FINAL DRAFT
DECEMBER 3, 2007

Greening the Washington Metropolitan Region's Built Environment

---

A Report to the Metropolitan Washington Council of Governments Board of Directors

Summary Report

COG Intergovernmental Green Building Group

December 2007

Metropolitan Washington Council of Governments

COG is a regional association comprised of 21 local governments surrounding our nation's capital, plus members of the Maryland and Virginia legislatures, the U.S. Senate, and the U.S. House of Representatives. COG provides a focus for action and develops sound regional responses to such issues as the environment, affordable housing, economic development, health and family concerns, human services, population growth, public safety, and transportation.

www.mwcog.org

COG Mission

Enhance the quality of life and competitive advantages of the metropolitan Washington region in the global economy by providing a forum for consensus building and policy-making; implementing intergovernmental policies, plans, and programs; and supporting the region as an expert information resource.

Intergovernmental Green Building Group

"Promoting cooperation on green building in the metropolitan Washington region"

The IGBG, a standing technical committee of COG, is a cross-jurisdictional group of local government staff and interested nongovernmental participants who are committed to green building as a sustainable development strategy for the metropolitan Washington region.

Joan Kelsch, IGBG Chair
Stuart Freudberg, Director, Department of Environmental Programs
George Nichols, Principal Environmental Planner and Energy Program Manager
Stella Tarnay, Consultant

Acknowledgements

This report was prepared by the Intergovernmental Green Building Group (IGBG). Special recognition is extended to several private and nonprofit organizations, particularly the American Institute of Architects Committee on the Environment, the Amicus Green Building Center, the District of Columbia Building Industry Association, GreenHOME, GBO Construction, and the USGBC National Capital Region Chapter.

Cover images left to right: National Association of Realtors Washington Legislative building, District of Columbia; National Rural Electric Cooperative Association (NRECA) headquarters, Arlington, VA; 1101 New York Avenue office building, District of Columbia; Eastern Village Cohousing, Silver Spring, MD. All have achieved U.S. Green Building Council LEED certification.

Vision

The National Capital Region is a national leader in green building. The region's local governments lead in innovation and stewardship of the environment through green building design and construction, and support for innovation in the private sector.

Executive Summary

Metropolitan Washington is expanding at a rapid pace. Current forecasts show the region will grow by 1.6 million people and 1.2 million jobs between 2005 and 2030.

This economic prosperity will not come without its challenges. As the region grows, so will the strain on infrastructure and the demand for new buildings and renovations. How the region builds will to a great extent determine quality of life for residents, the health of the region's environment, and the capacity of municipal governments to meet the needs of their constituents.

To help the region prepare, COG's Intergovernmental Green Building Group (IGBG) examined issues related to environmentally friendly development practices known as "green building" and to exchange knowledge about best practices in the region. In this report, the group reviews best practices and standards, offers recommendations for local governments, and considers benefits, costs, and related opportunities. This summary provides an overall look at green building as a tool for protecting natural resources while improving performance of the region's building stock. A full technical support document provides greater details on issues addressed by IGBG and recommendations given.

Adoption of green building throughout metropolitan Washington can support the growth of a green economy and job opportunities in multiple sectors. Public sector green building practices and support of green business innovation, which is now occurring, will support long-term goals for a sustainable and healthy region.

Introduction and Background

Metropolitan Washington faces both opportunities and challenges as it continues to grow and prosper. Demand for commercial properties and residential renovations continues to be strong even during a housing market slowdown. Local governments continue to build schools, expand facilities, and upgrade municipal buildings.

As development progresses, COG member governments have embarked on an effort to improve performance of the region's buildings and encourage environmentally responsible practices. In November 2006, following months of preparation, COG's Board of Directors created the Intergovernmental Green Building Group (IGBG) as a technical committee and charged it with preparing a guide for implementing green building practices throughout the region.

