BENEFITS OF GREEN HOMEBUILDING

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

Savings: Reducing Energy & Water Consumption

The typical household spends about $2,150 a year on residential energy bills[1].

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%[2], 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[3].

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.[4]

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[5].
- 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[6].

BENEFITS OF GREEN HOMEBUILDING

- 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[7].

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

- Nearly 22,775 homes have received LEED for Homes certification and more than 85,600 are registered for certification[8].
- McGraw Hill Construction estimates that the green market was 2% of residential starts in 2005; 6-10% in 2008; and will be 12-20% by 2013[9].
- 51% 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[10].
- Since 1985, residential energy consumption, measured as total energy (i.e., including electricity losses), increased overall by about 34%[11].
- To date, more than 1 million ENERGY STAR-qualified homes constructed save consumers an estimated $200 million annually in utility bills[12].

Water

- Total U.S. residential energy consumption is projected to increase 17% from 1995 - 2015[13].
- Total residential water use: 29.40 billion gallons per day or 7.1% of U.S. total water use[14].

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[15].

BENEFITS OF GREEN HOMEBUILDING

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

[2] 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%20V3%20Cons%20Broch%20FINAL%2009%2028%2010.pdf

[3] 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

[4]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.

[5]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-green.html

[6] 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

[7] 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-outperform-non-certified-homes-for-fourth-year/

[8] As of July 26, 2012.

[9] McGraw-Hill Construction (2009). *2009 Green Outlook: Trends Driving Change Report*

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

[11] 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_stateindustry.pdf

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

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

[14] 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

[15] 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