inspiration in establishing utility-led DSM in a competitive, privatized utility system.

Building codes: Alberta was one of the earliest adopters of the 2020 national model codes. However, unlike its neighbouring province Saskatchewan, the province did not choose to move beyond the lowest performance tiers and has reported no plans or timelines to move up the tiers. Given a similar climate and close geographic proximity, there is clear potential for Alberta to align with Saskatchewan's code adoption timeline and build right the first time.

British Columbia

British Columbia has maintained its place at the top of our Scorecard rankings, driven largely by its performance in the Buildings and Transportation sections, where it remains a source of best practices for other provinces to emulate.

British Columbia's success is largely tied to the CleanBC climate plan and Roadmap to 2030, underscoring the importance of strong provincial policy leadership. Commitments in these plans have resulted in many nation-leading outcomes. A ZEV mandate combined with comprehensive EV incentives has led to >20 per cent of all new vehicle registrations being EVs or PHEVs. A commitment to zero-carbon buildings has led to the first proposed regulations requiring ≥ 100 per cent efficient space and water heating systems in Canada – a model the federal government should follow in its regulation of appliance and equipment energy efficiency.

Despite British Columbia's leadership, utility resource planning and energy efficiency efforts may not be aligned with provincial ambitions. Provincial demand-side

management programs continue to deliver moderate savings, placing the province toward the middle of the pack, and capacity-saving programs are not yet delivering the results achieved in other provinces.

Recent developments suggest this may change in the future. A revised load forecast in 2023 prompted BC Hydro to accelerate and expand the demand-side management strategy laid out in its integrated resource plan from two years prior. In June 2024, the province released the “Powering Our Future” clean energy strategy, in which energy efficiency was a core priority. The strategy was accompanied by an updated Energy Efficiency Plan from BC Hydro, which commits to a 60 per cent increase in energy efficiency budgets over the previous plan, and notes FortisBC’s plan to invest nearly \$700 million over four years in its energy efficiency programs. In mid-2023, the province amended its Demand-Side Measures regulation to phase out incentives for natural gas heating equipment, and recently expanded its income-targeted heat pump incentives, with support from the federal government, to deliver up to \$24,000 in rebates to eligible British Columbians.

Strengths

Highest Efficiency Equipment Standards (HEES): The proposed rules to require all new space and water heating equipment sold and installed in the province to be at least 100 per cent efficient after 2030 (effectively requiring heat pumps or hybrid gas-electric heat pump systems) represents a major step forward in Canadian regulation of appliance and equipment energy efficiency, and is a model for the federal government to consider as part of its stated ambition to modernize the Energy Efficiency Act.

Opportunities

Home Energy Labelling: The CleanBC Roadmap to 2030 stated that “BC home sale listings will include an energy efficiency rating or label, letting buyers know what their energy costs and carbon footprint will be.”¹⁴⁶ This was to be implemented through a virtual home rating tool combined with in-home Energuide assessments. CleanBC has launched a Home Energy Planner in four pilot communities.¹⁴⁷ In future years the

¹⁴⁶ Government of British Columbia, “CleanBC Roadmap to 2030”, pg. 42.

¹⁴⁷ Government of British Columbia, “BC Home Energy Planner.”

province should introduce mandatory disclosure of energy performance at the time of sale to protect customers, improve the value of deeper retrofits, and enable programs to target the homes with the largest energy savings.

Clear mandate for all cost-effective energy efficiency: BC's recent experience with resource planning and uncertainty around future electrification demonstrates the need for a new approach to energy efficiency. The province is the only one to require utilities to prioritize DSM in resource planning prior to evaluating supply-side investments, but has historically achieved middling savings results. This means higher long-term electricity bills, more significant risks of electricity shortfalls, and potential supply side cost overruns. Leading U.S. states have stronger rules that the "acquisition of all available energy efficiency and demand reduction resources that are cost-effective or less expensive than supply."¹⁴⁸ The province could strengthen its mandate for energy efficiency accordingly or implement a minimum energy efficiency resource standard found in states such as New York.

Clean Heat Standard: Recent natural gas DSM plans support partial electrification and deeper retrofits in anticipation of the CleanBC commitment to introduce "a greenhouse gas cap for natural gas utilities". A Clean Heat Standard found in Colorado and planned in Massachusetts is one way to introduce this promise. It is a refinement on a top-down emissions cap that emphasizes bottom-up measurement of the "good things" implemented, such as heat pumps installed or weatherization savings.¹⁴⁹ Such a policy would provide certainty to natural gas DSM programs, giving them flexibility to pursue options like electrification, district energy, renewable natural gas, and energy efficiency, while enabling oversight by the utility commission so clean heat plans are consistent with electricity system planning and market transformation pathways outlined in the Clean BC roadmap.

Manitoba

Manitoba maintained its ranking in eighth place in this year's Scorecard, with 29.50 points out of 100.

¹⁴⁸ The Green Communities Act. See ACEEE. "State and Local Policy Database | Massachusetts."

¹⁴⁹ Neme and Stebbins, "A Comparison of Clean Heat Standards: Current Progress and Key Elements."

See also Haley, Gaede, and Nippard, "Breaking Fuel Silos in Demand-Side Management: Policy Options to Align Energy Efficiency with Net-Zero Emissions across All Fuels."

Manitoba's ranking in our Scorecard has changed little over five years, with the province consistently placing toward the middle of the pack on most metrics and total scoring. The positive takeaway is that the province has managed to keep pace with advancing energy efficiency policy and outcomes across the country, as our metrics and scoring methodologies have evolved to represent emerging best practices.

Among provinces and territories, Manitoba has the longest-term and highest energy efficiency savings targets. Manitoba would score higher on its energy efficiency targets, and the program savings metrics, were it to prioritize meeting those targets with energy savings from programs, rather than from codes and standards activities. Codes and standards work is an important enabling activity, but other provinces are nearing Manitoba's electricity savings targets from programs alone (e.g., Ontario, at 1.20 per cent this year).

Recently introduced EV incentives will help to improve the province's low EV registration rate. The government's 2024 mandate letter to Efficiency Manitoba recognized the climate and affordability benefits of energy efficiency, calling for the integration of provincial climate and energy priorities into forthcoming efficiency plans, active targeting of beneficial electrification, and a new Affordable Home Energy Program with the aim of switching from fossil fuels to heat pumps.¹⁵⁰ The province followed our previous advice and updated its building code early in 2024 (albeit only to the minimum performance tier).