In this report, the committee has assessed the environmental impacts of all development while focusing recommendations on municipal buildings and new commercial projects that stand to have a strong impact. In the near future, the committee will also consider green building options for existing and historic buildings, small-scale residential projects, schools, and affordable housing projects. General policy guidelines are currently provided for these project types in the report, with recommendations for future action.

What is Green Building?

Green building is an approach to design, construction, and management that reduces the negative impact of buildings on the environment while increasing building performance and occupant health. Relying on natural sunlight during peak hours, using recycled construction materials and designing green roofs covered with vegetation are all examples of green building practices. According to the US Green Building Council (USGBC), green buildings use less energy, consume less potable water, generate fewer air pollutants, produce less solid waste, and provide healthier indoor environments.

Buildings and the Region's Environment

As developers build homes and develop commercial projects on land once covered by forests and farmland, maintaining the quality of the region's water and air is an increasing challenge. Building activity—from site devel-

opment and construction to operations and waste disposal—impacts the region's environment in significant ways. Increased stormwater runoff, for instance, has polluted waterways in the Chesapeake Bay watershed. The amount of impervious surface such as pavement and roofs has increased by 40 percent since 1986, air quality has suffered from ozone producing chemicals and particle emissions, greenhouse gases are increasing, and tree coverage has been substantially reduced. Regional leaders recognize the ongoing need to clean the region's air of pollutants, to meet federal requirements for particulates as well as ground level ozone, and to mitigate global warming.

Green building practices can help to lessen such impacts by using environmentally friendly construction methods and reducing wasteful materials. Green buildings are compatible with smart growth, low impact development (LID), and community planning techniques that preserve natural resources and promote quality of life. Potential benefits include:

- Reduced reliance on fossil fuels and growing opportunities for incorporation of renewable energy strategies;
- Improved air quality and fewer greenhouse gas emissions;
- Less pollution in the Chesapeake Bay and reduced demand for potable water from the region's waterways and reservoirs;
- Less strain on the region's ecosystems.

Trends and Findings

Human Health

The U.S. Environmental Protection Agency estimates that up to 30 percent of new and remodeled buildings have acute indoor air quality problems, an especially difficult situation for one third of the region's children and seniors who have some type of respiratory disease. Green building practices can contribute to the health of residents by improving ventilation in workplaces, homes and schools, and by reducing exposure to toxins and asthma triggers. Increased natural light, fresh air and greater comfort improve overall wellbeing.

Impact on Municipal Systems

Local governments shoulder many of the "externalized" impacts of regional development. Stormwater management, required because of expanding development, is a growing regional concern. Energy demands may contribute to future brownouts, necessitate the siting of new power generation facilities and transmission lines, and increase public investment in infrastructure and repairs.

The human costs of poor building decisions also impact municipalities. Students and employees in poorly designed buildings do not perform to the best of their abilities. Treatment of chronic diseases such as asthma puts a strain on the region's medical infrastructure. Local governments are also affected by expensive heating and cooling due to substandard insulation in low-income housing that puts an economic strain on residents. Green building practices can help the region's governments reduce costs by:

- Reducing demand on local infrastructures that deliver water and energy and treat wastewater, stormwater, and construction waste;
- Reducing stress on local emergency services and public medical facilities;
- Improving productivity in schools and at work because of healthier environments;
- Increasing resilience to weather emergencies such as storms and heat waves.

Future Trends

Three trends will amplify the impact of buildings on the region's environment and on its future quality of life:

1. The metropolitan Washington region is expected to grow by ***1.6 million people and 1.2 million jobs*** by 2030.
2. ***By 2035, 75 percent*** of all U.S. ***buildings will be new or renovated***, according to national forecasts. Real estate activity in metropolitan Washington exceeds national averages.
3. ***Climate change*** is expected to have regional impacts, making the region's ecosystems and infrastructure more vulnerable, particularly to storm and heat events.

