

at home

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HIDDEN WITHIN

Turner home pairs ranch style with sustainable energy innovation on the Flying D

Dr. Seuss Approved

Modern cottage embraces the unconventional

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Turner home pairs ranch style with sustainable energy innovation on



the Flying D

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PHOTOGRAPHY BY SEAN SPERRY



In

THE FOOTHILLS NEAR GALLATIN CANYON, right where rolling farmland begins to give way to wilderness, there is an old homestead structure. The building's weathered tones blend into the land around it. Low ridges and valleys fold into themselves and, depending on where you stand, you cannot see the mountains that are only miles away. It's a wildlife corridor, home to wolves and bear. Bison feed here, and elk are drawn to

warm south-facing slopes.

This is where Beau Turner decided to build his Montana home several years ago. Not interested in a specific view so much as finding a way to integrate into the land, he spoke with locals about siting the house. He asked about flood patterns and wind and where snow usually collected.

"I'm a water resources guy," said Turner, who is director of Natural Resources and Biodiversity at Turner Enterprises, Inc. "You don't want to be in the creek bottom; I wouldn't build in a flood plain."

Similarly, he avoided building the proverbial house on a hill. "I didn't want to be on top of the viewshed. If you're on the hill, you get blasted by wind."

He noted how too many people rush into building in very remote places or in areas that become difficult due to winter weather or flooding. When he decided to build here, his highest priorities were the house's footprint in the surrounding landscape and its proximity to town. "I chose the location more out of workability than for a particular view," Turner said. "I didn't want to take away from that landscape."

True to that aesthetic, the house stands in a middle-ground between ridgeline and water path. Reclaimed wood siding, false hayloft doors, cedar shakes, and weathered corrugated steel roofing all resonate with the historic past of the region. But that local agrarian feel is tempered by a Spanish stone arch breezeway between carriage house and main house. He calls it his *Legends of the Fall* home.

There is similar stonework on a south-facing patio and at the main entry. Standing near the front door and looking south, one can see the original homestead structure in the distance, a view framed by the porch beams of the new house.

Turner describes his home as a merge of East and West, with a little bit of Africa as well. It is also a successful combination of old ranch style with modern energy systems. Uphill and north of the house, there is a solar array — not far from a tepee frame and growing antler pile. The 10 photovoltaic panels are the first visible hint that the house embodies some very carefully thought-out efficiency strategies. The more complex systems are hidden inside and underground.



Rather than siting the house on a hilltop with the best view, Beau Turner purposely built his home to blend with landscape and avoid weather challenges.

Hidden Within

Mike Foran, senior project manager at Energy 1, advised Turner and oversaw the process of retro-fitting the house with renewable energy systems last year, including the solar array. The house was already built and had been relying primarily on propane for heat. Turner asked Foran what Energy 1 could do to dramatically reduce the utility costs and carbon footprint of the home.

The company completed a comprehensive feasibility study, looking at the house, its utility bills and usage patterns, the landscaping, surrounding terrain, and potential challenges in incorporating high-efficiency technology in an existing structure. Energy 1 offered to install the solar array and strongly recommended retro-fitting the home with a geothermal heating system. It would be a massive construction project, but the feasibility study forecast that it would pay for itself in utility savings after only three to five years.

In this case, geothermal does not refer to thermal features like those in Yellowstone. In the world of renewable energy, geothermal usually refers to a system of piping installed below the earth's surface to capture the stable and moderate temperature of the ground and then transferring that inherent energy into heating and cooling.

Six 300-foot vertical holes were drilled under the driveway outside Turner's house. Interconnected pipes were installed and filled with a glycol-water mixture. The glycol concentration allows for optimal heat transfer efficiency, according to Energy 1.

Specifically, the glycol-water solution absorbs energy from the ground and delivers it to heat pumps in the crawl space adjacent to the utility room. Here, a compressor further increases the temperature in the system. In Turner's house, the final result is an energy source for the radiant heat system and some domestic hot water too.

In plain terms, a geothermal heating system is able to transfer up to four times more energy than it consumes. Comparatively, natural



Above, the walls and floors are dark-stained reclaimed wood — some of it from an old barn. Combined with the exposed beam and plaster ceiling and the light stone fireplace, below, the open space feels cozy rather than dark.



gas or electric heat systems produce roughly the same amount of energy as they consume.

