All-Electric Homes Are Practical Now, and Can Help Mitigate Climate Change

The typical American home is powered electrically but heated by natural gas, propane or other fossil fuels. You and I can generate our own electricity with solar panels, but there’s no way for us to generate natural gas or other fossil fuel energy, so the transition to a “net zero energy” lifestyle necessitates turning away from fossil fuels and going all-electric.

Fortunately, technology has advanced — just in the last decade — to the point where going all-electric is totally practical, affordable, and a way you and I can mitigate climate change.

At Golden Real Estate, our office was heated with natural gas until November 2017, when we installed a heat pump “mini-split” system and had our natural gas meter removed. With 20 kilowatts of solar voltaic panels, we were able to eliminate our natural gas bill but not increase our electric bill. We continue to pay just $11 per month to be connected to the electric grid (which functions as our “battery” thanks to net metering), but we are generating all the electricity needed to power, heat and cool our office building. We even have enough electricity from the solar panels to power our four electric cars without buying any net electricity from Xcel Energy. We hope other businesses will follow our lead.

Making the switch to all-electric at home is still in our future, because — like you, I suspect — we prefer gas cooking, gas grilling, and having a gas fireplace.

If, however, we can get beyond those preferences, it is possible now to heat our home and domestic hot water using heat pump appliances, and to cook our food with electric or induction cooktops and ovens. Electric grilling is also available, although not as attractive from a taste standpoint to most of us.

All-electric homes was the subject of a talk by architect Peter Ewers at last week’s meeting of the Colorado Renewable Energy Society’s Jeffco chapter. You can view an archived video of Peter’s talk at www.cres-energy.org/video.

Once we have removed gas service from our homes (and gas cars from our garages), we will have also eliminated the risks of explosion and carbon monoxide poisoning, too. Wouldn’t that be great?

I Think I May Have Purchased My Last Car

We all know that a vehicle is “totaled” when the cost of repair is higher than its value after making the repair.

With electric cars such as Rita’s and my Teslas, the math changes rather dramatically. Except for collision damage (which is less likely because of the cars’ advanced driver assistance features), it’s hard to imagine a repair that would not be worth making.

The typical car with an internal combustion engine is often totaled because a new engine or transmission, like many other drive-train related repairs, can easily cost more than the resale value of the car. Not so with an all-electric car such as our Teslas.

Only 3% of the metal in a Tesla is steel — the body and frame are aluminum — so rust is not an issue. The two electric motors, which are not prone to failure anyway, could be replaced in 15 minutes. There is no transmission, timing belt, fuel pump, exhaust system, etc. In fact there are reportedly fewer than 50 moving parts in the entire car.

The battery, which barely degrades at all, can also be replaced in minutes, not hours, and, like the two motors, is warranted for eight years, unlimited miles. For me that equates to a 250,000-mile drive-train warranty. If, say, the battery needs replacing 10 years from now, the cost will probably be $5,000 or less by then — well worth the expense.

As you probably know, the operating system of the car is regularly updated by Tesla “over the air” for free. Our two cars have many features and functions that they didn’t have when they were built years ago and will have even more features in 2047, when I turn 100.

So, whereas one can speculate on the useful life of a traditional gas-powered car with a steel body, you really can’t speculate on the life expectancy of an all-electric car.

If you buy a Tesla, you may want to put it in your will, because it may outlive you.

Would you like to learn more about electric cars? On Sat., Sept. 14, from 10 am to 3pm, we’re hosting an EV round-up in our South Golden Road parking lot. More info at www.DriveElectricWeek.info.