REPORT FOR ACTION

Zoning for Low-Carbon Technologies - Final Report

Date: May 26, 2026
To: Planning and Housing Committee
From: Chief Planner and Executive Director, City Planning
Ward: All

SUMMARY

Zoning for Low-Carbon Technologies is a review of Zoning By-law 569-2013 with a focus on climate action and enabling low-carbon technologies. The recommended zoning changes provide an opportunity to modernize the City-wide Zoning By-law to support the implementation of the Official Plan, Toronto's climate strategy, TransformTO, and contribute towards the City's goal of net zero greenhouse gas emissions by 2040.

This study seeks to facilitate climate action across the city and make it easier for residents and businesses to retrofit buildings, switch to heat pumps, generate more renewable energy, and charge electric vehicles (EVs). This report recommends zoning amendments to facilitate the adoption of low-carbon technologies, such as heat pumps, energy storage systems, and solar energy devices on lands regulated under the Residential Zone category. This report also recommends permissions to facilitate building energy retrofits and introduce new opportunities to introduce EV charging stations and solar energy devices into surface parking areas across all zones.

The recommended amendments have been developed in consultation with relevant City divisions and industry experts. They also consider industry best practices, recent development trends, and the City's climate strategy. They are consistent with the Provincial Planning Statement, 2024 and conform with the Official Plan.

This study is divided into two phases. Phase 2 will consider zoning amendments to enable low-carbon technologies within all zones across Toronto and is expected to advance in Q3 2027.

RECOMMENDATIONS

The Chief Planner and Executive Director, City Planning, recommends that:

1. City Council amend Zoning By-law 569-2013, as amended, substantially in accordance with the proposed Zoning By-law Amendment appended as Attachment 1 to this report.

2. City Council request staff report back with final recommendations on the second phase of work by the third quarter of 2027.

3. City Council authorize the City Solicitor to make such stylistic and technical changes to Zoning By-law 569-2013, as may be required.

FINANCIAL IMPACT

There are no financial implications resulting from the recommendations included in this report in the current budget year or in future years.

EQUITY IMPACT

Energy-related expenses such as fuel and electricity continue to rise, while people are increasingly investing in renewable technologies more than ever before. To respond to the pressures of climate change, industries and individuals are also being encouraged to make the switch to technologies that rely less on fossil fuels.

The City of Toronto's climate change strategies support the reduction of reliance on fossil fuel-generated energy, enhancing Torontonians' use of renewable energy resources, promoting more efficient and effective technologies, and bolstering the stability of the electricity grid. Appropriate zoning regulations to increase opportunities for use of these technologies may result in benefits including savings on energy bills, emissions reductions, and the opportunity for economic development and job growth. These advantages can lead to improved equity, economic prosperity, and community resilience in Toronto.

CLIMATE IMPACT

In 2019, City Council declared a climate emergency for the purpose of "naming, framing and deepening our commitment to protecting our economy, our ecosystems and our community from climate change" (Item MM10.3).

The Official Plan recognizes the role of renewable energy and low-carbon technologies to address the climate emergency and in reaching the City’s goal, as set out in TransformTO, of net zero greenhouse gas emissions by 2040. Effective planning and zoning regulations can help facilitate the widespread adoption of low-carbon technologies, including solar panels, energy storage, and heat pumps, that aid in reducing greenhouse gas emissions and mitigate negative impacts on the electricity grid. Simplifying the process to install low-carbon heating and cooling systems is a tangible and effective way of supporting the decarbonization of a building's operational system.

In addition to greenhouse gas mitigation, low-carbon technologies, specifically solar and energy storage, will help Toronto become more resilient to the impacts of climate change, such as power outages.

DECISION HISTORY

On July 14, 2021, City Council adopted – “Net Zero Existing Buildings Strategy” (2021.IE23.1). In adopting the report, City Council endorsed the Net Zero Existing Buildings Strategy and provided direction on short term implementation goals including increasing the amount of building retrofits across the City.
https://secure.toronto.ca/council/agenda-item.do?item=2021.IE23.1

On December 15, 2021, City Council adopted the report, "TransformTO - Critical Steps for Net Zero by 2040". In adopting the report, City Council endorsed the TransformTO Net Zero Strategy on climate, including the TransformTO Short-Term Implementation Plan 2022-2025. City Council adopted the community-wide target of net zero greenhouse gas emissions by 2040 and interim targets.
https://secure.toronto.ca/council/agenda-item.do?item=2021.IE26.16

