



Environmental
Law Centre

Embedding Climate Action in Edmonton's Land Use Bylaw

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The City of Edmonton must incorporate important climate mitigation measures in its next *Land Use Bylaw* if there is to be hope in reaching a carbon neutral city by 2050, as outlined in the City of Edmonton's *Energy Transition Strategy*. The *Draft Zoning Bylaw* should be amended to include requirements pertaining to:

1. [Electric Vehicle Readiness](#)

Require new buildings to provide electrified parking spaces.

[Proposed Zoning Bylaw Language](#)

2. [Solar readiness and transition to a solar mandate](#)

Initially require all new buildings to have “roughed in” capacity for solar domestic hot water and photovoltaic power, with a subsequent step to have require installed capacity. Other aspects of solar readiness – such as lot orientation and building siting – may be included in modelling for demonstrating compliance with development aggregate GHG emission profiles.

[Proposed Zoning Bylaw Language](#)

3. [Development Aggregate GHG Emission Profiles](#)

Set Development Aggregate GHG Emission Profile requirements to be transitioned into new developments by 2027. Develop relevant measurement and policy to guide decisions around development permits and their aggregate GHG emissions profile. This aggregate emissions profile should standardize land use, energy generation, efficiency, and other GHG mitigation efforts in the development permitting process in a matter that contributes to the *Energy Transition Strategy* Strategic Action 1 goals for 2030. Policy must be drafted to quantify and articulate benchmarks for the aggregate emissions calculation (i.e. an aggregate emissions calculator or methodology).

[Proposed Zoning Bylaw Language](#)

Additional background information, proposed provisions and sample bylaws are set out below.

Embedding Climate Action in Edmonton's Land Use Bylaw: Backgrounder and Proposed Bylaw Additions

Edmonton's Community Energy Transition Strategy

In 2021, the City of Edmonton released its [Energy Transition Strategy](#)¹ which outlines its climate change mitigation plan. Edmonton's ultimate goal is a low carbon city with net zero GHG emissions per person by 2050.

At 18% and 20% respectively, residential buildings and commercial and institutional buildings are two of Edmonton's major sources of GHG emissions.² The City has identified buildings as a major reduction area with potential to reduce GHG emissions by up to 19%.³ As such, Emission Neutral Buildings have been identified as one of four transformative pathways to reach Edmonton's Climate Resilience goal.

An "emission neutral building is one that is highly energy efficient and uses only renewable energy".⁴ To succeed in the Emission Neutral Buildings pathway, Edmonton will administer increasingly stringent energy codes in alignment with federal and provincial governments and undertake an extensive energy efficiency retrofit effort.

The specific goals of Emission Neutral Buildings pathway are:⁵

- Ensuring that the buildings that Edmontonians live, work and play in are emission neutral and improve personal wellness.
- Eliminating energy poverty.
- Catalyzing the local green building and energy efficiency industry.

Achieving these goals includes strategies such as supporting the acceleration of emission neutral buildings, supporting low embodied carbon buildings and infrastructure, and supporting building owners to reduce overall energy use through retrofits and energy efficiency improvements. It is noted that transformative pathways require "departing from a business-as-usual approach" and treating every decision as a climate change decision.⁶

¹ Edmonton, *Edmonton's Community Energy Transition Strategy & Action Plan* (Edmonton: 2021, City of Edmonton) [*Energy Transition Strategy*].

² *Edmonton Transition Strategy* at 13.

³ *Edmonton Transition Strategy* at 13.

⁴ *Edmonton Transition Strategy* at 19.

⁵ *Edmonton Transition Strategy* at 20.

⁶ *Edmonton Transition Strategy* at 26.

The *Edmonton Transition Strategy* mentions a couple of programs that relate to building emission neutrality. This includes a Building Energy Benchmarking Program which is “a rebate for a voluntary program that invites Edmonton’s large commercial, institutional, industrial, and multi-family buildings to submit their energy performance data to the City for benchmarking and disclosure purposes”.⁷ In addition, there is a pilot Clean Energy Improvement Program for residential and commercial energy efficiency/ renewable energy retrofit financing. However, it is clear that more is required to move along the Emission Neutral Buildings pathway and to achieve net-zero by 2050.

Aside from being a necessity for achieving Edmonton’s climate change targets, neutral emission buildings hold great appeal for Edmonton’s citizens in terms of savings associated with energy efficiency. Alberta has among the highest energy costs in the country.⁸ Between November 2020 and 2021, Alberta’s energy prices increased by 34% as a result of a colder-than-normal winter, relatively high wholesale market prices and energy providers’ variable-based pricing models.⁹ As stated by Guidehouse Canada Ltd. in its report for the Alberta Energy Efficiency Alliance:

Alberta does not integrate efficiency into its management of the electricity and natural gas utility systems. As a result, Albertans pay more than they need to for utilities, in both economic and environmental costs¹⁰

In light of increasing and more volatile energy costs – in part due to the frequency of extreme weather events associated with climate change¹¹ - emission neutral buildings are becoming more attractive across residential, commercial, institutional, and industrial sectors.

Edmonton’s Draft Zoning Bylaw

The *Draft Zoning Bylaw* is comprised of 8 parts: contents and zoning map; standard zones and overlays; special area zones; direct control zones; general development regulations; specific development regulations; administrative and interpretive regulations; and definitions. Although there are definitions provided for the terms green building, green roof, green parking lot and renewable energy device and there is a mention of solar collectors; there is no reference in the

⁷ *Edmonton Transition Strategy* at 11.

⁸ Grant Bishop, Mariam Ragab and Blake Shaffer, *The Price of Power: Comparative Electricity Costs across Provinces* (Calgary: 2020, C.D. Howe Institute).

⁹ Guidehouse Canada Ltd., *Demand Side Management Opportunities for Alberta* (Edmonton: 2022, Alberta Energy Efficiency Alliance) at 26.

¹⁰ *Ibid.* at 29-30.

¹¹ *Ibid.*

Draft Zoning Bylaw to electric vehicle readiness, solar readiness, emission neutral buildings, low carbon buildings or anything similar that reflect the goals of Edmonton's *Energy Transition Strategy*. In other words, the *Draft Zoning Bylaw* in its current form is not sufficient to achieve the goals of the *Energy Transition Strategy*.

Part 5 of the *Draft Zoning Bylaw* sets out general development regulations which apply to all developments on all sites except where regulations of a zone, direct control zone or overlay specifically exclude or modify these regulations with respect to any use.¹² Part 5 sets out requirements for a variety of requirements pertaining to buildings and development within the municipality including accessory uses, buildings and structures, and site performance standards.

As part of the provisions addressing accessory uses, building and structures, section 5.10(11) sets out height limits for rooftop solar collectors and projection limits for wall mounted solar collectors. However, there is no requirements to install such structures. Site performance standards address a variety of matters including mitigation of nuisances, lighting requirements, waste collection and disposal areas, and vehicles prohibitions and restrictions in residential zones.

