

# Character home, un-characteristic footprint



Owners: Tobias Gelber and Paula Warren

When Tobias Gelber and Paula Warren bought their 1930 downtown Rossland home, they aimed to preserve its historical charm while adding modern features to make it a comfortable ‘retro-mod’ style home.

Three years in, renovations have already decreased their energy usage by 67 per cent—and they are still going. The roof holds a solar array that is projected to generate 67 GJ a year, enough for 70 per cent of their annual electricity needs, including charging for two electric cars.

“We wanted to preserve the character of the home but also have modern, energy-efficient heating,” says Tobias.

“It was this cute little house that we loved but we needed to make it more energy efficient because, in 1930, it wasn’t built with that in mind.”

In fact, the house was remarkably power hungry—needing 250 per cent more energy to run than a typical new home, with 80 per cent of that going to heating.

So, Tobias and Paula were all-in on the retrofit from the beginning. And then, a stroke of luck meant they would benefit from expert help all the way through.

Energy use

↘ 67%

Greenhouse gas emissions

↘ 98%

Solar generation

⚡ 67GJ

## A helping hand

Shortly after moving in, Tobias and Paula learned through a community newsletter that the City of Rossland would become one of the first Retrofit Assist communities, offering residents free guidance on their home energy retrofits.

“We were doing the work anyway, but we signed up because we knew we would benefit from having support from people that had knowledge and experience in managing applications for rebates,” explains Tobias.

Before tackling the rebate process, they first had to conquer some realities of working on a century-old building. For instance, there was an unfinished basement that leaked air through holes in the foundation, and the exposed metal pipes circulating water to the cast iron radiators around the house.

“There was even a cat flap swinging freely in the basement door,” says Tobias. “It meant cold feet in the winter and high energy bills.”



Solar panels on new garage roof.



Fan coil with room-by-room thermostat.

### Key Upgrades

#### Solar Panels

**18.4 kW  
capacity**



Generating clean electricity lowers utility bills. Tobias and Paula could cover 70% of their power needs.

#### Feature

**Hydronic  
heat pump**



This ultra efficient heat pump works without ducts, replacing a boiler, and introduces air conditioning.

## Hydronic heating with modern comfort

On the bright side they already had good insulation in the attic. This meant they could focus on air sealing and insulation work to the basement and foundation, and replacing windows and doors with modern energy-efficient units—all of which vastly reduced the house's heat loss.

Having sealed up and insulated the building envelope, Tobias and Paula could now look at installing a more energy-efficient heating system. The new air-to-water heat pump system has allowed them to replace the cast-iron radiators with fan coil units in each room that gently blow warmer or cooler air, each controlled by their own thermostat. This system also heats a new garage addition designed to match the roofline and style of the house.

With the house's energy needs minimized, they finally decided to install solar panels on every possible surface of the roof, resulting in an 18.4 kW array that came online in spring 2025. It is projected to provide 70 per cent of the electricity they need for the house and two electric vehicles.



Tobias and Mathias Gelber

“I think anyone doing this level of project has to have a personal interest and drive to reduce their carbon footprint as well as improve their home. It's going to be amazing when it's all done.”

## Contractors

**Dahl Mechanical**, is a local to Rossland plumbing and HVAC company, now owned by TyCor in Trail. This company installed the hydronic heat pump and fan coil units.

**Selkirk Insulators** is a small business based in Trail and serving the Kootenays since 2020. They did the air sealing and insulation work, including on the foundation.