On December 13th, 2023, City Council adopted IE9.7, "Update: City Renewable Energy Programs", and directed the Executive Director, Environment and Climate to continue to work with Toronto Hydro to accelerate efforts to streamline the grid interconnection process for solar and storage projects. It also directed staff to explore opportunities to remove zoning barriers to solar, storage or heat pumps.
https://secure.toronto.ca/council/agenda-item.do?item=2023.IE9.7

On September 26, 2024, City Council adopted PH15.4, "Review of Zoning Regulations for Solar Panels, Heat Pumps, and Energy Storage Devices - Preliminary Report", and directed the Chief Planner and Executive Director, City Planning to "identify whether there are zoning barriers, and make appropriate recommendations for zoning by-law amendments, regarding" low-carbon technologies.
https://secure.toronto.ca/council/agenda-item.do?item=2024.PH15.4

On April 22 and 23, 2026, City Council adopted IE28.4, "The Electrification Advantage" and directed the Executive Director, Environment, Climate and Forestry, and the Chief Planner and Executive Director, City Planning, to continue reviewing zoning and other municipal obstacles to energy conservation and to distributed energy resources, and to report back with recommendations to the appropriate committee in 2027.
https://secure.toronto.ca/council/agenda-item.do?item=2026.IE28.4

BACKGROUND

The TransformTO Net Zero Strategy includes a set of goals and short-term actions to outline a pathway to achieve net zero emissions in the city by 2040 while improving health, encouraging economic growth, improving social equity, and increasing climate resilience. Since 2021, when City Council adopted the TransformTO Net Zero Strategy (NZS), along with an ambitious target of net zero greenhouse gas (GHG) emissions by 2040 community-wide, the City's approach to reducing the impacts of climate change have included a number of innovative ways to reduce greenhouse gas emissions. Achieving net zero emissions means that greenhouse gas emissions are reduced to as close to zero as possible, with any remaining emissions to be offset through removing carbon from the atmosphere.

The latest actions in Toronto's NZS Action Plan (2026-30) are designed to benefit Torontonians by contributing to climate resilience, considering affordability and opportunities for economic prosperity, improving health and leading to more equitable outcomes. This report's proposed recommendations implement some of the actions outlined in the NZS Action Plan, specifically those related to building decarbonization, increasing renewable energy generation, and increasing low-carbon transportation options.

One way to achieve these goals is through the widespread adoption of low-carbon technologies that are able to generate renewable energy, store energy for use at a later time or electrify a building's heating and cooling needs. A system-wide shift from fossil fuels to low-carbon energy systems, regardless of the scale of development, is necessary to decarbonize Toronto's emissions. This transition requires support from all levels of government.

This study reviewed the following low-carbon technologies, as they are directly or indirectly regulated by the city-wide Zoning By-law, for opportunities to facilitate their adoption across the city.

Heating, Ventilation and Air Conditioning Devices

More than half of all greenhouse gas emissions in Toronto are generated from buildings across the city. The emissions come primarily from burning fossil fuels, like natural gas, that power furnaces and water heaters.

Unlike traditional fossil fuel furnaces, electric heat pumps run on electricity and are an efficient way of providing year-round heating and cooling to a building. They rely on a similar technology to a traditional air conditioner; however, a single heat pump is able to both heat and cool, allowing consumers to install one device to fulfil both functions instead of separate heating and cooling systems. Heat pumps can be installed in new or existing buildings as either ground-mounted or wall mounted units. As heat pump technology evolves and their efficiency in cold temperatures improves, their use has become increasingly popular in Toronto.

The City of Toronto recognizes the significant role that heat pumps will play in reducing emissions city-wide. Depending on whether they are paired with additional electrified devices, a reduction of between 70 to 95 percent of greenhouse gas emissions can be achieved over traditional furnaces. While heat pumps can draw thermal energy from the ground, water, or air sources, this study only considered air-source heat pump technology because of its prevalence to the study's context of low rise residential zones. The City oversees several programs that encourage and incentivize home owners to install heat pumps, such as the Home Energy Loan Program (HELP) and the Furnace Upgrade Program.

Over-cladding Insulation

An additional way to reduce the amount of energy that a building uses is to improve the thermal performance of its walls and roof. Over-cladding is a form of external insulation that can be added to a building to increase its thermal performance to make it more

energy efficient. Insulation upgrades, such as over-cladding, reduce a building's overall demand for heating and cooling and therefore its overall energy consumption. The thickness of over-cladding varies depending on the material and the scale of the building.