Population and job growth will continue to push demand for housing, workplaces, and schools. Without regional efforts to improve common building practices, the negative environmental impacts can be expected to increase.

Standards and Codes for Green Building

The environmental performance of buildings is generally managed at the local government level through building codes, zoning, comprehensive plans, and other site design and development requirements. A number of independent organizations, industry groups, and public agencies have created specific guidelines that can be integrated into such mechanisms. They generally provide guidance and tracking for:

- Site planning and management;
- Energy performance;
- Indoor and outdoor water use;
- Resources and building materials;
- Indoor environmental quality;
- Waste management;
- Relationship to transportation infrastructure.

Most systems track environmental performance with points toward certification. Verification methods for performance vary widely, from voluntary reporting to rigorous third-party review.

The LEED (Leadership in Energy and Environmental Design) system, developed by the U.S. Green Building Council (USGBC), is the most widely used green building guidance and certification system in the U.S. today. Over 8,000 building projects have been registered under LEED, and more than 1,000 have achieved certification. Developed initially for *new commercial* projects, LEED standards are now available for *existing commercial buildings*, *commercial interiors*, and *schools*. Standards for homes and neighborhoods are in a pilot phase, and guidelines for other specific building types are in development. Certification is achieved by third-party review and testing, and includes levels of Certified, Silver, Gold, and Platinum. Other significant building standards that promote environmentally responsible building include:

ENERGY STAR: a federally sponsored certification and labeling program for energy conservation in *commercial buildings* and homes.

Green Globes: a voluntary on-line building assessment tool and rating system for *commercial buildings* sponsored by a cross-sector industry coalition, the Green Building Initiative. The General Services Administration (GSA), like most local and state governments across the nation, has concluded that LEED is currently the most appropriate green building rating system for public projects. The District of Columbia, Gaithersburg, Montgomery County, Alexandria, Arlington County and others use LEED as the primary assessment tool for public and private commercial buildings.

Additional rating systems are available for single-family homes and small residential projects. These rating systems will be evaluated in a subsequent analysis:

EarthCraft: a voluntary, contractor-oriented guidance and certification system for *residential projects and communities*, developed by Southface Institute and partners.

NAHB Model Green Home Building Guidelines: developed by the National Association of Home Builders for *new homes.*

Regional Green Home rating systems: developed by homebuilder associations, often with state support, such as Colorado GreenBuilt.

Green Communities – a voluntary rating system for affordable housing developed by Enterprise and partners.

Because certifying single-family homes is still expensive and logistically difficult, several municipalities have developed their own programs. Arlington's Green Home Choice program, for example, is based on EarthCraft guidelines.

The National Association of Realtors' new Washington headquarters building has been awarded a LEED Silver certification for a high level of environmental performance. The striking, glass-wrapped structure was the first newly constructed building in the District of Co-

lumbia to be recognized for meeting "green" standards set by the U.S. Green Building Council.

Raising Building Performance in the Region

COG's member jurisdictions agree that a regionally consistent set of policies and standards for green building will benefit the region. The area is in a good position to adopt rigorous green building standards that will improve building performance and benefit the environment. National development of green building guidelines, green codes, and climate protection programs can support this effort. However, successful adoption and implementation of such regional policies will require:

- Consensus on a standard for public and private commercial buildings;
- Guidelines for green building management and operations. Much of the environmental impact from buildings in the region comes from existing buildings;
- Integration of selected green building standards with complementary LID, smart growth, community development, and transportation strategies;
- Verifiable standards for green homes and small-scale residential projects;
- For the longer-term, implementation of consistent building codes across the region.

Guidelines that take these factors into consideration will “level the playing field” for developers and encourage adoption of green building practices.

Trends and Best Practices in Green Building

Local governments across the nation are setting ambitious green building performance goals for their facilities, and are supporting innovation in the private sector through regulatory and incentive programs. In metropolitan Washington, over a dozen COG member jurisdictions have green building policies in place or are in the process of developing them. The District of Columbia, Gaithersburg, Montgomery County, Alexandria, and Arlington County all use LEED as the primary assessment tool for public and private commercial buildings.

