Sources and Resources:

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E-Cert Report. (May, 2008) GreenWorks Realty. www.greenworksrealty.com.

Grosskopf, Kevin R. "Investing in Green Building Alternatives: U.S. Consumer Willingness-To-Pay." *The Future of Sustainable Construction.* May 14th, 2003.

hundredyear. (Jan, 2007) *Community Guide to Green Affordable Housing in Indianapolis.* http://hundredyear.org/manifesto.aspx

Illinois Department of Commerce and Economic Opportunity. *Illinois Energy Efficient Affordable Housing Construction Program* (July, 2006) Davlin, Maureen, Program Manager.

Kats, Greg. Capital E. (Oct, 2003) Cost and Financial Benefits of Green Buildings: A Report to California's Sustainable Building Task Force.

Lancashire, Doug. (Mar, 2004) Reducing energy costs through the ENERGY STAR Building Program. *Journal of Facilities Management:* 2: 4.

Michigan Department of Environmental Quality/Urban Catalyst Assocaties. (June, 2005) *Building Green for the Future.* University of Michigan, Ann Arbor.

NAIOP Research Foundation. (Nov, 2007) *Green Building Incentives That Work.*

Online Resources:

www.architecture2030.org

U.S Green Building Council: http://www.usgbc.org/

Michigan Department of Environmental Quality. http://www.michigan.gov/deq

Greenbuilt Michigan. http://www.greenbuiltmichigan.org

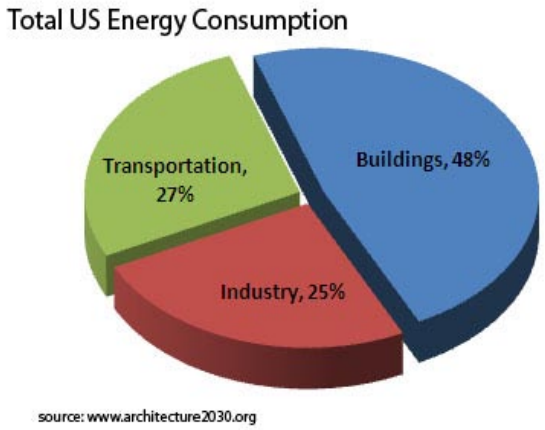
Green Communities Online. http://www.greencommunitiesonline.org/

WARM Training Center: promoting affordable, sustainable communities. http://www.warmtraining.org/

US EPA/DOE Energy Star http://www.energystar.gov/

Detroiters Working for Environmental Justice
4750 Woodward, Suite 406
Detroit, MI 48201
ph: 313. 833.3935
www.dwej.org

ECONOMICS OF BUILDING GREEN



Despite the huge focus on how the transportation industry affects energy consumption, buildings consume 48% of all energy used in the US.

Life Cycle Costing

When estimating the benefits of green building, accuracy demands that we estimate the total costs of constructing and operating a building over *its entire lifetime*. This includes costs such as construction, maintenance, heating and cooling, water use, and solid waste production and disposal. Many of the benefits from green building stem from reduction of these lifelong costs.

Financial Benefits of Green Buildings

Energy Cost Savings: Saving from improved HVAC systems can reduce energy bills to between 30% to 75%. (Kats, Illinois)

Worker Productivity and Health Savings: Workers, students, and residents are happier and more productive when they have improved air quality and daylighting. (Kats)

Sales Premiums: "Green" buildings fetch as much as a 6% sales premium. (McDougal)

Energy Cost Savings

Most investments in energy efficiency in buildings pay for themselves within 5 years, a 20% return on the investment.(Lancashire) A survey of 33 LEED-certified commercial buildings in California found that they used an average of 30% less energy, 30% less water use indoors, 50% less water use outdoors, and emitted 30% lower emissions than buildings built to code. (Kats et al.)

The Illinois Energy Efficient Housing program found they could reduce energy costs by 50 – 75% through a 2-6% increase in initial investment in building systems.

Worker and Student Productivity

70% of the financial benefits of green building is from savings due to increased productivity from improved air quality and daylighting. Some examples from Kats include:

> Heschong_Mahone group found that when comparing students in three cities, those with most daylighting in the classroom performed up to 20% better.
>
> Herman Miller noted a 7% increase in worker productivity after improved daylighting from a green renovation.
>
> Lawrence Berkeley National Laboratory found that US businesses could save as much as $58 billion in lost sick time and $200 billion in performance with improvements to air quality.

Overestimation of Green Premiums

Developers and building cost consultants frequently *overestimate* green building premiums. A recent survey in Britain found that these consultants estimated a premium of 5 – 15%, when the actual premium is typically between 1% and 6%. One reason for this overestimate is that many high profile green buildings have costly, showy features for aesthetic reasons, rather than green ones. (Bartlett) The premiums for the California buildings(Katz, pg. 15)were as follows:

1) LEED Certified	0.66%
2) LEED Silver	2.11%
3) LEED Gold (only 6 bldgs)	1.82%
4) LEED Platinum	6.5%

Sales Premiums for Green

Customers are willing to pay more for green! Green homes fetch as much as 6% more nationally. (McDougal) A survey of 400 new homebuyers in Florida found that 90% of all respondents were willing to invest in green building alternatives. (Grosskopf) A study conducted in Seattle, WA, found that environmentally certified homes there sell in up to 18% less time and at 28 – 37% higher value/sq. foot. (e-cert study)

Incentives for Green Building

Foundations

The Kresge Foundation: Green Building Initiative: www.kresge.org/initiatives/
The Home Depot Foundation: www.homedepotfoundation.org

State of Michigan Tools:

MEDC Brownfield Redevelopment : http://ref.michigan.org/medc/services/general/cat/brownfield/
DEQ: Green Building Consultation Services/Resources: http://www.michigan.gov/deq/0,1607,7-135-3585_4127_24843---,00.html
Energy Office Community Energy Project Grants Grants for energy education and demonstration projects. Contact: John Sarver (517) 241-6280, jhsarve@michigan.gov.
DEQ Voluntary Storm Water Permit Grants: implement improved storm water management plans. Contact: Amy Peterson, 517-373-2037.
Rebuild Michigan Energy Services Technical support for public building energy efficiency. Contact Tim Shireman of the Energy Office at (517) 241-6281, tashire@michigan.gov.