

CANADA

1. CONTEXT OF THE BUILT ENVIRONMENT

Urban population

Total population	Functional Urban Area population*	Share of urban population	Average urban growth
37.760 million (2020)	26.357 million (2020)	70% (2020)	6% (2015-2020)

*Data source: European Commission (2023), FUA and eFUA methodology: OECD/European Commission (2020)¹

Building data

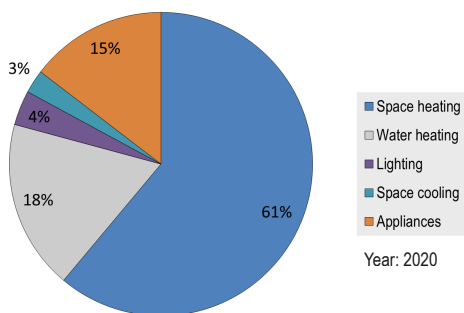
	Building stock	Built before 1983	Annual construction	Annual construction rate
Residential	15,940 thousand dwellings (2020)	42.3%	219.942 thousand dwellings (2022)	2%
Non-residential	712.4 million m ² (2023)		0.385 million m ² (2023)	

Energy & emissions data

Residential buildings**	1990	2021	+/- rate	Non-residential buildings	2020
Final energy consumption (PJ/year)	1,316	1,334	1.3%	Final energy consumption (PJ/year)	1,215.5
	1990	2021	+/- rate		
GHG emissions (MtCO ₂ /year)	41	35.7	-13.2%	GHG emissions (MtCO ₂ /year)	

**Data source: IEA Countries & Regions²

Energy consumption by end-use (Residential)



Heating degree days***

3,633.9

Degree (°C) Days (2020)

Reference degree day: 16 degree (°C)

Cooling degree days***

81.7

Degree (°C) Days (2020)

Reference degree day: 21 degree (°C)

***Data source: IEA Weather, Climate and Energy Tracker³

¹ <http://data.europa.eu/89h/2ff68a52-5b5b-4a22-8f40-c41da8332cfe>, <https://doi.org/10.1787/d58cb34d-en>

² <https://www.iea.org/countries>

³ <https://www.iea.org/data-and-statistics/data-tools/weather-climate-and-energy-tracker>

2. GOVERNANCE AND CAPACITY BUILDING

Who does what

Ministries/Agencies responsible for BEE (building energy efficiency) and related policies

A Government of provinces/territories/municipalities	B Natural Resources Canada	C Canada Mortgage and Housing Corporation	D Environment and Climate Change Canada	E Other
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Ministries/Agencies responsible for each policy area

Building code	Governmental buildings	Housing policy in general	Financial incentives for BEE	Behaviour change for BEE
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E
BEE standard	Act/law for BEE regulation	Whole life carbon	Energy policy in general	NDC
A B C D E	A B C D E	A B C D E	A B C D E	A B C D E

Local governments' authority to customise BEE standards⁴

<input checked="" type="checkbox"/>	Local governments can customise national standards.
<input type="checkbox"/>	Local governments cannot adjust national standards, but the standards differ across regions depending on the local climate.
<input type="checkbox"/>	Local governments cannot adjust national standards. All building codes, standards or requirements are uniform across the entire country.
<input checked="" type="checkbox"/>	Neighbourhood level approach/planning The federal government supports subnational and local initiatives through the Greener Neighbourhoods Pilot Program and the Deep Retrofit Accelerator initiative. These are voluntary funding programs, and not federal directives
<input type="checkbox"/>	The national government is tracking progress on decarbonisation efforts at the local level
<input checked="" type="checkbox"/>	More ambitious policy instrument by local governments The City of Vancouver has implemented carbon pollution limits for existing large commercial and multi-family buildings. Commercial buildings larger than or equal to 9,290 m ² must report by mid 2024. Commercial building larger than or equal to 4,645 m ² and multi-family buildings larger than or equal to 9,290 m ² must report by mid 2025. GHGi (Greenhouse Gas Intensity) limits will come into effect for commercial office and retail buildings larger than or equal to 9,290 m ² in 2026.

