

Certified green homes provide utility savings and more

More costs up front, but better in long run



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Living Green

Folks purchasing or building a new home have a great opportunity to make a decision that will impact their checkbooks and lifestyle for a long time.

My horse and RV enthusiast buddies discovered the diesel engine for their towing vehicles about 20 years ago. Pickup trucks with diesel powerplants were more fuel-efficient and had more torque and available horsepower than their gasoline cousins. Important byproducts of the diesel engine upgrade were safety and durability. The vehicle frames had to be heavier to support the motor and this weight lent needed stability to control the load being towed.

Since the diesel motors borrowed design technology from commercial trucking, durability was increased over gas-powered pickups, with many of these trucks still hauling loads today.

Energy efficient and green-designed homes have a lot in common with diesel pickups. These homes cost a little more at the time of purchase, but buyers benefit from decreased utility costs, improved safety and comfort and reduced maintenance costs. Durability is improved as well by implementing lessons learned from commercial building science.

The chart on the top right is an example of the cost savings associated with the purchase of a new certified green program home (specifically, a home that

meets the IRS Federal and New Mexico state energy efficiency tax credit requirements with a Home Energy Rating of 60 or lower) compared to a standard efficiency home (Home Energy Rating of 90).

Just as in the diesel pickup example, we take a hit on the initial purchase price and the increased cost to finance the purchase. In our example, the certified green home's total additional costs are \$13,550 more than a home with typical efficiencies (a Home Energy Rating score of 90 is typical for a new home with limited or no efficiency upgrades).

In this 15-year mortgage example, the utility savings from the high performance certified green home exceeds the purchase price and financing premiums. Or more simply, the utility savings cover the cost of the efficiency upgrades. However, the premium buys much more than just the energy efficiency represented by the utility dollars saved.

Since this certified green home meets Build Green New Mexico or LEED for Home's program objectives, durability measures are incorporated, making the home easier to maintain while extending the life of the home's systems.

Finish materials include types that require little or no paint, sealant or preventative maintenance, such as fiberglass window frames, metal roofing and concrete. Windows, doors and roof edges have flashing details designed to limit moisture and UV damage.

The impact of moisture inside the home is limited by:

1. Metered continuous fresh air ventilation working in tandem with a properly sized air conditioning system to remove summer humidity resulting from every

| Example of Savings vs Costs for a Certified Green Home | | | |
|---|---------------|---------------------------------|-------------|
| 15 year mortgage - 2500' home | | | |
| Comparison Criteria | Standard Home | Certified Green Home | \$ Savings/ |
| | HERS 90 | (BGNM or LEED-H Silver) HERS 60 | \$ (-Costs) |
| Home Sale Price | \$300,000 | \$309,225 | -\$9,225 |
| Total Mortgage Interest Increase (@ 5.5%) | \$0 | \$4,325 | -\$4,325 |
| Total Utility Costs (with 3.5% annual increase) | \$42,050 | \$28,173 | \$13,876 |
| IRS Federal Energy Efficiency Tax Credit | \$0 | -\$2,000 | \$2,000 |
| NM Sustainable Energy Efficiency Tax Credit | \$0 | -\$11,250 | \$11,250 |
| Certified Green Home Utility and Tax Credit Savings | | | \$13,576 |

day household activities.

2. Water resistant backer board at bath and laundry areas.

The certified green home upgrades save water at this property as well as energy. Climate appropriate plants for our Chihuahuan Desert are installed with zoned controls decreasing drinking water use for irrigation. Gutters and rain barrels harvest and store water from precipitation. The design of the lot at the green home manages most of the accumulated rain water on site, limits runoff, helps to restore the local aquifer and limits potential erosion.

The same \$9,225 upgrade investment has also purchased improved indoor air quality: Low or no Volatile Organic Compound (VOC) paint, caulk and sealants, cabinets and carpets free of formaldehyde, advanced HVAC filtration and easy to clean hard surface flooring allow the new homeowners to breathe easy.

Since this certified green program home exceeds current building code requirements, it will compare favor-

ably with homes built five or 10 years in the future. This helps to insure future appraisal values and marketability when the time comes to sell.

As the ShamWow guy says, "Wait - there's more." In the example you see another \$13,250 kicked into the equation by the state and federal governments as energy efficiency tax credits. These dollars are subtracted directly from your state and federal income tax liability (these credits can be taken all at once or over five years). The energy efficient tax credits provide a "two for one" return on utility savings that make these offers hard to resist.

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