



Issue Brief

The American Institute of Architects • Government Advocacy • Current Issue Position and Analysis

Green Building Provisions

Key Points:

- *Benefits of sustainable architecture include:*
 - *Cleaner indoor air quality*
 - *Improved occupant health*
 - *Increased student/worker productivity*
 - *Lower energy costs*
 - *Conservation of natural resources, water and energy*
 - *Reduced on-site pollution (storm water runoff) and waste (trash)*
 - *Reduced air pollution*
 - *Less sprawl*
- *Currently, over 5% of non-residential building construction are seeking green certification.*
- *Green House Gas emissions have increased by 2% per year since 1990 in the building sector, 71% of which comes from the use of electricity.*
- *Americans spend 90% of their time indoors. By incorporating green design, indoor air quality can be significantly improved.*
- *According to the EPA, building-related illnesses account for \$60 billion in lost productivity each year in the U.S*

Green Buildings and Sustainable Architecture

AIA Position

The American Institute of Architects seeks to dramatically increase the number of high-performance, energy-efficient “green” buildings constructed in both the private and public sectors. Green buildings use resources, such as energy and water more efficiently and have systems in place to take advantage of existing natural resources. To facilitate these goals, below are some resources to help understand the importance of policies promoting energy efficiency and green buildings.

Action Sought

The AIA urges the following actions:

- (1) introduce measures requiring all government-funded building projects and substantial building renovations utilize green building standards;
- (2) provide funding for one or more pilot projects demonstrating the financial feasibility of green building, and utilizing Life Cycle Assessment (LCA) in evaluating the environmental performance of the building(s);
- (3) introduce measures that would provide tax incentives for green building projects undertaken by the private sector, granted that they meet certain set requirements;
- (4) establish GHG emissions reduction targets and outline the energy efficiency measures necessary to meet those targets.

Explanation and Justification

At a time when the United States is trying to reduce its dependence on foreign oil, while at the same time trying to decrease the human impact on the environment, building high-performance, energy-efficient buildings is a universal solution. Building green can:

Reduce Negative Impacts on the Environment: Buildings are the greatest source of emissions and energy consumption in America. They consume between one third and one half of the energy expended in the United States. Buildings use two-thirds of all electricity and produce approximately one-third of carbon dioxide emissions. These numbers are only expected to rise. Architects know that there are technologies and design tools available that can help minimize this pollution.

Raise Indoor Air Quality and Improve the Health and Productivity of Everyone: Although there is widespread knowledge of the dangers of outdoor air pollution, many remain unaware that levels of pollution indoors are often twenty-five times higher, and in some circumstances, more than 100 times higher. These pollutants can cause many ailments ranging from eye and throat irritation to respiratory disease or cancer. 60 million Americans have asthma or allergies which can, in part, be attributed to poor indoor air quality. These conditions account for almost 4,500 deaths and over \$20 billion in lost

For more information contact the State and Local Affairs team at 202-626-7507 or govaffs@aia.org.

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- *If 10% of homes in the United States incorporated solar water-heating systems, 8.4 million metric tons of carbon emissions would be avoided each year.*
- *Incorporating water efficiency methods in commercial buildings can reduce water usage by 30% or more and can save thousands of dollars per year.*
- *Studies show that lighting control increases productivity by 7.1%, ventilation control increases it by 1.8% and thermal control increases it by 1.2% - a 1% increase in productivity translates to \$600-\$700 per employee per year.*
- *Studies show that energy efficiency measures are not fully developed in the building sector without government intervention.*
- *295 cities have independently "ratified" CO2 reductions requested in the Kyoto Treaty.*

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productivity, hospitalization and medical services each year. By improving ventilation systems, eliminating the use of interior finishes that release toxins and managing waste, the quality of indoor air will rise. By cleaning this air, we can not only increase worker productivity, but can ensure better health conditions for everyone.

Save Money: Building green can actually save money in the long term. Although the upfront costs associated with incorporating green design may be higher, the overall costs, including maintenance, are much less over the lifetime of the building.

Green technology and design offers comprehensive solutions to many problems. The proper positioning of buildings will not only provide health benefits of natural daylight, but will take advantage of the sun's heat in cooler months and shade in warmer months, thus reducing electric and gas bills. Waste management can decrease landfill usage and reduce toxins in the air. Reusing or recycling construction materials decreases waste and saves money in building costs. We must dispel common myths that building green is more expensive and fruitless. Incorporating sustainable architecture is a win-win solution for all.

Cities Can Make a Difference: In a Green Guide study, which polled mayors from cities across the nation with a population of 100,000 or more, 29 cities, or 46.8% of the participants, reported having policies in place to encourage green design. In Eugene Oregon, 85% of power is contributed by hydroelectricity and wind and Mayor Calson plans to allot money in 2007 to purchase 25% wind power for all existing general fund buildings. The city of St. Paul in Minnesota has already surpassed its 1997 goal of reducing carbon dioxide emissions and now has a new goal of reaching a 20% reduction of its 1988 CO2 levels by 2020. A first-of-its-kind industrial park is being developed in Huntsville, Alabama, with the hopes of having 100% of all water runoff biofiltered with swales, wet ponds and dry ponds. Rooftop runoff will be separated from parking and street runoff to capture pollutants on site before reaching the subsurface aquifer.

What America Thinks: A recent nationwide poll of voters (1,000 sample, margin of error +/- 3.1%) conducted January 3-5, 2006, by two respected national pollsters — The Tarrance Group, a Republican firm, and Lake Research Partners, a Democratic firm — indicated that the "government should take the lead in promoting real estate development that conserves our natural resources such as oil, gas and electricity."

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