Manitoba is also a place to watch on the intersection between energy poverty, affordability, and energy efficiency. In August 2023, the Manitoba Public Utilities Board issued a call for the government to develop an energy poverty reduction program. In July 2024, Premier Kinev pointed to the importance of home heating retrofits in finding "the most affordable way" to address anticipated electricity system requirements in the near future.¹⁵¹ Provincial spending on income-targeted efficiency programs is below leading provinces, so there is considerable room for Manitoba to make efficiency a core part of an energy poverty strategy.

¹⁵⁰ Schmidt, "Mandate Letter to Efficiency Manitoba" Ministry of Environment and Climate Change, Government of Manitoba,."

¹⁵¹ Kives, "Manitoba Hydro Says Aging Infrastructure Poses Threat to Future Power Supply, Requires Billions in Fixes."

Strengths

Electric vehicle incentives: Manitoba joined the ranks of provinces offering incentives for consumer and commercial electric vehicles in July 2024. Additionally, Manitoba Hydro offers a financing program for homeowners to install Level 2 chargers. These are essential steps toward electrifying transportation and reducing emissions in the province.

Developing national standards: This year, we introduced a new area of the Scorecard that tracks provincial contributions to the development of national standards for energy efficient appliances and equipment. Manitoba is a leader in this area, with Efficiency Manitoba participating in six technical subcommittees to develop federal energy efficiency standards and contributing significant funding for a province its size to The Canadian Standards Association Steering Committee on the Performance of Energy Efficiency and Renewables to develop testing protocols.

Opportunities

Energy poverty strategy: Manitoba could demonstrate leadership in Canada by developing a comprehensive energy poverty strategy in which energy efficiency plays a key role in improving affordability and reducing vulnerability among Manitoba residents. Comprehensive and well-funded low-income and Indigenous energy efficiency programming is essential to success. The new Affordable Home Energy Program can be combined with Efficiency Manitoba's existing initiatives to help more people afford energy and live in healthy homes.

New Brunswick

New Brunswick has climbed three spots in our rankings since 2022, placing fourth this year, with a total score of 42.75 out of 100. The province was buoyed by strong performance in the programs section of our analysis, where it ranked second overall.

The province is beginning to see the dividends of its 2022 climate change action plan and energy efficiency policies, creating a dedicated Energy Efficiency Fund and energy savings targets. This year, New Brunswick scored highest among all provinces in natural gas and non-regulated fuels savings, at 1.69 per cent of annual demand for

these fuels (Prince Edward Island saved more, but missed a point for third-party evaluation). On spending, New Brunswick topped what was formerly our top threshold of \$100 per capita (spending \$132 per capita), and placed second on spending on income-targeted efficiency programming. These are significant increases – in the 2022 Scorecard, New Brunswick placed eighth in the Programs section.

New Brunswick will be a place to watch as it implements commitments in its 2022 climate change plan. The province has yet to adopt the 2020 model codes, yet provides a timeline for the adoption of the second performance tier by 2025 and has established a working group to develop a code adoption roadmap. The province also committed to phasing out heating oil use and introducing building energy labelling and disclosure programs by 2030. The province ranked near the top on Certified Energy Managers and recognizes the need to do more to train new and existing tradespeople. The government announced in January 2024 that it was establishing a construction workforce shortage committee with a provincial funding commitment of \$250,000, which will have a specific focus on leveraging immigration to fill job shortages.

An updated energy strategy, released in late 2023, was primarily focused on supply-side investments in nuclear power, renewables, and low-carbon alternative fuels. In the section on affordability, however, the province noted plans to expand advanced metering infrastructure, introduce new off-peak rates and distributed solar programs, undertake a full review of conservation programs, and review and modernize the mandate of the provincial utility regulatory board. Such actions could help the province realize the full benefits of demand-side resources in its energy transition, provided it prioritizes energy efficiency over more expensive and risky energy supply options.

Strengths

Energy efficiency programs: The dramatic improvement in New Brunswick's performance in the Programs section of our report demonstrates the potential of coordinated policy and actions between government and utilities to prioritize energy efficiency. As energy savings targets continue to ramp up in future years, New Brunswick will need to maintain and expand its support for under-resourced communities to ensure continued progress.

Addressing energy poverty: The provincial government's actions following the 2022 Auditor General recommendations on non-electric program funding and resolving

barriers for low-to-moderate income customers have resulted in impressive growth in income-targeted Enhanced Energy Savings' program spending. This will help the government work toward its commitment to phase out heating oil by 2030, but would benefit from complementary regulations.

Opportunities

Building codes: New Brunswick has yet to adopt the 2020 model codes, but has committed to adopting Tier 2 of both the NBC and NECB by 2025, and to reaching net-zero energy ready levels by 2030. To reach the final net-zero goal, New Brunswick should publish a clear timeline for moving up the performance tiers to create certainty for the buildings sector.

Energy rating and disclosure: In its 2022 Climate Plan, New Brunswick declared an aim to introduce time of sale energy performance disclosure requirements by 2030. The province has taken some action toward this, dedicating \$500,000 toward funding a pilot program in 2023. The province could look to Québec's Environmental Performance Act, which establishes a framework for a mandatory, province-wide policy, for next steps.

Newfoundland and Labrador

This year, Newfoundland and Labrador maintained its position of 10th in overall rankings, with a total score of 13.50 out of 100.

Our previous Scorecard lauded Newfoundland and Labrador for its strategic electrification strategy, which at the time had included a modified cost-effectiveness test to include non-electric benefits from lower fuel and maintenance costs. This proposed modification was not approved by the provincial regulatory board, though the board did approve capital expenditure on EV charging stations (to avoid losing matching federal funding). At the time of writing, the utilities jointly administer government-funded programs for electrification, but remain limited in their use of ratepayer funds for this purpose.

The provincial government did not respond to our request for information, and as such Efficiency Canada is only able to evaluate utility-funded programming in this Scorecard. Here, Newfoundland and Labrador scores largely on par with previous years' analysis.

Inclusion of government funds and associated non-regulated fuels savings would likely boost the province's rankings.