With most state and local governments using LEED as the rating system for green building, national trends point toward the LEED Silver rating as a standard requirement for public buildings, with some governments moving toward requiring a Gold rating. Many jurisdictions augment LEED requirements with ENERGY STAR to further promote energy conservation.

Nationally, local governments are leading the way with green building practices to:

- Demonstrate commitment to environmental, economic, and social stewardship;
- Yield cost savings to taxpayers though reduced operating costs;
- Provide healthy work environments;
- Contribute to public goals to protect, conserve, and enhance environmental resources.

Local Government Programs and Policies

Municipalities establish green building standards through legislation, executive orders, incentive programs, zoning requirements, comprehensive plan policies, and internally developed policies for government facilities. National leaders are distinguished in part by well defined policies, staffed programs with clear lines of authority and communication, and dedicated funding sources. A clear vision on the part of elected leaders, active citizens and businesses has been the hallmark of successful municipal green building programs.

Green building programs in cities such as Seattle and Portland, Oregon are part of comprehensive agendas that incorporate energy conservation, urban forestry, water and air quality measures, recycling, climate protection efforts, and green infrastructure planning. It is worth noting that most of the government programs making significant progress are in states where legislation, regulations and incentives support green building.

Tools for Private Innovation

Public leaders who have achieved widespread adoption of green building practices in their jurisdictions have done so through a combination of exemplary public buildings and active private sector involvement. Local governments engage with the private sector in many ways to support green building. Tools currently in use include:

- Legislated or mandated guidelines requiring compliance with standards such as

LEED for commercial buildings or Green Communities for affordable housing;

- Building codes for both the residential and commercial sectors;
- Performance tracking requirements that are part of the project review process;
- Development density and Floor Area Ratio (FAR) bonuses;
- Tax rebates or abatement for buildings achieving certified green building performance;
- Technical assistance to builders of green projects;
- Educational programs and web resources for homeowners, homebuilders, and others;
- Targeted cross-sector partnerships in support of green building;
- Expedited permitting;
- Grants that support innovation;
- Competitions and recognition for excellence.

Such programs and incentives have encouraged innovation on the part of developers, builders, and homeowners in Seattle, Portland, Chicago, and Austin. Specialized green businesses have also blossomed in these metropolitan areas. Similar businesses are emerging in the metropolitan Washington region, and will likely benefit from targeted public grants, incentives, and partnerships.

The Langston-Brown School and Community Center in Arlington, VA uses extensive interior daylighting with sunshades to control heating from the hot summer sun. Two large cisterns capture rainwater from the roof, which can be used for irrigation around the building. During construction, over 80% of construction debris was recycled.

Leading for Green Building

A clear vision on the part of elected leaders, active citizens and businesses has been the hallmark of successful municipal green building programs. Program piloting in Chicago, outreach and education in Seattle and Portland, and LEED performance requirements for public buildings in Austin are all examples of how governments are developing and fine tuning their programs.

Private sector leaders in these cities and others have initiated some of the nation's most ambitious green building initiatives. Bank of America's new headquarters building in Manhattan, for instance, was designed with the goal of achieving the LEED platinum certification. In the District of Columbia, the D.C. Building Industry Association was an active partner in developing the city's Green Building Ordinance. Nonprofits, citizen groups, and educational institutions have often served as important advisors and catalysts for both private and public innovation in green building.

According to the Greater Washington Board of Trade, there are now over 480 LEED registered projects in the metropolitan Washington region, and 35 buildings have achieved LEED certification. A regional green building policy will make it easier for owners, developers, and contractors to follow a consistent set of guidelines and expectations across the region. Establishing this consistency will increase the opportunity for more green buildings and reduced environmental impacts.

