

High Country Harmony

by REX A. EWING

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If you are lucky enough to spend the night in Scott and Tess Van Wagner's 1,500 square-foot solar-powered hideaway in the Colorado Rockies near Telluride, you might wake up to the enchanting melodies of mountain bluebirds, courting just outside the upstairs guest bedroom. If you then venture out onto the stylish, cantilevered Truman Porch—named after the brassy 33rd President who commissioned a similar, though much grander, porch to be built on the south portico of the White House in 1948—you will be greeted by untamed nature as far as the eye can see. Through the 80-foot aspens to the north and west, you'll see a towering forest of fir and spruce trees surrounding the mountain meadow where the cabin sits. To the south, the sunny, snow-capped summits of North Pole and Hayden Peaks look down on you from nearly 13,000 feet.

And, if it's a cool, crisp morning and the air is still, you may just hear the tunes of John Coltrane or Charlie Parker reverberating through the trees, compliments of Scott Van Wagner and his soprano saxophone.

But even when the sax is safely tucked away inside the Van Wagner's custom-built vacation home, nestled miles away from the nearest power line, the music of their alpine paradise never ends. "Nature is filled with its own rhythms," Scott muses. "Some you hear—the birds and the crickets, the elk and the wind whistling through the trees. But there are also subtle rhythms that you sense, but don't hear; it's

nature, forever changing." Tess, a cellist and an orchestra director for a school district on Chicago's northshore, echoes Scott's sentiments, adding, "It's the sounds of silence that make this place so special."

While Scott and Tess and their two sons, Max and Derek, spend most of the year in Chicago, Colorado feels no less like home. "We spend as much time as we can at the cabin. The dramatic seasonal changes dictate what activities we participate in during our stays. We do everything from skiing, sledding and snowshoeing, to fishing, biking, wake boarding and mountain climbing," Scott, a supply chain management executive, explains, "and we're forever looking forward to the day we can enjoy our Colorado hideaway and the boundless nature around us fulltime."

These days, the Van Wagners feel more in touch with nature than ever before, since it's nature alone that provides the electricity to make life so pleasant and cozy in their hand-hewn vacation home.

Though relatively small, the Van Wagner's solar electric system was expertly designed and installed by Backroads Enterprises Mountain Power Company, out of Ridgway. Rather than having the components spread out, everything is located in, or on, the generator shed that lies 50 feet west of the house. The 320-watt array of Solarex photovoltaic modules is mounted on the shed's south-facing roof. Inside the shed, the 24-volt DC current produced by

the array is directed through a charge controller—a component designed to regulate the amount of current coming from the array—before moving on to a well-maintained bank of a dozen L-16 Interstate solar batteries. The final transformation is made by a Trace SW4024 sine wave inverter: 24 volts of DC current from the batteries goes in one end, and 120 volts of clean, AC house current comes out the other. The house is supplied with power by a buried electrical lead coming from the shed. The system is fully monitored with a Trimetric digital meter from Bogart Engineering, so Scott always knows how much current is going in and out, and what state of charge the batteries are in.

What can the Van Wagners run with their small solar array? Plenty. Besides powering the lights and many of the appliances (the range and the fridge, wisely, run on propane) they use sunlight to operate the zone pumps for the in-floor hydronic hot water heating system, and to pump water directly from the 185-foot well.

For those times when the electrical demands are high and the sun is being uncooperative, a Kohler propane-fired generator wired into the inverter supplies the extra power. When the batteries reach a preprogrammed low-voltage threshold, the inverter automatically starts up the generator. Once the batteries are charged, the inverter turns it off. “It’s very nice to have,” Scott admits, “though it’s rarely needed.”

How can they run so much, with so little? Scott attributes the system’s success to the home’s solid construction and thoughtful design. “It was designed and built by Ted Moews, who is something of a legend around here. Ted interviewed us several times before beginning the design, just to be sure he knew what would best suit our budget and our lifestyle. When it came time to build, he picked through seven loads of spruce logs from seven different suppliers to find just the right logs for our house. The end result was a tight and efficient house

that’s as pleasing to look at as it is comfortable to live in.”

The extra-wide eaves let the winter sun into the south side picture windows and two sets of double doors, while providing plenty of shade in the summer months. To take advantage of the plentiful firewood on the 10-acre parcel, a natural-stone Rumford fireplace—a time-honored style designed to reflect heat back into the room, while allowing easy passage of smoke up the chimney—provides ample heat for the whole house. To help heat the loft, the masons installed the damper near the top of the chimney, to trap heat within the chimney’s great thermal mass. Says Scott, “It’s just good design, through and through.”

What do the Van Wagners like most about renewable energy? “Independence!” Scott exclaims. “The sense of freedom we get from having our own means of producing electricity is energizing.” Then a note of caution creeps into his voice, as he says, “Of course, it’s important to realize that, while the energy we produce is renewable, it is not endless. That means we’ve had to learn to conserve energy wherever possible.”

Is that a hardship? Not according to Tess. “It’s natural for us to conserve when we’re up in the mountains. In fact, since we built the cabin we have become ever more conscious about conserving energy, no matter where we are.”

There’s an unmistakable harmony in that thought.

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