



## DOES IT COST MORE TO BUILD GREEN?

On a typical \$250,000 custom built home, building it green will cost about 1% to 5% more (\$2,500-\$12,500), depending on how deep of a green home you build. So the items listed below show what you might spend relative to what you will gain.

There are 5 levels of certification for the Built Green program in Olympia. The highest level, 5 Star Built Green, uses these items outlined and you will end up with a house that is at least 50% better than any code built home in energy efficiency. Most likely you will exceed this. Check with us concerning your project for a more accurate estimate. Energy Star certified homes are 15% - 30% better than code built homes.

From building science, we know that air tightness of the structure is the most important variable to achieve energy efficiency. The next most important variable is reducing thermal bridging. This is followed by the R-value of insulation. The items listed below are not in any order of importance. Each of the items WILL improve the quality of your home.

1. Starting with the simple costs, it takes less than a few hundred dollars of foam and caulking to make sure the home is sealed up and air tight. This is the most critical item influencing the energy efficiency to a home, yet is one of the cheapest tasks to perform.
2. For \$10 per window more on a double pane Low E window, one gets a window with an "energy spacer" that makes the window 10% more energy efficient. If you build a home with 15 windows, this is only \$150 more.
3. For about \$50 more per window, you can get triple paned windows with significantly better performance for energy efficiency!!!
4. If you request advance framing construction, you get 1/3 less wood in your exterior wall for thermal bridging and just that much more insulation in critical areas like corners at no extra costs.
5. Low flow toilets and faucets and showerheads are approximately the same costs after rebates now as other regular flowing plumbing fixtures. With low flow toilets and faucets, you purchase fewer gallons of water and pay less for your sewer.
6. Building with a good design that utilizes building science principles (solar orientation, smart window designs, boxier floor plan [saves on amount of exterior walls to insulate], proper eave and porch designs to minimize solar gain in the summer and capturing solar heat in the winter, etc) does not cost anything additional, but brings big dividends to building a more "green" home.
7. Design a smaller square foot house, and save money. The home will cost less to build and cost you less to heat and take care of later. There is so much wasted square footage designed into homes that you pay to have built, that you pay to heat and maintain, but that you seldom ever use.
8. For about \$1000 more total on a typical \$250,000 home, you can build with SIP (structural insulated panels). This product alone will get you to the 50% savings on energy because it addresses all three important issues in building sciences for attaining energy efficiency, air tightness, no thermal bridging, and higher R values for the insulation.
9. For about \$100 more you can have a very quiet Panasonic exhaust fan that runs on 1/3 the energy. Having a good exhaust fan that quietly works 24/7 will ensure good indoor air supply constantly.
10. For about \$450 more you can have an ultra quiet ERV (energy recovery ventilator). This recaptures the heat from the air being exhausted and puts it back into the fresh air being sucked into your home at about 65% efficient. This also filters the air for large particles.
11. Using a gas powered tank less water heater will cost about \$1500 more up front, but you end up paying only for hot water that you actually use . . . and not for hot water to be stored in your hot water tank. These units save on space in your home, and you will not run out of hot water either (smile)!
12. For about \$4,900 after tax incentives you can have a solar hot water panel that will save about 60% off of the energy you need to make hot water for domestic uses! This kind of system really mates well with a tank less water heater.



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13. Radiant heat using the tank less water heater is about \$5,000 more than a central forced air system. It certainly makes a home much more comfortable. But more important, it is very quiet and there is no blowing air. This is very important for people with respiratory issues.
14. One can use radiant electric pads under the floor (like under bathroom floors), or radiant electric wall mount units for about \$700 each. Boy, is this cozy when you go through the cold house in the morning to a nice warm bathroom!
15. Well-built "green" homes tend to have less maintenance and use sustainable practices, so you spend less caring for your home.
16. Using an R-5 to an R-8 fiberglass exterior door adds little additional cost, but gives big payback.

Most people who have smaller budgets to spend on a home still want a "green" home. Based on our knowledge of building science and years of experience in building green homes, we have found methods and product selections that still result in a very energy efficient home but at a low cost! *Please call me if you would like to have an in-depth conversation about building green.*

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