Climate Protection and Green Building

Cities and counties across the nation are exploring methods for integrating green building with climate protection initiatives to reduce carbon emissions. Several national programs such as the 2030 Challenge, the International Council for Local Environmental Initiatives (ICLEI), the American Institute of Architects climate protection commitment, and the US Conference of Mayors climate protection agreement offer models for reduction goals. Early work in this field is focusing on creating consensus for measurement benchmarks and for developing appropriate assessment and implementation tools. COG's Climate Change Initiative will soon be considering options for reducing greenhouse gas emissions in the DC region. Regional adoption of green building policies will figure prominently in this effort.

Green Building Costs and Operational Considerations

A modest green building investment at the early stage of a project can bring performance

and cost benefits over its entire lifecycle. Recent studies shed light on initial costs associated with green building.

Initial Costs of Green Building

Several recent studies have found that green buildings have a modest initial cost premium, but that long-term benefits far exceed the incremental capital costs. A study commissioned by the State of California, ***The Costs and Benefits of Green Building,*** found a two percent average cost premium for 33 green building projects nationwide. A comparative study conducted for the General Services Administration found that first costs for green buildings range from 0.4 percent below conventional budgets to 8.1 percent above, based on the options selected.

Final costs for green building development and construction depend on several factors including scale and location of the project, environmental goals, quality of project management, certification fees, unexpected events unrelated to green features, energy modeling, commissioning, and testing costs. As markets grow, green building products and technologies are becoming cost-competitive.

Project developers and builders are still learning how to produce green buildings in the most cost-effective manner, but experience shows that the most successful projects are managed by experienced teams or have expert consulting, and incorporate green features early in the design phase. Feedback from local developers at COG's 2006 conference ***Regional Leadership Conference on Green Building*** indicates that initial costs of green projects are reduced with experience.

Lifecycle Performance and Cost Benefits

Improved building operations, occupant productivity and wellbeing are all long-term benefits of green building. Specific benefits may include:

- Measurable reductions in energy and water bills in public buildings;
- Reduced maintenance and repair costs due to high-performing materials and systems;
- Less waste as a result of improved durability and recycling;
- Improved occupant health resulting in fewer sick days and improved productivity due to healthier indoor environments;
- Fewer incidents of insurance risk, sick building syndrome, and mold and water damage.

When applied on a broader scale, green building practices can reduce the fiscal burden on jurisdictions throughout metropolitan Washington. In Montgomery County, for instance, the public school system expects to save $60,000 annually in utilities at the recently completed green Great Seneca Elementary School. Applied region wide, green building practices can help decrease burdens on public water, energy and other public utility systems while protecting the environment.

TC Williams High School in Alexandria, VA adheres to LEED standards, and was recently awarded a Green Innovation Award for Best Institutional Project from the Virginia Sustainable Building Network. Its environmentally friendly features include a rooftop garden to provide stormwater management, waterless urinals, a 450,000-gallon underground cistern to collect and store rainwater for use in toilet flushing, and a system for tracking water and energy use. The City expects to save $30,000 annually in potable water costs as a result of these measures.

Local Government Operational Issues

Implementing green building policies will require:

- Budget and facilities planning that incorporates lifecycle assessment and operations costs;
- Procurement and RFP practices, as well as incentives, that support green building;
- Improved communications across departments regarding green building;
- Shared organizational understanding of green building, selected rating system, and the integrated design and development process;
- Familiarity with green building management and improvement practices among facilities managers;
- Functional understanding of green building techniques, technology, and codes among permitting and inspections staff;
- Understanding of green building and related community planning, stormwater,

LID, smart growth, and waste management issues among relevant planning and environmental staff.

Education of staff and executives will be very important as programs are developed. Local and regional workshops, rating systems, and implementation tools can be very helpful. Senior level leaders who set priorities for green building and demonstrate a willingness to innovate throughout the organization will facilitate successful adoption of green building.