More detailed requirements – such as permitted and restricted uses – are set out for each particular zone type. For each zone created in the *Draft Zoning Bylaw*, there is a purpose stated along with regulations for sites and buildings, design, accessory buildings, and for specific uses. In addition to a variety of zones, the *Draft Zoning Bylaw* establishes several overlays - the Airport Protection Overlay, the Floodplain Protection Overlay and the North Saskatchewan River Valley and Ravine System Protection overlay – each of which have precedence over the underlying zone.¹³ An overlay may specify, among other things, performance standards.¹⁴ However, overlays may not be used to amend a Direct Control Zone or to alter specified sections of the *Draft Zoning Bylaw*.¹⁵ Further, it is not appropriate to use an overlay to make changes that are significant enough to be inconsistent with the purpose of the zone or that are not related to specific local planning objectives but would have sufficient City-wide application to justify a text amendment to a standard zone.¹⁶

¹² *Draft Zoning Bylaw* at s. 7.40(1), online: <https://edmonton.konveio.net/draft-zoning-bylaw-may-2023>, accessed on May 9, 2023.

¹³ *Draft Zoning Bylaw* at s. 7.60(3).

¹⁴ *Draft Zoning Bylaw* at s. 7.60(3.4).

¹⁵ *Draft Zoning Bylaw* at s. 7.60 (2.2).

¹⁶ *Draft Zoning Bylaw* at s. 7.60(2.2).

The development permit application process and requirements are set out in Part 7 of the *Draft Zoning Bylaw*. This includes provisions pertaining to the validity, expiry and cancellation of development permits, as well as, enforcement and penalties.

Zoning Bylaw as proposed is not sufficient to meet climate goals

While one of the *Zoning Bylaw Renewal Initiative Discussion Papers (Discussion Paper)* acknowledges that it is within the scope of a zoning bylaw to address climate adaptation and energy transition because it “control[s] the design of subdivisions and what type of buildings are allowed on a site, where they are placed, their size and form, and other elements found on a property”, there is nothing within the *Draft Zoning Bylaw* to address climate adaptation and energy transition.¹⁷ The *Discussion Paper* indicated that the zoning bylaw could be used to provide regulations or incentives for new and renovated residential and non-residential buildings to be built or renovated to a zero emissions standard, or to create opportunities to generate renewable energy on-site. Neither of these approaches is adopted by the *Draft Zoning Bylaw*.

Other suggestions made in the *Discussion Paper* relative to new buildings include:

- requirements to layout new subdivision lots to allow for passive solar heating and/or solar energy systems;
- emission reduction standards and incentives for new development to be designed or ready to be designed with solar energy systems;
- requirements for on-site electric vehicle infrastructure; and
- emission reduction standards and incentives for new development.

According to the *Discussion Paper*, these requirements could be implemented as a stand-alone bylaw to address specific climate issues, or via a development permit point system to enable incorporation of different climate measures in new developments and redevelopment. Under a development permit point system, each climate action is assigned a specific point value (based on factors such as cost, effectiveness or complexity) and a project has to achieve a certain number of points. The current *Draft Zoning Bylaw* incorporates none of these recommendations.

Climate Action Requirements

¹⁷ City of Edmonton, *Zoning Bylaw Renewal Initiative: Discussion Paper 11, Climate Resilience & Energy Transition* (Edmonton: 2020, City of Edmonton) at 6.

The *Draft Zoning Bylaw* should be amended to include requirements pertaining to electric vehicle readiness, solar readiness and development emissions standards. This requires amendments to Part 5 and Part 7 of the *Draft Zoning Bylaw*.

Electric Vehicle Readiness

Amend Part 5.100 (Parking, Access, and Site Circulation) to incorporate EV Readiness requirements into parking facility design (section 4) and for small scale residential development (section 2).

4.1 Surface Parking Lots and Parkades must be designed:

...

4.1.3 to include energized electric vehicle outlets in accordance with the following

Small Scale Residential Buildings: single detached housing, duplex housing, semi-detached housing, row housing, cluster housing with 6 dwellings or less, and multi-unit housing with 8 dwellings or less	1 energized space per dwelling
Residential Buildings other than Small Scale Residential Buildings	1 energized space per required vehicle parking space (except for visitor parking)
Commercial, Community, Basic Service, and Industrial Buildings 10 to 14 parking spaces	1 energized space
Commercial, Community, Basic Service, and Industrial Buildings > 14 parking spaces	2 energized spaces or 5% of the total number of required vehicle spaces, whichever is greater

4.1.4 An energized space means a connected point in an electrical wiring installation at which current is taken to supply utilization equipment for electric vehicle charging.

2.2 In addition to Subsection 2.1, Single Detached Housing, Duplex Housing, Garden Suites, Secondary Suites, Semi-detached Housing, Row Housing, and Multi-unit housing with 2.1 dwellings or less must comply with the following:

...

2.2.1 For each vehicle parking space, other than those located on a driveway, there must be one energized space.

2.2.2 An energized space means a connected point in an electrical wiring installation at which current is taken to supply utilization equipment for electric vehicle charging.

Should there be grid based concerns the City may need to consider mandating specific management approaches focused on the timing of charging (i.e. smart charging applications or other regulatory approaches).

Increasingly, Canadian municipalities are requiring electric vehicle charging infrastructure (EV Readiness) as part of new development. For example, the *City of North Vancouver Zoning Bylaw* sets EV Readiness requirements for all new residential and non-residential development as part of the municipal parking and loading standards (see Appendix A).¹⁸ Essentially, the City of North Vancouver requires 100% of parking in new residential buildings and 45% of parking new non-residential building must be EV Ready.

The City of Victoria has EV Readiness requirements as part of its parking requirements in both its zoning bylaws (see Appendix A).¹⁹ The City of Victoria requires that each residential parking space be EV Ready whereas commercial, institutional and industrial buildings have varying requirements for the number of EV Ready parking spaces based on total number of parking spaces and location (downtown or elsewhere within the municipality).

The City of Toronto also has similar EV Readiness Requirements in its parking standards (see Appendix A) where all small scale residential buildings must have 100% of the parking spaces EV Ready.²⁰ Other buildings must have 25% of their parking spaces EV Ready.

Solar Readiness

Amend Part 5 (General Development Regulations) to add a section requiring solar domestic hot water and photovoltaic power systems be installed in new buildings.

¹⁸ City of North Vancouver, *Zoning Bylaw, 1995, No. 6700* at s. 909.

¹⁹ City of Victoria, *Zoning Regulation Bylaw 18-072 (2018)* at Part 5.1 and City of Victoria, *Zoning Bylaw No. 80-159* at Schedule C.

