

Strandberg-Legg Home

"Green Gold"

Our new home has been awarded LEED Gold status, the second residential home in BC to have received this honour. (Two other homes in BC have received LEED Platinum.) We benefited greatly from our participation in the **Light House Sustainable Building Centre's 2010 Green Building Challenge** – and were guided by the **Leadership in Energy and Environmental Design** (LEED) Green Building Rating System. Not only is this a healthy, comfortable and energy-efficient living space, we hope it will also contribute to public awareness and education.

In addition to LEED certification, our building project received a **Built Green™** gold designation. Built Green is a voluntary industry program that promotes green building practices to reduce the impact buildings have on the environment. Like LEED, it provides guidance to builders on priority practices to reduce a building's environmental footprint.

We had three key priorities for improving our home's environmental performance:

- reduce energy use,
- reduce water consumption, and
- improve air quality.

Here are some of the steps we took to meet those objectives.

Reduce Energy Use by implementing or installing:

- High performance building envelope and durability planning. Through the combination of Energy Star windows, R20 insulation in all exterior walls and extensive taping and sealing to significantly reduce heat loss through air leaks, the building envelope achieves a high level of energy efficiency. (This house recorded a rating of 84 on the nationally recognized Energuide rating system, which puts it into the "highly energy efficient new house" category. The next category, referred to as an "advanced house", uses little or no purchased energy.)
- High efficiency furnace combined with an air-source heat pump, which takes heat from outside the home to heat the building. This heat pump uses approximately one quarter of the electricity of a standard heater.
- Tankless hot water system to heat water on demand, reducing the need to have continuous hot water heating in a hot water tank.
- LED (light emitting diode) lights in *high use* areas of the house (the kitchen). LED lights have a lifespan of 60,000 hours versus the CFL's (compact fluorescent light) 10,000 hours and the

incandescent bulb's 1,500 hours. LED lights are the best option for minimizing energy use. They are believed by some to be the light of the future.

- Maximize the use of CFLs and fluorescents. CFLs cut down energy costs by as much as 80%. Fluorescent lights are four to six times more efficient than incandescents.
- 100% of appliances are Energy Star.
- Induction stove cooktop. With an induction stove you can adjust the cooking heat instantly and with greater precision than gas or electric stoves. There is no wasted heat energy is supplied directly to the cooking vessel. With gas or conventional electric cookers, the energy is *first* converted to heat and only *then* directed to the cooking vessel with a lot of that heat going to waste. In comparison, only 40% of the energy in gas is used to cook while induction uses 84% of the energy to cook. This approach results in a cooler kitchen and a cool stovetop. The stovetop barely gets warm except directly under the cooking vessel. The induction stove only works with cooking vessels made of magnetic materials.
- Daylighting in kitchen (via skylights and glass blocks) and basement suite.
- Seven photo-voltaic (PV) panels on the roof produce a minimum of 15% of our annual electricity needs.

Reduce Water Consumption by installing:

- Low flow plumbing fixtures throughout the house and suite (showers, toilets, faucets, washing machine, dish washer).
- Rain barrel water harvesting system for outdoor water irrigation.
- Drought resistant landscaping and planting.
- Limited lawn area.

Improve Air Quality by using or installing:

- Low or non-off-gassing paints, laminates, carpets, cabinets, shelving, furniture, sealants and adhesives.
- Limited use of carpeting.
- High performance air filter system to reduce air particulates.

Other Objectives

Other objectives included local sourcing, where possible, of products and materials that were made in BC, organic, recycled, toxin-free or natural fabrics. The project worked to minimize the waste in demolition and construction. Over 70% of the demolition waste was diverted from local landfills. As well, the contractor maintained a system for diverting construction waste during the building process. We also installed a 240V electric vehicle charger for "EV" guests and to future proof our home.