One area of note in our analysis this year is Newfoundland and Labrador's build out of its EV charging network. While the province may be in the earlier stages of this infrastructure development, shown in middle-of-the-pack results on EV chargers per municipal population metric, the associated station capacity metric demonstrates the province is building it right and keeping pace with EV registrations. The province ranked second on this metric, with nearly five stations with >50kW capacity per 100 registered EVs.

Strengths

EV charging infrastructure: Combined government and utility efforts to invest in the province's EV charging infrastructure are paying off. While EV registrations and general charging availability remain modest, the province is setting the stage for future expansion. An announcement in April 2024 committed to \$875,000 in renewed funding for EV incentives, and another \$1.1 million to support EV charging infrastructure.

Opportunities

Efficiency and electrification: It is evident that Newfoundland and Labrador has recognized the strategic benefits of electrification, and the affordability benefits of incentivizing people to move off fuel oil for home heating. However, relying on government funding for electrification is more likely to result in a boom-bust dynamic, while incorporating electrification within utility demand side management will enable more consistent support and strategies to electrify in a smart way that avoids unnecessary peak demands and other electricity system costs. Increasing electricity savings is an excellent way to create more room for beneficial electrification. The government should therefore require the utility board to include beneficial electrification as a component of demand side management, and ramp-up electricity savings efforts accordingly.

Nova Scotia

Nova Scotia placed fifth in this year's Scorecard, with a total score of 39.75 out of 100.

Nova Scotia needs energy efficiency and demand side solutions like never before. The province's reliance on coal for electricity production is increasing costs and putting pressure on electricity bills. Delays in hydroelectric imports from Newfoundland and Labrador demonstrate the danger of relying on a single supply side resource, and the province has recognized the risks of relying on the Atlantic Loop concept to increase regional transmission. Thus, Nova Scotia needs to lean on demand side solutions to clean up its electricity system – both to reduce fossil fuel generation and make demand “flexible” to match wind and solar energy production. At the same time, the high cost of heating fuel oil increases energy bills and energy poverty, creating the need for smart combinations of building envelope improvements and electrification.

Despite a more urgent need to lead on demand side solutions than many other provinces, Nova Scotia dropped to a fifth place rank from its second place rank in the 2022 Scorecard. Other provinces are implementing higher performance building codes (British Columbia, Saskatchewan), moving to create mandatory energy reporting and performance standards for existing buildings (Québec), and provinces such as Prince Edward Island, New Brunswick, and Ontario are catching up to Nova Scotia on program savings and spending.

In September 2024, the province announced that it would adopt the 2020 national building codes and published a schedule for increasing the performance tiers – moving to Tier 3 for low-rise buildings by 2027 and Tier 3 for large buildings by 2029. There is no commitment to requiring net-zero energy-ready buildings, but these timelines make achieving that performance level by 2030 possible. The province also increased financial incentives and training to build to net-zero standards.¹⁵² These policy changes were not captured in scoring because they occurred outside of the analysis time frame.

There is an opportunity for energy policy renewal in the 2024 Energy Reform Act, which will create a new regulatory commission for energy that must consider the province's environmental and climate change goals, and an Independent Energy System Operator.

¹⁵² Government of Nova Scotia, “New Programs to Enhance Affordable Housing, Support Climate Change Goals | Government of Nova Scotia News Releases.”

This new Act is relatively silent on demand side solutions, missing out on the ability to implement a minimum energy efficiency resource standard, prioritising energy efficiency over more expensive supply side options. However, the new Act's inclusion of environmental goals should direct the regulator to consider the societal and environmental benefits of energy savings.

Strengths

Energy efficiency programs: Nova Scotia increased its electricity savings from energy efficiency programs compared to last year, but Ontario's savings were higher. Similarly, Nova Scotia's per capita spending on energy efficiency programs increased, but Prince Edward Island and New Brunswick now have higher levels of overall spending and spending on low-to-moderate income efficiency programs. Nova Scotia leads the country on Indigenous program spending.

Opportunities

High-performance building codes: Buildings can be designed and constructed to have very low operating costs and to protect from extreme weather with little to no additional construction costs. As stated above, Nova Scotia plans to reach tier 3 of the national model building code, but has yet to set a commitment to achieve net-zero energy-ready performance. New Brunswick and Prince Edward Island have committed to make new buildings net-zero energy-ready by 2030.

Demand flexibility: Nova Scotia's demand side management programs that insulate homes, use better equipment, etc. reduce energy use throughout the year as well as during peak demand times. With the province's need to integrate more renewable energy into its grid and electrify heating and transportation, energy efficiency strategies are needed to optimize the timing and location of energy demand. By paying customers instead of power plant owners for shifting the demand of equipment like hot water tanks, electric vehicles, thermostats, and solar-battery systems, energy efficiency programs can further improve customer affordability and improve reliability during power outages.

Mandatory Building Performance Standards: To achieve large energy savings to both transition off of expensive heating fuels and clean up the electricity system, energy efficiency strategies need to include mandatory performance levels in addition to program incentives. The province should consider requiring large commercial and multi-unit residential buildings to achieve mandatory energy and emission performance standards. A goal for higher performance existing buildings can also be integrated into Nova Scotia's Environmental Goals and Climate Change Reduction Act. An example to follow is Québec's Environmental Performance Act, which establishes a framework for environmental performance reporting and standard setting.

Ontario

Ontario has fallen another spot in this year's Scorecard, ranking sixth with a total score of 33 out of 100 points. The province placed third in our 2019 Scorecard.

History shows that Ontario can lead in energy savings with a strong policy framework, though it has struggled in recent years to arrive at one. In 2018, the government cut back on residential electric energy efficiency programs and reduced overall spending and savings. Updated load forecasts in 2022 prompted the government to increase electricity efficiency budgets by roughly 50 per cent. We have yet to see the impact of this increased spending – though Ontario placed first in electricity savings this year, a large portion of those were from delayed project completions initiated under past frameworks. However, in October 2024, the government announced consultations on a proposed 12-year electricity efficiency framework, to start in January 2025, which may include a return of general residential programming.

Natural gas savings were far more modest. Ontario places eighth compared to other provinces, or would place sixth if we counted total savings claimed rather than "net" savings estimated by evaluators. But, natural gas DSM can now claim more savings from electrification. When the co-delivery arrangement between Enbridge and the federal government for the Greener Homes program was approved by the provincial regulator, it came with changes that eliminated incentives for gas heating equipment from the Enbridge whole home program. The Ontario Energy Board also ruled that the utility could not require program recipients to remain natural gas customers, opening the door to Enbridge customers using the program to exit the natural gas system entirely. When the program was closed in February 2024, due to federal funds being

exhausted, Enbridge re-introduced a program with continued incentivization of electrification.