Energy Storage Systems

Energy Storage Systems (ESS) store electricity and discharge it when needed to support a range of applications. ESS can be deployed at multiple scales, from residential and commercial buildings to utility-scale installations. These systems help balance supply and demand, reduce peak loads, and can defer or avoid the need for grid infrastructure upgrades. ESS may be installed in front of the meter (as part of the electricity distribution system) or behind the meter (as part of a customer's on-site energy system). When paired with a renewable energy generation system, such as solar panels, ESS allow the renewable energy to be stored and used at a later time. Standalone ESS are becoming more popular because of their ability to charge during periods when electricity is cheaper and to deploy the energy for use during peak hours when electricity would be more expensive.

While different systems can have different core compositions, most residential-scale ESS contain a lithium-ion battery. The lithium-ion battery, along with other internal components, is typically stored in a protective cabinet, with a residentially-scaled system measuring between 0.6 and 1.2 metres in height and between 0.5 and 0.75 metres in width. ESS emit a subtle noise that is less than, or comparable to, other outdoor mechanical devices, such as air conditioners. Recent technological improvements now allow many ESS devices to be located outdoors year-round and withstand the cold weather.

Solar Panels

Solar panels collect energy produced by the sun to produce electrical energy. Once converted, solar energy can be used on-site, stored in an ESS, or fed into the electrical grid. The use of solar panels has increased substantially over the last decade with the introduction of new technology, increased availability, and decreased costs. Solar panel systems can be mounted flush to a building or structure or installed as ground-mounted systems. Their form and scale can vary depending on solar access, orientation of available rooftop or ground space, and the desired size of the overall system. All of these locational considerations inform the extent to which a solar system can maximize renewable energy generation and accommodate different solar access circumstances.

The City of Toronto recognizes the important role of solar energy as a source of low-carbon electricity. Toronto's SolarTO program provides information and resources to residents on the process of installing solar panels on buildings and an interactive map that provides information on how suitable their buildings would be for solar panels.

Solar Parking Canopies

Solar parking canopies are a configuration of solar panels that sit on a structure located above a surface parking area. Solar parking canopies unlock the opportunity to use the

existing underutilized space above parking areas to generate clean, renewable electricity and reduce the overall power demand on the electrical system. By shading large paved surfaces, solar parking canopies contribute to lower surface temperatures and mitigate the urban heat island effect. Solar parking canopies have been embraced in other cities in Canada and abroad, but are less common in Toronto.

Electric Vehicle Infrastructure

Transportation accounts for the second largest source of greenhouse gas emissions in Toronto. Switching from fossil fuel-powered vehicles to electric vehicles is important for meeting the City's 2040 net zero goal. To support this transition, the City, along with individual property owners, are adding to the network of publicly accessible electric vehicle charging infrastructure across Toronto so that EV drivers can charge their vehicles in more places. Unlike Level 2 chargers, higher-voltage direct current (DC) fast-charging systems connect to a specialized outlet that charge vehicles at a faster rate. Today, DC fast-charging systems can be found across the city, including at certain gas stations and public parking facilities, public spaces and institutions, and at commercial plazas and malls.

POLICY & REGULATION CONSIDERATIONS

Provincial Legislation and Regulations Related to Energy

The *Electricity Act, 1998* establishes a system for energy planning, ensuring the sustainability of Ontario's electricity supply, promoting energy conservation, and supporting the use of alternative and renewable energy sources. For years, the *Electricity Act* complemented the *Green Energy Act, 2009* to promote renewable energy projects and the expansion of energy conservation efforts. Notably, the *Green Energy Act, 2009* exempted renewable energy projects from zoning by-laws to remove barriers to siting these projects. Following the repeal of the *Green Energy Act* in 2018, energy efficiency initiatives were re-introduced into the *Electricity Act*, through O. Reg 508/18.

The Ontario Electrical Safety Code (OESC) is the province-wide standard for electrical installations, products, and equipment in Ontario. The OESC includes requirements for location, capacity limit, separations, installation, working space, labeling, and industry standard certification. The code mandates that any ESS device over 1 kilowatt-hour must meet its requirements. A key requirement for many electrical devices is a 1.0 metre clearance from any obstructions. The regulation is intended to allow for adequate space for maintenance. The OESC is updated regularly to reflect changes in technologies and best practices.

Planning Act

Section 2 of the *Planning Act* establishes matters of provincial interest to which the City shall have regard to in carrying out its planning responsibilities. These include: the supply, efficient use and conservation of energy and water; the orderly development of safe and healthy communities; protection of public health and safety; promoting development that is designed to be sustainable; and mitigating greenhouse gas emissions and adapting to a changing climate.