²⁰ City of Toronto, *Zoning Bylaw 569-2013*. For ease of reference, Appendix A attaches a copy of Bylaw 89-2022 which amended *Zoning Bylaw 569-2013* to impose EV Ready parking standards.

5.140 Solar requirements

5.140.1. Effective January 1, 2025, all new construction shall be built to accommodate installation of solar domestic hot water and photovoltaic power system in accordance with the technical specifications set out in Natural Resources Canada, *Solar Ready Guidelines for solar domestic hot water and photovoltaic systems*, Version 1.1 (Ottawa: 2013, Government of Canada).

5.140.2. Effective January 1, 2027, all new residential construction with greater than per 100m² shall include an installed solar photovoltaic power system. The minimum installation must cover a minimum of 30% of the net roof area as defined in this or alternatively, be a minimum installed capacity of 2 kW.

(a) The net roof area is defined as the gross roof area minus the area that cannot be used due to shading, roof structures or roof orientations that are within the cardinal points of east-northeast and west-northwest. The gross roof area is the area of the roof in its entirety, excluding eaves.

5.140.3. Effective January 1, 2027, all new non-residential construction shall include an installed photovoltaic power system. The minimum installation must have a solar capacity of 1 kW/100m² building surface area.

As pointed out in *Edmonton's Energy Transition Plan, 2.3.5 New Buildings – Solar Ready*, there are a variety of matters to be considered with respect to solar readiness ranging from necessary elements to accommodate future photovoltaic power or solar hot water to broader issues of right-to-light legislation.²¹

For our purposes, basic solar readiness consists of ensuring new buildings initially include "roughed in" solar domestic hot water and photovoltaic power systems. It is recommended that the *Draft Zoning Bylaw* include this basic solar readiness in Part 5 by requiring all new buildings meet the *NRC Solar Ready Guidelines*.²² These guidelines provide technical specifications for several elements such as roof space, solar domestic hot water and solar conduits, plumbing connections to an existing hot water heater, electrical outlet, mechanical room floor space, and mechanical/electrical room wall space.

²¹ City of Edmonton, *Edmonton's Energy Transition Plan, 2.3.5 New Buildings – Solar Ready* (January 31, 2014).

²² Natural Resources Canada, *Solar Ready Guidelines for solar domestic hot water and photovoltaic systems*, Version 1.1 (Ottawa: 2013, Government of Canada) [*NRC Solar Ready Guidelines*]. Another useful document in this regard is Alberta Infrastructure, *Solar Photovoltaic Guidelines: Planning and Installation for Alberta Infrastructure Projects* (Edmonton: 2017, Government of Alberta).

The next step is a requirement for a minimum installed photovoltaic power systems. Several municipalities have already begun to require photovoltaic power systems on new buildings, including Berlin and Tokyo.²³

Aside from basic solar readiness of buildings, other aspects of planning may have significant impact on the efficiency of solar power and heating within the municipality. These include matters such as lot design and distribution, orientation of buildings on a lot, orientation of the primary roof faces, roof pitch, and access to light. It is recommended that these issues would be better addressed as part of the Development GHG Emissions Profile by including these more advance aspects of solar readiness (beyond the basic solar readiness requirements) as metrics/points to use toward meeting emission targets.

Appendix B to this document provides Sample Solar Legislation prepare by the National Renewable Energy Laboratory, as well as a copy of the City of Tucson's *Residential Solar Readiness Ordinance (Citywide)*, No. 10549.

Development's Aggregate GHG Emission Profiles

Amend Part 7 to require information about the Aggregate GHG Emission Profile for a development as part of the development permit process.

7.140 Special Information Requirements

11. Development Aggregate GHG Emission Profile

11.1 The Aggregate GHG Emissions profile of a development will be the aggregate emissions of the development as calculated pursuant to the methodology prescribed for this purpose, and updated from time to time. The methodology will consider, but is not limited to, energy use, energy generation and other land use factors that are deemed relevant to the determination of the Aggregate GHG Emissions of a development.

11.2 The Aggregate GHG Emissions Profile will be developed for the following classes of developments:

- a) Small Scale Residential Development consisting of single detached housing, duplex housing, semi-detached housing, row housing, cluster housing with 6 dwellings or less, and multi-unit housing with 8 dwellings or less

²³ Berlin's legislation, Solargestz Berlin, can be found online at: <https://www.berlin.de/sen/energie/erneuerbare-energien/solargestz-berlin/artikel.1209623.php>.

- b) Residential Developments other than Small Scale Residential
- c) Commercial Developments
- d) Community Use Developments excepting outdoor recreation services, parks, protected natural areas, and special events
- e) Basic Service Use Developments excepting cemeteries
- f) Industrial Developments

11.3 The Development Planner will require the applicant of a Development Permit to submit Aggregate GHG Emission information in the prescribed manner where a proposed Development Permit is to be issued.

11.4 The Development Planner must consider the information before making a decision on the Development Permit application, and may impose conditions on the Development Permit necessary to ensure the Aggregate GHG Emission Profile will be met by the development.

11.5 The Aggregate GHG Emissions Profile for specified class of developments will be published by the City from time to time. Any changes to a profile for a specified development must be published 360 days prior to the year that the profile applies to specified development class.

11.6 The initial Aggregate GHG Emissions Profile for the specified class of developments must be published by January 1, 2026, and developments must meet the requires of the emissions profile as of January 1, 2027.

11.7 Emission Reporting Requirements for Large Buildings

11.7.1 This section applies to non-residential buildings over 1,000 square feet and all high-rise residential buildings.

11.7.2 Every owner of a building covered by this section must submit to the City information using the ENERGY STAR Portfolio Manager for the 2026 calendar year by November 15, 2027, and annually by November 15 for each subsequent calendar year.

11.7.3 The requirements for using the ENERGY STAR Portfolio Manager are set out in the City of Edmonton's *ENERGY STAR Portfolio Manager Toolkit (2023)*, as may be amended from time to time.

Rather than attempt to set numerous regulations that impact on individual buildings or discrete aspects of building performance, it is recommended that overall development emissions are the focus of the land use bylaw. This involves the adoption of "Development Aggregate GHG Profile" requirements. This approach avoids setting technical standards for individual buildings or building components but rather sets an overall emission profile that reflects a variety of development choices. This means that the developer may choose development components

they consider most appropriate/cost-effective to achieve the Development Aggregate GHG Profile Requirements. The Aggregate GHG Profile for developments can be staggered by year for adoption based on development types.²⁴ This approach will require the determination of appropriate aggregate targets, along with the **methodology** for each type of acceptable action to achieve the target.

