**Treehouse Village: eco-housing and energy savings**

*A closer look at the technology behind Bridgewater’s energy-efficient co-housing community.*

by Philip Moscovitch, Climate Story Network

At Treehouse Village, the power bills are expected to be so low, residents aren’t even going to bother metering their individual use.

“The entire place is designed and built to meet the passive house standard, which is the most energy efficient construction standard in the world,” says resident Wayne Groszko, co-owner of one of the units at Treehouse. “The whole point of the exercise is basically to make these dwellings operate with a minimum of heating energy.”

Located in Bridgewater, Nova Scotia, Treehouse is Atlantic Canada’s first co-housing community. The 30 units, spread over four buildings, were all designed based on input from the residents. Construction began in 2021, and the first families, including Groszko’s, moved in during October 2023.

Groszko works with the Nova Scotia Community College’s Applied Energy Research Team and teaches a course on sustainable energy at Dalhousie University in Halifax, so he knows a thing or two about energy efficiency — and the savings it can bring.

With his hands cupped a few inches apart, Groszko describes the small heating system for his family’s 1,060-square-foot, two-bedroom apartment: a 600-watt heater in one of the air supply ducts that can heat the whole place.

“I mean, that’s less [of a power load] than a toaster,” Groszko says. “And each apartment has one of those.”

The duct heaters are efficient and installing them doesn’t cost much either.

“You don’t have to purchase a big heating system, and all the associated infrastructure,” he says. “This heater costs a couple of hundred dollars, and someone has to install it. That is way less effort and money than running a bunch of electric baseboard heaters.”

Since this is the first winter for Treehouse, nobody knows exactly what the heating expenses will be, but the group projects that the full cost of heating each unit for the year will be under $200.

Those low costs are possible because of the passive house standard, which calls for features like triple-glazed windows, careful sealing of all air leaks, and a whole lot of insulation. Pointing at a window to his right, Groszko describes the walls as “just super-thick.”

“I think there are 14 inches of insulation between the exterior concrete wall and the inside wall,” he says.

Operating costs are also kept low because of the solar panels covering the roof of each building.

Since the heating costs will be minimal, Groszko says residents don’t expect splitting the power bill evenly to be a problem. But if there are anomalies — maybe families with teens who like to take a lot of long, hot showers — it’s easy enough to set up a sub-meter for each home. In contrast, power drawn by the 10 electric vehicle chargers will be billed to individuals, based on their usage.

Admittedly, the startup costs of building to a passive house standard are higher, but Groszko says those are beginning to drop, as local architects, engineers, and contractors develop more expertise. Based on his research at NSCC, he expects the payback period to be five to ten years.

Properly maintained, the buildings themselves could last for 200 years, he says. “With a building that’s going to last for many decades, it’s clear that, over time, this is the right way to go.”

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*The Climate Story Network is an initiative of Climate Focus, a non-profit organization dedicated to covering stories about community-driven climate solutions.*