Press Release
October 27, 2014

First Passive House in Alberta to open its doors to the public

Ultra-low energy home in Fort Saskatchewan will participate in the worldwide Passive House Days event, November 8-9, 1-5 pm

FORT SASKATCHEWAN — The house on 17 Cottonwood Crescent might look like any new suburban home in Alberta. But inside its 20-inch thick walls, it's one of the most energy-efficient houses in the province—and from November 8-9, the public is invited to see it firsthand.

Built by the Zeibin family in Fort Saskatchewan, the Cottonwood house is the first Alberta home being built to a "Passive House" standard—the world's most energy-efficient building design. Hyper-insulated and intelligently angled toward the sun, the house will use 90 per cent less energy for heating and cooling compared to conventional homes. The maximum energy needed to heat the house is equivalent to running 5 hair dryers. The house stays extremely comfortable with even temperatures and superb air quality.

From November 8 to 9, people are invited to peek inside the Passive House when the Zeibin family takes part in the worldwide Passive House Days event. Located at 17 Cottonwood Crescent in Fort Saskatchewan, the house will be open to the public from 1 p.m. to 5 p.m. Full details are at cottonwoodpassivehouse.ca.

"You can build a real home that has a tiny energy footprint, and you can do it right here in Alberta," says Jim Zeibin, owner of the Cottonwood Passive House. "Most Canadian buildings spend over 75 per cent of their energy on heating and cooling, so thoughtful design standards like Passive House are important to help our communities save energy and money in the long run."

Tired of living in leaky, cold, energy-inefficient homes, Jim Zeibin began building a Passive House as a retirement home in 2013. Construction costs are slightly higher than that of a conventional home, but this extra capital investment can be recovered through savings on heating and cooling within a few years.

The Zeibin home is 95% complete, and will undergo testing to achieve official certification as a Passive House in early 2015. The anticipated heating demand is around 15 kilowatt hours per

square metre per year, with a living area of 1400 square feet (246.25 m²), comparable to 150 kilowatt hours per square metre per year for most homes.

This is the second year the Zeibin family is participating in Passive House Days. Last year, over 100 visitors toured the home during their first event in 2013. Internationally, since the very first Passive House Days event ten years ago, tens of thousands of people around the world have taken the opportunity to visit a Passive House building. Most questions can be quickly answered face to face, and misconceptions can also be corrected.

Passive House Days is organized by the International Passive House Association (iPHA), along with partners in a variety of other countries. An overview of all participating projects worldwide can be found in the Passive House Database at www.passivehouse-database.org, with additional projects visible at www.passivehouse-international.org.

- 30 -

Backgrounder and FAQ attached.

Media kit with hi-res photos and sharable social media content:
cottonwoodpassivehouse.ca/media

Contact

For information about the Cottonwood Passive House, 17 Cottonwood Crescent, Fort Saskatchewan, Alberta, Canada

Owner	Jim Zeibin, 780-887-7781, info@cottonwoodpassivehouse.ca
Architect	David Zeibin, 604-220-6921, info@cottonwoodpassivehouse.ca
Website	cottonwoodpassivehouse.ca
Twitter	@cottonwoodph
Facebook	facebook.com/cottonwoodpassivehouse
Hashtag	#iphdays14

For general Passive House related enquiries:

Benjamin Wünsch | Passive House Institute | +49 (0)6151-82699-25 | presse@passiv.de

Backgrounder

The Cottonwood Passive House is the first Alberta home being built to the international Passive House standard—the world's most energy-efficient building design. **Jim and Emilie Zeibin** are the owners and residents of the house, which is intended to be their retirement home. The technical design on the Passive House is done by son and architect **David Zeibin.**

About the Passive House design standard

- The Passive House standard was developed in Germany in the 1990s. Energy savings can be 65 to 90% of a conventionally built home.
- A Passive House is highly sealed and insulated and is near airtight. It uses "passive" sources of heat such as incoming sunlight and existing appliances. This even includes body heat.
- Over 40,000 homes across the world have been built to the Passive House standard, including ones in Whistler BC, Victoria BC, Ottawa, ON, and Fredericton, NB.
- The first `Passive-type House` was built in Regina in 1977 and is called Saskatchewan Conservation House, as part of a project from the National Research Council and Saskatchewan Research Council.
- Specific heat demand in a Passive House is less than 15 kWh/m2/year, while its entire primary energy demand is less than 120 kWh/m2/year.
- The end product is a building which is energy efficient, comfortable, economically and environmentally friendly at the same time.
- More info on Passive Houses in Canada can be found at the Canadian Passive House Institute website, www.passivehouse.ca

About the Cottonwood Passive House

- Located at 17 Cottonwood Crescent, Fort Saskatchewan, Alberta
- The peak amount of energy needed for heating in winter is slated to be 5100 watts, or about 5 hair dryers worth of energy.
- The amount of 12" expanded polystyrene in the house is over 3400 sq ft.
- 875 meters of sealing tape was used in the house.

FAQ

What are the main features of a Passive House?
A Passive House doesn't necessarily need to look different than a typical house. Passive Houses are characterized by:

- Super-insulated walls, floors and roofs
- Extremely high-quality windows and doors that minimize air leakage and heat loss while actually providing solar heat gains. They are net energy producers!
- Fantastic indoor air quality due to continuous ventilation provided by a heat recovery ventilator (HRV). *See below.*
- Very steady indoor temperature throughout the year. You can sit next to the windows in winter in a T-shirt and not feel cold. In the summer, Passive Houses are only allowed to be over 25ºC for 10% of the year.

What is a Heat Recovery Ventilator (HRV)?
An HRV is a piece of mechanical equipment that extracts heat from air being exhausted to the outdoors, and transfers it into incoming air. HRVs in Passive Houses are the heart of the mechanical system and are required to be at least 75% efficient, though in practice efficiencies of 85% are more typical. This means that if air is leaving the house at 20ºC, the incoming air can be pre-heated by the HRV to as high as 17ºC before needing any additional heating.

Why would I want a Passive House?
Most people who decide to build a Passive House are drawn to the extreme energy savings first. But there are other benefits, as mentioned above: low operating costs (as a result of using less energy), high indoor air quality, and great thermal comfort. Passive Houses are simply higher quality buildings.

What's the payback on a Passive House?
People are hard at work trying to understand the premium currently required to build a Passive House in Canada. Many factors influence this extra cost: the local climate's impact on energy demand, skills and knowledge of local tradespeople, availablility of Passive House-quality components (window, doors, HRVs, etc), and so on. Generally, Passive House builders are finding a premium of 10-20% is required. This number is expected to drop as the market for Passive Houses matures. Given our extremely low cost of energy in Canada, the payback time can be quite long, especially in cold climates where greater initial investment is needed. It's important to remember that quality always costs extra money. As Guido Wimmers, Director of the Canadian Passive House Institute, has said, "No one asks what the payback is on a

Mercedes.”

What’s the difference between Passive House and Net Zero?

Passive House and Net Zero are totally compatible concepts. Net Zero just means that you are producing enough energy on site to cover your energy use -- usually producing more than you need, feeding extra energy back into the electricity grid. However, the lower your energy demand, the less energy you need to produce. This is where Passive House comes in: focusing on energy conservation and efficiency first, before adding the “active” systems such as photovoltaic panels or wind turbines. “Passive” features like extra insulation and high-quality windows and doors generally require little or no maintenance, whereas active systems require ongoing maintenance and likely have a finite lifetime before they need to be replaced.