

What Makes a Home Green?

Consensus has developed that a green home must employ elements or green measures that increase sustainability in six broad categories. Homes that emphasize only one or two categories might be energy efficient, or water efficient, but are not considered "green." The six categories are:

LOCATION & LINKAGES: Studies show that a large percentage of the energy a family uses is determined by the location of their home and the transportation energy needed for commuting to and from their home. Green developers and builders construct homes where services already exist. Check out www.walkscore.com

SUSTAINABLE SITE: Green developers and builders take precautions to minimize the impact of the entire building process on the environment. They do not develop in or near sensitive habitats and they build in ways to minimize pollution from construction activities. Sometimes, they even restore damaged habitat in the process of development!

WATER EFFICIENCY: A water-saving home has structures and landscapes designed to safely hold rainwater on the property as long as possible. In general, it also has plants in the landscape which do not require more water than falls on the property (also known as xeriscaping). Inside the home, low-flow fixtures and appliances save even more water. Sometimes, water from an appliance or shower (gray water) may be directed to inedible landscape. See www.oasisdesign.net for more on gray water.

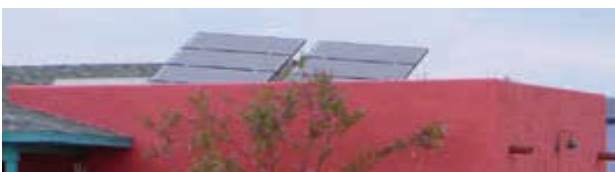
ENERGY EFFICIENCY: Compared to an 'average' home, efficient homes are designed to use less energy, cost less to operate, and generally have less of an impact on the environment and atmosphere. Builders providing energy-efficient homes have the building structure and mechanics tested by a third party to make sure these systems work

correctly (a process called commissioning). Search for '[Energy Star for Homes](#)' and '[Home Energy Saver](#)' on the internet for more information.

MATERIALS & RESOURCES: In general, a green home will have incorporated environmentally-preferred materials. The materials will be durable and will last over time. Builders following these practices can share their construction waste management plan with you, as well as which environmentally-friendly materials they use. Check out the [Green AZ Directory](#) at the USGBC Arizona Chapter web site for green materials and resources.



INDOOR ENVIRONMENTAL QUALITY: The goal of increasing indoor environmental quality is to contribute to the comfort and well being of the inhabitants. Builders adhering to advanced levels of indoor environmental quality will be able to describe their strategies such as using less toxic paints and other finishes or using improved air filtering systems. Check out www.greenseal.org and www.hvi.org.



What about Uncertified Homes?

Many say the greenest home is an existing home. Existing homes have the embedded energy that it took to build them. They are already connected to sewer and water and road systems, so expensive infrastructure does not have to be extended. On the other hand many are not very energy or water efficient. This is where a green remodel can be effective. A HUD guaranteed 203(k) rehabilitation loan might help: www.nls.gov/offices/hsg/sfh/203k/203kabou.cfm

Whether new or existing, it's possible to find homes with green features that may not be certified. Both the Pima and Maricopa County Multiple Listing Services (MLS) track green certifications and green features. In Arizona, let the buyer beware! It is the responsibility of the seller to disclose information about the property; but it is the buyer's responsibility to verify and understand all claims being made. With this in mind, you may want to seek the assistance of a real estate agent who is familiar with green features, specifically one that's been certified by the National Association of Realtors® as a REALTOR® GREEN or by EcoBroker International as a Certified EcoBroker®.

There are numerous features which make a green home more environmentally friendly than average homes. The same broad categories apply to both existing and new homes.

Location and Sustainable Site:

- Pick a site that's close to community services and public transportation. You'll save money on gas and reduce air pollution emissions from driving. See the Center for Neighborhood Technology's Housing and Transportation Affordability Index at: htaindex.cnt.org
- Native vegetation and no grass.

