

Energy Star: Special Offers and Rebates:  
[http://www.energystar.gov/index.cfm?fuseaction=rebate.rebate\\_locator](http://www.energystar.gov/index.cfm?fuseaction=rebate.rebate_locator)

MI Dept. of Human Service Weatherization Assistance Program:  
[http://www.michigan.gov/dhs/0,1607,7-124-5452\\_7124\\_7211-15408--,00.html](http://www.michigan.gov/dhs/0,1607,7-124-5452_7124_7211-15408--,00.html)

#### Sources and Resources:

Southface Energy Institute. *Energy efficiency makes homes more affordable*. Energy Technical Bulletin 17. Accessed 8.26.2008 from  
[http://www.southface.org/web/resources&services/publications/factsheets/sav\\_nrg\\$.pdf](http://www.southface.org/web/resources&services/publications/factsheets/sav_nrg$.pdf)

Blanchard, S and P. Reppe. (Sept, 1998) *Life Cycle Analysis of a Residential Home in Michigan*. Center for Sustainable Systems, University of Michigan: Report No. CSS98-05. [http://css.snre.umich.edu/css\\_doc/CSS98-05.pdf](http://css.snre.umich.edu/css_doc/CSS98-05.pdf)

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*.

#### Online Resources:

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>

WARM Training Center: promoting affordable, sustainable communities.  
<http://www.warmtraining.org/>  
U.S. HUD Affordable Housing Research & Technology  
<http://www.huduser.org/research/tech.html>

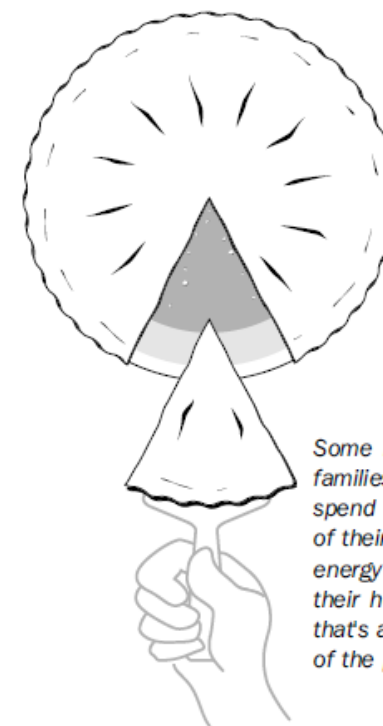
U.S. DOE: Energy Efficiency and Renewable Energy: Building Technology Program  
<http://www1.eere.energy.gov/buildings/>  
U.S. HUD: Affordable Housing Design Advisor:  
<http://www.designadvisor.org/>  
Low Impact Development Center, Inc:  
Sustainable Design/Water Quality Research  
<http://www.lowimpactdevelopment.org/>  
U.S. EPA Indoor Air Quality:  
<http://www.epa.gov/iaq/>  
Green Affordable Housing Coalition  
<http://www.frontierassoc.net/greenaffordablehousing/index.shtml>  
A Public-Private Partnership for Advancing Housing Technology:  
[http://www.pathnet.org/sp.asp?mc=ln\\_housing\\_prov](http://www.pathnet.org/sp.asp?mc=ln_housing_prov)  
DEQ: Green Building Consultation Services/Resources:  
[http://www.michigan.gov/deq/0,1607,7-135-3585\\_4127\\_24843--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3585_4127_24843--,00.html)



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## WHY GREEN AND AFFORDABLE?



Some low income families may spend over 15% of their income on energy to operate their homes – that's a big piece of the pie!

(Source: [www.southface.org](http://www.southface.org))

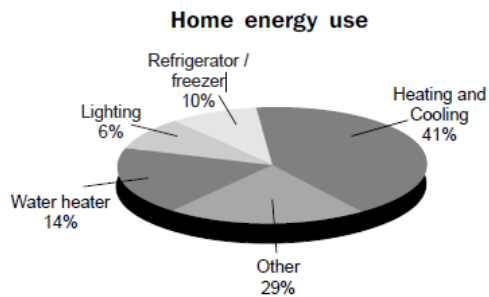
## Why Green in Affordable?