Aggregate targets could include:

- Lot orientation and siting to maximize solar power generation
- Solar Readiness above minimum requirements set in 5.140
- Installed solar capacity
- Installed wind capacity
- EV Readiness above minimum requirements set in 4.1 and 2.2
- Landscaping design to enhance heating/cooling efficiency by [set standard for achievement]
- Living wall system [set minimum size as percentage of development]
- Green Roof [set minimum size as percentage of roof space]
- Green Parking Lots [set minimum requirements]
- Aggregate development GHG emissions related to proposed buildings design
- District energy system
- Installed geo-exchange capacity
- Electrification of heating/cooling

Starting points for this determination could include the *Global Protocol for Community-Scale Greenhouse Gas Inventories*, the *Guidebook on Quantifying Greenhouse Gas Reductions at the Project Levels* and ISO 14064-2: 2019.²⁵

²⁴ James Burton et al., *Short Model BPS Law* (Washington, DC: 2022, Institute for Market Transformation).

²⁵ World Resources Institute, *Global Protocol for Community-Scale Greenhouse Gas Inventories, An Accounting and Reporting Standard for Cities, Version 1.1* (World Resources Institute, C40 Cities and ICLEI) online: https://ghgprotocol.org/sites/default/files/standards/GPC_Full_MASTER_RW_v7.pdf; ICLEI Canada, *Guidebook on Quantifying Greenhouse Gas reductions at the Project Levels* (Toronto: 2020, ICELEI Canada and FCM) online: <https://fcm.ca/sites/default/files/documents/programs/pcp/guide-quantifying-ghg-reductions-project-level.pdf>; and ISO 14064-2: 2019, Greenhouse Gases – Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements, online: <https://www.iso.org/standard/66454.html>.

For large developments, energy reporting and benchmarking is required. We note that the City of Edmonton already has a voluntary energy benchmarking program in place.²⁶ The goal of that program is to collect information on large building energy performance and provide this information to interested stakeholders. The tool used for energy benchmarking, reporting and disclosure is **Energy Star Portfolio Manager**. This program should be made mandatory to facilitate the adoption of Emission Limits. This has been done in both Montreal and Vancouver (see Appendix C).

Montreal's bylaw establishes a procedure for disclosure of greenhouse gas emissions generated by the energy consumption of large buildings.²⁷ The bylaw defines which buildings are covered by the requirement, with a staggered approach so that more buildings become subject to the requirements as time passes. The categories of property types are designed to align with the Energy Star Portfolio Manager program.

The bylaw specifies which information must be disclosed. This includes information about electricity purchased from the grid; natural gas use; use of steam, hot water and chilled water from district heating network; use of kerosene/fuel oil/diesel/propane/coal/coke/wood; and the electrical power demand per billing period. All data is submitted via Energy Star Portfolio Manager. Based on this information, the municipality will assign an annual GHG emissions performance rating (although the methodology has not yet been defined).²⁸

The City of Vancouver's bylaw establishes GHG and heat energy intensity for existing large buildings (i.e. residential buildings less than 4 storeys tall are excluded).²⁹ Like the Montreal bylaw, the Vancouver bylaw identifies which buildings are subject to the requirements and sets out building performance information which must be reported. In Vancouver, the Building performance information requirements include:³⁰

- Annual site energy use for each energy/fuel type
- Annual site energy use intensity
- Annual weather normalized site energy use intensity
- Annual GHG emissions

²⁶ City of Edmonton, *Edmonton's Building Energy Benchmarking Program, Participation Guide* (Edmonton: 2023, City of Edmonton).

²⁷ Montreal By-Law 21-042: By-Law Concerning Greenhouse Gas Emission Disclosures and Ratings of Large Buildings. See also City of Montreal, *By-Law 21-042 on the Mandatory Disclosure of Building Energy Consumption Data, Application Guide for By-Law 21-042* (Montreal: 2022, City of Montreal).

²⁸ City of Montreal, *By-Law 21-042 on the Mandatory Disclosure of Building Energy Consumption Data, Application Guide for By-Law 21-042* (Montreal: 2022, City of Montreal).

²⁹ City of Vancouver, *Annual Greenhouse Gas and Energy Limits By-Law No. 13472* (July 20, 2022).

³⁰ City of Vancouver, *Annual Greenhouse Gas and Energy Limits By-Law No. 13472* (July 20, 2022) at 2.5(b).

- Annual GHG emissions by energy/fuel type
- Monthly site energy use and GHG emissions by energy fuel type
- Individual monthly fuel consumption in their respective units
- Proof of amount of energy use by fuel type

In Vancouver, both the ultimate GHG emission limits and the heat energy limits take effect in 2040 with interim levels being established.³¹ By 2040, the GHG emission limit for covered buildings is 0 kg CO₂e/m² and the heat energy limit is 0.09 GJ/m² of gross floor area. The GHG emission limit applies to metered natural gas and to district energy.

It should be noted that in BC, a *Zero Carbon Step Code*³² was adopted as part of the BC Building Code effective May 1, 2023. The BC Building Code currently contains a Step Code which regulates the energy efficiency of new building and which may be voluntarily adopted by municipalities. The *Zero Carbon Step Code* is directed at regulating GHG emissions of buildings and may also be voluntarily adopted by municipalities in BC.³³

Different levels of GHG reduction may be applied for new construction of different building types:

- Measure-only: requires measurement of a building's emissions without reductions, and is intended to build knowledge and capacity;
- Medium carbon: in most cases, will require decarbonization of either space heating or domestic hot water systems;
- Low carbon: in most cases, will require decarbonization of both space heating and domestic hot water systems; and
- Zero carbon ready.

The initial set of targets to be established by the *Zero Carbon Step Code* are for Part 3 and Part 9 buildings (small buildings like residences, multi-unit residential buildings, office buildings and mercantile buildings) differentiated based on occupancy types. For example, targets for houses are:

³¹ City of Vancouver, *Annual Greenhouse Gas and Energy Limits By-Law No. 13472* (July 20, 2022) at 3.1 and 3.2.

³² Ministerial Order No. BA 2023 8 which amends the building code to add the *Zero Carbon Step Code* as well amending some aspects of the existing Step Code. See also <https://www.vicnews.com/news/long-overdue-victoria-councillor-applauds-new-powers-to-limit-emissions-in-new-buildings/>.

³³ Office of Housing and Construction Standards, *Provincial policy bulletin for cleaner, more energy efficient new construction, Version 1* (Victoria: 2022, Government of British Columbia).

