Benefits of Green Homebuilding

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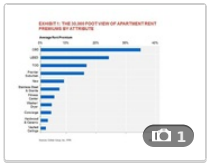
Photo credit: Rob Moody

Benefits of LEED-Certified Homes: Savings, Value, Well-Being, Trusted



Homes don't merely have an outsized impact on our personal lives, they are also a critical piece of the broader building industry. The National Association of Home Builders reports that as of the first quarter of 2014, housing contributed $2.47 trillion to gross domestic product.

"Since 2005, the green share of new single family residential construction has grown dramatically— increasing from 2% in 2005 to 23% in 2013. This 23% market share equates to a $36 billion market opportunity.[1]"

Savings: Reducing Energy & Water Consumption

The typical household spends about $2,150 a year on residential energy bills[2].

LEED-certified homes are:

- Built to be energy-efficient, ensuring that the home can be comfortably heated and cooled with minimal energy usage;
- Individually tested to minimize envelope and ductwork leakage;
- Designed to minimize indoor and outdoor water usage;
- Predicted to use an estimated 30 to 60% less energy than a comparable home built to International Energy Conservation Code.

Based on the average HERS ratings for each level of LEED certification, these homes could potentially see energy reductions of:

- Up to 30% (for LEED Certified homes)
- Approximately 30% (for LEED Silver homes)
- Approximately 48% (for LEED Gold homes)
- 50-60% (for LEED Platinum homes)

LEED for Homes projects must meet ENERGY STAR for Homes, which can cut energy bills by 20%[3], saving between $200 to $400 annually, adding up to potentially thousands of dollars saved over the seven or eight years that the typical homeowner lives in a home. Some homes see savings of of to 60%, and energy efficiency in apartments could save $3.4 billion.[4].

Value: Green Homes are Dream Homes

Researchers found that between 2007 – early 2012, the value of homes in California with a green certification label was an average of 9% higher than comparable, non-certified homes[5].

LEED certification is near the top of the list in a ranking of individual attributes of apartment rentals, second only to placement near a central business district, according to a CoStar Group, Inc. analysis. See Slideshow image above[6].

Consumers ranked green/energy efficiency as their top requirement for their dream homes

- 60% said that green and energy efficient are amenities they want in their next home[7]
- A 2008 study conducted by McGraw-Hill Construction and USGBC found that the mean price of green homes purchased by survey respondents was $296,000; the median was $239,000

Green homes can be built for the same cost as — and even less than — conventional homes.

- Sometimes there are upfront costs which on average are 2.4% and can be quickly recouped with the homeowners saving money for the rest of the home's lifespan[8]
- Green homes have a higher resale value and are on the market for less time than comparable conventional homes. The Earth Advantage Study in 2011 found that, on average, green-certified new homes sold for 8% more than non-certified green homes. Resales of existing green homes sold for an average of 30% more than conventional homes[9]

Well Being

LEED-certified homes require proper ventilation, high efficiency air filters and measures to reduce mold and mildew.

Trusted

Each LEED home undergoes onsite inspections, detailed documentation review, and as-built performance testing.

Green Home Market

- More than 196,500 units have been registered under the LEED for Homes rating system. 82,000 of those units have been certified under LEED for Homes; nearly half of those units are in the affordable housing sector.[**]
- It is estimated that by 2016 the green single-family housing market will represent 26%-33% of the market. [10]
- 42% percent of LEED-certified home units fall in the affordable housing sector

Environmental Impact of the Residential Market

Energy:

- Households use about one-fifth of the total energy consumed in the U.S. each year; the residential sector is responsible for 21% of the nation's carbon dioxide emissions[12]
- Since 1985, residential energy consumption, measured as total energy (i.e., including electricity losses), increased overall by about 34%[13]
- It's expected that by 2016, 90% of all residential construction will have energy efficient features[14]
- To date, more than 1 million ENERGY STAR-qualified homes constructed save consumers an estimated $200 million annually in utility bills[15]

Water:

- Total U.S. residential energy consumption is projected to increase 17 % from 1995 - 2015[16]
- Total residential water use: 29.40 billion gallons per day or 7.1% of U.S. total water use[17]