### **Energy Costs**

Low income families may spend over 15% of their income on energy to operate their homes. Simple energy efficiency improvements can cut energy costs by over 40% in most affordable housing.

An Atlanta community found that the annual energy bills for newly constructed, affordable homes averaged over \$1,200. Increasing the energy efficiency of the homes saved over \$400 a year and added less than \$500 to construction costs. (southface)

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. The program identifies cost efficient opportunities to integrate energy efficiency building practices into affordable construction. (Illinois)



(source: [www.southface.org](http://www.southface.org))

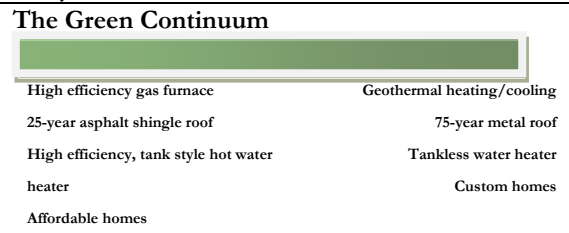
### **Health**

A poorly built home can put the inhabitants at high risk of lead poisoning, asthma, and other respiratory ailments. Energy efficient homes can reduce health risks from mold, dust mites, radon, combustion by-products, and other contaminants, such as lead. They offer fewer entry points for dust and pollen, insects, rodents, and other pests. (Southface) Green homes use materials that minimize or eliminate harmful chemical off-gassing, which can trigger respiratory problems.

Electricity production for homes is a substantial source of air pollution because of the predominance of fossil fuel combustion based generation facilities. Energy efficient homes thus produce less pollution, resulting in a cleaner environment.

### **Life Cycle Costs of Energy Efficiency**

The U-M Center for Sustainable Systems conducted a life cycle analysis of costs and impacts due to three distinct phases; pre-use, use and end-of-life, of a standard home (SH) and an energy efficient home (EEH) over 50 years. SH mortgage payments made up between 62-69% of the life cycle cost, with energy comprising between 8-17%. EEH mortgage payments made up between 73-75% of the life cycle cost with energy making up between 3-6%. Thus, homebuyers can spend more of their money on the actual cost of their home, rather than on utility bills.



### **Green Building and Affordability**

Green Building can be done simply and intelligently. The technologies for implementing greater energy efficiency and using less harmful materials exist now. Developers of affordable housing must choose the most cost effective of those technologies.

### **Opportunities**

*Integrated Design Process:* developers, architects, and builders must work closely together from the beginning to achieve a successful green building or renovation.

*Construction Oversight:* many contractors are unfamiliar with proper application of green technologies so gentle oversight is needed. (hundredyear)

*Insulation:* applying ample insulation in walls, attic, and foundation greatly decreases heating and cooling loads.

*Air Sealing:* ensuring a tight building envelope reduces heat loss to the exterior.

*High Efficiency Appliances:* furnace, laundry, water heater, refrigerator, and air conditioner.

*Exhaust Fan:* reduces moisture infiltration, a major cause of air pollution through mold growth and rotting building materials.

*Lighting:* use of fluorescent fixtures minimize electricity use. (Illinois DCEO)

*Ongoing Maintenance Training:* the magnitude of the efficiency gains depends on how educated staff, tenants and homebuyers are.

### **Incentives for Green Affordable**

MSHDA Low Income Tax Credit QAP: Green Communities/New Urbanism Criteria:

[http://www.michigan.gov/mshda/0,1607,7-141-5587\\_5601-31750--00.html](http://www.michigan.gov/mshda/0,1607,7-141-5587_5601-31750--00.html)

Enterprise/Green Communities partnership for Green Affordable Housing: Resources and Funding for Green Development

<http://www.greencommunitiesonline.org/>

The Home Depot Foundation: Affordable Housing Built Responsibly:

[http://www.homedepotfoundation.org/support\\_housing.html](http://www.homedepotfoundation.org/support_housing.html)

U.S. IRS Energy Efficient Home Credit:

<http://www.irs.gov/businesses/small/industries/article/0,,id=155445,00.html>

DSIRE Federal Incentives for Energy Efficiency:

<http://www.dsireusa.org/library/includes/generalfederal.cfm?currentpageid=1&search=federal&state=US&RE=0&EE=1>