Provincial Planning Statement, 2024

On October 20, 2024, the Provincial Planning Statement (2024) ("PPS") came into effect and combined the Provincial Policy Statement (2020) and the Growth Plan (2020) into a single policy document. All decisions of Council in respect of the exercise of any authority that affects a planning matter shall be consistent with the PPS and shall conform to provincial plans, including the Greenbelt Plan (2017) and others.

The PPS provides policy direction province-wide on land use planning and development. The PPS addresses building homes while sustaining strong and competitive communities, making wise use of and managing resources, and protecting public health and safety. More specifically, the PPS includes policies that direct planning authorities to:

- plan to reduce greenhouse gas emissions and prepare for the impacts of a changing climate through approaches that support energy conservation and efficiency and promote green infrastructure, low impact development, and active transportation, along with any additional approaches, that protect the environment and improve air quality; and

- provide opportunities for the development of energy supply including electricity generation facilities and transmission and distribution systems, energy storage systems, district energy, renewable energy systems, and alternative energy systems, to accommodate current and projected needs.

City of Toronto Official Plan

The City's Official Plan contains policies and objectives for land use in Toronto, including built form, the public realm, and environmental considerations. The following parts of the Official Plan support the work of this study to enable more widespread adoption of low-carbon technologies:

- In Chapter 1, the City states its commitment to using planning as a tool to achieve net zero emissions, applying a climate change lens to all aspects of planning, and becoming resilient and adaptable to the future impacts of a changing climate.

- Policy 3.4.1(c) states that public and private city-building activities will be environmentally friendly, sustainable, low-carbon, and resilient to climate change by reducing energy consumption and greenhouse gas emissions; and reducing reliance on carbon-based fossil fuels for energy.

- Policy 3.4.19(d) supports and encourages innovative energy producing options, sustainable design, construction practices, and green industry in new development and building renovations. This is supported and encouraged through advanced energy conservation and efficiency technologies and processes that contribute towards an energy-neutral built environment, including:

    - establishing and extending district heating and cooling facilities and connections;
    - renewable energy systems including wind and solar power;

- small local integrated energy solutions such as combined heat and power and energy storage;
- active and passive design measures that conserve energy and reduce peak demand; and
- back-up power systems to improve resiliency to power interruptions.

- Policy 3.4.20 states that "development, redevelopment and infrastructure that will assist in achieving green house gas emissions reductions, consistent with international, national and municipal targets will be encouraged".

Official Plan Amendment 583 was adopted by City Council on June 15, 2022 through PH34.1 and was approved by the Ministry of Municipal Affairs and Housing in September of 2025. This amendment included updates to policies requiring assessments for opportunities to achieve net zero development, low-carbon energy solutions and local electricity production and storage. It also encourages the use of zero and low-emissions vehicles.

City-wide Zoning By-law 569-2013

On May 9, 2013, City Council enacted Zoning By-law 569-2013. The Zoning By-law harmonized 43 former municipal by-laws from the pre-amalgamated city into a single comprehensive zoning by-law that regulates all land uses, buildings, and structures. As some lands are not covered by the City-wide Zoning By-law, the zoning by-laws from former municipalities remain in effect on some lands in the city.

The Zoning By-law regulates low-carbon technologies in varied and often generalized ways:

- The Zoning By-law does not have specific rules for heat pumps, only air conditioners. As a result, heat pumps and air conditioners are treated the same and the regulations are restrictive on where these units can be located on a lot. For example, these types of devices cannot be located within the first six metres of a front yard, which is not possible in many front yards in Toronto, especially on smaller lots.

- Energy storage systems (ESS) are neither defined nor directly regulated with clear rules for their use. If an energy storage device is proposed, it could be interpreted as wall-mounted utility equipment or equipment needed for the functional operation of a building, both of which have different rules under the City-wide Zoning By-law. As a result, there is a lack of clarity regarding how ESS should be assessed, where they may be located on a lot, and which zoning regulations apply during development review and permit processing. As this type of technology becomes more common in Toronto, and residents opt for clean energy, it is important that the regulations for this technology are updated to ensure best practices are followed.

- The Zoning By-law has some existing provisions regarding roof- and ground-mounted solar energy devices; however, the regulations reference outdated provincial legislation. Provincial legislation includes a regulatory exemption for

certain renewable energy installations by the Province of Ontario. The provincial exemption was introduced by the *Green Energy Act, 2009* and upon the repeal of the *Green Energy Act* in 2019 were re-introduced through Ontario Regulation 508/18 into the *Electricity Act*. The provincial exemption outlines that certain renewable energy projects, including building-mounted solar panels, that are compliant with the Ontario Building Code and other provincial legislation, are exempt from zoning by-laws and other municipal by-laws.

