

Golden Real Estate: 'Promoting & Modeling Environmental Responsibility'

REAL ESTATE TODAY



By JIM SMITH, Realtor®

The phrase in the headline above is one of two value statements that appear on all of Golden Real Estate's yard signs. (The other is "Hometown Service Delivered With Integrity.") One of the ways in which we "model environmental responsibility" is in the efficient use of energy at our office.

◆ First we had 5 kW of solar photovoltaic (PV) panels installed on the roof of our office.

◆ Next, in 2012, we purchased our first electric car, a Chevy Volt. Then, in 2014 we purchased our first Tesla.

◆ That led to the installation of another 5 kW of solar PV at the rear of our parking lot, followed by another 10 kW to support the free charging stations we had installed in our parking lot.

◆ In our office, we installed four sun tunnels (aka Solatubes, a brand name), which draw natural sunlight into our office, reducing our electrical consumption.

◆ We removed the gas water heater that came with our building and installed a tankless electric one.

◆ We super-insulated our building to reduce the amount of natural gas required to heat it.

Thus, it was only a matter of time before we stopped burning natural gas altogether. We had a heat pump (called a "mini-split") system installed, replacing the large natural gas furnace-A/C unit (shown here on our roof) which had effectively heated and cooled our office for many years, but which gave us a natural gas bill as high as \$175 per month in the winter.



Following the installation of the mini-split system in late November, we had Xcel Energy remove our gas meter. As a result, our December 2017 Xcel Energy bill was just \$11.79, which is the what Xcel charges to be connected to their electric grid. That bill (and bills of the foreseeable future) reflected zero kilowatt-hours purchased from Xcel, which functions as our "battery," allowing us to send excess solar-generated electricity to Xcel when the sun is shining, then draw it back when needed. This process (called "net metering"), enables us to power our office (including heating and cooling) **and** charge our electric cars and those of visitors without buying any electricity from Xcel.

Mini-splits are commonly used in other countries for the heating and cooling of homes and businesses and they're beginning to gain traction in the United States because of their efficient use of electricity instead of natural gas or other fossil fuels.

Bill Lucas-Brown of **GB3 Energy**, the company that installed our system, believes that mini-splits are the future — so much so that they are the only heating and cooling systems he's installing nowadays. On Bill's recommendation, we had Bill install what he considers the best system on the market, made by Mitsubishi. It utilizes a single condenser unit that powers three wall-mounted interior units. It is so efficient,

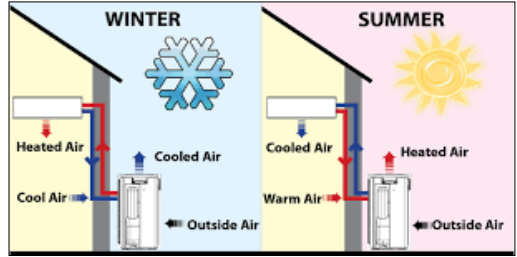
we just leave the wall units set at 70 degrees day and night. It's also an intelligent system, in that it can sense where people are and direct warm air (or cool air when needed) toward them.

Mini-splits are also ductless. A mini-split condenser can support multiple wall units, and in our application the coils from one roof-mounted unit (at left) run across our roof to the location of the three wall units mounted at ceiling height (right). This allowed us to remove the ducts hanging from our office ceiling, which we then re-painted white, making the office feel bigger and brighter.



We left the 30-year-old furnace and A/C unit on the roof, saving the cost of removing it by crane. As you can see in the photo, the condenser unit which feeds all three wall units is quite small — even smaller than the A/C compressor sitting outside a typical home.

How does a heat pump work? Look at this diagram which I downloaded from www.ashen.org:



When it's cold outside, a heat pump extracts heat from the outside air (which it can do even below freezing) and transfers that heat inside. When it's warm outside, it reverses direction and acts like an air conditioner, removing heat from your home. A heat pump efficiently **moves** heat as opposed to **generating** it.

The diagram shows the architecture of a heat pump system for a typical home. In such an installation, you'll see one or more ground-mounted condenser

units, with coils running along the bottom of the exterior walls and then up the walls to where the interior wall units are positioned. Our system is similar except that our condenser unit is on the roof, which keeps both it and the coils to the three wall units out of sight.

The improved comfort level, accomplished with minimal noise and without obvious air flow, was immediately noticeable by our agents and visitors alike. You're welcome to visit us and experience it yourself.

As mentioned above, we removed the furnace ducts. At right is a picture of those ducts sitting in our parking lot, waiting to be picked up for recycling.



So, what's next at Golden Real Estate? It would be hard to improve upon the energy efficiency of our office, so our next move will likely be to replace our gasoline-burning 2004 box truck (provided free to Golden Real Estate's buyers and sellers and to local non-profits) with a battery powered electric box truck. Electric box trucks are being manufactured in other countries and should be widely available here within the next few years. It was with that intention that we installed our two EV charging stations next to where we park our trucks, as shown in the picture at right. Currently, clients and non-profits who borrow our trucks at no cost are still expected to replace the gasoline they burn, but when they borrow our new electric truck, we can say, "Never mind about refueling it. Just plug it in when you return it."



If you'd like more information on mini-split systems, you can call or text Bill Lucas-Brown at 970-846-4766.

Back on Market: West Denver Bungalow With 2-Car Garage



This 2-BR bungalow is located in that west Denver neighborhood named after PT Barnum. It has always been a working class neighborhood, and is currently the hottest real estate market in Denver. During 2017 there were 63 sales of 1940's to 1960's Barnum bungalows like this one, with median time on market of 5 days. Over 63% of those sales were at or above the listing price. This home features new roof, siding and shutters, plus an oversized newer 2-car garage. Visit www.BarnumBungalows.info for more pictures and a narrated video tour, inside & out. **Open this Saturday, 11-1.**

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