In other policy areas investigated for this Scorecard, Ontario is standing still while others continue moving ahead. The province's building code remains largely unchanged, in terms of energy efficiency requirements, from the earliest years of our Scorecard report. Ontario has not set any timelines to move towards net-zero energy ready buildings. On transportation, the province lacks many of the policies of leading Canadian jurisdictions and is treading water on EV registrations and EV charging infrastructure. Our workforce metrics show Ontario landing in the middle of the pack, and falling behind on certifications for carpenters and HVAC mechanics. The province remains the only one with a mandatory energy use reporting program for large commercial buildings, but has yet to build upon it toward a clearly defined end-goal.

Over many years, governments in Ontario have called for a closer integration of electricity and natural gas resource planning, something that is particularly important with growing electrification. The current government has also sought advice through entities like the 2024 Electrification and Energy Transition Panel on how to better coordinate planning across these two sectors. Yet, when the Ontario Energy Board ruled against Enbridge's proposal to amortize new small volume gas connections over 40 years, arguing that would increase risks of stranded assets, the government intervened to cancel the decision and give itself time-limited authority to set revenue horizons in select cases.

Strengths

Electricity savings: The mid-term review of the IESO's current four-year conservation and demand management plan spurred an increase in budgets of roughly 50 per cent, nearly restoring spending levels to those established in 2015–2020 "Conservation First Framework" (and this without widespread, general programming for the residential sector). This year, Ontario placed first on electricity savings, but not due to the increase in funding – a significant portion of these savings stemmed from programs launched under past conservation frameworks. This shows that, given the appropriate policy framework, Ontario can be a leader in electricity efficiency.

Capacity savings: Ontario has a strong system for using both demand and supply side solutions to deliver electricity capacity needs. The province has historically placed high

on capacity savings from non-efficiency program activities. This system was expanded last year, with the introduction of the IESO's residential Peak Perks program which gives customers a prepaid credit card for enrolling in a program to adjust thermostats by no more than 2C during peak demand periods. In just six months, more than 100,000 residents signed up, making this the largest residential demand response program in Canada.¹⁵³ Even more electricity system savings and direct affordability benefits to customers could be achieved by expanding this program to hot water tanks and other equipment.

Opportunities

Natural gas DSM: In its 2022 decision approving Enbridge's current three-year plan, the OEB noted its expectation that the utility's next multi-year plan should result in savings equivalent to 0.6 per cent of sales in 2026, 0.8 per cent of sales in 2027, and 1.0 per cent of sales from 2028 onward.¹⁵⁴ Based on results reported in this Scorecard, such targets would make Ontario competitive with other provinces.

Energy rating and disclosure: As noted above, Ontario remains the only province with a mandatory, province-wide energy performance reporting system for large commercial buildings, but has to take further steps to use this system for improving energy efficiency. This would entail making the data more accessible and transparent, for example by requiring energy performance labels on all large buildings. This is especially important in multi-unit residential buildings, where tenants should have a right to understand the implications for rent and/or escape from extreme heat and other weather events that impact human health.¹⁵⁵

¹⁵³ IESO, "Save on Energy's Peak Perks Program Reaches Milestone Enrollment."

¹⁵⁴ Ontario Energy Board, "OEB Approves New Multi-Year Natural Gas Conservation Plan for Enbridge Gas Inc. and an Updated Natural Gas Conservation Policy Framework."

¹⁵⁵ See Acorn Ottawa's Eco-Platform calling for mandatory energy efficiency labelling and benchmarking, requiring buildings owners to display their rating label in the building lobby. ACORN Canada, "Engaging Tenants in Climate Action."

Prince Edward Island

This year, Prince Edward Island ranked highest in the Programs category, lifting the province to tie Québec for second place, at a total score of 44.5 out of 100. This is two spots above its 2022 ranking, and five spots above its seventh place finish in 2019.

In our inaugural Scorecard, efficiencyPEI had only just started. Now, PE ranks in the top three for electricity savings, achieving 1.10 per cent of sales, and reached an outstanding fossil fuel savings level equal to 4.56 per cent of annual demand. This success is largely due to the province's free heat pump and water heater programs, which are supported by both federal and provincial funding. Because many of PE's programs are income-targeted (with relatively high income cut-offs), the province's spending on low-income programming per household at risk of energy poverty is over six times higher than that of the second place province.

The province is also competitive in many of the other policy areas evaluated in this Scorecard. PE has adopted the 2020 national model codes and set a commitment to reach net-zero energy ready codes by 2030. The province has also stated intentions to introduce mandatory energy rating and disclosure programs. PE offers incentives for both consumer and commercial EVs and placed fourth in annual EV registrations as a percentage of sales. The province also ranked first in EV charging ports per capita, but could be doing more to increase fast charging.

Strengths

Efficiency programs: This year's Scorecard demonstrates the success of efficiencyPEI's programming, particularly those oriented toward getting off fuel oil. Electricity savings were also admirable, though still short of the province's former goal of two per cent savings over sales.

Opportunities

Building energy performance labels and minimum standards: To maintain current levels of program performance, the province should establish structural supports such as virtual energy labels for 100 per cent of homes. This initiative can be used to empower customers and value energy efficiency investments by requiring that energy

performance is disclosed at time of sale. Energy performance can also be displayed on all large buildings, combined with a requirement to meet minimum performance standards moving towards net-zero energy-ready, and coupled with a plan for efficiencyPEI to help meet these goals.

Net-zero building codes: PE has committed to net-zero energy-ready building codes, and now it needs to act on this commitment. While the province has adopted the 2020 model national code, which has multiple performance tiers that progress towards this net-zero standard, it has yet to announce a timeline for moving up these performance tiers.

Québec

Québec tied for second place in this year's Scorecard, with a total score of 44.5 out of 100. The province leads in the transportation and industrial energy efficiency categories.