Table 9.37.1.3.
Greenhouse Gas Emissions
 Forming part of Sentence 9.37.1.3.(1)

GHG Emission Level	GHG Emission Compliance Options				
	Maximum GHG Emissions by House, Expressed in kg CO _{2e} /year		Maximum GHG Emissions by House ¹		Reduction of GHG Emissions by Energy Source of Building Systems ²
			Maximum GHGI of the House, Expressed in kgCO _{2e} /m ² /year	Maximum GHG Emissions by House, Expressed in kgCO _{2e} /year	
EL-1	measure only	or	measure only		N/A
EL-2	1050		6.0	2400	Energy sources supplying heating systems have an emissions factor ≤ 0.011 kgCO _{2e} /kWh
EL-3	440		2.5	800	Energy sources supplying heating and service water heating systems have an emissions factor ≤ 0.011 kgCO _{2e} /kWh
EL-4	265		1.5	500	Energy sources supplying all building systems, including equipment and appliances, have an emissions factor ≤ 0.011 kgCO _{2e} /kWh

Notes to Table 9.37.1.3.:

⁽¹⁾ Compliance for this option is demonstrated by meeting both the GHGI and the GHG emission requirements for each house.

⁽²⁾ Redundant or back-up equipment for the systems and equipment listed in Sentence 9.36.5.4.(1). is permitted to be excluded, provided it is equipped with controls and is not required to meet the space-conditioning load of the house.

Targets are also sets for hotels and motels, other residential occupancies, offices, and other business and personal services or mercantile occupancies. Targets for schools, libraries, colleges, recreation centres, hospitals, and care centres have not been yet established. The ultimate goal is that buildings will be zero carbon by 2030.

A Note about the National Energy Building Code, 2020

The *National Energy Building Code, 2020* (2020 Code) was published in April 2022 and has not yet been adopted in Alberta. The 2020 Code newly includes Part 10 (Division B) which establishes tiered building energy performance compliance that can be used to achieve compliance in lieu of the prescriptive requirements in sections 3.2, 4.2, 5.2, 6.2 and 7.2, or the trade-off provisions in sections 3.3. and 4.3. These particular provisions deal with building envelope; lighting; heating, ventilating and air conditioning systems; service water systems; and electrical power systems and motors.

Compliance with Part 10 achieved by designing and constructing buildings in accordance with Energy Performance Tiers 1 to 4:

Energy Performance Tier	Percent Building Energy Target	Percent Improvement
1	≤ 100%	≥ 0%
2	≤ 75%	≥ 25%
3	≤ 50%	≥ 50%

4	≤ 40%	≥ 60%
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Both the percent energy target and percent improvement are determined by comparison to the reference building described in the 2020 Code. By Ministerial Order dated March 13, 2023, the 2020 Code will not come into force in Alberta until May 1, 2024.³⁴ At that time, Tier 1 under the 2020 Code will be the province-wide minimum standard.³⁵

³⁴ Ministerial Order No. TCS: 002/23. Note that under section 65(4) of the *Safety Codes Act*, new versions of the national codes are to be adopted in Alberta 12 months after publication unless otherwise directed by Ministerial Order.

³⁵ Alberta Municipal Affairs, Notice dated March 28, 2023, online: <https://open.alberta.ca/dataset/d9788033-eb09-4514-b28d-51f1089ea4c7/resource/88a37915-cc01-428a-9b9a-601581e57537/download/ma-notice-upcoming-new-alberta-codes-editions.pdf>.

Appendix A: Sample EV Ready Bylaws

The City of North Vancouver, Zoning Bylaw, 1995, No. 6700

909 PROVISION OF ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

(1) Fractional Number

When the calculation of Parking Spaces requiring Electric Vehicle charging infrastructure results in a fraction of 0.5 or more of a space, one Parking Space shall be equipped with Electric Vehicle charging infrastructure to meet this fractional requirement.

(2) Residential Uses

All Parking Spaces provided for Residential Uses shall include an Energized Outlet capable of providing Level 2 Charging or a higher charging level for an Electric Vehicle, except parking spaces for Accessory Secondary Suite Use.

(3) Non-Residential Uses

For Parking Spaces provided for non-residential uses:

- (a) A minimum 35% of Parking Spaces shall include an Energized Outlet capable of providing Level 2 Charging or a higher charging level for an Electric Vehicle; and
- (b) A minimum of 10% of Parking Spaces or one Parking Space, whichever is greater, shall include an Energized Outlet capable of supporting Opportunity Charging.

(4) Disability Parking

- (a) All Disability Parking Spaces provided for Residential Uses shall include an Energized Outlet capable of providing Level 2 Charging or a higher charging level for an Electric Vehicle.
- (b) A minimum of 45% of Disability Parking Spaces provided for non- residential or a minimum of one Disability Parking Space, whichever is greater, shall include an Energized Outlet capable of supporting Opportunity Charging.

(5) Shared Vehicles

All Parking Spaces for Shared Vehicles shall include an Energized Outlet capable of supporting Opportunity Charging.

(6) Visitor Parking

A minimum of 10% of visitor Parking Spaces provided or a minimum of one Parking Space, whichever is greater, shall include an Energized Outlet capable of supporting Opportunity Charging.

(7) Labeling of Energized Outlets

Energized Outlets provided pursuant to Sections 909(2), (3), (4), (5) and (6) of this Bylaw shall be labeled for the use of Electric Vehicle charging.

(8) Electric Vehicle Energy Management Systems

Where an Electric Vehicle Energy Management System is implemented, the Director of Planning may specify a minimum performance standard to ensure a sufficient rate of Electric Vehicle charging.

City of Victoria, Zoning Bylaw No. 80-159, Schedule C: Off-Street Parking Regulations

<https://www.victoria.ca/assets/Departments/Planning~Development/Development~Services/Zoning/Bylaws/Schedule%20C.pdf>

City of Victoria, Zoning Bylaw No. 18-072 (2018)

<https://www.victoria.ca/assets/Departments/Planning~Development/Development~Services/Zoning/Bylaws/Zoning%20Bylaw%202018.pdf>

EXCERPTS, for full version: <https://www.toronto.ca/legdocs/bylaws/2022/law0089.pdf>

Authority: Planning and Housing Committee Item PH29.3, adopted as amended, by City of Toronto Council on December 15, 16 and 17, 2021

CITY OF TORONTO

BY-LAW 89-2022

Whereas Council of the City of Toronto has the authority to pursuant to Section 34 f the Planning Act, R.S.O. 1990, c. P. 13, as amended, to pass this By-law; and Whereas Council of the City of Toronto has provided adequate information to the public and has held at least one public meeting in accordance with the Planning Act.

The Council of the City of Toronto enacts:

...

2. Zoning By-law 569-2013, as amended, is further amended by adding new definitions in Chapter 800.50 (233) for energized outlet and (413) for Level 2 charging so that they read:

Energized Outlet means a connected point in an electrical wiring installation at which current is taken to supply utilization equipment for electric vehicle charging.

Level 2 Charging means a Level 2 electric vehicle charging level as defined by SAE International's J1772 standard, as amended.

...

