

The house that green built

Ready-to-assemble homes make eco-friendly building more affordable

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If you believe building green will put you in the red, think again.

A new Edmonton-based company is offering ready-to-assemble, environmentally friendly, energy-efficient home packages for about \$100,000.

Ecological Homes is launching its first home design on Saturday at Calgary's EcoLiving Fair at Mount Royal College (see Spotlight).

The three-bedroom home package will include solar energy design features, super-insulated structural panels for easy assembly, an integrated high-efficiency furnace and hot water heater, eco-friendly materials and superior indoor air quality.



CREDIT: Courtesy, Ecological Homes

Ecological Homes is launching its first model The Evolution, which sells for about \$100,000, at Calgary's EcoLiving Fair.

Home buyers can assemble the package themselves or hire a contractor to put together some or all of the home.

The two-storey, 1,300-square-foot home package comes complete with Energy Star windows and doors, an eco-friendly exterior package with concrete-fibreglass composite siding available in a wide variety of colours, plus soffit and roofing materials.

"Labour is often the single largest expense in building a new home," says Les Hagen, president of Ecological Homes. "Our home packages are designed to simplify assembly and to reduce labour costs."

Structural insulated panels made of air-tight rigid foam sandwiched between sheathings of oriented strand board (OSB) make for quick assembly, says Hagen, because they are manufactured with precise cutouts for doors and windows, creating a tight fit designed for superior energy performance in our northern climate.

"It's quite revolutionary in home building," he says. "There aren't a lot of homes being built right now using structural integrated panels, but that's going to change."

The initial home design will achieve an EnerGuide rating of at least 80, which is highly energy efficient.

(A typical new house rates anywhere from 66 to 74 on the EnerGuide scale, with an energy-efficient new house rating between 75 and 79. The EnerGuide rating system describes a house rating between 91 and 100 as "advanced," using little or no purchased energy.)

In fact, the home is designed to meet the new LEED (Leadership in Energy and Environmental Design) for Homes green building standard currently being adopted in Canada, although the home buyer will have to apply for certification once the home is built.

Hagen says Ecological Homes was developed to capitalize on two emerging needs, one for green houses and the other for affordable housing.

"Thousands of people are priced right out of the housing markets," Hagen says. "Green building is mostly limited to the high-end market."

Ecological Homes hopes to help consumers reduce their carbon footprint and save money at the same time.

Hagen does recommend that buyers have considerable experience with either home renovations or construction before they start trying to assemble the home themselves.

"Anyone can purchase one of these homes. You can have a general contractor do portions of it or the whole thing," Hagen says, noting his company will provide a shortlist of contractors with experience in green building. "Either way, you'll save money due to the structural insulated panels."

Ecological Home's first home, designed by Calgary's 4 Elements Integrated Design and dubbed The Evolution, comes "solar ready," meaning the roof is sloped at the right angle to optimize solar energy opportunities and comes with utility rough-ins, making for easier installation of solar thermal and solar electric panels in the future.

"It's also optimized for passive solar, which is often overlooked," Hagen says.

That means the length of the building is designed to be south-facing to maximize sun exposure, with large, numerous south-facing windows. Of course, this is dependent upon building on an appropriate lot.

The basic package doesn't include a foundation, basement or interior finishings, but the homebuyer can opt for added green features, priced individually, such as a solar thermal hot water system, a solar electricity system, a Energy Star central cooling system, a basement with R24 insulated concrete forms, eco-friendly interior packages and a rainwater recovery system.

It's impossible to calculate exact costs per square foot for an Ecological Home, says Hagen, because they depend largely upon location and labour costs.

But Jason Orr, program services manager for EnerVision -- a non-profit organization which works with BuiltGreen and EnerGuide, among other systems -- says construction using structural insulated panels tends to be practical, cost-saving and energy efficient.

"All factory-built homes tend to be cheaper than homes built on site due to economies of scale," Orr says. "It's sort of a no-brainer."

He notes that air leakage is normally the main cause of energy loss and homes assembled properly using structural insulated panels are extremely air tight by design.

To compare pricing, he recommends contacting a conventional green builder, such as Avalon Master Builder, and a modular home builder, such as Winalta.

The Green Guide runs every Friday in Real Life. E-mail egilchrist@theherald.canwest.com

Spotlight

Ecological Homes launches its first home design Saturday, Sept. 27 at the Calgary EcoLiving Fair & Speaker Series. The company's president will be on hand with a model house to answer questions.

The fair, which features more than 50 exhibitors and 27 speakers, runs from 9 a.m. to 7 p.m. at Mount Royal College's Centre for Continuous Learning building (4825 Mount Royal Gate S.W.) For a complete schedule visit ecolivingfair.ca.

For more information on Ecological Homes, check out ecologicalhomes.ca

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