Québec has the cleanest electricity grid in the country, but its future energy needs and climate change goals means it recognizes a need to ramp up efforts to save both electricity and fossil fuels. Hydro-Québec's latest plan recognizes electricity as a "precious resource" and plans to triple energy efficiency budgets from \$150 million in 2022 to \$500 million in 2025, and introduce rate changes to encourage use of electricity during lower cost times and to protect low-income customers.¹⁵⁶ The utility's longer-term Action Plan 2035, released in 2023, stated a commitment to double energy efficiency efforts and free up to 1,800 MW of power by 2035.

The government is taking legislative action as well. The province has also created enabling legislation to implement mandatory buildings performance standards. Implementing such a policy would provide a clear pathway to decarbonize larger buildings and save electricity that can be better used to reduce fossil fuel use, export and/or attract industry.

¹⁵⁶ Hydro-Québec, "Limited Rate Increases and Measures Designed to Lower Electricity Bills."

Québec is a province to watch that could lead future Scorecards if it supplements its leadership in transportation and industry with its new plans to decarbonize buildings and increase energy efficiency program savings.

Strengths

Transportation electrification: Québec continues to lead in the Transportation section of the Scorecard, driven by its successes in efforts to electrify transportation. It is one of only two provinces with its own ZEV mandate, has generous and comprehensive incentives for both personal and commercial electric vehicles, and topped the charts with nearly one quarter of all new vehicle registrations being electric vehicles. In 2023, the province also released an electric vehicle charging strategy to further bolster its already strong public charging infrastructure.¹⁵⁷

Existing building performance: The Environmental Performance Act (Bill 41) has potential to introduce nation-leading leadership to decarbonize buildings. This legislation gives the relevant Minister the ability to require certain buildings to have an environmental performance rating, to disclose the rating, and to establish minimum standards. The government should use these new powers to require large buildings to publicly post energy and GHG emission performance, and to establish mandatory minimum standards that progress towards achieving energy efficient and net-zero emission buildings, similar to New York City's Local Law 97.¹⁵⁸

Opportunities

Electricity savings: The renewed emphasis on saving electricity shows that the province recognizes that saving electricity goes hand in hand with promoting electrification. Québec is likely to have significant electricity savings potential given the amount of electric heating that can be switched to more efficient heat pumps. Benchmarking against North American leaders also shows that the province could save a lot of electricity. Hydro-Québec's 2025 savings goal is equal to 0.49 per cent of electricity sales. In comparison, Ontario saved 1.20 per cent in 2023, and New York has a target to achieve electricity savings equal to three per cent of electric utility sales by 2025.¹⁵⁹

¹⁵⁷ Government of Quebec, "Québec's Electric Vehicle Charging Strategy."

¹⁵⁸ NYC Sustainable Buildings, "Local Law 97 - Sustainable Buildings."

¹⁵⁹ ACEEE, "State and Local Policy Database | New York."

Heating equipment mandates: Québec has introduced policy innovations through its prohibition of the installation of expensive and polluting heating oil equipment and the program by Hydro-Québec, Énergir and Government of Québec promoting dual fuel heating systems (biénergie) in residential, commercial and institutional buildings that use more energy efficient and low-carbon electric heat pumps and reserve natural gas use to the coldest hours of the year. The province can build on this leadership by making sure all new heating systems are either fully electric or dual fuel through a regulation establishing “100 per cent efficiency” as the minimum benchmark. Québec can learn from British Columbia, which is already doing the work on this requirement.

Low-income energy efficiency: Hydro-Québec’s latest rate application plans to provide extra support for low-income households, which includes energy efficiency. Québec currently has the lowest per capita spending on low-income energy efficiency, except for those provinces that spend nothing at all.

Saskatchewan

Saskatchewan placed ninth in this year’s Scorecard, moving up two spots with a score of 15.50 out of 100.

In a cold climate, energy-efficient design and construction are essential. Saskatchewan has recognized this need by adopting Tier 2 of the national model building codes for small buildings, with a plan to advance to the next tier in 2026. The province can continue to move up these performance tiers towards making every new building net-zero energy ready, and potentially capable of meeting its own energy needs with on-site renewable energy – supporting resilience against weather extremes and low energy bills.

Saskatchewan has also excelled in training HVAC professionals. The recent certification of HVAC apprenticeships was approximately 1.5 times the average rate observed over the past decade. As a Red Seal trade, these new HVAC tradespersons will have their skills recognized across Canada.

However, Saskatchewan continues to lag behind in most other policy areas observed in this report. Both utilities in Saskatchewan are crown corporations, and there is no public utilities board in the province to oversee utility resource planning practices. While

utilities are thus relatively free to pursue demand-side resource strategies that could help reduce costs and improve affordability and grid resilience, they lack a clear mandate or governance system within which to do so. There is also little opportunity for deep public engagement and oversight of utility planning.

Strengths

Building codes: Saskatchewan surpassed most other provinces by being the first province to adopt the 2020 national model codes, and at the Tier 2 level for residential buildings. Saskatchewan is also one of the few provinces that have indicated a timeline to progress to the next tier. Saskatchewan is therefore an example that other provinces could look to for inspiration, particularly other prairie provinces with cold climates where designing in energy efficiency from the beginning pays off in bill savings and resilience to extreme weather.

Opportunities

Energy efficiency programs: The number of energy efficiency programs in Saskatchewan has expanded in recent years, such as incentives to build homes beyond code by SaskEnergy launched in March 2024. However, this Scorecard's benchmarking shows that these programs are very small scale, compared to other provinces. Saskatchewan could scale up its programs and deliver more energy savings by introducing an "energy efficiency resource standard" target for energy efficiency.

Yukon

Yukon has moved from sixth to seventh place in this year's Scorecard, earning 32.25 points out of 100.

This is the second year we've included Yukon in our Scorecard analysis in full. In our 2022 Scorecard, we found that the territory achieved top-level outcomes in natural gas and non-regulated fuel savings and in overall efficiency program portfolio spending, per capita. Program performance results in this Scorecard were still strong, but less pronounced. Yukon placed fourth in fossil fuel savings, and second to last in electricity savings. The territory again topped the list on program spending, at \$358 per capita.

While we are glad to be able to include Yukon in our Scorecard analysis, the energy system context of the territories is different from the provinces. Yukon's population is much smaller than other jurisdictions and supply chain costs are higher. This may bias some of our metrics upward to levels that would be difficult to achieve in larger provinces. Nevertheless, the territory has achieved strong results from its energy efficiency programming.

