



THE GREEN REVOLUTION IN HOME DESIGN

Thanks to firms like Rodwin Architecture, sustainability comes standard in today's residential design/build

By Sarah Huber
At Home Colorado

Perhaps no industry in the past 20 years has experienced a green revolution quite like the residential design/build trade. In fact, some of the greenest homes constructed two decades ago would be considered “sustainably mediocre” when compared to “the significantly upgraded building codes and technology of today’s homes,” explained Scott Rodwin, AIA, LEED AP and the founder and principal architect of the highly respected firm Rodwin Architecture in Boulder. For example, Boulder County codes now require new homes over 5,000 square feet to measure net-zero energy, with all new homes by 2031 to be built at net-zero energy.

Rodwin himself, along with his firm’s construction partner, Skycastle Construction, has been a major force in the push for sustainable home design and construction. Long before words like “climate change” and “efficiency” permeated the field,



A rendering of the new Skyway 2.0 is shown in the top photo with the original Skyway 1.0 photos shown below. (Rendering/Photos: Rodwin Architecture).

Rodwin, still in college and taking jobs as a construction framer, committed his “life’s work to creating homes that are beautiful and sustainable,” he recalled.

“Since the day I graduated, sustainability has been part of every project I’ve taken on,” said Rodwin, who received his architectural degree from Cornell University in 1991 and soon after established and chaired the American Institute of Architecture (AIA)’s Committee



on the Environment in Colorado. Today he serves as the AIA North Chapter director. He continued, “There’s a quote from Henry David Thoreau that especially hit me after I completed my training as an architect: ‘What’s the use of

a fine house if you haven’t got a tolerable planet to put it on?’”

Two homes in Rodwin’s portfolio encapsulate both his dedication to building fine homes with an eye on the planet and the major leaps in green technology in home design and construction.

MAXIMUM SUSTAINABILITY IN A NEW BUILD

The first home, Skyway 2.0, is currently in the design phase and is a comprehensive rebuild of Skyway (1.0), a Spanish Hills home that Rodwin designed 21 years ago and was destroyed in the Marshall Fire in December. “Skyway was a very green house when we first created it, with an Energy Star window package and upgraded insulation, but there are so many more things we can do now,” he said. Moreover, “the owners are 20 years older, their lives have changed, their family dynamic has changed, so while Skyway 2.0 in some ways will be much the same, the style and interior composition has been updated.”

Skyway 2.0’s sustainability

plan begins with passive solar orientation and renewable energy. Solar panels are standard, and an inch of ridged foam will coat exterior wall sheathing to reduce air leaks and eliminate thermal breaks. An electric heat pump and energy recovery ventilator, or ERV, will provide heating and cooling while appreciably reducing energy waste. Similarly, EPA WaterSense plumbing and xeric landscaping will moderate water use.

PRIORITIZING EFFICIENCY IN A REMODEL

Another Rodwin Architecture home that highlights gains in sustainable home design in its very composition is a project Rodwin calls Big House on the Prairie. "This is a COVID success story," he said, "a large 17-year-old home that we remodeled sustainably into a family oasis." The home's formerly cavernous space and exposed swimming pool made the home an "energy hog". We reduced the home's energy bill by 80 percent, starting with 17 kW of solar panels," he said. Rodwin outfitted the pool with a large shade pavilion



The Big House on the Prairie – This project was recognized by 5280 Magazine for Best Home Office in Colorado, and a national award by Qualified Remodeler Master Design Awards. Built by Skycastle Construction. This interior design was a 50/50 collaboration between Rodwin Architecture and Kimball Modern Design + Interiors. (Photo: Rodwin Architecture/Dane Cronin Photography).

featuring bi-facial solar panels, which produce solar power from both sides of the module, thereby increasing total energy generation and suggesting "the feeling of standing under a tree with dappled light spilling through," he said. High-speed electric car chargers were installed, now the norm in the homes Rodwin builds in Boulder County, as were new

high-efficiency mechanical systems. "Electrification is a major push through the region," he said. "We're swapping out gas furnaces and hot water heaters with electric mechanical systems – the electric heat pump being a popular way to reduce its carbon footprint."

Rodwin added, "The question in these homes is "Where is the electricity we need being

produced?" An electric mechanical system pairs very well with solar – like peanut butter and jelly, they go together perfectly." Whether building a home from the foundation up or leading an extensive remodel, Rodwin and his team keep the end in mind: "Our mission has always been to create extraordinary, beautiful, sustainable homes," he said.

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