Water Efficiency

- Water-efficient fixtures (showerheads, faucets, toilets)
- Rainwater harvesting
- Greywater plumbing

Energy and Atmosphere

- Homes built to a specific standard and verified by a third party will have energy ratings or a local utility company's energy guarantee, examples are:
- HERS or Energy Smart Home Rating less than 100 (100 = code minimum home, 0 = net zero energy home)
- Energy Star Homes (HERS rating of at least 85) www.energystar.gov/index.cfm?c=new_homes.hm_index
- Consider an FHA Energy Efficiency Mortgage and finance energy improvements in your home loan and lower your utility bill! More at: www.hud.gov/offices/hsg/sfh/eem/energy-r.cfm

Materials and Resources

- Built from local materials (Rammed earth, adobe, straw bale; and almost anything with sand, gravel and cement)
- Use of recycled content
- Use of rapidly renewable content such as bamboo or cork

Indoor Environmental Quality

- Green Seal certified coatings/paints
- Whole-house air filtration system
- High efficiency air filter in the furnace or AC

Check the rating systems listed on the other side for additional items to ask about



Certified Homes

When it comes to choosing "green", new homes will ideally have received certification from either a national or regional green building program. Look for green building programs that are widely supported by diverse groups, including home builders and environmental groups. The programs should include a verifiable independent, third party inspection of the green measures incorporated into the home. Key items to look for in a certification checklist are:

- Size: smaller homes are more energy and resource efficient. Look for credit for a smaller home.
- Erosion control: manage erosion during construction and after; also, don't introduce invasive plants.
- Water savings of at least 20% better than a code minimum home.
- Energy savings of at least 15% better than a code minimum home. This means it is an Energy Star home.
- Reduce and manage waste: how much construction waste was diverted from the landfill.
- Indoor air quality: good ventilation and exhaust, proper design of the air conditioning, and no path for carbon monoxide to get from the garage into the air handler or home.
- Operations and maintenance manual: Like a car, a home requires maintenance to keep it running well. Green homes have new features and new ways to maintain them. Look for a home owners manual that tells you how to run the efficient AC or passive cooling system, the water harvesting or other green features.



Certification Systems

Look for these national certification systems:



LEED for Homes, U.S. Green Building Council

<http://www.usgbc.org/homes>



National Green Building Standard/ANSI 700, National Association of Home Builders

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

Or, these regional certification systems:



Scottsdale Green Building Program

<http://www.scottsdaleaz.gov/greenbuilding>



Southern Arizona Regional Residential Green Building Rating System

<http://www.pimaxpress.com/Green>



Coconino County Sustainable Building Program

<http://www.coconino.az.gov/comdev.aspx?id=148>

Cochise County Voluntary Residential Green Building Program

http://cochise.az.gov/cochise_planning_zoning.aspx?id=302 (Select "Building Safety Division" on the left sidebar)

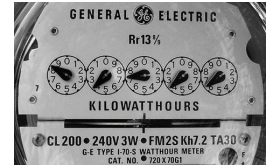
For More information please visit the web sites for the green ratings systems noted above. For the national systems you can find lists of providers and raters.

For information on the USGBC AZ Residential Green Building Committee, email: chapterRGBC@usgbc.org

Green Home Guide

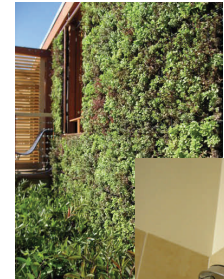
Why Green Your Home?

Lower monthly bills by saving energy and water, cleaner indoor air, increased durability, greater comfort, better for the environment, community and residents.



What Makes a Home Green?

Location & Linkages



Sustainable Sites

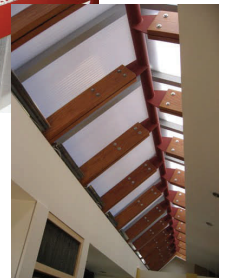
Water Efficiency



Energy Efficiency



Materials & Resources



Indoor Environmental Quality

AZ Residential Green Building Committee
Advocating for the Greening of our Homes

greenhomeguide.com