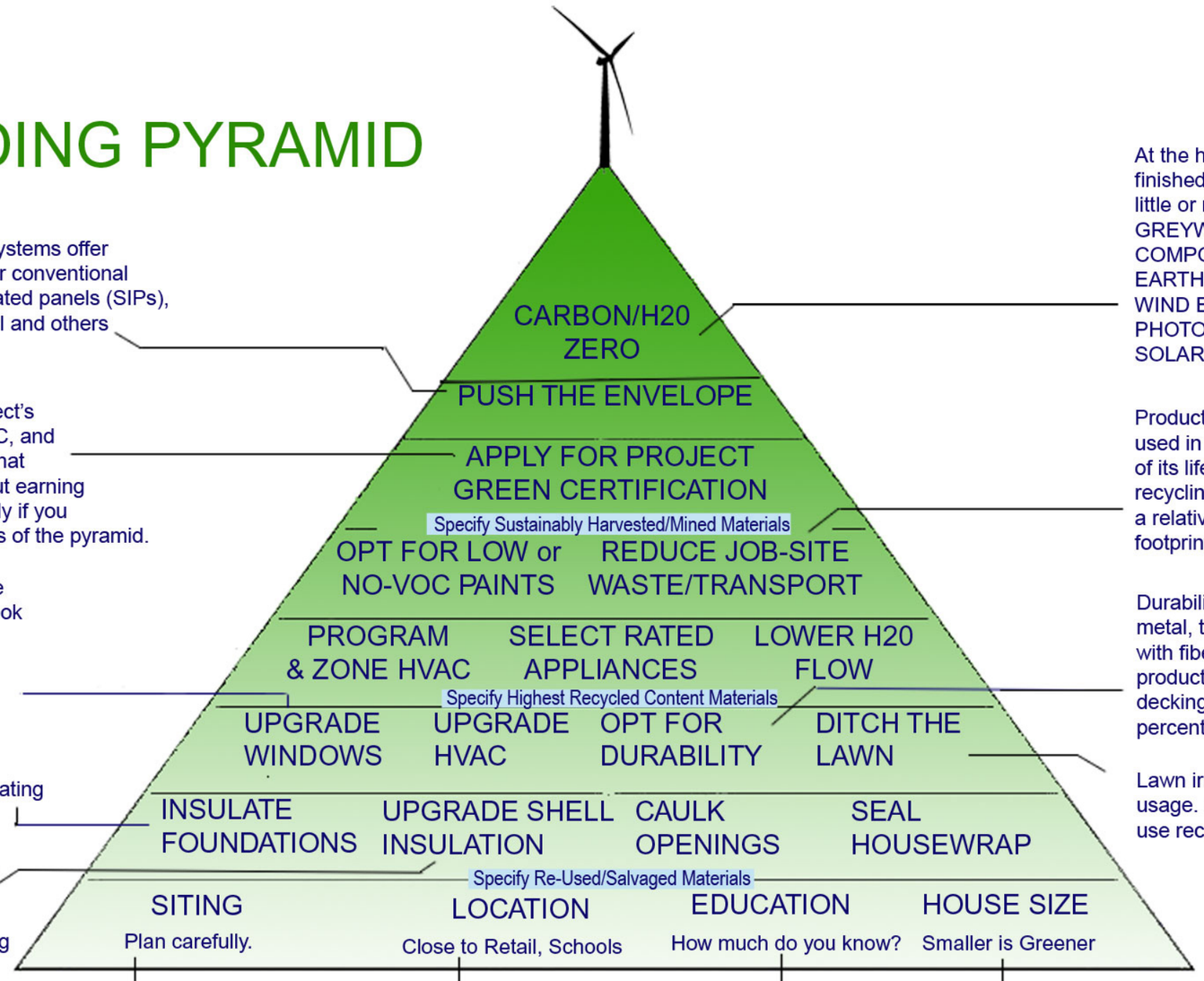
GREEN BUILDER MAGAZINE's

# GREEN BUILDING PYRAMID




At the highest level of green building, the finished home recycles water, and uses little or no energy. It may include:
GREYWATER SYSTEMS
COMPOSTING TOILETS
EARTH-SHELTERED ROOFS
WIND ENERGY
PHOTOVOLTAICS
SOLAR WALLS (PASSIVE HEATING)

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, but a relatively small player in a home's ecological footprint.

Durability is an often overlooked green asset. Specify metal, tile or extended life (recyclable) asphalt roofing. Side with fiber cement, cedar, brick veneer, or other long-lived products. Build outdoor structures using improved composite decking, aluminum handrails. Avoid products containing high percentage of virgin polyvinyl chloride (PVC).

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

Several time-tested alternative structural systems offer higher R-values and other advantages over conventional stick framing. They include structural insulated panels (SIPs), InsulatingConcrete Forms (ICFs), Polysteel and others Don't rule out factory-made panelization.

Various organizations will "certify" your project's green features, including the NAHB, USGBC, and Environments for Living. Some may argue that cerfication 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 bare minimum, windows in a new home should include insulated Low-E glazings. Look for long-lasting clad wood windows or composites and install them tightly with artight sealing around the perimeter.

Uninsulated concrete foundations can reduce HVAC efficiency by 30% to 50%. Specify exterior rigid form insulation or Insulating Concrete Forms (ICFs) for best results. Consider also frost-protected shallow foundations and slab on grade construction.

For stick-framed walls and ceilings, we recommend blown-in insulation or expanding foam (rather than insulating batts,) to reduce potential installation gaps. The age of 2"x4" framing is over, incidentally. Specify 2"x6" 24" OC walls and look into optimal value engineering.

Well designed site plans take advantage of free solar energy and minimize damage to local ecosystems.

Automobile dependency is not a green asset.

If you can't explain green principles to clients, you're already behind the curve. Consider a cram 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.



GREATER LESSER

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