

# Engineering For the Future

Everyone is talking about “going green,” sustainable design, greenhouse gases, zero carbon footprint, global warming, LEED certification (Leadership in Energy and Environmental Design), along with numerous other environmentally-friendly terms. Global warming and our deteriorating environment are the main driving forces of this discussion. Increased levels of CO<sub>2</sub> in the atmosphere from fossil fuel combustion are credited with being the greatest environmental concern affecting global warming. What does all of this mean and where does today’s engineering community fit into the equation?

As noted in the National Society of Professional Engineer’s position statement on energy, engineers are in a unique position to take a leadership role in shaping the National Energy Plan and assisting in the development of a world-centered energy policy. All facets of the engineering community work to meet these challenges.

Consulting engineers, who assist in the design of buildings, are in a position to stress energy efficient design and the use of recycled materials. All new construction – whether LEED certified or not – needs to incorporate energy efficient design methods such as Mass Wall envelopes, high efficiency heating and cooling systems, Energy Star doors, windows and appliances, non-VOC interior finishes, reduced water flow

fixtures and natural day-lighting.

Numerous local buildings have been designed and built with LEED certification such as Hubbell Lighting, Clemson I-CAR, Western Carolina Regional Sewer Authority and Furman’s library. Major retailers request facility designs that utilize natural daylight, reduced water flow, high-efficiency lighting, high-efficiency heating and cooling, heat recovery from refrigeration systems, as well as recycling waste from packaging. One major restaurant chain is investigating developing a “green theme” restaurant utilizing hydrogen-powered generators.

Municipal governments are also acknowledging the “green” movement. San Francisco, Boulder and Honolulu may mandate that LEED certification be obtained on all new construction projects within their jurisdiction. Some state governments have implemented LEED certification for all state-owned buildings. The U.S. Government now requires LEED certification for all new construction of government-owned buildings.

As set forth in the NSPE Energy Position Statement, we must continue to pursue all feasible alternative and renewable energy options. Sustainable design is about meeting the needs of today and the needs of the future.

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