12. Zoning By-law 569-2013, as amended, is further amended by adding to Regulation 200.5.1.10(2) a new subsection (E), so that it reads:

(E) Equipment for the charging of one electric vehicle is permitted within a parking space, subject to the equipment being located in the same parking space as the vehicle to be charged and:

(i) being within 0.25 metres of two adjoining sides of the parking space which are not adjacent and parallel to a drive aisle from which vehicle access is provided, measured at right angles; or

(ii) being at least 5.35 metres from a drive aisle from which vehicle access is provided, measured at right angles, and at least 1.0 metre from the ground.

...

17. Zoning By-law 569-2013, as amended, is further amended by adding to Clause 200.5.1.10 a new regulation (14), so that it reads:

(14) Electric Vehicle Infrastructure Parking spaces must be equipped with an energized outlet, which is clearly marked and identified for electric vehicle charging, in accordance with the following:

(A) all residential parking spaces provided for dwelling units located in an apartment building, mixed use building, “multiple dwelling unit building”, detached house, semi-detached house, townhouse, duplex, triplex, fourplex, or for a secondary suite or laneway suite, excluding visitor parking spaces, must include an energized outlet capable of providing Level 2 charging or higher to the parking space; and

(B) in cases other than those set out in (A) above, 25 percent of the residential and non-residential parking spaces in a building must include an energized outlet capable of providing Level 2 charging or higher.

Appendix B: Sample Solar Ready Bylaws

Andrea Watson et al, *Solar Ready: An Overview of Implementation Practices* (Golden, CO: 2012, National Renewable Energy Laboratory) at Appendix B – Sample Solar Ready Legislation (footnotes omitted)

1. Definitions – As used in the [name of act or chapter],

- A. “New Construction” includes any newly constructed residential or commercial building that requires a building permit to proceed.
- B. “Developer” means any person or company who constructs residential or commercial buildings.
- C. “Department” means [name of state agency who will undertake tasks identified below].
- D. “Solar Energy System” means any system that uses solar energy to provide all or a portion of the electrical needs of a residential or commercial building.
- E. “Solar Hot Water Heater” means any system that uses solar energy to heat water for use in a residential or commercial building.
- F. “Substitute Renewable Energy System” means any system that uses renewable energy resources, including wind and geothermal heat, to provide for all or a portion of the electrical needs of a residential or commercial building.
- G. “Substitute Renewable Hot Water System” means any system that uses renewable energy resources, including geothermal heat, to provide for all or a portion of the hot water needs of a residential or commercial building.

2. New Construction Shall be Built Solar Ready

All new construction shall be built to accommodate the installation of a solar energy system and solar hot water heater in accordance with regulations adopted by the Department and in accordance with the following sections.

3. Solar Energy System Readiness Standards

- A. The Department shall promulgate regulations by [date] that establish minimum standards that must be met for new construction to accommodate a solar energy system.
- B. In drafting the regulations, the Department shall take into account existing building code requirements and compliance costs. The Department shall also consult with

scientists, engineers, professional societies, and government agencies with relevant expertise in solar energy systems and building construction.

C. At a minimum, the Department shall include requirements for:

- i. Static load roof strength, with a requirement that roofing where solar equipment could be placed be capable of supporting a minimum of 6 lb/ft²;
- ii. Placement of non-solar related rooftop equipment, taking into account positioning that avoids shading of solar equipment and maximization of continuous roof space;
- iii. Sizing and/or provision of extra electrical panels to accommodate addition of an appropriately sized future solar energy system; and
- iv. Provision of space for a solar energy system DC-AC inverter in the utility room or on an outside wall.

D. The Department shall also consider including requirements for:

- i. Roof orientation and angle;
- ii. Roof types that are compatible with a solar installation mounting strategy that will require minimal or no roof penetrations; and
- iii. A conduit for wiring from roof to electric panel.

E. To the extent necessary, the Department shall promulgate separate standards for residential and commercial construction.

4. Solar Hot Water Heater Readiness Standards

A. The Department shall promulgate regulations by [date] that establish minimum standards that must be met for new construction to accommodate a solar hot water heater.

B. In drafting the regulations, the Department shall take into account existing building code requirements and compliance costs. The Department shall also consult with scientists, engineers, professional societies, and government agencies with relevant expertise in solar hot water heating and building construction.

C. At a minimum, the Department shall include requirements for:

- i. Roof strength, with a requirement that roofing where solar hot water heating equipment could be placed be capable of supporting a minimum of 6 lb/ft²;
- ii. Placement of non-solar-related rooftop equipment, taking into account positioning that avoids shading of solar equipment and maximization of continuous roof space;
- iii. Provision of sufficient free space in utility rooms for solar hot water equipment at a minimum of one times the space required for the conventional water heating equipment;

- iv. Plumbing that will allow solar hot water piping to be attached to a conventional system without requiring the building water system to be de-pressurized;
 - v. Plan hot water distribution systems to accommodate SHW system integration;
 - vi. On-demand water heaters that can operate in conjunction with a SHW system or implement distributed domestic hot water tanks that are capable of being integrated with a SHW system; and
 - vii. Roof types that are compatible with a solar installation mounting strategy that will require minimal or no roof penetrations.
- D. The Department shall also consider including requirements for:
- i. Plumbing installed from the utility room to the roof of the building and
 - ii. Metering of hot water load in commercial buildings.
- E. To the extent necessary, the Department shall promulgate separate standards for residential and commercial construction.

5. Exemptions

- A. Developers may seek an exemption from [building code official or the Department] from the solar system and/or solar hot water heater readiness requirements upon a sufficient showing that:
- i. Accommodation of a solar energy system and/or a solar hot water heater would be impractical due to poor solar resources at a site of new construction;
 - ii. A substitute renewable energy system will be installed at the time of new construction; or
 - iii. A substitute renewable hot water system will be installed at the time of new construction.
- B. The Department shall issue regulations that define what constitutes a sufficiently poor solar resource such that a building should be exempted. The Department shall also consider publishing a list of acceptable software tools that can be utilized to determine the available solar resources for a building
- C. The Department shall publish regulations by [date] that clearly define the process for seeking an exemption.

6. Availability of Incentives

Compliance with the provisions of this [Act] shall not impair a pre-existing building's eligibility for any incentives, rebates, credits, or other programs in existence to encourage development of renewable resources.

7. Enforcement

A building permit for new construction may not be granted without a showing that the building complies with the requirements of this [Act].

ADOPTED BY THE
MAYOR AND COUNCIL

ORDINANCE NO. 10549

RELATING TO BUILDINGS AND CONSTRUCTION: REQUIRING NEW SINGLE FAMILY AND DUPLEX RESIDENTIAL DWELLING UNITS TO PROVIDE FOR FUTURE INSTALLATION OF SOLAR ENERGY DEVICES; ADOPTING APPLICABLE BUILDING CODES AND REGULATIONS, WITH LOCAL AMENDMENTS ADDING REQUIREMENTS RELATED TO SOLAR ENERGY; AND DECLARING AN EMERGENCY.

