
A Bloorcourt Home Dramatically Improves its Comfort and Value while Lowering Bills and Environmental Impact

Background

Many homes are renovated but unless energy efficiency is kept in mind, they can still be drafty. Marion Hurd had such concerns and also knew she would have to invest in a new furnace for her 1900, three-storey house. Before she went shopping she wanted the criteria by which to make an appropriate furnace choice. She also needed help to identify where the air leaks were and what could be done to reduce her monthly energy bills and make her home warmer in winter.

Marion was referred to Green\$aver by a friend. Green\$aver is Toronto's only independent, non-profit corporation, dedicated to environmental home energy efficiency. In addition to performing energy and electrical audits, Green\$aver also provides specialized services for air sealing, draft proofing and insulation. In addition to helping homeowners protect the environment, Green\$aver helps them to achieve energy efficiency, cut annual heating costs and increase the resale value of their homes.

Marion's wood-framed house is approximately 1825 sq. ft. including the basement. It is heated with a low-efficiency gas furnace. The majority of the insulation in the walls was merely R12 however, the cathedral roof was fully insulated.



Similar housing in the Bloorcourt neighbourhood.

The Problem

An extensive renovation was done throughout the house before Green\$aver was called in. However, drafts and cold areas were still present and obviously had not been taken care of during the renovations, as the homeowner had hoped.

In addition, the homeowner was concerned about the rising cost of energy that would result in an increase in the cost of heating her home.

Marion had the opportunity to not only save money but to also reduce her energy consumption. This would mean a reduction in the carbon dioxide gases being generated and an improvement in the greenhouse gas emissions.

Although Marion had no plans to move in coming years, she knew her community was popular for families. It was nice to know that her investments now would contribute to the value of her home. In fact, the current trend in North America is an increase of 5 to 10% in resale values for homes in which energy efficiency improvements have been made. A common rule-of-thumb seems to be that house resale values increase by \$20 for every dollar decrease in annual fuel costs that were realized after energy efficiency improvements. For an average house in Toronto, with a resale value of around \$350,000, these trends translate into a potential increase of \$17,000 to \$35,000 in value.

The Solution

A certified Green\$aver energy auditor first did a detailed energy assessment of the house over the course of more than an hour using sophisticated measuring equipment and instruments. This first step is essential to pinpoint the most affected areas of the house that need upgrading and renovation. Since every house is slightly different, a customized list of recommended changes is created. To proceed with renovations without first analyzing the problem in a comprehensive manner can often result in a poor cost benefit ratio that translates into increased, often unnecessary, expenses.

The energy audit generally includes a walk through the house and inspection of the heating and hot water boiler equipment, measuring with various devices like the blower door registering energy transfers, and analysis of the building "envelope" since a house operates as a system.

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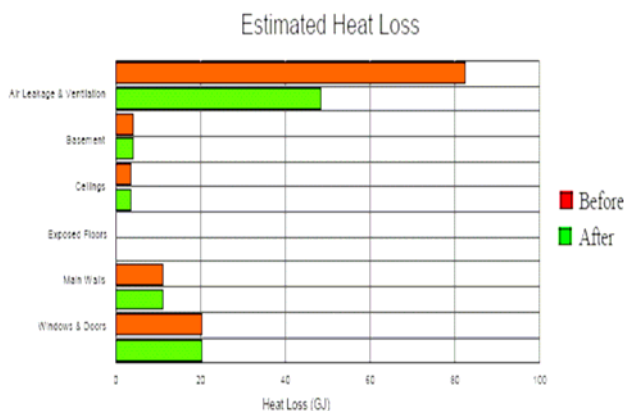


A certified Green\$aver Advisor conducts blower door test

The blower door test slightly depressurizes the house, allowing Green\$aver's expert to immediately detect sources of air leaks and drafts.

Another key area examined was the amount and quality of insulation throughout the house...in the walls, the attic, the basement...to determine its effectiveness.

The results are then entered into a computer program and a model gives a custom estimate for each house of the potential savings that could be realized if various energy efficiency improvements were implemented. A final report was provided to the homeowner that clearly identified the best improvements and provided recommendations and an action plan for the necessary retrofits.



Report showing possible energy efficiency improvements

In the Hurd house, the audit indicated a need to reduce the drafts and air leakages in order to improve the comfort of the home and decrease energy bills. It was recommended that the furnace be upgraded to a high efficiency unit and that more than 40% of the air leaks in the house be sealed.

Finally Green\$aver prepared a work plan to rectify the situation and perform the necessary improvements. Blower door guided draft proofing would precisely pinpoint and seal the air leaks (Green\$aver is the only organization to offer blower door guided in the Toronto area and has trained retrofit crews to help in a timely manner with minimal disruption to residents).

The Benefits

The benefits for retrofitting this house would be substantial and are projected at:

- A savings of 36% of the natural gas usage and 2% of the electricity usage for a total annual savings of 36% of their energy bills.
- A marked increase in the comfort levels throughout the house with fewer drafts.
- Significant increase in the future resale value due to the type of improvements made.

It's a great program. I knew I needed a new furnace and was relieved when Green\$aver outlined the criteria by which I should make my choice. It was a load off my mind.

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