

LEED Canada for Homes

LEED Canada for Homes is a rating system that promotes the design and construction of high-performance green homes. This system goes beyond energy efficiency to ensure homes are highly sustainable in all aspects. The system measures the overall performance of a home in eight categories:

1. Innovation & Design Process: Special design methods, unique regional credits.
2. Location & Linkages: Placement of homes in relation to the larger community.
3. Sustainable Sites: Use of the entire property to minimize impact on the site.
4. Water Efficiency: Water-efficient practices, both indoors and out.
5. Energy & Atmosphere: Energy efficiency, especially in the building envelope and heating and cooling design.
6. Materials & Resources: Efficient use and selection of materials, and waste reduction.
7. Indoor Environmental Quality: Reducing the creation and exposure to pollutants.
8. Awareness & Education: Homeowner education for operation and maintenance.

The LEED rating system works by establishing a minimum level of performance through prerequisites, and then rewarding improved performance in each category. There are four levels of performance which are awarded based on the number of points earned: Certified, Silver, Gold and Platinum.

Additional Information

A comprehensive checklist of many energy efficient home building practices is attached to this document.

Please check out our Ten Green Tips pamphlet as well.

ENERGY STAR and EnerGuide in Canada:

<http://oee.nrcan.gc.ca/residential/energystar-portal.cfm>

<http://oee.nrcan.gc.ca/energuide/index.cfm>

LEED Canada for Homes and the Canadian Green Building Council

<http://www.canadagreenhomeguide.ca>

<http://www.cagbc.org>



Green Building Guideline

Housing



Buildings must be designed to meet minimum Ontario Building Code (OBC) requirements for energy efficiency. However, there is growing concern about the need for more immediate action to deal with climate change, and there is room for improvement upon these minimum requirements.

The City of Kingston is encouraging all builders and owners to consider designs for new and renovated homes using highly energy efficient and sustainable standards.

While the City cannot force building permit applicants to meet energy efficiency requirements that are beyond the minimums required by the OBC, the purpose of this guideline is to help explain and demonstrate the advantages of using improved standards like ENERGY STAR, EnerGuide or LEED.

Green building rating systems are transforming the construction industry by focusing on high-performance, energy efficient, economical and environment friendly buildings. These rating systems and standards are often voluntary and used as design checklists. Though energy efficiency is a major component of designing a green building, several other basic sustainability requirements can be considered as well.



Building Design Rating Systems



Rating systems challenge designers to go beyond the codes to improve overall building performance and sustainability, and to minimize life-cycle environmental impact and cost.

A green rating system can serve as both a guideline and a scorecard. The objective is not necessarily to use certain technologies, but rather, to build the whole building and site in a way that addresses a series of concerns.

Rating systems take an organized approach to evaluating sustainable building measures to help compare projects on a level playing field. Although not all systems require third-party verification, the benefit of an independent system is to provide greater assurance that all participants have been proven to meet a better energy standard.

Building Design Rating Systems: Pros and Cons

Some design systems address whole building location, design, and performance. This often involves a higher level of coordination, as well as documentation, administration and registration or certification fees.

However, verification ensures a level playing field. Shortcuts are virtually eliminated especially with the involvement of a third party, and the final rating is meaningful and accurate. In addition, while some requirements are easier and less expensive to achieve in certain situations, most systems allow for a great deal of flexibility in achieving requirements and encourage innovation. Points are often awarded for making simple improvements over existing minimum standards. These improvements result in an earlier return on investment from energy savings, and add to the resale value of the building.

ENERGY STAR for New Homes

The ENERGY STAR for New Homes initiative promotes guidelines that enable new homes to be approximately 30 percent more energy efficient than those built to the minimum building code standards. To meet ENERGY STAR for New Homes standards, a licensed builder will typically incorporate these energy efficiency measures:

- Increased attic insulation.
- ENERGY STAR labelled windows and patio doors.
- Increased wall insulation to reduce heating and cooling costs and reduce noise penetration.
- Full height basement insulation.
- Increased insulation in exposed floor areas such as above garages, under bay and bow windows and all other boxed out areas.
- ENERGY STAR labelled high efficiency furnace.
- Heat recovery ventilation (HRV) unit to exchange fresh outside air for interior air, while retaining the heat from the exhaust.
- Sealed duct work to provide a more efficient flow of air.
- High efficiency lighting.
- ENERGY STAR labelled appliances to reduce electrical costs.
- Water saving toilets, shower heads and clothes washers.

Upon completion of the qualified home, an independent ENERGY STAR evaluator verifies that the home has been built to technical specifications. After the verification process is complete, Natural Resources Canada issues a label and certificate to the homeowner. The label is usually placed on the home's electrical panel and includes a regional service organization seal of authenticity.

EnerGuide

In addition to building an ENERGY STAR qualified new home, a house can receive an EnerGuide energy rating label to compare and rate the energy consumption of the home. To determine the energy rating (on a scale from 0-100), an energy advisor conducts an analysis of building plans, and performs an evaluation on the finished house. An EnerGuide label and report will then be provided from the advisor that outlines the level of energy efficiency. Although most new houses receive an energy rating of 68 or higher, the average ENERGY STAR qualified home in Ontario receives an energy rating of 80 or higher.