In other policy areas, the territory has surpassed other provinces. Yukon achieved top points for its comprehensive incentives for both consumer and commercial EVs. Public charging availability is also strong – Yukon tied for fourth place on ports per capita and first in station capacity, with nearly 10 stations per 100 registered EVs having >50kW capacity. The territory has also adopted the tiered 2020 NBC, while some provinces have yet to do so, and set a target for net-zero energy ready codes by 2032. Nearly 20 per cent more electricians have been certified in the past three years than in the past 10 years as well.

Strengths

PACE programs: Yukon tied Alberta for first place in terms of PACE programming availability this year. Both residential and commercial programs are available across eight municipalities, with competitive interest rates and loan terms.

Opportunities

Energy management programming: This Scorecard found that there were no energy management programs for the commercial or industrial sectors in Yukon in 2023. This is an area in which the government could expand program offers. Its neighbour to the south, British Columbia, provides an excellent case study on what a comprehensive energy management program could look like in Yukon.

Federal policy

In each Scorecard we consider the role of the federal government in supporting better provincial energy efficiency performance.

This Scorecard identifies four priority areas for federal action:

1) Modernize the Energy Efficiency Act

The federal government establishes energy performance standards and labelling requirements for appliances and equipment in Canada through the Energy Efficiency Act. Select provinces like British Columbia and Ontario frequently establish standards for products not covered by federal policies or with higher performance – as tracked in through this Scorecard. Yet, continuously updated federal standards cover the entire country and can draw lessons from leading provinces.

The federal Energy Efficiency Act needs an update. The Act has received only modest changes since 1992 – a time when the internet was not widely used and CDs had just surpassed cassette tape sales. Today, provincial electricity systems need to prepare for increased electrification and clean electricity. Digitally connected equipment, like hot water tanks and dishwashers, can use electricity at lower cost times, such as overnight or during periods with high renewable electricity generation. The federal government can create the potential for more sophisticated demand management at the provincial-territorial level by modernizing its regulatory framework to consider digital technologies and to require “demand flexibility” capabilities in Canadian products.¹⁶⁰

A modernized Energy Efficiency Act can also implement priorities within the Canada Green Building Strategy, such as improving air conditioning equipment quality by requiring them to also have heating capabilities as heat pumps¹⁶¹ and/or removing expensive and polluting heating oil heating equipment from the Canadian market.¹⁶²

¹⁶⁰ Riddell, Malinowski, and Cox, “How to Modernize Canada’s Energy Efficiency Act.”

¹⁶¹ Gard-Murray et al., “The Cool Way to Heat Homes: Installing Heat Pumps Instead of Central Air Conditioners in Canada.”

¹⁶² Riddell and Haley, “Why Canada Should Phase Out Fuel Oil for Space and Water Heating.”

A renewal of the Act should establish performance requirements for the energy services Canadians want, rather than arbitrary fuel or technology categories. This can include a national standard that follows British Columbia's example of requiring all new heating and hot water systems to be at least 100 per cent efficient.

2) Re-balance clean electricity policy towards the demand side

The current mix of federal policies is lopsided towards supply-side solutions, neglecting lower-cost and higher-benefit demand-side options. This threatens to create provincial energy systems that are more expensive and less reliable, with federal taxpayers paying for the additional costs.

The May 2024 report by the Canada Electricity Advisory Council recognizes this supply side bias, noting that the tax credit focused policies in the 2023 federal budget left out the "demand side of the equation." The Council noted that "significant improvements to energy efficiency and load flexibility can dramatically reduce the need for expensive new electricity infrastructure."¹⁶³

One of the Council's recommendations was to transition the Smart Renewables and Electrification Program (SREPs) towards demand side solutions. We recommend doing so by matching provincial DSM spending, while maintaining independent funding for Indigenous-led projects. This could crowd-in more provincial utility DSM investments, while giving provincial utilities the flexibility to choose the most strategic demand side solutions in their contexts. The Scorecard program tracking has shown that federal programs like the Oil to Heat Pump Affordability Program have stimulated provincial level co-investment in Atlantic Canada. A larger and more flexible matching fund would boost demand side solutions throughout the country.¹⁶⁴

3) Build it right the first time in Canada's Housing Plan

¹⁶³ Haley, "Canada Electricity Advisory Council Recognizes the Demand Side."

¹⁶⁴ Haley, "Written Submission for the Pre-Budget Consultations in Advance of the Upcoming Federal Budget."

Few Canadian provinces or territories are on track to making all new homes net-zero energy-ready or zero carbon, as originally envisioned in the federal-provincial-territorial Pan-Canadian Framework on Clean Growth and Climate Change.

Canada's Housing Plan calls for a significant increase in new housing supply through direct federal investment and supporting policies.¹⁶⁵ This agenda creates an opportunity for the federal government to create momentum for high energy performance buildings, which lock in affordability through lower operational costs and which cost the same to construct when designed for whole-building energy efficiency.¹⁶⁶

Thus we suggest an urgent federal priority should be to:

1) Require that buildings constructed with federal government funds via programs such as the Apartment Construction Loan Program, Affordable Housing Fund, Co-operative Housing Development Program, and the Rapid Housing Initiative consider material emissions, and meet the 2020 codes net-zero energy-ready top tier and the top level for operational GHG emission performance in the 2025 codes.

This will create an immediate market for high performance building practices and help meet the 2021 Liberal platform commitment to "accelerate the development of the national net-zero emissions model building code for 2025 adoption," (pg. 45).

2) Require that provinces and territories receiving funds from the Housing Infrastructure Fund progressively adopt higher tiers of the 2020 and 2025 building codes leading towards adopting the top tiers for energy efficiency and operational GHG emissions in 2030.

This requirement would reinforce commitments already made under the Pan-Canadian Framework on Clean Growth and Climate Change and the Housing Plan's key action for provinces and territories to "adopt forthcoming changes to the National Building Code to support more accessible, affordable, and climate-friendly housing options."

¹⁶⁵ Government Of Canada, "Solving the Housing Crisis: Canada's Housing Plan."

¹⁶⁶ A BC review found no relationship between higher performance and higher cost. BC Housing, "Building Innovation: Does High Performance Construction Cost More?"