Economic Opportunities for the Region

Green businesses and industries are still in the formative stages in the metropolitan Washington region, but this new sector is growing. Opportunities for economic growth through green building fall generally into the following areas:

- Project opportunities for developers and builders with green expertise;
- Consulting and design services;
- Sales of green products and building materials;
- Contracting for green construction and other services such as utilities installation, plumbing, carpentry, and green roof installation;
- Education and research.

Together, these areas create the potential for new job opportunities – from trades jobs to specialized knowledge sector niches – that promote economic development and a healthier regional environment. With its highly educated population and informed leadership, the metropolitan Washington region is well positioned to take advantage of these emerging opportunities and become a national model of interjurisdictional cooperation on green building. The Greater Washington Board of Trade's Potomac Conference, ***Green as a Competitive Advantage***, focused on promoting green development and green business in the Washington region. This is a significant step toward accelerating progress in green building implementation and other environmental protection activities.

Policy Goals

The IGBG has identified several recommendations that will position the region's local governments as leaders in innovation and environmental stewardship. While green building innovations are evolving, there are some key policy directions that warrant priority while other recommendations are prioritized in the yearly program review and performance evaluation. It is essential to have a consistent region wide minimum green building standard. There must be continued integration of green building techniques into practical applications throughout the region. Finally, education and capacity must be built into the overall performance.

Thus, key policy recommendations are:

- Establish a widely understood and rigorous region-wide standard for green building;
- Increase knowledge and capacity to implement green building throughout the region;
- Make facilities developed and built by COG member jurisdictions models of best green building practice;
- Promote and support green building innovation in the private sector through incentives, regulatory mechanisms, and information sharing;
- Promote cross-sector collaboration that supports regional goals for green building, environmental conservation, climate protection, and the growth of a regional green economy.

Key recommendations flowing from these goals and accompanying rational follow.

KEY RECOMMENDATIONS and RATIONALE

Recommendation 1: Preferred Green building Rating Standards

Establish LEED as the region's preferred green building rating system for new commercial construction and high-rise residential projects using LEED New Construction (NC), Core and Shell (CS) or Commercial Interior (CI) rating systems. LEED building guidelines are also available or in development for specific commercial project types (schools, health care, retail, existing buildings, etc.) and should be evaluated for applicability as appropriate).

The following jurisdictions in the COG region use LEED as a guide and rating system for public and/or private projects: Arlington County, City of Alexandria, District of Colum-

bia, Fairfax County, City of Gaithersburg, City of Greenbelt, Montgomery County, Prince George's County, City of Leesburg, Prince William County, City of Rockville, Takoma Park, and Falls Church.

Rationale

- **LEED is the most recognized and accepted green building guidance and rating system in use nationwide.**
- **LEED is the system preferred by metropolitan Washington industry representatives.**
- **LEED is currently being used by many local governments in the metropolitan Washington region for public and private construction.**
- **As reported by the greater Washington Board of Trade, there are over 480 LEED registered buildings in the metropolitan Washington region.**
- **LEED has clearly defined standards and outlines specific requirements for compliance.**
- **LEED provides a rigorous, third-party certification process.**
- **LEED provides ongoing training as well as local technical support.**
- **GSA finds that the "USGBC's LEED rating system continues to be the most appropriate and credible sustainable building rating system available for evaluation of GSA projects."**
-

The policy rationale behind **Recommendation 1** is that the region will benefit from a consistent, rigorous, and widely understood standard for green building.

Recommendation 2: Green Building Standard for Local Government Public Projects

Establish LEED Silver as the goal for all local government facilities constructed in the metropolitan Washington region. The appropriate LEED rating system should be used for each specific project, and should incorporate at least 4 credits as required by the **COG Regional LEED Certified** standard for private commercial and high-rise residential development (see Recommendation #3). Local governments use ENERGY STAR tools where appropriate to maximize energy efficiency in public buildings.