- Solar parking canopies are not directly regulated in the Zoning By-law. Certain provisions prohibit solar energy installations within yards that abut a street which prohibits large parking lots from installing these types of systems.

- The Zoning By-law allows over-cladding to be added to a building in Residential zones; however, the permitted amount may not be sufficient for some types of exterior insulation used for deep retrofits. In some zones, such as the Employment Industrial Zone category, there is no existing allowance for over-cladding to be added to the walls of a building, while other zones have recently been amended to permit over cladding (e.g. residential apartment zones). Over-cladding has also been interpreted to increase the gross floor area within a building which is an additional barrier to implementation.

With the increasing adoption and emergence of low-carbon technologies, amendments are needed to ensure the Zoning By-law regulates these technologies clearly, while removing unnecessary barriers to enable implementation. This report aims to address these gaps and provide regulatory clarity through amendments specific to each technology. This will seek to enable the uptake of low-carbon technologies in residential zones and zones across the city.

PUBLIC AND INDUSTRY ENGAGEMENT

Staff engaged with industry experts and members of the public through multiple engagement tools. A dedicated webpage was created on the City of Toronto website to provide information on the study and to advertise upcoming consultation events. This webpage will also support subsequent phases of work.

Two virtual community consultation meetings were held on March 2 and 5, 2026. In total, approximately 28 participants attended. Attendees included industry experts, development stakeholders, and interested members of the public. The meetings were comprised of presentations by staff and question and answer periods where attendees had the opportunity to ask questions about the study.

City staff also held four virtual workshops with industry stakeholders. In total, approximately 27 participants attended across all four events. Two workshops were held on January 29 and 30, 2025 and focused on heat pumps, energy storage systems, and solar panel systems. Following a period of further study and refinement, a second series of virtual industry stakeholder workshops were held on February 25 and 27, 2026 where the draft zoning approach was presented for comment and feedback. Feedback from the consultations included the following:

General Feedback

- The zoning framework should be future-proofed to accommodate emerging and evolving technologies.
- Any proposed zoning rules should be applied consistently across all residential building types.
- Industry stakeholders noted examples of inconsistent applications and interpretations of the current zoning rules.
- Wind energy proposals should be considered within the regulatory framework.
- The feasibility of retrofitting heat capture systems into wastewater pipes should be explored.

Feedback on Heating, Ventilation and Air Conditioning Devices

- An industry stakeholder noted concerns regarding ice accumulation beneath heat pump devices.
- Internal connections to mechanical devices can significantly affect decisions related to where devices are placed on a building.
- Some participants noted that heat pumps discharge air laterally and mitigation measures for this impact should be examined. Air diverters may be an effective solution for heat pump devices located close to property lines.
- Industry stakeholders recommended ensuring the zoning amendments capture window-mounted and plug-in balcony-mounted heating, ventilation and air conditioning devices.
- Concerns regarding noise from heating, ventilation and air conditioning devices. Some members of the public and industry stakeholders noted that side-yard installations, though at times preferrable, can result in excessive noise and vibration to adjacent properties.

Feedback on Over-Cladding Insulation

- Over-cladding is often difficult to implement in retrofit projects due to high costs and buildings that are already too close to adjacent property lines.
- Cladding systems that use solar installations should be considered building-mounted solar panels under the zoning by-law.
- Large, prefabricated cladding systems represent an emerging technology that may become more prevalent and the recommended amendments should help enable their uptake.

Feedback on Energy Storage Systems

- Some industry stakeholders recommended embedding compliance with other applicable safety codes into the recommended zoning amendment.
- Participants recommended removing any zoning setback requirements that implements provisions from the Ontario Electrical Safety Code (OESC). The zoning by-law and safety codes should operate independently, and neither one should duplicate the efforts of the other.

Feedback on Solar Energy Systems

- Ground-mounted solar panel systems should be sized to generate adequate power for the property they serve.
- The potential impact on access to sunlight where solar energy systems are installed.

Feedback on Solar Parking Canopies and Electric Vehicle Charging

- Consider allowing greater heights for solar parking canopies in non-residential zones to ensure taller vehicles, such as trucks and commercial vehicles, can pass under the canopies without concern.
- Clarification is needed to distinguish between electric vehicle charging stations and vehicle fuel stations to ensure they are not treated as the same use.
- Drive aisles should be given consideration when locating and designing solar canopies.

COMMENTS

Informed by research and engagement, including an international and local jurisdictional scan (see Attachment 2), staff recommend a number of zoning by-law amendments summarized in Attachment 1. The recommended amendments intend to facilitate climate actions across the city and enable the adoption of low-carbon technologies.

