Saskatchewan Conservation House

Little Passivhaus on the Prairie

Canadians helped invent the house you could heat with a hair dryer – then forgot all about it.

THE HOME OF THE FUTURE was built a third of a century ago in Regina. It was called the Saskatchewan Conservation House and used less than one-fifth of the energy consumed by ordinary homes. More than 30,000 people came to see it. But Canadian homebuilders ignored the ideas it offered, and the Canadian public has largely forgotten about it.

Built in 1977 by the Saskatchewan Research Council, the Conservation House had everything most houses of its day had, except a furnace. Instead, the northwest Regina home relied on a nearly airtight envelope, with R-40 wall insulation and R-60 roof insulation. The house was cube-shaped to minimize exterior surface, and sided in dark-brown cedar to absorb heat from the sun. Deciduous trees south of the house provided shade in summer and let solar heat reach windows in the winter. A small hot water system provided all the extra heat the house needed, even through the long prairie winter.

After the researchers finished their monitoring and the curious had departed, the Saskatchewan house was sold as a residence. Subsequent owners added a garage at the back of the property and removed the solar thermal collectors once maintenance became untenable. Guido Wimmers, a Passivhaus consultant who visited the house a few years ago, was surprised to find that the current owner "was somewhat aware that his house is a little bit special, but not that his house is actually kind of a milestone in building history."

Indeed, the world might have forgotten the Saskatchewan house too, but for a quirky German physicist. After studying it and a handful of similar buildings, Wolfgang Feist wrote a precise guide for designing buildings that require less than a tenth the energy of conventional ones. He called it the Passivhaus standard – a design strategy that relies on extremely efficient insulation to reduce externally supplied energy needs to near (or even) zero.

There are now more than 25,000 certified Passivhaus buildings in Europe, and thousands more under construction around the world. Here in Canada? There are but a handful.

Adapted from the Tyee Solutions Society, tyeesolutions.org, a non-profit, Vancouver-based organization that produces catalytic journalism in the public interest. Read the full version of Monte Paulson's story at ***thetyee.ca/News/2011/01/25/Passivhaus.***

Canada's Second Certified Passivhaus

THE SOUTH-FACING back windows of this three-storey duplex may overlook Ottawa's Rideau River, but that's hardly its best feature. The windows in both 1650-square-foot units are triple-glazed, inviting heat inside and keeping cold out. The walls are insulated with high-density polyurethane foam, preventing moisture damage and sealing in warmth from radiant floors, a ground-source furnace and a heat recovery ventilation system. The cherry on top is a 1200-square-foot gardening plot on the roof. But the best part about Canada's first residential passivhaus (built a year after Whistler's Austria House earned the inaugural certification) is that it cost only about 10 per cent more to build than a conventional home. Better still, it'll pay for itself within a decade through energy savings.

Rideau images courtesy of **vertdesign.ca**