Capacity building

Government funding programmes to train/enhance skills for SMEs

Designing for ZEB	<input type="checkbox"/>	Insulation	<input type="checkbox"/>
Calculation for energy performance of buildings	<input type="checkbox"/>	Installation of energy efficient equipment	<input type="checkbox"/>
Calculation for life cycle CO ₂ of buildings	<input type="checkbox"/>	Other	<input checked="" type="checkbox"/>

Actions undertaken by the national government to support local governments for BEE policy implementation⁵

Co-ordinating regional networks for knowledge exchange and support	✓
Providing funding for training	Priority ✓
Distributing toolkits and guidelines	✓
Developing online platforms to share best practices	Priority ✓
Hosting annual conferences focused on BEE policy implementation	-
Offering grants to hire consultants	-
Collaborating with research institutes offering specialised courses on BEE practices	-
Creating incentive programmes to reward local governments	-
Supporting the Implementation of local regulations	✓
Establishing mentorship programmes	-
Other	-

3. GOALS AND POLICY FOCUS

Policy areas covered in the goals and existing commitments

	Zero emission for new buildings	Zero emission for existing buildings	Renewable energy for new buildings	Renewable energy for existing buildings	Whole-life cycle carbon reduction
NDC	✓	✓	-	-	-
LT-LEDS	-	-	-	-	-
Ministerial plan	-	-	-	-	-

Quantitative targets included in long-term goals

<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Fossil fuel-free buildings </div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> District heating/cooling </div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Insulation </div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Heat pumps </div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Rooftop PVs </div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Solar heating of water </div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Other renewable energy </div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Other </div> <div style="border: 1px solid black; height: 40px; width: 100%;"></div>

Policy focus for decarbonising buildings (Top 3)

Current focus

Passive design to reduce heating demand	<input type="radio"/>
Energy efficiency on heating	<input checked="" type="radio"/>
Passive design to reduce cooling demand	<input type="radio"/>
Energy efficiency on cooling	<input type="radio"/>
Switching energy to sustainable energy	<input checked="" type="radio"/>
Renewable energy	<input checked="" type="radio"/>
Embodied carbon	<input type="radio"/>
Circularity of building materials	<input type="radio"/>



Future priorities

Passive design to reduce heating demand	<input checked="" type="radio"/>
Energy efficiency on heating	<input type="radio"/>
Passive design to reduce cooling demand	<input type="radio"/>
Energy efficiency on cooling	<input type="radio"/>
Switching energy to sustainable energy	<input type="radio"/>
Renewable energy	<input type="radio"/>
Embodied carbon	<input checked="" type="radio"/>
Circularity of building materials	<input checked="" type="radio"/>

Energy poverty

Strategies to reduce poverty and inequality via decarbonising buildings

Stronger financial support for decarbonising public housing for low-income people	<input checked="" type="checkbox"/>
Financial support to buy zero-energy/emission homes	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Financial support to renovate their homes to zero-energy/emission	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Allowing partial retrofits to ease financial burden on upfront cost	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>
Provide energy efficient appliances (e.g. LED)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Energy bill coupon	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Energy coach/consultation	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Other	<input type="checkbox"/>

Note: Policies targeting specific households Low-income Elderly Households with more than 3 children Other

4. DEVELOPMENT OF POLICY INSTRUMENTS

Standards and regulations for decarbonising buildings

Building codes	National level	<input type="radio"/>
	State level	<input checked="" type="radio"/>
	Local level	<input checked="" type="radio"/>

Type of buildings covered by the mandatory energy efficiency code

Residential buildings	
New	<input checked="" type="checkbox"/> All <input type="checkbox"/> Only large units
Renovated	<input type="checkbox"/> All <input type="checkbox"/> Only large units
Non-residential buildings	
New	<input checked="" type="checkbox"/> All <input type="checkbox"/> Only large units
Renovated	<input type="checkbox"/> All <input type="checkbox"/> Only large units

