

Appendix A. Summary of City of Toronto activities relevant to extreme heat in apartments

In 2015, a Technical Advisory Group on Extreme Heat in Apartments was established. It is made up of City Divisions, Boards and Corporations with expertise in issues connected to extreme heat in apartment buildings. The mandate of the Technical Advisory Group is to provide advice to Toronto Public Health and Municipal Licensing and Standards on specific efforts to reduce the health risk from extreme heat in multi-unit residential buildings (MURBs).

In addition to this role, members of the Technical Advisory Group are addressing extreme heat in apartments in a variety of ways. Some examples are outlined below (Table 1).

Table 1. Examples of activities related to extreme heat in apartments by members of the Technical Advisory Group.

City Division, Board or Corporation	Activity
Environment and Energy Division (EED)	Offers Eco-Roof Incentive Program grants to help fund cool roofs and green roofs. Eligible projects: existing buildings (all building types), and new buildings (all building types) with gross floor area <2000 m ² . For green roofs, all new construction by school boards and not-for-profits is eligible. Structural Assessment Grant is offered to determine the feasibility of a green roof on an existing building.
	Offers the Sustainable Energy Plan Financing Program of the Better Building Partnership. Eligible projects: energy retrofits and renewable energy projects at buildings of City Divisions, Agencies, Corporations and community organizations (including not-for-profits).
	Led the development of Minimum Backup Power Guidelines for MURBs, voluntary performance standards for existing and new buildings. The aim of increasing back-up power in towers is to enable tower residents, particularly vulnerable populations, to remain safely in their building during a power outage. This includes providing power to a common refuge area that can be heated or cooled as necessary.
	Leading implementation of Resilient City and support for 100 Resilient Cities work. The Resilient Cities initiative is focused on addressing extreme weather and climate change with focus on adaptation. This program aims to reduce the vulnerability of natural and human systems to actual or expected climate change effects. Effects include extreme weather such as extreme heat. With additional support provided through 100RC, EED is

	focused on integrating this work into broader resilience-building initiatives focused on addressing city-wide stresses (poverty, housing/transportation issues) and shocks (extreme weather risks).
EED and The Atmospheric Fund (TAF)	Leading TransformTO, the City's strategy to meet Toronto's greenhouse gas reduction target for 2050 while maximizing health, social equity and economic prosperity. Implementation will include improvements to existing and new buildings to achieve energy efficiency, emission reductions and improved quality of life.
Tower and Neighbourhood Revitalization (TNR)	Offers the High-rise Retrofit Improvement Support (Hi-RIS) incentive program. Eligible projects: energy and water efficiency and conservation improvements, including envelope, mechanical and water projects, at existing rental apartment buildings that meet eligibility criteria.
	Offers the Sustainable Towers Engaging People (STEP) Program, which helps property owners and managers, at no cost, reduce operating costs, improve building condition and improve the quality of life for residents. Eligible buildings: Existing MURBs eight or more storeys, built before 1985.
	Engages landlords and property managers by holding information sessions on improvements and by hosting a Leader's Forum where property owners and managers can share information about best practices, including retrofits.
Toronto Community Housing (TCH)	Pursuing a sustainable occupancy model that includes power to a common room for cooling and heating. A cool room would provide residents with a convenient cooling option if apartments become overheated during a power outage.
	Developing a cooling strategy for buildings and working toward a policy on future window design to increase comfort, building longevity and passive cooling.
Toronto Community Housing (TCH) and Tower and Neighbourhood Revitalization (TNR)	Undertaking and supporting retrofits of MURBs to improve energy efficiency and quality of life for tenants. This work is being undertaken at TCH buildings and at privately owned buildings in partnership with owners and property managers.
The Atmospheric Fund	Offers Energy Savings Performance Agreement (ESPA) innovative financing through Efficiency Capital Corporation. Eligible projects: Energy efficiency and renewable energy projects for apartment, condominium and other commercial buildings.
	Monitoring indoor environmental quality (air temperature, mean radiant temperature, carbon dioxide, humidity) at apartment buildings that are undergoing retrofits.

City Planning Division	Leading implementation and enhancement of the Toronto Green Standard for new buildings as well as the City's Green Roof Bylaw.
Municipal Licensing and Standards	Developed new apartment buildings bylaw, passed by Council in March 2017, that requires landlords of MURBs to post in a central location: 1) the location of an air-conditioned cool space in the building, if available, and 2) the location of a publicly accessible City-run air-conditioned cool space. MLS will also collect and share publicly information from landlords about cool indoor and outdoor spaces at MURBs.
	Reviewing indoor temperature standards for apartment buildings set out in Municipal Code chapter 497, Heating, 2017. These standards require that landlords provide heat to units from September 15 to June 1 each year so that a minimum air temperature of 21 degrees Celsius is maintained.
Toronto Building	The Chief Building Official is the City's lead for discussions with the Province on updating the Ontario Building Code, including to better reflect current and future climate.
Shelter, Support and Housing Administration	Currently leading the coordination and disbursement of Provincially funded \$42.9 M Social Housing Apartment Retrofit Program (SHARP). This program can be used to fund the implementation of a range of energy-reduction measures within multi-residential buildings with 150 units or more. Several of the selected sites will be replacing old inefficient chillers.
	Implemented the revised Shelter Standards which requires all shelter providers, at a minimum, to ensure at least one air-conditioned cooling area is available to clients during a heat-based weather alert/extreme weather alert or smog alert.
	Offers social housing providers to utilize City guideline 2013-4. This guideline allows housing providers who pay for major energy retrofits from their capital reserves to put the operational cost savings back into their reserves prior to any surplus sharing. This allows housing providers to pay for energy efficiency measures from energy cost savings.
	Engages with landlords and property management staff that provide social housing by hosting various information sessions and training workshops where property owners and managers can share information about best practices, including retrofits, fire safety, and preventative maintenance.
Toronto Hydro	Offers technical support to MURBs from a team of energy experts who will provide free building walkthroughs to identify efficiency opportunities,

	develop business cases for property owners and managers, and assist with the paperwork for retrofit incentive applications.
	Through the IESO-funded Save On Energy Program, offers Audit Funding up to 50% of the cost for more detailed energy audits including comprehensive building audits, capital investment grade audits and focussed buildings systems audits.
	Retrofit Incentives covering up to 50% of the cost for energy efficient upgrades. Eligible measures include in-suite, common area and exterior lighting, in-suite and centralized heating and cooling equipment, pump and fan rightsizing, controls and optimization. Specific to extreme heat, Toronto Hydro has helped customers with incentives for multiple types of equipment and improvements.