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Passive House Designs are NOT Rocket Science: Two Ultra-Low Energy Examples

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Two passive house designs recently caught our attention that are definitely worth sharing as great examples of attainable yet highly efficient green house plans.

Maine Passive House to Get 90% of Its Heat from the Sun

The first is a house being built in Maine. Based on thoughtful but relatively straightforward techniques, this home is projected to receive 90% of its heat from the sun, and the remaining 10% will come from a small wood stove and wall-mounted electric heaters.

Using many of the typical design features – super insulation, super airtightness, and passive solar designs, this house will save the owners a bundle on energy bills. But builder of this house, one Jesper Kruse of Maine Passive House, maintains that this type of construction is not significantly more technical than code building. It's just a lot more intentional.

"There's nothing here that's really rocket science, I mean there's no new materials or something that isn't fairly straightforward," commented Jesper Kruse, the builder of the home. Is this just an isolated case, or do other builders agree?

5,100 Square Foot Passive House to Use Less Than $400 in Heating and Cooling Annually

As the 25th Certified Passive House in the United States, you know that it meets a high standard for energy conservation. But can you believe that the 5,100 square foot house is projected to consume less than $400 every year for heating *and* cooling? That's about $30 to $40 per month for heating and cooling, which is incredibly low for a house of this size. In fact, as the builder of the home in this video suggests, the home is likely to be 85% more efficient than a standard code built house.

But was it a challenge to build a passive house? Not according to the builder, who maintains that the design of a passive house is not complex. Instead, by paying extraordinary attention to the details – such as ensuring that there is no thermal bridging (no solid piece of wood that goes from the outside to the inside) and ensuring passive solar designs by properly orienting the building and installing strategically placed, super efficient windows – you can achieve remarkable results like those of this Virginia home.

This builder said almost the same thing as Jesper, "This is not rocket science!"

So can anyone build a passive house? It's probably a good idea to choose a builder with some know-how in the techniques, but if these examples are any indication, passive house designs should be attainable by virtually anyone.

Image courtesy of SunJournal

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We blog about green building practices to help you create energy efficient homes.