The recommended changes offer improved regulatory clarity, more precise and achievable standards, and introduce new opportunities for residents and businesses to retrofit buildings, switch to heat pumps, generate more renewable energy, and charge electric vehicles.

Heating, Ventilation and Air Conditioning Devices in Residential Zones

The proposed zoning amendments modernize and simplify regulations related to heating, ventilation and air conditioning devices, such as heat pumps and air conditioning units. The technologies that heat, ventilate, and cool buildings are currently regulated in the Zoning By-law as air conditioning units or mechanical devices for the functional operation of a building. The current zoning rules regarding the location of air conditioning units were brought forward into the Zoning By-law from the Zoning Code of the former City of Etobicoke prior to the widespread adoption of heat pumps. The regulations distinguish between two types of situations: building- and ground-mounted devices.

- Building-mounted devices are only permitted to encroach into a side or rear yard building setback a maximum of 0.9 metres, provided the device is no less than 0.3 metres from the property line.

- Ground-mounted devices are regulated as ancillary structures. They are permitted in a front yard subject to a 6.0 metre setback from the property line, or in a side yard subject with permission to encroach into the required minimum building setback the lesser of 0.9 metres or the minimum required setback. A

ground-mounted device located in a rear yard must be within 2.0 metres of the residential building.

The proposed zoning approach intends to establish a consistent and clear regulatory framework for heating, ventilation and air conditioning devices. This will improve ease of application and certainty for property owners and applicants wishing to install these devices. The changes only apply to the Residential Zone category. The recommended amendments propose changing current references from “air-conditioners” to “heating, ventilation and air conditioning devices." Doing so will ensure that the regulations apply broadly to all relevant equipment types, including heat pumps.

Through public consultation, concerns were raised regarding the potential noise impacts in circumstances where these devices are located in side yards, particularly on small, narrow lots. The proposed changes address these concerns by allowing devices to be located in a wider range of locations, reducing pressure to site equipment exclusively in side yards. For devices that do produce excessive noise, the City has an existing noise by-law chapter which establishes noise limits for stationary sources such as residential air conditioners, heat pumps, generators and fans, along with associated enforcement actions. Both ground- and building-mounted devices are proposed to be permitted in all yards. A universal encroachment permission of up to 0.9 metres into required minimum building setbacks would apply to all yards, provided the device is located at least 0.3 metres from a lot line. Accordingly, the current 6.0 metre front yard setback requirement for ground-mounted devices is recommended to be removed. Removing the front yard setback requirement for ground-mounted devices addresses situations where compliance is difficult or impractical, particularly for infill development and projects on narrow lots.

Building-mounted devices are proposed to be permitted on any storey of a building, with the exception that devices are prohibited above a pedestrian entrance. This recommendation is based on identified safety concerns, as many devices produce condensation that could create icy or wet surface conditions. Additionally, new regulations would expressly permit devices on platforms, such as decks and balconies. Allowing devices on platforms and above the first storey supports the installation of HVAC equipment in multi-unit residential buildings, including multiplexes, which are now permitted in all Residential zones. In addition, a maximum permitted height projection of 2.0 metres above the permitted maximum height of a building for building-mounted devices is proposed. These rules would also carry forward existing coverage and locational limits for roof-mounted devices in residential zones that intend to limit their visibility from ground-level.

The proposed changes also require ground-mounted devices to be located within 2.0 metres from any main wall or platform. This responds to practical challenges with existing rear yard provisions, particularly where decks occupy the rear main wall. This approach keeps equipment close to the dwelling, minimizing potential nuisance impacts on neighbouring properties.

Over-cladding Insulation for Building Retrofits

The recommended amendments permit additional building encroachments associated with exterior wall cladding upgrades. The amendments would increase the maximum permitted encroachment into required building setbacks to 0.3 metres in Residential Zones and 0.9 metres in all other zones. Currently, the Zoning By-law permits a 0.15 metre encroachment in Residential, Commercial Local, and Commercial Residential zones, and a 0.9 metre encroachment in the Residential Apartment Zones. The recommended encroachment standards build on Council's approval of By-law 647-2025 (Item PH22.5), which modernized encroachment permissions to support over-cladding and insultation retrofits for apartment buildings in the Residential (R) Zone, and Residential Apartment Zone category. The proposed encroachment permissions would apply to both existing buildings undergoing retrofits and additions to existing buildings, allowing additions to benefit from the same cladding allowances. This approach supports the creation of a continuous and consistent building envelope, avoids bridging at the interface between existing and new construction through additions, and improves overall building performance while maintaining a cohesive built form.