The affordable housing we need won't be affordable unless it is energy efficient and zero-carbon. Integrating Canada's building codes into the Housing Plan will make our homes affordable, healthy, and resilient and demonstrate policy leadership to the provinces and territories.¹⁶⁷

4) Make eliminating energy poverty a national priority

There is a growing national recognition that energy poverty is a problem in Canada that impacts affordability and healthy indoor environments.

Provincial energy efficiency program spending targeted at low-to-moderate income households has grown by 175 per cent since 2018. The 2024 federal budget introduced a Greener Homes Affordability Program, which promises to provide a wider range of energy efficiency solutions to low-income homeowners and tenants at no cost.

It is now time for the federal government to move from supporting time-bound programs towards a national energy poverty strategy that will provide a framework for consistent public support to ensure no Canadian finds themselves in poverty because they can't afford their energy bills or access adequate energy services. Such a framework should include:

A national definition and measurement of energy poverty. The U.K. and France have defined energy poverty through legislative acts.¹⁶⁸ To complement provincial initiatives, the federal government can follow the European Union example of establishing a conceptual definition of energy poverty,¹⁶⁹ with flexibility for local policy responses

¹⁶⁷ See letter with over 90 organizational signatories calling for energy efficiency performance in Canada's Housing Plan Efficiency Canada, "Building Energy Efficiency Performance in Canada's Housing Plan."

¹⁶⁸ Energy Poverty in the UK defined by the Government of United Kingdom, "Warm Homes and Energy Conservation Act 2000." & Energy poverty in France defined by Grenelle 2 Law in 2020: Legros and Martin, "Combating Energy Poverty in France: A Decade of Experience."

¹⁶⁹ "A household's lack of access to essential energy services that provide basic levels and decent standards of living and health, including adequate heating, hot water, cooling, lighting, and energy to power appliances, in the relevant national context, existing social policy and other relevant policies, caused by a combination of factors, including but not limited to non-affordability, insufficient disposable income, high energy expenditure and poor energy efficiency of homes" in 2023 Climate Fund Regulation Widuto, "Energy Poverty in the EU: Briefing."

tailored to locally relevant energy poverty indicators. The federal government should then produce and frequently update relevant energy poverty indicators, and establish energy poverty reduction targets.¹⁷⁰

Establish an Independent Advisory Body modelled after the UK Committee on Fuel Poverty¹⁷¹ to monitor the effectiveness of the full policy response and to coordinate across federal, provincial, utility, and municipal initiatives.

Increase the budget for the Greener Homes Affordability Program so it does not result in the same abrupt budget exhaustion and cancellation witnessed with the Greener Homes Grant. The Electricity Advisory Council noted that the level of funding for this program is “significantly below estimates of overall need”, and that targeted low-income programming is needed to ensure that electrification benefits are shared amongst all Canadians.¹⁷²

¹⁷⁰ For more information and relevant examples see, Kantamneni, Haley, and Tozer, “Efficiency+: Policy Recommendations for Making Energy Poverty Initiatives Work for Those Most in Need.”

¹⁷¹ UK Committee on Fuel Poverty is an advisory non-departmental public body that provides guidance to the UK government on the effectiveness of policies aimed at reducing fuel poverty, and encourages greater coordination across the organisations working to reduce fuel poverty. Government of United Kingdom, “Committee on Fuel Poverty.”

¹⁷² Haley, “Canada Electricity Advisory Council Recognizes the Demand Side.”

Appendix A: Information request respondents

In April 2024, Efficiency Canada circulated an information request to government, utility and third-party program administrator representatives. We contacted each representative beforehand to introduce the scorecard project and confirm their participation. In cases where a completed information request was not returned, we derived data from publicly available sources, such as annual utility reports when possible. In some cases, respondents worked together to return a combined response.

Province/territory	Respondents
AB	<ul style="list-style-type: none">• Emissions Reduction Alberta• Municipal Climate Change Action Centre (MCCAC)
BC	<ul style="list-style-type: none">• BC Hydro• FortisBC• Government of British Columbia
MB	<ul style="list-style-type: none">• Efficiency Manitoba• Government of Manitoba• Manitoba Hydro
NB	<ul style="list-style-type: none">• Government of New Brunswick• New Brunswick Power
NL	<ul style="list-style-type: none">• Newfoundland and Labrador Hydro• Newfoundland Power
NS	<ul style="list-style-type: none">• Efficiency Nova Scotia• Government of Nova Scotia
ON	<ul style="list-style-type: none">• Enbridge• Government of Ontario, Ministry of Energy• Government of Ontario, Ministry of Transportation

	<ul style="list-style-type: none"> • Independent Electricity System Operator (IESO) • Ontario Energy Board (OEB)
PE	<ul style="list-style-type: none"> • efficiencyPEI
QC	<ul style="list-style-type: none"> • Énergir • Government of Québec • Hydro-Québec
SK	<ul style="list-style-type: none"> • Government of Saskatchewan • SaskEnergy • SaskPower
YT	<ul style="list-style-type: none"> • Government of Yukon

Table 74. Respondents to information request

Appendix B: Net incremental electricity savings (GWh)

We show electricity savings at the meter level in gigawatt hours (GWh). Where necessary, we converted generation level savings to meter level using provided line-loss values, and gross savings to net using a net-to-gross ratio of 0.872. These are program savings only, excluding savings from codes and standards, rates, demand response, and distributed generation.

Province/ territory	Administrator	2022	2023
AB	Emissions Reduction Alberta	14.54	47.86
	MCCAC	3.72	3.45
	<i>AB Total</i>	<i>18.26</i>	<i>51.31</i>
BC	BC Hydro	248.00	248.16
	FortisBC	35.87	31.40
<i>BC Total</i>		<i>283.87</i>	<i>279.56</i>
MB	Efficiency Manitoba	97.00	105.00
NB	NB Power	60.91	62.65
NL	Newfoundland and Labrador Hydro	1.62	1.60
	Newfoundland Power	29.10	28.20
<i>NL Total</i>		<i>30.72</i>	<i>29.80</i>
NS	Efficiency Nova Scotia	112.65	121.57
ON	IESO	887.75	1662.80
PE	efficiencyPEI	18.57	16.91
QC	Hydro-Québec	807.70	790.50
	Government of Québec	175.45	217.22
<i>QC Total</i>		<i>983.15</i>	<i>1007.72</i>

SK	SaskPower	5.34
YT	Government of Yukon	0.88
Total	2493.42	3343.54

Table 75. Net incremental electricity savings (GWh)

Appendix C: Net incremental natural gas and non-regulated fuels savings (TJ)

We show natural gas and non-regulated fuels savings in terajoules (TJ). Savings reported as gross were converted to net using a net-to-gross ratio of 0.828 for natural gas, and 0.8 for non-regulated fuels. Savings reported in Mm³ were converted to TJ using Canadian Energy Regulator conversion factors (1 Mm³ = 37.30 TJ).

