REVISED FOR 2012

GreenBuilder®
Green Building Pyramid®

Several time-tested alternative structural systems offer higher R-values and other advantages over conventional stick framing. They include structural insulated panels (SIPs) and insulating concrete forms (ICFs), along with straw bale, cordwood and other systems.

Various organizations will "certify" your project's green features, including LEED, USGBC and EarthCraft House. Some may argue that certification belongs lower on the pyramid, but earning that green stamp of approval will come easily if you have given attention to the bottom two-thirds of the pyramid.

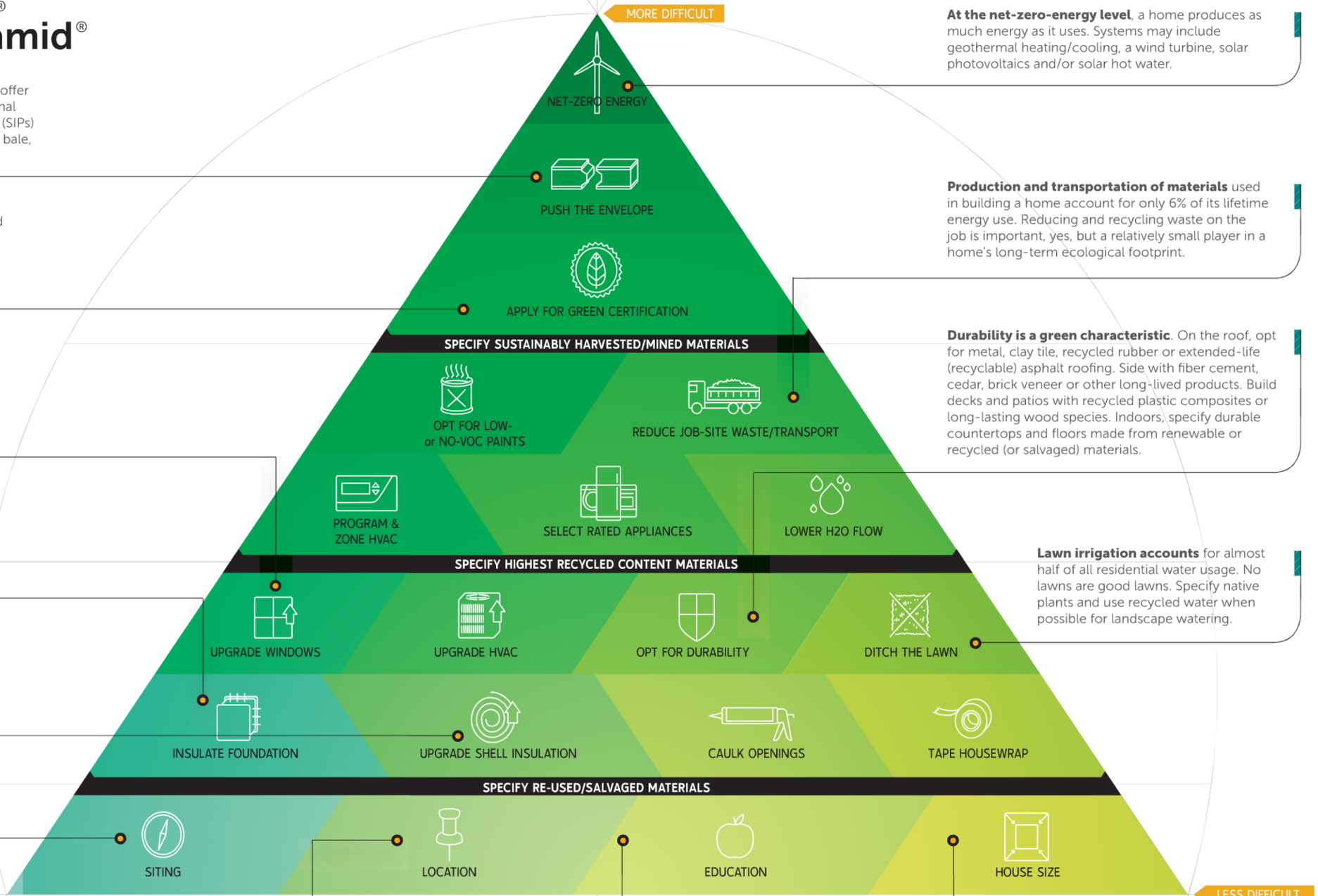
At a minimum, windows in a new home should include insulated low-E glazings. Look for durable window frames made with materials that are renewable or recyclable, and seal and flash them meticulously.

Uninsulated concrete foundations can reduce heating efficiency by 30%–50%. Cover concrete with rigid or spray-on foam insulation—or build foundation walls with insulating concrete forms (ICFs). Consider a frost-protected shallow foundation or slab-on-grade construction.

For wood-framed walls and ceilings, air infiltration is a major concern. Consider an insulation package that seals walls tightly. A combination of house wrap with a tight insulator such as spray foam is one affordable option. Specify 2"x6" framing with 24" stud cavities.

Well-designed site plans take advantage of free solar light and energy, and minimize damage to existing plants and habitats.

Automobile dependency is not a green asset. Build close to transit hubs.



At the net-zero-energy level, a home produces as much energy as it uses. Systems may include geothermal heating/cooling, a wind turbine, solar photovoltaics and/or solar hot water.

Production and transportation of materials used in building a home account for only 6% of its lifetime energy use. Reducing and recycling waste on the job is important, yes, but a relatively small player in a home's long-term ecological footprint.

Durability is a green characteristic. On the roof, opt for metal, clay tile, recycled rubber or extended-life (recyclable) asphalt roofing. Side with fiber cement, cedar, brick veneer or other long-lived products. Build decks and patios with recycled plastic composites or long-lasting wood species. Indoors, specify durable countertops and floors made from renewable or recycled (or salvaged) materials.

Lawn irrigation accounts for almost half of all residential water usage. No lawns are good lawns. Specify native plants and use recycled water when possible for landscape watering.

If you don't understand basic green principles, you're likely to make decisions you later regret. Consider a course at Green Builder College (www.greenbuildercollege.com) or hit the books on your own.

Doubling a home's size triples its annual energy use for the life of the home. Think small and clever, not big and boxy.

KEY: Difficulty/Knowledge required for implementation.
Note that some of the easiest changes have the greatest green impact.