

My basic take on why Passive House belongs in the Reach Code is that we know that's where we need to get to, within about three code cycles.

I have come to see the Passive House Standard as the culmination of the painful learning curve that the building industry went through after people first started trying to super-insulate in the 70's. "Let's insulate! oops, no good with all that air leakage. Let's air-tighten! oops, Sick Building Syndrome. Let's ventilate! oops, back-drafting combustion appliances. What do we do now?!"*

The Passive House approach has learned from these mistakes, and by looking at the building as a system, it has not only solved these problems, but also increased indoor air quality and thermal comfort while radically decreasing energy use. It is a true win.

It's more like a set of principles than a recipe. The trouble with pulling out specific technologies is that, outside the context of the Passive House system, they would probably either not work or would be overkill or a waste of money. It would be difficult to "prescriptivize" it even if you limit the context to a specific size and type of building in one climate.

Passive House is a set of performance criteria and a clear methodology — using a whole-building energy performance workbook (PHPP) — that allows a designer or builder to design a building to achieve that performance in the most cost-effective way.

Using PHPP is more work than looking things up on a prescriptive table, but it doesn't require four years experience with EnergyPlus either. Because a rather close accounting of energy losses is necessary, it does have many input parameters, but far fewer than full dynamic simulations for the same accuracy. Moreover there are manageably few knobs-to-turn, which are practically effective for optimization. PHPP is a true advance.

Buildings are complicated creatures and no two sites are alike. Achieving high performance with limited resources requires a performance-based approach. The Passive House Standard is a proven approach to this end.

*(Balance the ventilation and seal the combustion. Now add heat recovery to the ventilation, up the insulation and shrink the furnace until you can distribute most of the heat using the ventilation airflow, and voila: Passive House.)