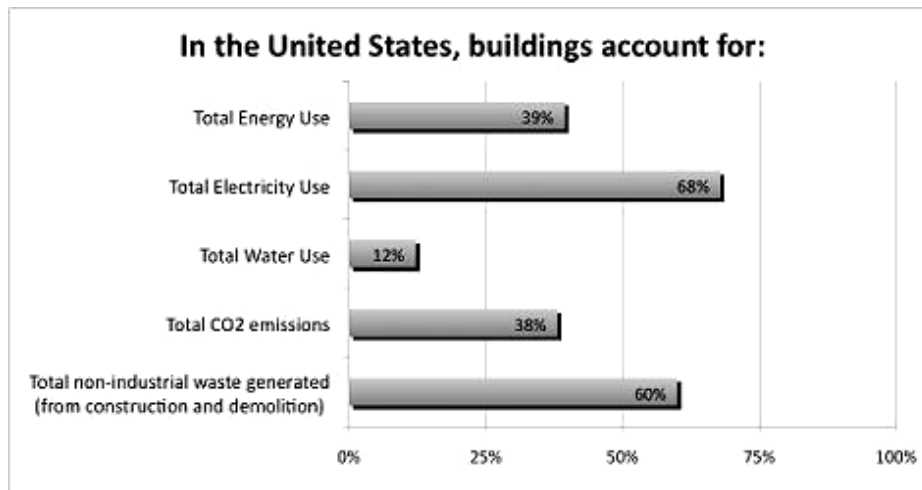


GREEN BUILDING BEGINS WITH THE DESIGN

by
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The design phase of the project is the best time to incorporate energy efficiency and sustainability. In order to do this the requirements for a sustainable and energy efficient design must be clearly set out. Using a sustainability rating system such as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) building rating system is one way to achieve this. LEED establishes energy performance targets for such things as, material and resource efficiency and lighting levels. However, commissioning and ongoing monitoring of energy usage for the facility are vital to achieving energy savings over the life of the project.



Source: EPA, 2004 from Whole Building Design Guide (<http://www.wbdg.org/design/sustainable.php>)

Sustainable or green design is evolving and growing but the following six principles are basic:

1. Site selection (sustainable siting) - consider the location, orientation and reuse or rehabilitation of existing structures or building
2. Energy use optimized (energy and atmosphere) – find ways to reduce energy demand and increase efficiency
3. Water use optimized (water efficiency) – find ways to reduce water use and use water efficiently as well as reuse or recycle water, for example, capture and utilization of rainwater whenever possible
4. Build with sustainable products (materials and resources) – environmentally preferable materials have a reduced effect on human health and the environment
5. Enhance indoor environmental quality (IEQ) – maximize day lighting, appropriately ventilate and control moisture and avoid the use of materials with high VOC (Volatile Organic Compound) emissions.

6. Optimize operation and maintenance practices (innovation and design process) – consider operating and maintenance issues during the design phase.

A “green building” is a building with reduced impact on the environment. The less its environmental impact, the “greener” the project is. A green building is a building that is located and constructed in a sustainable manner that allows it’s occupants to live, work and play in a sustainable manner.

Green design supports a commitment to conservation within the framework of cost, schedule and the intended function of the facility. Operating and maintenance issues considered during the design phase of a facility will contribute to reduced energy and resource costs.

Links

US Green Building Council (USGBC): www.usgbc.org.

US DOE Office of Energy Efficiency and Renewable Energy (EERE): www.eere.energy.gov.

Whole Building Design Guide: <http://www.wbdg.org/design/sustainable.php>.