

Town of Lakeshore – Green Building

The Town of Lakeshore embraces innovation by authorizing environmentally sustainable building technologies and materials that satisfy the purposes and objectives of the Ontario Building Code. Green building features may include:

- sustainable, durable and low maintenance building design and operation
- energy and water efficiency
- attention to indoor and outdoor air quality
- use of recycling and conservation in building materials and products

Are you considering the integration of green building technologies into your home?

Building permits may be required.

The Building Code Act and Ontario Building Code regulate the construction of buildings in Ontario and require property owners to obtain a building permit prior to the installation of green building technologies. The Act also requires manufacturers, suppliers and retailers to ensure that products comply with the standards prescribed by the building code.

Solar Energy

In residential applications, solar energy is most commonly used to:

- heat water for domestic use
- provide primary and supplemental heating of dwellings
- heat water for use in swimming pools and spas

Solar Panels

Solar collectors (panels) including solar photovoltaic (PV) systems can be installed on buildings or be detached from them. Permits are required for solar collectors where:

- they exceed 5m² in face area and are attached to a building;
- they provide a source for heating domestic water used in a building; or
- they provide primary and supplemental heating of dwellings.

Solar Domestic Hot Water Systems (SDHW)

The Ontario Building Code regulates two different types of solar energy systems used for heating domestic potable water:

- non-packaged systems are designed as complete systems but are made up of individual components not tested or evaluated together as a proprietary system.
- factory packaged SDHW systems generally consist of a complete series of assembled components which provide solar pre-heated water to a domestic hot water storage tank through the use of solar thermal collectors, heat transfer exchangers (utilizing a liquid heat transfer media and potable water) and include all appropriate plumbing and electrical controls to affect the transfer. These systems must be certified by a recognized testing agency.

Building Permit Requirements Non-Packaged SDHW Systems:

These systems must be designed by a professional engineer licensed in the Province of Ontario in accordance with good engineering practice. Permit applications for non-packaged systems must be accompanied by two copies each of the following:

1. Plumbing schematic of the entire system including connection details to the potable water system.
2. The location, size and weight of the solar collectors and the method of installing them to the building.
3. System component specifications including any testing or evaluation data.
4. A statement from a professional engineer certifying that the proposed system conforms to the intent of CSA International Technical Information Letter MSE-45 (as amended), the referenced standards applicable to SDHW components listed in Table 1 of the TIL and the intent of the requirements for SDHW systems in the Ontario Building Code.

All documents must be stamped and signed in accordance with practice standards established by Professional Engineer's Ontario.

Building Permit Requirements Packaged SDHW Systems:

Permit applications for factory packaged systems must be accompanied by the following:

1. Drawings (schematic are acceptable) of the entire system including details of the connection to the potable water system.
2. The location, size and weight of the solar collectors and the method of installing them to the building.
3. Evidence that the system has been tested and certified by CSA.

Installation Requirements for Both Non-Packaged and Factory Packaged SDHW Systems:

Installation of these systems shall be undertaken by a qualified installer certified by the Canadian Solar Energy Industry Association – www.cansia.ca or shall be inspected and certified by a professional engineer licensed in the Province of Ontario.

Wind Energy

Wind energy systems are generally broken into two main applications.

1. Large scale operations that provide power to the local utility grid, similar to hydro or natural gas electrical generation facilities. Turbines clustered together into “wind farm” that produce energy for many buildings or communities.
2. Small scale operations provide local, on-site power to a home or business. Turbines are placed at the same site where the electricity will be used. Any additional energy that is generated, exceeding the needs of the user, can be sent to the local electrical grid with their permission.

Under the Building Code Act, permits are required for the following:

- for the installation of any wind turbine generator that is attached to a building; or
- for any structure used to support a wind turbine generator with a rated output of more than 3 kW;

Visit the following websites for more information on wind energy:

Ministry of Energy (Renewable Energy) – www.energy.gov.on.ca

Ministry of Natural Resources – www.mnr.gov.on.ca

Canadian Wind Energy Association – www.canwea.ca

Storm Sewage and Greywater Use

The 2006 Ontario Building Code now permits using storm sewage or greywater to flush toilets, urinals and for priming traps.

A permit is required prior to installing either system.

Storm sewage is water that has been discharged from a surface as a result of rainfall, snow melt or snowfall and collected for use. Greywater is sanitary sewage from sinks or bathtubs. Both storm sewage and greywater are considered non-potable sources of water and accordingly it is important to note that such systems must be clearly and permanently marked and cannot be interconnected with a potable water system.