

Snowmass Golf Clubhouse Green Building Tour Guide

Updated January 11, 2012



Start the tour outside.

The Golf Clubhouse is LEED Silver Certified, and is one of the greenest commercial buildings in Colorado. Note the plaque on the front wall. It's one of only 19 in the state; only three buildings are certified at a higher level. LEED, which stands for Leadership in Energy and Environmental Design, is the most respected and widely-recognized third-party certification standard. It was established by the **U.S. Green Building Council** (www.usgbc.org), a trade group. Prior to LEED, you could have banned smoking in a building and called it "green." There was no standard.

Walk in—point out the airlock **for energy efficiency**, **note rug to wipe feet**—that's actually a LEED credit to protect indoor air quality.

Point out that the **building is daylight** and that **90% of workers can see the outside from their place of work**. This is important because studies show that people are more productive and happier in daylight buildings.

Point out the walls. Note that **paints, glues, caulk, sealant carpets**, and **particle board** are all non-toxic, meaning they have low VOC content (volatile organic compounds). That means there is no "new car smell" which actually represents toxic offgassing.

Point out that the **heating and ventilation system** was closed-off when sheetrock was drying. In typical buildings, you run the furnace to dry the sheetrock mud. But that fills the system with dust. So we sealed it off during construction. We dried the sheetrock without heat. Later, when the building was done, we flushed the HVAC system for two weeks to clean out all the possible pollutants in the building. Then we replaced the old filters with HEPA models, which filter out even small allergens and pollen.

Note that 50% of **the wood** in the building is certified as sustainably harvested, including sustainably harvested eucalyptus finish on doors and cabinets. The cabinets, by the way, are strawboard, made from a waste product.

Go in the bathrooms. Point out **motion sensors** for lights. Demonstrate the **dual flush toilets**. Note that all toilets are "efficient" by law since the 1992 energy policy act. But these toilets beat that 1.6 gallon per flush standard. The building uses 30% less water than a similar building in Snowmass. The showerheads have restrictors that make them 2.0 gallons per minute instead of 2.5, which is code.

Note that **carpet** is a Collins and Aikman 30% recycled 100 percent recyclable product. Only recently has the technology existed to recycle carpet.

Point out the educational sign, a LEED requirement. Note that it's important to educate people about what we're doing, because we want the practices to spread.

In the kitchen, note that the **hood** above the stove runs on a variable speed, to save energy. Most fans are one speed, like always driving your car in first gear. This fan enables us to vent efficiently whether we're cooking one burger or 20.

Point out that the lights are **efficient compact fluorescents**. Note that we dipped them in peach coating to make the light softer.

Show them the **pond** in back which heats and cools the building. The water-source heat pump system works by the same principle as your basement. When you go into your basement in the summer, it's relatively cool down there. In the winter, it would be relatively warm if you didn't heat your house. That's because the ground stays the same temperature year round. We are dumping heat into the pond in the summer and capturing heat from it in the winter.

The building is about 50% more energy efficient than a code-built building, meaning 50% more energy efficient than any other building in Snowmass. Note that **Sanctuary** uses the same system to heat and cool the building. The Golf Clubhouse is **100% wind powered**. So the pumps and lights run on clean electricity purchased from Holy Cross Energy.

Go to the garage.

Note that we switched from gas to electric golf carts to reduce local pollution. Since the building is all wind powered, the cars have no carbon footprint. Batteries outgas hydrogen. So you need to vent the garage. Instead of running a fan all the time, we have 5 hydrogen sensors and they turn fans on when the concentration of H₂ comes up. Since they are redundant, there is no risk of failure.

Point out the efficient **T8 lighting**, not typically used in garages.

Go in the **boiler room**. Note that most boiler rooms are hot and noisy, both signs of inefficiency.

Point out the heat pumps, which are special models that have no CFCs, and no HCFCs. They use the third generations refrigerant, HFCs, which are least damaging to the ozone layer.

Point out the variable **speed circulation drives**.

In 2008, a 4.3 kW solar electric system was added to the facility by Aspen Skiing Company patroller, and owner of Aspen Solar, Mike Tierney. This system generates electricity equivalent to the usage of a single American home.

Go back outside and point out the herb garden and native vegetation, used to reduce water use for irrigation. Refer hard questions to Auden or Matt at 300-7153 or mhamilton@aspensnowmass.com. The architect for the building was Doug Graybeal, formerly of CCY Architects, now with his own firm. The engineering firm was MKK Engineering. The contractor was R.A. Nelson.