WHEREAS, it is the intent and purpose of the City of Tucson, known as the "Sunshine City" with approximately 360 days of sunshine a year, to promote the conservation of energy and natural resources, which is a legitimate and worthy function of the City. The provisions of this ordinance are intended to decrease dependence upon nonrenewable energy sources by encouraging and, in some instances, requiring the installation of devices, structures, or materials for the conservation of energy on certain structures within the City; and

WHEREAS, the City of Tucson has been chosen as a 2007 Solar America City by the Department of Energy in recognition of Tucson's history of many years of solar energy development experience and as part of the Solar America Cities grant and the Tucson Solar Initiative is to increase solar installations in the City; and

WHEREAS, the City of Tucson has mandated that city staff follow the U.S. Mayor's Climate Protection Agreement of the United Nations Urban Environmental Accords and the Kyoto Accords as guidelines when developing city policy and to reduce the consumption of fossil fuels by 2030; and

WHEREAS, a solar water heating system offsets approximately 3000 kilowatt hours (kwh) per year, preventing 5760 pounds of Carbon Dioxide (CO₂), 11 pounds of Nitrogen Oxides (NO_x), 19 pounds of Sulfur Dioxide (SO₂) being produced which results in a reduction of greenhouse gases, acid rain, and smog, and 1500 gallons of water (H₂O) from being consumed;

NOW, THEREFORE, BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE CITY OF TUCSON, ARIZONA, AS FOLLOWS:

SECTION 1. That this ordinance shall be known and referred to as the "Residential Solar Readiness Ordinance."

SECTION 2. The Director of Development Services is authorized to adopt appropriate rules, regulations, and Development Standards necessary to implement the provisions of Sections 3 and 4.

SECTION 3. All new single family and duplex residential dwelling units shall include an acceptable method to allow for later installation of a system which utilizes solar energy as the primary means of heating domestic potable water. This section shall become effective upon approval of the new standards.

SECTION 4. All new single family and duplex residential dwelling units shall include an acceptable method to allow for later installation of a system which utilizes solar energy as a means of providing electrical power. This section shall become effective upon approval of the new standards.

SECTION 5. The requirements of this ordinance may be modified or waived when it can be satisfactorily demonstrated to the Building Official that compliance with these regulations is impractical due to such issues as shading, building orientation, construction constraints, or configuration of the parcel.

SECTION 6. If any of the provisions of this ordinance or the application thereof to any person or circumstance is invalid, the invalidity shall not affect other provisions or applications of this ordinance which may give effect without the invalid provision or circumstance, and to the end the provisions of this ordinance are severable.

SECTION 7. The various City officers and employees are authorized and directed to perform all acts necessary or desirable to give effect to this ordinance, including, but not limited to, providing an instructional pamphlet setting forth in plain language the requirements of this ordinance.

SECTION 8. WHEREAS, it is necessary for the preservation of the peace, health and safety of the City of Tucson that this ordinance becomes immediately effective, an emergency is hereby declared to exist and this ordinance shall be effective immediately upon its passage and adoption.

PASSED, ADOPTED AND APPROVED BY THE MAYOR AND COUNCIL
OF THE CITY OF TUCSON, ARIZONA, _____.

ATTEST:

MAYOR

CITY CLERK

APPROVED TO FORM:



CITY ATTORNEY

REVIEWED BY:



CITY MANAGER

LK LK/kr
5/29/2008 9:32 AM

Appendix C: Sample Building Performance Standard Bylaws

Appendix 2 | A sampling of the possible amenities within the Minneapolis Alternative Amenity Standard

Points	Amenity	Standards
10	Green roof	Installation of an extensive, intensive, semi-intensive, modular or integrated green roof system that covers a minimum of fifty (50) percent of the total roof area proposed for the development.
10	Leadership in Energy and Environmental Design (LEED)	The proposed development shall meet the minimum standards for LEED Silver certification. The project does not have to achieve actual LEED certification; however, the developer must submit the LEED checklist and documentation to the City, approved by a LEED Accredited Professional (LEED-AP), that shows that the project will comply with LEED Silver requirements.
10	Minnesota Sustainable Building Guidelines (B3-MSBG)	The proposed development shall meet the minimum required and recommended MSBG standards that would equal a LEED silver certification. The developer must submit documentation to the City including the MSBG checklist and a letter, signed by the owner or a licensed design professional, that shows that the project will comply with MSBG required and recommended standards equivalent to a LEED Silver certification. The recommended standards utilized should be those that most closely align with City sustainability goals.
5	Garden(s) or on-site food production	Permanent and viable growing space and/or facilities such as a greenhouse or a garden conservatory at a minimum of sixty (60) square feet per dwelling unit to a maximum required area of five thousand (5,000) square feet, which provide fencing, watering systems, soil, secured storage space for tools, solar access, and pedestrian access as applicable. The facility shall be designed to be architecturally compatible with the development and to minimize the visibility of mechanical equipment.
5	On-site renewable energy	Use of a photovoltaic or wind electrical system, solar thermal system and/or a geothermal heating and cooling system for at least seven (7) percent of the annual energy costs in new and existing buildings. Geothermal systems shall not use vapor compression systems. The applicant must demonstrate that the quantity of energy generated by the renewable energy system(s) meets the required percentage through a whole building energy simulation.
3	Living wall system	Provide a living wall system on at least one (1) building elevation. The living wall shall be composed of panels that total a minimum of sixty (60) percent of the wall area on the building elevation, or five hundred (500) square feet, whichever is greater. Window area is included in the calculation of the wall area, but in no case shall the living wall cover windows. A portion of the plantings shall provide greenery year round.
3	Natural features	Site planning that preserves significant natural features or restores ecological functions of a previously damaged natural environment.
1	Enhanced stormwater management	Provide capacity for infiltrating stormwater generated onsite with artful rain garden design that serves as a visible amenity. Rain garden designs shall be visually compatible with the form and function of the space and shall include for long-term maintenance of the design. The design shall conform to requirements of the stormwater management plan approved by public works.
1	Heated drives or sidewalks	Heated drives or sidewalks that are designed to provide snow and ice free surfaces.

VILLE DE MONTRÉAL BY-LAW

21-042

MISE EN GARDE : Ce document est une traduction administrative du Règlement sur la divulgation et la cotation des émissions de gaz à effet de serre des grands bâtiments. Le présent document n'a pas de valeur juridique.

DISCLAIMER: This document is an administrative translation of the by-law titled "Règlement sur la divulgation et la cotation des émissions de gaz à effet de serre des grands bâtiments". This translation has no legal authority.

