

The Federal Commitment to Green Building: Experiences and Expectations

Summary

This report assesses, for the first time, what the Federal government is doing, in policy and practice, to make its buildings more environmentally sustainable, and provides recommendations for how the Federal sector can make even greater progress.

Why is this important? Green or sustainable building is the practice of designing, constructing, operating, maintaining, and removing buildings in ways that conserve natural resources and reduce pollution. Green building is expanding around the world, and the Federal government is leading by example. This approach is important for the Federal government (and has become one of our office's priorities) for three reasons.

First, buildings affect land use, energy use, communities, and the indoor and outdoor environment. Given the size and scope of Federal buildings – the government owns nearly 500,000 buildings covering 3.1 billion square feet, accounting for 0.4 percent of the nation's energy usage, and emitting about 2 percent of all U.S. building-related greenhouse gases – we have the opportunity and responsibility to reduce these impacts. Using sustainable principles in buildings can reduce these impacts and also improve worker conditions and productivity, increase energy, water, and material efficiency, and reduce costs and risks.

Second, sustainable buildings can be showcases to educate people about environmental issues, possible solutions, partnerships, creativity, and opportunities for reducing environmental impacts in our everyday lives. Hundreds of millions of people visit and work in Federal facilities each year. And third, green buildings represent the application in one place of many of the sustainable concepts the Federal government is working on – such as environmental management systems, waste prevention and recycling, and green product purchases.

We prepared this report because there is no other single source of information about what all the Federal government is doing to “green” its building stock, and, by doing so, we hope to spark discussion and create opportunities for greater Federal stewardship.

How are we doing? The Federal government has several key green building policies in place and have already achieved some great successes.

Tools. The Energy Policy Act of 1992 and Executive Order 13123 require Federal buildings to reduce their energy use by 35 percent by 2010 (compared to 1985). Executive Order 13123 also requires Federal agencies to “apply [sustainable design] principles to the siting, design, and construction of new facilities.” The Office of Management and Budget's Circular A-11 encourages agencies to incorporate Energy Star[®] or LEED[™] (the U.S. Green Building Council's Leadership in Energy and Environmental Design rating system) into designs for new building construction and renovations. And nine agencies/departments now use LEED[™] or a similar tool for their new projects: General Services Administration, Army, Navy, Air Force, Environmental Protection Agency, National Aeronautics and Space Administration, National Park Service, Department of State, and Department of Health and Human Services.

Results. Through these policies and the efforts of many, Federal buildings have reduced their energy intensity by 23 percent and cut their carbon emissions by 2.8 million metric tons (like removing 2.1 million vehicles from the road in one year), since 1985. Today, more than 110

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Federal buildings are now Energy Star[®] rated, eight Federal buildings already have been LEED[™] certified, and more than 60 Federal buildings are undergoing LEED[™] certification.

Where are we headed? The report identifies several barriers to improved progress, none of which appears to be insurmountable. Below are several options for moving forward:

Budget. Statutes and Office of Management and Budget guidelines call for life cycle cost-based analysis (to address such items as long-term energy, water, and other utility operating costs; operation, maintenance and repair/replacements costs; worker health costs; and more) for Federal capital investments, yet first-cost decisions often prevail and impede greener building opportunities. We need clear guidance and implementation policies, increased education of Congress and agency officials, and increased use of performance-based standards and life cycle costing.

Education. We need to inform key audiences more effectively about green buildings. This work should not only target Congress and senior agency officials but also should include development of training and workshops on environmental design, training tools and information for on-line access, and a green building module for agency environmental management systems.

Research. To better understand the benefits and costs of green building, we need to know more about their impact on worker productivity and health and how well they actually perform over time, we need to expand the coverage of additional products by various life-cycle analysis tools, and we need to identify best practices for indoor environmental quality.

Metrics. We need to continue to offer our expertise to standards organizations as they develop and improve green product standards, and to the U.S. Green Building Council in developing and improving their LEED[™] rating systems for new commercial buildings, existing buildings, multiple buildings, core and shell, commercial interiors, laboratories, and homes.

Coordination and Integration. To make these improvements, we need to do a better job of coordinating and integrating this work and these opportunities across the Federal government. We should create a senior interagency green building group to lead this work, which group should include at least the Office of Management and Budget, the General Services Administration, the Department of Energy, the Environmental Protection Agency, and the Department of Defense. The interagency group should provide strategic direction to Federal agencies and identify the tools needed for them to effectively develop and implement green building strategies, including consideration of whether an executive order is appropriate. Among other issues, the group should address energy efficiency minimums, healthy indoor designs, water stewardship, building commissioning, improving and meeting LEED[™] and using other tools, metrics, and monitoring, benchmarking, and reporting.

My hope is that this report – highlighting the progress that the Federal government already has made and offering recommendations for discussion and action – will serve as a solid foundation for even greater, more sustainable Federal government buildings. Working together, we can achieve this important goal.

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