In the summer, the system is reversed — the geothermal energy is used to generate cooling through a forced-air system. Energy 1 reports that geothermal is essentially free cooling in the summer.

The new energy systems have already cut Turner's utility bills by two-thirds. "That's impressive; the technology is phenomenal," Turner said.

The project was not without risks, though. Retro-fitting, in this case, meant cutting into walls with custom finishes, excavating a section of driveway and front lawn, and bringing large equipment into delicate habitat. Energy 1 had to hydro-seed the lawn, re-open a mine to obtain gravel that matched the existing drive, and bring in finish carpenters to precisely restore interior elements in the home.

The detail work paid off. Inside and out, there is no visual evidence of the recent extensive upgrade to the house's energy core. "I think you can really pull it together," Turner said of the green energy technology hidden within the lodge-styled home. "When you can tie it in with a period piece, that makes it even more special."

A period piece, yes. A very inviting space

too. The house was built around a stacked stone fireplace in the center of the great room. The chimney is commanding, but not heavy. In fact, standing on the landing at the top of the stairs and looking at the room below, it is evident that the fireplace is not only a source of heat, but a source of reflected light as well.

There is no single panoramic window in the dining and entertaining area. There is plenty of light, but the framing of that light is more classic, equal parts traditional European and old West. Foothills and rolling fields are visible through rows of French doors and tall windows mimicking the width and height of the doors. Light also spills in through smaller barn windows higher up.

The walls and floors are dark-stained reclaimed wood — some of it from an old barn on Snowcrest Ranch. Reminiscent of an old world hunting lodge, the wood walls give way to exposed beam and plaster, which continues on the ceiling. It was a bold design choice, but, surprisingly, it doesn't feel dark. It feels warm. Light plays off the plaster and the fireplace stone, making the whole space glow.

Turner laughs at how well that worked out. "It's luck really; I wish I could take credit," he said, and went on to describe how he likes being able to open up the doors on the main level. "It's an inside-outside home... I don't like a cave. Remember, Montana is a place where you need extra light."

Throughout the home, interior designer Laura Hunt helped the Turner family

In the kitchen, above, a farmhouse sink is surrounded by copper countertops. The unique details and decor throughout the home suggest both traditional European and old West style.



blend rustic touches and antiques, complemented by beautiful artful finishes. An antique Scottish bench in the back entry sits next to custom built-in shelving. In the kitchen, a farmhouse sink is surrounded by copper laminate counters. Upstairs, *Wind in the Willows* characters are painted on the walls in Turner's young son's bedroom. Meanwhile, in the master suite, the walls appear to be covered with an ornate wallpaper, a European village motif in rich red and cream. On closer look, it's fabric. The walls are upholstered, the motif perfectly matched at every seam

and finished with corded piping in the corners.

Heading back downstairs, Audubon prints, 19th century aquatints, and wood-carved deer head sconces all direct the eye upward to a stairwell window that could easily be a canvas itself: a pole fence runs along the hill just beyond the drive; and beyond that, the tops of the foothills.

In the main level guest room, there are framed archival pressings of locally gathered wildflowers: Columbine, resurrection fern, arrowleaf balsam-root, lupine, Solomon's seal. In another guest room, antique cabinets stand on carpet made from recycled



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Hidden Within

plastic bottles. On the wall is a print of the 1827 Vandermaelen Lithograph relief map of the northern Rockies.

Other walls and hutches hold playful snapshots of friends and family and photos from safaris and travels abroad. “The place is full of memories,” Turner said. “My guests especially enjoy looking at all of the wildlife, and the quiet atmosphere...it’s a peaceful, inspiring place to be.”

After last year’s improvements, the house resonates even more with Turner’s conservation values. Artful, comfortable, and intelligently designed, the space expresses both his sense of hospitality and regard for the land. @

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Uphill and north of the house solar panels (right) are the only sign that the house was recently retro-fitted with a geothermal heating system, despite the fact that a large section of driveway and front lawn had to be excavated for the project. The renewable energy system has already cut the home’s utility bill by two-thirds.



For more information on renewable energy systems for new and existing homes, visit www.energy-1.net, or phone (406) 587-2917.

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