Province/territory	Administrator	2022	2023
AB	Emissions Reduction Alberta	926.39	926.39
	MCCAC	0.46	
<i>AB Total</i>		<i>926.39</i>	<i>926.85</i>
BC	FortisBC Energy	1,097.96	1,325.82
MB	Efficiency Manitoba	329.84	460.28
NB	NB Power	110.51	344.44
NS	Efficiency Nova Scotia	192.49	339.31
ON*	Enbridge	1,538.92	3,569.61
	Union Gas rate zone (legacy)	1,449.47	
<i>ON Total</i>		<i>2,988.39</i>	<i>3,569.61</i>
PE	efficiencyPEI	131.23	246.48
QC	Énergir	1,914.24	2,085.53
	Government of Québec	1,641.23	2,709.58
<i>QC Total</i>		<i>3,555.47</i>	<i>4,795.11</i>
SK	SaskEnergy	36.93	48.88
YT	Government of Yukon	7.95	8.92

Total	9,377.16	12,065.70
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Table 76. Net incremental natural gas and non-regulated fuel savings (TJ)

* Enbridge's total savings in 2023 includes the federal portion of savings from the co-delivered Home Efficiency Rebate Plus program (261.1 TJ). Please note that Enbridge could not confirm the accuracy of this value.

Appendix D: Electricity capacity savings

This appendix lists electricity utility capacity savings (MW) from efficiency programs and capacity resources available from other demand-side management sources which may include demand response programs or interruptible rates.

Province/ territory	Administrator	Programs		Other demand-side management activities	
		2022	2023	2022	2023
AB	MCCAC			3.58	4.30
BC	BC Hydro	42.10	41.26	9.80	60.16
	FortisBC		31.30		
<i>BC Total</i>		<i>42.10</i>	<i>72.56</i>	<i>9.80</i>	<i>60.16</i>
MB	Efficiency Manitoba	15.12	17.83	214.01	184.21
	NBP	19.04	17.41	4.78	35.11
NL	Newfoundland Hydro	0.44	0.38		
	Newfoundland Power	12.81	13.42	12.20	12.40
<i>NL Total</i>		<i>13.25</i>	<i>13.80</i>	<i>12.20</i>	<i>12.40</i>
NS	Efficiency Nova Scotia	31.35	27.60		
	IESO	101.41	220.35	923.00	1035.00
PE	efficiencyPEI	4.73	4.73		
QC	Hydro-Québec				73.40
SK	SaskPower		0.94	76.80	81.00
YT	Yukon Government				

Table 77. Capacity resources (MW)

Note: For jurisdictions with two or more electricity utilities reporting capacity savings, we estimate this metric based on the utility reporting higher savings (Newfoundland Power, BC Hydro).

Appendix E: Energy efficiency program spending

This appendix lists spending on efficiency and enabling strategies, innovation or R&D, supporting initiatives, and codes and standards. Spending on related activities, such as rates, distributed generation, or demand response are excluded.

Province / Territory	Administrator	2022 Total	2023		
			Efficiency programs	Enabling /supporting	Total
AB	Emissions Reduction Alberta	\$9.34	\$27.77		\$27.77
	MCCAC	\$6.79	\$3.41	\$4.37	\$7.78
	<i>AB Total</i>	<i>\$16.13</i>	<i>\$31.18</i>	<i>\$4.37</i>	<i>\$35.55</i>
BC	BC Hydro	\$97.46	\$73.39	\$51.40	\$124.79
	FortisBC	\$10.40	\$8.25	\$3.31	\$11.56
	FortisBC Energy	\$108.07	\$83.85	\$44.60	\$128.45
	Government of BC		\$80.00	\$7.40	\$87.40
<i>BC Total</i>		<i>\$215.92</i>	<i>\$245.48</i>	<i>\$106.71</i>	<i>\$352.20</i>
MB	Efficiency Manitoba	\$46.87	\$43.44	\$29.03	\$72.47
NB	NB Power	\$58.70	\$103.97	\$7.59	\$111.56
NL	Newfoundland and Labrador Hydro	\$1.36	\$1.37	\$0.26	\$1.63
	Newfoundland Power	\$5.75	\$5.45	\$1.44	\$6.89
<i>NL Total</i>		<i>\$7.11</i>	<i>\$6.81</i>	<i>\$1.71</i>	<i>\$8.52</i>
NS	Efficiency Nova Scotia	\$71.50	\$83.24	\$3.90	\$87.14
ON	Enbridge	\$70.92	\$121.83	\$22.90	\$144.73
	IESO	\$240.40	\$108.22	\$6.06	\$114.28
	Union Gas rate zone (legacy)	\$50.04			\$0.00
<i>ON Total</i>		<i>\$361.35</i>	<i>\$230.05</i>	<i>\$28.96</i>	<i>\$259.01</i>
PE	efficiencyPEI	\$30.68	\$36.92	\$0.04	\$36.96
QC	Énergir	\$36.51	\$45.88	\$0.98	\$46.86

	Hydro-Québec	\$142.60	\$159.50	\$15.60	\$175.10
	Government of Québec	\$244.12	\$333.53	\$42.40	\$375.93
<i>QC Total</i>		<i>\$423.23</i>	<i>\$538.91</i>	<i>\$58.98</i>	<i>\$597.89</i>
SK	SaskEnergy	\$6.25	\$4.96	\$1.84	\$6.79
	SaskPower	\$2.17	\$6.22	\$0.27	\$6.49
<i>SK Total</i>		<i>\$8.42</i>	<i>\$11.18</i>	<i>\$2.11</i>	<i>\$13.28</i>
YT	Government of Yukon	\$10.20	\$15.71	\$0.44	\$16.15
	Total	\$1,250.12	\$1,346.90	\$243.84	\$1,590.74

Table 78. Energy efficiency program and enabling/supporting spending (\$CAD millions, nominal)

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