This recommendation does not apply to schools and small-scale residential projects including affordable housing, policies for which are to be evaluated in 2008 and 2009.

Rationale

- **LEED Silver is the entry-level green building high performance standard among municipal leaders in the nation. Cutting edge municipalities are moving toward LEED Gold for public buildings.**
- **There are nearly 40 reported projects in the DC region that have achieved LEED ratings of Certified or higher.**
- **According to industry representatives, the LEED Certified rating – the baseline LEED ranking -- can easily be achieved in the metropolitan Washington region.**
- **A growing number of builders in the region strive for LEED Silver as part of their competitive strategy.**
- **Local government should set a higher bar for building sustainability as an example of their commitment to achieving a sustainable and energy efficiency environment.**
- **Currently about 10 COG member governments participate in EPA's ENERGY STAR program.**
- **ENERGY STAR and LEED programs complement one another. ENERGY STAR products can be used in LEED buildings. ENERGY STAR tools, such as Portfolio Manager, can be used to measure a LEED-rated building's ongoing energy performance.**
- **LEED recently enhanced the energy performance requirements. (Two Energy Optimization credits are now required on all projects).**

The policy rationale behind **Recommendation 2** is that programs with strong energy conservation and energy efficiency components provide the region with the greatest opportunities for overall economic and environmental sustainability. Recommendation 2 supports making public facilities models for best green building practices.

Recommendation 3: Develop "COG Regional Green Standard" for Private Development

Establish COG Regional LEED Certified standard for **private commercial and high-rise residential development**.

COG Regional LEED Certified is defined as LEED Certified with at least 4 credits from the following:

i. Additional EA1 credits
ii. SS7.1 – Heat Island, Non-roof
iii. SS7.2 – Heat Island, Roof
iv. EA 2 – On-site Renewable Energy
v. EA6 – Green Power
vi. MR2.2 – 75% Construction Waste Management
vii. SS 6.1 Stormwater Design – Quantity Control
viii. SS 6.1 Stormwater Design – Quality Control

Review and revise COG Regional LEED Certified recommendation no later than 2012 with the goal of increasing the standard in the future.)

Rationale

- **The metropolitan Washington region is diverse, with urban and non urban environments.**
- **A LEED Certified rating is easily attained in the region due to local expertise and services.**
- **The USGBC is currently developing criteria to make documentation less onerous in recognition of concerns regarding commissioning and documentation costs.**
- **The LEED Certified rating allows maximum flexibility in choosing environmental components for cost effective implementation.**
- **There are nearly 40 reported buildings in the region that have achieved LEED ratings of Certified or higher.**

The policy rationale behind **Recommendation 3** is that the region will benefit from establishing a region specific standard that focuses on environmental issues of regional concern (Chesapeake Bay protection, greenhouse gas emission reduction, and waste management) and respects the diversity of the region's urban and non-urban environments.

Recommendation 4: Education and Collaboration

COG shall collaborate and partner with **the private development community, nonprofit organizations, federal programs, educational institutions, financial institutions, and other interested parties** to maximize opportunities for education and innovation in the region.

Rationale

- **Jurisdictions have successfully pioneered green building programs. They have actively involved the public and private sectors, nonprofit organizations, and financial institutions in the development and implementation of green building activities. Community action and market development create jobs and are vital to the success of green building.**

The policy rationale behind **Recommendation 4** is to promote cross-sector collaboration that supports regional goals for green building, environmental conservation, climate protection, and growth of a regional green economy.

Recommendation 5: Implement Actions to Insure the Success of the Regional Green Building Policy

COG ensures the success of regional green building goals through various specific actions, including a 2008 Green Building Work Plan, that support implementation of IGBG recommendations and coordinate green building efforts with other COG programs.

IGBG will continue to work on supporting a regional LEED green building standard for the metropolitan Washington region. Local governments should use the IGBG summary report and technical report as a reference guide in developing and implementing Green Building initiatives.

