



University of Wyoming

Mountain Side Zero



Project Summary

Mountain Side Zero pushes energy innovation while maintaining a unique architectural appearance. Right at home in the sustainable community of Mountain Side village in Victor Idaho, the form and aesthetic are directed by energy efficiency. Among other things an open floor plan and huge south facing windows make this single family home a beautiful and comfortable place to live.



Relevance of Project to the Goals of the Competition

Mountain Side Zero is not only beautiful but also an extremely efficient and energy conscious home. Through the use of building science, knowledge of passive strategies, and application of modern mechanical systems, this building has met the goal of a zero energy HERS rating.

Design Strategy and Key Points

To create this design the University of Wyoming team used a combination of strategies. The first is a tiered pyramid of our own invention. This method suggest a hierarchy of importance in design. At the foundation is "Good Design". This signifies that the basic shape, construction detailing, insulation levels, foundation type, structural system, and architectural character all add to the efficiency of the structure. The second tier involves integrating passive strategies. Only after these things have been done well can the mechanical systems add to the efficiency. We realize however that this is not a linear process. A change in one area may effect a decision that was made a long time ago. To account for this we also thought of the building as an energy system with interconnected parts.

Project Data

Victor, Idaho
 IECC Climate zone 6
 1356 sq. ft.
 3 Bed, 2 Bath, 2 Stories
 HERS rating of -2
 Expected to earn \$225/ yr

Technical Specifications

[I.E. Wall Insulation = R42
 Foundation Insulation = R20
 Roof Insulation = R48
 Window Performance = U-value: .106 Btu/hr. and SHGC: .620
 HVAC specifications = Ductless Heat Pump Air Conditioner Air Handler/ Mini Split