Waste:

- Total estimated construction and demolition (C&D) generation amount for residential construction in 2003: 10 million tons. Average residential C&D debris generation rate in 2003: 4.39 pounds per square foot[18]

For more information, please read our LEED in Motion: Residential report (http://go.usgbc.org/homes)

[1]Nils Kok and Matthew E. Kahn, The Value of Green Labels in the California Housing Market (2012), 1, http://www.usgbc.orghttp://usgbc.org/sites/default/files/ValueofGreenHomeLabels

[2]U.S. Department of Energy/Energy Information Administration (Nov. 2010). Short-Term Energy Outlook. http://205.254.135.7/forecasts/steo/outlook.cfm

[3]U.S. Environmental Protection Agency (Sept. 2011). ENERGY STAR Qualified Homes – Assured Performance in Every Qualified Home. Accessed Dec. 19, 2011 via http://www.energystar.gov/ia/partners/publications/pubdocs/ES%20Homes%20...

[4]U.S. Environmental Protection Agency (March 2009).ENERGY STAR Qualified New Homes. Accessed Dec. 19, 2011 via http://www.energystar.gov/ia/partners/downloads/consumer_brochure.pdf

[5]Kok, N. and Kahn, M. (2012). The Value of Green Labels in the California Housing Market. Accessed July 27, 2012 via http://www.nilskok.com/2012/07/greenhomes.html.

[6]CoStar Group, Inc. Property and Portfolio Research (2013). Real Estate is Local; So Are Price, Amenities. Accessed July 10, 2013 via http://www.costar.com/News/Article/Real-Estate-Is-Local;-So-Are-Price-Am....

[7]Yahoo! (Dec. 2011). Yahoo! Real Estate Home Horizons Study – American Dream Homes Turn Green. Accessed Dec. 20, 2011 via http://realestate.yahoo.com/promo/yahoo-study-american-dream-homes-turn-...

[8]Kats, G. (2009). Green Buildings and Communities: Costs and Benefits.

Accessed Dec. 20, 2011 via http://www.goodenergies.com/news/-pdfs/Web%20site%20Presentation.pdf

[9]Earth Advantage Institute (June 8, 2011). Certified Homes Outperform Non-Certified Homes for Fourth Year. Accessed Dec. 20, 2011 via http://www.earthadvantage.org/resources/library/research/certified-homes...

[**]As of January 1, 2015.

[10]Green Multifamily and Single Family Homes: Growth in a Recovering Market, McGraw Hill-Construction, 2014.

[11]U.S. Department of Energy's Energy Information Administration. www.eia.gov

[12]U.S. Department of Energy (Oct. 2008). Energy Efficiency Trends in Residential and Commercial Buildings. http://apps1.eere.energy.gov/buildings/publications/pdfs/corporate/bt_st...

[13]McGraw-Hill Construction (2012). World Green Buildings Study. Accessed Nov. 29, 2012 via http://analyticsstore.construction.com/index.php/2012-world-greeen-build...

[14]U.S. Environmental Protection Agency. Energy Star and Other Climate Protection Partnerships – 2010 Annual Report

[15]U.S. Department of Energy's Energy Information Administration. www.eia.gov

[16]U.S. Geological Survey (2005). Estimated Use of Water in the United States. Accessed Dec. 20, 2011 via http://ga.water.usgs.gov/edu/wudo.html

[17]U.S. Environmental Protection Agency (2003). Estimating 2003 Building-Related Construction and Demolition Materials Amounts. Accessed Dec. 20, 2011 via http://www.epa.gov/osw/conserve/rrr/imr/cdm/pubs/cd-meas.pdf

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2 comments

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Joe Johnson 15 weeks 6 days ago

What is the benefits to the builder? Rebates, tax credits?

Elizabeth Thompson 8 weeks 4 days ago

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Incentives vary by location and structure. We hope that these resources are helpful: http://www.usgbc.org/articles/good-know-green-building-incentive-strateg..., http://www.energystar.gov/about/federal_tax_credits, http://www.dsireusa.org/, http://greenhomeguide.com/askapro/question/what-are-the-financial-or-tax....

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