

Overall Government Performance

Agencies are using a variety of methods to meet these environmental design mandates through the siting, design, and construction of new facilities. Although several agencies are developing promising policy directives and case studies, the efforts are not well coordinated or consistent across the Federal government.

Specific measures of overall Federal performance have been difficult to gather in the absence of standard metrics and reporting requirements. However, energy use is well documented and may provide the best indication of environmental design trends.

Energy Efficiency. Two years after exceeding the 20 percent reduction goal for FY 2000, preliminary data for FY 2002 submitted by agencies to DOE show that energy intensity (Btu-per-square-foot per year) of Federal standard (non-industrial/laboratory) buildings was reduced by 23 percent compared to the 1985 baseline, as shown in Table 3. This improved efficiency helped reduce utility bills for these buildings by 31.3 percent from the 1985 baseline, to \$3.6 billion, and also contributed to a reduction of total carbon emissions to 9.8 million metric tons of carbon equivalent (MMTCE)—a reduction of more than 20 percent from the 1990 baseline.⁴⁰

⁴⁰Compiled from Annual Reports to Congress on Federal Government Energy Management and Conservation Programs: Fiscal Years 1985-2002. DOE/FEMP.

Table 3: Energy Consumption per Gross Square Foot of Federal Standard Buildings from 1985 to 2002, with Executive Order 13123 Goals⁴¹

Year	Consumption per Gross Square Foot (10 ³ Btu/SF)
FY 1985	139.5
FY 1986	129.1
FY 1987	134.7
FY 1988	133.3
FY 1989	131.7
FY 1990	127.4
FY 1991	124.5
FY 1992	127.6
FY 1993	124.4
FY 1994	122.3
FY 1995	118.8
FY 1996	117.0
FY 1997	113.5
FY 1998	110.3
FY 1999	108.7
FY 2000	106.2
FY 2001	106.3
FY 2002	104.9
FY 2005 (EO 13123 goal)	97.6
FY 2010 (EO 13123 goal)	90.7

The ENERGY STAR® program’s “portfolio manager,” a no-cost, Internet-based energy tracking tool, compares the energy performance of a given building with data derived from a survey of U.S. buildings of that type (i.e., hospital, hotel, school, office, or supermarket/grocery), and then assigns the property a percentile score from 1 to 100. Buildings that achieve a score of 75 or higher qualify to receive the ENERGY STAR® label.⁴² A total of 20 Federal hospitals and 102 office buildings have earned the ENERGY STAR® label.⁴³ In FY 2001, FEMP awarded the first “ENERGY STAR® Building Award for Superior Performance” to GSA for eight Federal buildings that were among the top five percent nationwide in energy performance.

In FY 2002, Federal agencies documented more than \$120 million in investments in energy efficiency, renewable energy, and water conservation projects. With the help of alternative financing mechanisms, agencies also implemented 125 energy projects with private sector investment of about \$400 million. More than 9 percent of Federal facility space received energy audits in FY 2002. To date, agencies used approximately 663

⁴¹Ibid.

⁴²http://www.energystar.gov/ia/business/comm_real_estate/PortfolioMgr5_25.pdf

⁴³See the ENERGY STAR® website for the most up-to-date information <<http://www.energystar.gov>>.

gigawatt hours of energy from renewable sources, 47 percent of which was in the form of renewable energy purchases; the remainder is from on-site generation.⁴⁴

Buying Recycled. Another indicator of overall Federal performance in meeting green building goals is compliance with EPA's Comprehensive Procurement Guidelines (CPG). The CPG currently includes 12 recycled content construction products, as well as landscaping and park and recreation products, which Federal agencies are required to purchase. Purchasing data collected from seven agencies (DoD, DOE, GSA, NASA, HHS, VA, and USPS) indicate that 42 percent of the concrete purchased by these agencies in FY 2001 contained fly ash from coal combustion, while 42 percent of the insulation purchased also contained recycled content.⁴⁵

Reuse and Recycling. The DoD Measures of Merit include 40 percent non-hazardous solid waste diversion by 2004, including construction and demolition debris.⁴⁶ More than ten military bases to date have used "deconstruction," the disassembly of old buildings for reuse or recycling of their valuable components, and other agencies are investigating the practice as an alternative to demolition.⁴⁷ Other agencies have developed recycling programs in conjunction with construction and remodeling projects.



Project Team for the Social Security Annex in Baltimore, Maryland employed a stringent waste reduction/prevention program for building elements and construction materials. By opting to reuse both the existing building shell and interior features, and through employing aggressive recycling/salvage tactics for construction materials, the team was able to reuse 77% of the building's exterior, 76% of the interior, and recycle/salvage 79% of construction materials, preventing 4,133 out of 5,239 tons from going to landfill.

⁴⁴All the information in this paragraph was compiled from: Annual Report to Congress on Federal Government Energy Management and Conservation Programs: Fiscal Year 2000. DOE/FEMP. December 2002.

⁴⁵Office of Federal Procurement Policy and OFEE, FY2000-2001 RCRA Report to Congress, <<http://www.ofee.gov/pubs/Final2000-2001report.pdf>>.

⁴⁶See Memo on New DoD Pollution Prevention Measures of Merit at <<https://www.denix.osd.mil/denix/Public/ES-Programs/Pollution/Moms/p2mom.html>>.

⁴⁷See the Building Deconstruction Consortium website at <<http://www.buildingdeconstruction.org>>.

LEED™ Adoption. The USGBC estimates that registered LEED™ projects constitute 4.6 percent (pro-rated for the year) of all annual new commercial and institutional construction in the U.S. by floor space.⁴⁸ In the Federal community, 86 buildings (accounting for 12,218,019 square feet) are currently registered for LEED™ certification,⁴⁹ eight have already been certified (see Table 4), and, as mentioned above, several agencies are promoting the use of LEED™ as official policy (see *Appendix A*). Nine Federal projects are currently participating in the LEED™ for Existing Buildings pilot program, which EPA sponsors.⁵⁰ And, GSA is sponsoring the LEED™ for Commercial Interiors pilot program.

Table 4: Federal Facilities Certified under LEED™ as of August 2003

Federal Facilities Certified under LEED™ 2.0		
Agency/Department	Facility	Certification
EPA	New England Regional Lab, Chelmsford, MA	Gold
EPA	Science and Technology Center, Kansas City, MO	Gold
DOE	Argonne National Laboratory's Central Supply Facility, IL	Silver
GSA	U.S. Courthouse, Youngstown, OH	Certified
GSA	Social Security Administration's Child Care Center, Baltimore, MD	Certified
GSA	Social Security Administration's Building, Baltimore, MD	Certified
Navy	Bachelor Enlisted Quarters, Great Lakes Naval Training Center, IL	Certified
Federal Facility Certified under LEED™ 1.0		
Air Force	Air Combat Command's Physical Fitness Center, Barksdale Air Force Base, LA	Bronze

⁴⁸Peter Templeton, USGBC, personal communication, 8/6/03

⁴⁹ Peter Templeton, USGBC, personal communication, 7/3/03

⁵⁰ Peter Templeton, USGBC, personal communication, 2/24/03

Federal Forums. Finally, the increasing Federal focus on green building is evident in the number of forums organized in recent years to facilitate information sharing on the topic. These include FEMP's Interagency Sustainability Working Group, the Federal Green Building Listserv, the Federal Facilities Council, the Federal Network for Sustainability, and the USGBC Federal Summit. More information about these and other Federal green building forums is listed in *Appendix C*.