The proposed amendments are intended to facilitate building retrofits and new additions that improve thermal performance, reduce greenhouse gas emissions, and enhance long-term building resilience. By expanding encroachment permissions, the proposed amendments aim to remove zoning barriers that limit the feasibility of adding exterior insulation and high performance wall assemblies, particularly on constrained or built out sites.

Through consultation, industry stakeholders noted City staff inconsistently counted increases in wall thickness from exterior over-cladding as added gross floor area. The proposed amendments clarify that exterior wall cladding does not count towards an increase in gross floor area. This clarification is proposed because exterior cladding does not contribute to an increase in usable floor space.

Energy Storage Systems in Residential Zones

ESS are not currently defined or regulated by the Zoning By-law. Consumer adoption of the technology at residential scales is relatively recent.

The proposed zoning amendments introduce a new term for Energy Storage Systems, defined as "a stationary, rechargeable system that captures energy produced at one time for use at a later time, and which may discharge energy to one or more uses on the same lot and/or to the electricity distribution grid."

New regulations for ESS align with and modestly expand existing zoning permissions for utility equipment. Currently, in Residential zones, the Zoning By-law regulates building-mounted ESS as "utility equipment". Along with vents and pipes, utility equipment is permitted to encroach into a rear or side yard building setback a maximum of 0.6 metres, provided the equipment is at least 0.3 metres from the property line. The proposed regulations would permit ESS to be located within all yards, with the introduction of a front yard encroachment up to 0.6 metres, provided the equipment is located a minimum of 0.3 metres from any property line. This encroachment allowance is considered sufficient to accommodate the footprint of existing energy storage

technologies, which are generally compact in scale and are unlikely to be more than 0.6 metres in depth.

Introducing greater precision and clarity through a defined term and aligning energy storage permissions with the current rules for utility equipment ensures a consistent and predictable regulatory framework that supports the integration of this emerging technology within residential neighbourhoods. Moreover, greater flexibility and additional siting opportunities for ESS helps ensure the proposed zoning regulations do not duplicate the standards in the OESC or over-regulate ESS.

As noted above, the OESC is the most significant regulatory document for safety requirements for ESS devices.

Solar Energy Systems in Residential Zones

Solar energy systems are typically regulated as either building- or ground-mounted systems, with different standards applied to each. In the Residential Zone category, no changes are proposed to the zoning performance standards for building-mounted solar panel systems. These systems will continue to be permitted through zoning; however, as noted above, the *Electricity Act* carries forward the *Green Energy Act* exemption, which makes inoperative the applicable municipal or zoning regulations on building-mounted solar energy systems that comply with the Ontario Building Code and other provincial requirements. Legislative references in the Zoning By-law will be updated to replace references to the former *Green Energy Act* with appropriate and up-to-date references to the *Electricity Act*.

Under the current and proposed zoning framework in the Residential Zone category, ground-mounted solar panel systems are only permitted in the side and rear yard, with restrictions on the placement of these systems in front yards or yards abutting a street. Unlike building-mounted systems, ground-mounted systems are not exempted by the *Electricity Act*.

The recommended zoning amendments introduce standards for ground-mounted solar energy systems in low rise residential zones that maintain consistency with existing zoning regulations for ancillary buildings and structures in residential zones. The requirement for ground-mounted solar panels to comply with ancillary building regulations is proposed to be replaced with the following standards:

- a minimum side and rear yard setback to the property line of 1.0 metre;
- a maximum permitted height of 2.5 metres; and
- a maximum surface area coverage of 40.0 square metres.

Additionally, zoning requirements related to landscaping, soft landscaping, lot coverage, and overall coverage of ancillary structures will continue to apply to ground-mounted solar panel systems.

The proposed regulations were designed to match the size and scale of ancillary buildings and structures in residential zones. The proposed maximum height of 2.5 metres is intended to allow for the ground mounted solar panel system to function

efficiently while also aiming to mitigate adverse impacts on adjacent properties. The proposed setbacks will ensure adequate clearance for access, servicing, and maintenance of the equipment. The proposed maximum size of 40.0 square metres reflects typical ancillary structure limits in residential zones and corresponds with the surface area generally required to generate sufficient electrical power for a dwelling. Building-mounted solar panel systems will remain an option for lots that are too small to accommodate ground-mounted systems.

Solar Parking Canopies

The proposed Zoning By-law amendment introduces "solar parking canopies" as a new defined term in the Zoning By-law. Solar parking canopies are an emerging form of technology that allows property owners to configure solar panels over surface parking areas for automobile and bicycle parking. Solar parking canopies unlock the opportunity to use the existing underutilized space above parking areas to generate clean renewable electricity and reduce the overall power demand on the electrical system. Defining a new term is intended to provide clarity and consistency in implementation.

