

What wood have been

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THE HOME OF Conrad Nobert and Rechel Amores was designed to be net zero, producing at least as much energy as it consumes over the course of a year. Three years after the NAIT staffers moved their family of four into the 200-square-metre (2,200-square-foot) house, it has yet to reach that goal. But it's come close – and Nobert wouldn't change a thing. "I think it's probably harder than we

thought to build a net zero house in Edmonton," he says.

Nobert and Amores (Computer Systems Technology '99) opted for baseboard heaters and a high-efficiency wood-burning stove to shore up their insulation and passive solar heating. But because the energy from burning wood can't be accounted for on the electricity meter, when they stopped using

the stove to test if the house could reach net zero, they fell short of their goal. Had they installed a geothermal system – which can be accounted for on the electricity meter – Nobert has no doubt they'd have met their goal. "We learned that it's possible, but we didn't quite make it," he says.

The fact remains: the energy savings are remarkable. Net

electricity use over a 12-month period for this home is between 1,600 and 2,600 kilowatt-hours (again, without burning wood, which can't be counted by the power meter). The average Edmonton home, in contrast, uses 40,000 kilowatt-hours (with natural gas consumption converted to its electric equivalent) over the same period. ■

The Nobert-Amores family home didn't qualify as net zero, but it still uses a fraction of the energy consumed by an average Edmonton house.

The zero effect

By incorporating the following features into their home, Conrad Nobert and Rechel Amores almost achieved net zero status:

- 40-centimetre walls filled with cellulose fibre insulation
- large south-facing windows
- interior concrete floors that absorb heat during the day and then release it during the evening
- a six-kilowatt solar electric system fed by 32 photovoltaic modules
- solar hot water