Elements of building codes (new buildings)

Insulation/heat transmission coefficient	<input checked="" type="checkbox"/>
Primary energy consumption	<input checked="" type="checkbox"/>
Primary fossil-fuel energy consumption	<input checked="" type="checkbox"/>
Energy efficiency of equipment	<input checked="" type="checkbox"/>
Operational carbon reduction	<input type="checkbox"/>
Whole life cycle carbon	<input type="checkbox"/>
Comprehensive green building assessment	<input type="checkbox"/>
Other	<input type="checkbox"/>

Stricter standards for public buildings than private buildings

For new construction For renovation

	Public buildings	Public housing
Energy efficiency	- -	- -
Zero energy/emission	-	- -
Renewable energy		- -
Embodied carbon/life cycle		- -
Locally sourced & recycled materials	- -	- -

Certificates/labeling programme for built environment

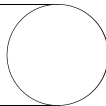
Types of certificates/programme

Energy Performance Certificate (EPC)	<input checked="" type="checkbox"/>
Energy labelling on passive house	<input type="checkbox"/>
Energy labelling on annual energy consumption	<input type="checkbox"/>
Comprehensive built environment certification	<input checked="" type="checkbox"/>
Labeling for whole life carbon emissions	<input type="checkbox"/>

Target for Mandatory EPC

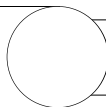
New buildings (residential)	<input type="checkbox"/>
New buildings (non-residential)	<input type="checkbox"/>
Existing buildings for renovation	<input type="checkbox"/>
Existing buildings for sales/rent	<input type="checkbox"/>

Standardised calculation methods for embodied carbon/LCA



Database of CFP/EPD	<input type="checkbox"/>	<input type="checkbox"/> Governmental	<input type="checkbox"/> Non-governmental
Grant for using the following materials	<input type="checkbox"/>	<input type="checkbox"/> Low-carbon	<input type="checkbox"/> Bio-based <input type="checkbox"/> Reused
Policy tools for reusing building materials	<input type="checkbox"/>		
Mandatory declaration	<input type="checkbox"/>	<input type="checkbox"/> Public	<input type="checkbox"/> Residential <input type="checkbox"/> Non-residential
Limit value on CO2 emissions	<input type="checkbox"/>	<input type="checkbox"/> Public	<input type="checkbox"/> Residential <input type="checkbox"/> Non-residential

Minimum energy performance standards (MEPS) regulation for existing buildings



<input type="checkbox"/> All buildings	<input type="checkbox"/> Residential (rent)	<input type="checkbox"/> Residential (sale)
<input type="checkbox"/> Office (rent/sale)	<input type="checkbox"/> Public buildings	<input type="checkbox"/> Other

Climate resilience

 Extreme heat adaptation measures implemented in the building sector

Strategic orientation of main building facades	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Light coloured and reflective materials	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Green roof	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Green facades	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Other	<input checked="" type="checkbox"/>		

 Floods/storms adaptation measures implemented in the building sector

Lowest liveable floor above ground level	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Roof drainage system	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Hip-roof	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Hurricane straps	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Impact-resistant glass	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Backup generators	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives
Microgrids	<input type="checkbox"/>	<input type="checkbox"/> Regulations	<input type="checkbox"/> Financial incentives

Publicly available geographic database with climate risk information

Flood risk	<input checked="" type="checkbox"/>
Heat wave	<input checked="" type="checkbox"/>
Storm	<input type="checkbox"/>
Wild fire	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>

Building certificate system on climate resilience

Resilience to flood risk	<input type="checkbox"/>
Resilience to heat	<input type="checkbox"/>
Other	<input type="checkbox"/>

This survey is designed for national governments.