To support the expanded use of this low-carbon technology, the proposed amendments remove setback and lot coverage requirements. The changes require these structures to be located entirely above a surface parking area containing a minimum of three parking spaces. The draft by-law permits a canopy to 0.5 metres beyond the edges of parking spaces to accommodate panel overhangs and structural support elements associated with the canopy design, such as eaves and columns, so long as such extensions comply with any required setbacks. This provision recognizes the functional requirements of solar parking canopies and ensures they can be designed efficiently without reducing the number or usability of parking spaces.

The proposed amendments also establish a maximum height for these structures based on the zone. In residential zones, solar parking canopies are proposed to be permitted to a maximum height of 4.0 metres, consistent with the existing height limit for ancillary structures. This is intended to minimize potential visual impacts on adjacent properties, while allowing for effective canopy design. In non-residential zones, a maximum height of 6.0 metres is proposed to provide greater flexibility in areas where larger parking areas are more common. The increased height allowance accommodates a broader range of vehicle types and operational needs typically associated with commercial, institutional, and employment uses.

Collectively, these changes are intended to remove regulatory barriers and leverage existing paved areas for the installation of solar parking canopies. By simplifying the locational requirements and aligning height limits with existing zoning contexts, the proposed amendments support broader climate objectives by encouraging the integration of renewable energy infrastructure in surface parking areas across the city.

Permissions to Convert Parking Spaces to Electric Vehicle Infrastructure

This report recognizes EV adoption as an important component of reducing greenhouse gas emissions and recommends introducing new zoning regulations to permit the conversion of lawfully existing parking spaces to EV charging equipment. This is

particularly relevant when DC fast charging infrastructure is introduced into existing parking areas. Unlike Level 2 AC charging infrastructure, the DC fast-charging systems can require the removal of parking stalls to accommodate associated electrical equipment.

The new conversion permission would be limited to parking spaces associated with non-residential land uses and could apply in various contexts, including at malls and plazas, institutional sites, and industrial properties. This approach is consistent with that of other parking space conversion regulations in the Zoning By-law, including updates approved by City Council in 2023 that permit parking spaces to be converted to outdoor patios on private property, and more recent changes in 2025 that permit certain parking spaces in the Residential and Residential (R) Zone and the Residential Apartment Zone category to be converted into dwelling units. During the next phase of work, City staff will expand the scope of the review to all zones and will propose recommendations on how the Zoning By-law can be modernized to further support the expansion of Toronto's network of EV charger infrastructure.

FUTURE WORK

Following Council's decision on the recommendations of this report, staff will continue the work and interdivisional staff collaboration through the initiation of Phase 2 of this study. The next phase of work will further explore zoning barriers to low-carbon technologies and obstacles to energy conservation and distributed energy resources across all zone categories. Staff will report back to Planning and Housing Committee in the third quarter of 2027 with a final report and recommendations.

CONCLUSION

This report recommends zoning amendments to remove regulatory barriers and modernize zoning permissions for various low-carbon technologies including air conditioning devices, heat pumps, energy storage systems, solar panel systems, solar parking canopies, over-cladding insulation, and electric vehicle charging infrastructure. These amendments are intended to support the continued transition away from fossil fuel dependency, enable building retrofits and on-site renewable energy generation, and advance the City’s climate action goals.

Building on the findings of technical analysis, jurisdictional scans, industry engagement, and public consultation, the proposed zoning updates represent a balanced and incremental approach to enabling low-carbon technologies within residential zones and across the city more broadly. The proposed amendments seek to provide regulatory clarity, improve consistency in application, and remove unnecessary constraints, while ensuring that low-carbon technologies are appropriately located to surrounding properties. The recommendations reflect practical siting considerations, evolving building technologies, and implementation challenges identified through consultation with industry professionals and residents.

Collectively, these zoning changes will support the adoption of low-carbon technologies across a range of residential and non-residential contexts, improve certainty for

applicants and reviewers, and contribute to Toronto's commitment to achieving net-zero greenhouse gas emissions by 2040. The recommended amendments advance climate action in a manner that is practical, equitable, and responsive to the needs of current and future residents, while preserving the essential character and functionality of neighbourhoods city-wide.

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ATTACHMENTS

Attachment 1: Draft Zoning By-law Amendment
Attachment 2: Jurisdictional Scan of Zoning Approaches for Low-Carbon Technologies