Home Energy Retrofits – Assessments and Behaviours – FOLLOW UP

Ken's Handy Dandy Home Energy Benchmarker

Benchmarking your home's energy use allows you to compare your home energy use to other homes around you as well as gives you a baseline from which to measure the impacts of energy improvement efforts.

I have attached Ken Holmes' benchmarking excel template. It is a very easy way to start assessing your home's energy use. Just the process of undertaking this benchmarking exercise alone leads to an average 3% reduction in home energy use. After you complete your benchmark, we would be grateful if you sent us the results and we will add it to the Rossland benchmark database.

If you want to dive deeper into benchmarking check out Ken's full Benchmarking Energy Talk or Natural Resources Canada (NRCAN) primer on benchmarking.

Do-It-Yourself Home Energy Audit

DIY self assessments such as the City of Vancouver's DIY Home Energy Audit guide offer a free, relatively easy and fairly comprehensive way to assess your home energy performance as well as provides some guidance around how to go about improving it. Paired with the infrared camera and watt meter that will soon be available at the Rossland Library this guide is a good second step for the "retrofit curious".

Professional Energy Advisors

Professional Energy Advisors bring experience, knowledge and tools to the home energy assessments. With these tools, and the models they are able to develop with them, they can offer better guidance on where to direct retrofit efforts.

Bruce Edson's contact details are: bruce.edson@ecofitt.ca or (604) 219-2204. He is happy to field any follow up questions and queries you might have. His pre-retrofit assessment rate is $450 and post-retrofit assessment rate is $275. Currently he is booking about a month out.

You must complete your post-upgrade EnerGuide home evaluation within 18 months of your pre-upgrade EnerGuide home evaluation to access the Post-Upgrade EnerGuide Home Evaluation Rebate and the Home Energy Improvement Bonus. When people are getting an energy assessment, the energy advisor should ask them about their plans and goals to help align the report. Greener Homes – EnerGuide evaluations completed prior to December 1, 2020 are not eligible for reimbursement.

Behavioural aspects of energy conservation

There are significant opportunities to reduce a home's energy use through free and easy changes in our behaviour. For example, turning your thermostat down to 16°C at night and when you're away from home can result in up to a 13% reduction in the amount of gas you use for heating.

Fortis has a good web-page on energy-savings tips and how-to videos. BC Hydro has a version of it's own. These are a very good place to start and cover many of the points I covered in the presentation.

Fortis has a appliance cost calculator that allows you to compare the lifetime energy cost of difference appliances. Energuide also has a flip your fridge calculator that is designed to help you decide when it makes economic sense you change out your fridge.

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Renewable Natural Gas

Renewable natural gas are fugitive gases being captured from facilities such as industrial composts and waste treatments facilities and put into existing natural gas pipelines. They are considered net-zero as they would theoretically end up in the atmosphere regardless of whether or not you burned them for heat. Information on their source and how to buy them can be found HERE. It is an easy and relatively affordable way to cut your carbon footprint immediately while you plan and execute your home energy retrofit.

These CBC and VOX articles explore a few of the questions around it's role in getting us to net-zero by 2050. If you feel like diving deeper check out this webinar put on by the Pembina Institute looking at the role of RNG and Hydrogen in decarbonizing Canada's energy systems. The Energy Vs Climate podcast also has an upcoming episode on the future of natural gas in our homes. I highly recommend this podcast series to anybody interested in getting into the weeds on the future of energy in Canada.

Solar in Rossland

The Energy Task force has done a fair bit of work over the years looking into the economic and environmental case for small scale solar power generation here in Rossland. You can find articles on the subject HERE and HERE. The Pembina Institute also has a primer and webinar on the subject. If you really want to get into it, this Pembina report (can you tell I'm a fan?) looks at the long run economics of renewable energy in Canada.

Embodied Emissions

This is an important topic and is great to see that people are thinking about it and asking questions. There are a lot of decisions to make in a retrofit, and embodied carbon should be an important consideration in all of them. This report form UBC breaks down the different components of a home and their GHG potential comparing different levels of step code efficiency. I used one of its graphs in the first presentation. You can see that if you can keep from using foam (EPS and XPS) you can greatly reduce the embodied emissions of your retrofit.

On March 9th a subject matter expert from Better Homes BC will be giving us a presentation dedicated entirely to heat pumps. They will be able to address this life cycle emissions questions better. Until then, the above-mentioned report compares that operational and embodied life cycle emissions of different heating systems, including heat pumps. In this analysis, heat pumps have a much smaller GHG footprint than the alternatives.

We are also expecting to see the existing embedded emissions of heat pumps to fall as hydrofluorocarbons get phased out and alternative coolants such as CO2 get adopted. This Sanden CO2 Heat Pump Water Heaters an example of this.

Some additional resources

CBC - Save a building, fight climate change

NRCAN Water Heater Guide

NRCAN Guide to Home Energy Retrofits