IGBG activities will include:

- Continue to streamline the implementation of LEED, including working with the USGBC on a regional portfolio standard and other ways to help make LEED more efficient.
- Work with other COG committees (such as Energy and Climate Change) to develop efforts to train local government staff and facility managers in green building design and management, including a monitoring and tracking recommendation on the num-

bers, types and certification level of green buildings.
- Quantify the benefits of wide-spread implementation of the green building policy on energy use and greenhouse gas reduction.
- Develop regional guidance for green building standard for the residential sector, schools, hospitals, existing buildings, and major renovations.
- Develop regional guidance on Energy Star as a performance measure for Green Building.
- Assess the feasibility of establishing a **Green Building Program within the Department of Environmental Programs** to support green building policy development, education, and regional coordination. The Green Building program should coordinate with existing COG programs (Energy, Climate Change, Water Quality, Air Quality, Regional Growth and Development, Housing, Procurement, etc).

Rationale

- **Consistent regional implementation will insure a level playing field for private sector development.**
- **Collaboration with the US Green Building Council on streamlining implementation of the LEED certification process will insure wider acceptance of green building policies and promote efficient implementation.**
- **Education and training are essential for local government personnel to help speed implementation of green building policies, including those for local government facilities.**
- **Quantification of the benefits of green building will provide reinforcing data supporting the regional green building policy.**
- **COG's Department of Environmental Programs has the lead responsibility for environmental issues including air, water, energy, climate change, green building and solid waste. The key feature of green buildings is the integration of the various environmental media and sustainability practices in combination with traditional development policies, housing and procurement.**

The policy rationale behind **Recommendation 5** is to promote and support green building innovation in the private sector through incentives, regulatory mechanisms, and information sharing.

Conclusion

Metropolitan Washington faces an unprecedented period of opportunity for developing green building practices and markets. As the region faces many challenges related to air and water quality and climate change, coordinated public policies that promote green building will help overcome those issues while enabling innovators to take advantage of emerging economic opportunities.

LEED currently offers the most reliable and widely understood system for guiding and certifying green commercial projects. ENERGY STAR performance guidelines and measurement tools are a valuable accompaniment. National green building codes, currently in development, will offer a viable option for raising base environmental performance of all buildings, while LEED will continue to push toward high performance. Regional leaders face the challenge of coordinating green building standards in a tri-state area with varying political environments. The District of Columbia has started establishing a process for reviewing and updating codes to support green building. In-depth analysis and evaluation will help determine how green building standards should be applied to small-scale residential projects, affordable housing, schools and existing and historic projects.

As green building guidelines and incentives evolve nationally, COG members will need to follow developments closely. Unlike cities with public utilities such as Seattle, Portland, and Austin, utilities in metropolitan Washington are privately owned, and thus the region's leaders will need to explore alternative options for funding-related incentive tools.

Green building policies and initiatives will be most effective when they are applied with complementary low impact development (LID), smart growth, and community development practices, and in coordination with COG's existing environmental initiatives. Green building is a vital part of an integrated, coordinated approach to regional sustainable development and environmental stewardship. Most notably, opportunities for integration of green building policies with the region's new climate change initiative remain to be explored.

Building construction, management, and disposal practices have not been well tracked or analyzed at the regional scale. A quantitative tracking and evaluation system for green building in the region will help COG members measure progress and meet goals for improving the region's water, air, and land resources. Further analysis can also assist in creating targets for energy conservation and carbon dioxide (CO_2) emission reductions.

National experience indicates that the best and strongest municipal efforts for green building involve strong leadership, empowered staff, and strong engagement on the part of the private sector, education institutions, and nonprofit organizations. As the metropolitan Washington region moves toward an integrated regional approach to green building, all partners will play a vital role in the regional conversation. All will be engaged in an ongoing process of education and collaboration as we move toward implementation of best green building practices in the region.

Copies of this executive summary, as well as the full technical report, are available for download at www.mwcog.org.