BY-LAW CONCERNING GREENHOUSE GAS EMISSION DISCLOSURES AND RATINGS OF LARGE BUILDINGS

In view of articles 4, 6, 19 and 85 of the Municipal Powers Act (CQLR, chapter C-47.1); In view of articles 369 and 411 of the Cities and Towns Act (CQLR, chapter C-19);

In view of article 47 of schedule C to the Charter of Ville de Montréal (CQLR, chapter C-11.4);

In view of the 2020-2030 Climate Plan adopted by city council on December 14, 2020 (CM20 1232);

At its meeting of September 27, 2021, city council enacts:

SECTION I

PURPOSE

1. The purpose of this by-law is to establish a procedure for the disclosure, by owners of large buildings, of the greenhouse gas emissions generated by their building's energy consumption, in order to improve the city's knowledge of these emissions, to compare them, in particular by assigning a rating, and to allow the city to develop measures to reduce them.

SECTION II

INTERPRETATION

2. For the purposes of this by-law, the following words and expressions have the following meaning:

"authority having jurisdiction" means the director of the Bureau de la transition écologique et de la résilience, the director's authorized representative, or any city official responsible for the enforcement of this by-law;

“building” means a physical structure enclosed by a roof and walls, to the extent that it consumes energy;

21-042/1

“district heating network” means a collective thermal energy production and distribution facility located in a centralized location for the purpose of heating, cooling or hot water production intended to be supplied to multiple buildings;

“dwelling” means a room or suite of rooms used or intended to be used as a domicile by one or more persons and containing plumbing fixtures and spaces for cooking, eating and sleeping;

“floor area” means the sum of the floor area in square metres measured between the outer cladding of the exterior walls of the building, including all common areas, but excluding the area of interior parking spaces, any exterior or not completely enclosed space and crawl spaces. For the purposes of this interpretation, in the case of a semi-detached or contiguous building, the property line is deemed the exterior wall;

“GHG emissions” means the greenhouse gases composed of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) released into the atmosphere that are attributable to the building’s energy consumption, including direct emissions from on-site fuel combustion and indirect emissions from the consumption of electricity, steam, hot water or chilled water from a distribution system.

For the purposes of this interpretation, emissions from an industrial process and hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃) are not considered GHG emissions;

“owner” means any natural or legal person, partnership or, in the case of a divided co-ownership, any syndicate of co-owners that holds all or part of the property rights in a building;

“building use type” means the use of the building or part of the building among those listed in the table found in schedule A to this by-law.

SECTION III APPLICATION

3. This by-law applies to the following buildings:

(1) as of January 1, 2022:

- (a) any building with a floor area of 15,000 m² or more that does not exclusively contain dwellings;
- (b) any building of 2,000 m² or more owned by the city; 21-042/2

(2) as of January 1, 2023:

- (a) any building with a floor area of 5,000 m² or more; (b) any building containing 50 or more dwellings;

(3) as of January 1, 2024:

- (a) any building with a floor area of 2,000 m² or more;
- (b) any building containing 25 or more dwellings;
- (c) any other building determined by executive committee ordinance.

Notwithstanding the first paragraph, a building included in an assessment unit whose predominant use as listed on the property assessment roll includes an industry is not subject to this by-law.

SECTION IV OBLIGATIONS

SUBSECTION 1 DISCLOSURE

4. The owner of a building subject to this by-law must, no later than June 30 of each year, disclose to the authority having jurisdiction the information set out in schedule A to this by-law relating to the building's GHG emissions resulting from the building's energy consumption during the period from January 1 to December 31 of the preceding year.

5. Where an owner possesses more than one building subject to this by-law, each building must be declared separately, except in the case where several buildings are connected to the same electricity, natural gas or any other energy source meter, in which case they may be the subject of a single declaration.

6. Notwithstanding article 4, an owner is not required to disclose to the authority having jurisdiction the energy consumption of a building occupied in whole or in part by a business, facility or establishment subject to section 6.1 of the Regulation respecting mandatory reporting of certain emissions of contaminants into the atmosphere (CQLR, chapter Q-2, r. 15).

7. When a building changes ownership during a year, the disclosure required under article 4 for the current year must be filed by the new owner.

8. The disclosure of the information set out in schedule A and required by article 4 of this by-law must be made in accordance with schedule B.

21-042/3

SUBSECTION 2

RATING

9. On the basis of the information disclosed by the owner, the authority having jurisdiction annually assigns a GHG emission performance rating to each subject building in accordance with the methodology set out in this by-law.

Once the rating has been determined, the authority having jurisdiction sends to each owner the rating resulting from their latest declaration.

10. Not later than 30 days following the date on which the rating is sent by the authority having jurisdiction, the owner of a subject building that has received a rating under article 9 must post the rating in accordance with the posting standards set out in this by-law.

11. For each building subject to this by-law, the city publishes on its website: (1) the building's address;
(2) the rating assigned by the city to the building.

SECTION V

INSPECTION AND VERIFICATION OF INFORMATION

12. Upon presentation of identification, the authority having jurisdiction may, for the purposes of enforcing this by-law, visit, examine, take measurements and take photographs of any building subject to this by-law.

13. Every person must allow the authority having jurisdiction to enter onto an immovable or into a building without interfering with the performance of the latter's duties.

14. The authority having jurisdiction may, for the purposes of the application of any provision of this by-law, require by written notice any document allowing it to verify the accuracy of the information provided by the owner.

The owner of a subject building must keep, for five years after the declaration, any document that confirms information provided under this by-law.

Any document referred to in the notice sent by the authority having jurisdiction must be provided within 60 days of the date the notice is sent.

21-042/4

SECTION VI PENAL PROVISIONS

15. Every person who contravenes this by-law commits an offence and is liable:

(1) in the case of a natural person:

- (a) for a first offence, to a fine of \$500;
- (b) for a second offence, to a fine of \$1,000;
- (c) for each additional offence, to a fine of \$2,000;

(2) In the case of a legal person:

- (a) for a first offence, to a fine of \$1,000;
- (b) for a second offence, to a fine of \$2,000;
- (c) for each additional offence, a fine of \$4,000.

SECTION VII ORDINANCES

16. The executive committee may, by ordinance:

- (1) amend the interpretations in article 2;
- (2) amend the list of subject buildings under article 3 and the date from which they are subject to the by-law;
- (3) amend the information set out in schedule A that must be disclosed;
- (4) amend the disclosure procedures set out in schedule B;
- (5) provide for the calculation method referred to in article 9 of the this by-law;
- (6) provide for the standards for the posting of the rating referred to in article 10 of this by-law.

21-042/5

SCHEDULE A INFORMATION TO BE DISCLOSED

SCHEDULE B DISCLOSURE PROCEDURES

City of Vancouver, *Annual Greenhouse Gas and Energy Limits By-Law No. 13472* (July 20, 2022)

<https://bylaws.vancouver.ca/consolidated/13472.PDF>