# Regional Leadership Conference on Green Building

***Best Practices and Policies for Local Government and the Region***

# CONFERENCE REPORT


**September 29, 2006**
**8:30 am - 3:30 pm**
University of Maryland
Conference Center

# CONFERENCE REPORT

## Regional Leadership Conference on Green Building

*Best Practices and Policies for Local Government and the Region*

Sept. 29, 2006

**Conference Overview and Findings 2**

**Session Notes 7**

**I. Introductions and Welcome ……..7**

**II. Best Practices……..10**

Green Building in National Context……10
*Morning Keynote: Tom Hicks, USGBC*

Local Initiatives from the Ground-Up:
Best Practices in the Public and Private Sector……11
*Morning Plenary Panel*

Leadership for Green Building at the Local Level……18
*Luncheon Keynote: Karen Hobbs, City of Chicago*

**III. Regional Policy and Leadership……21**

Executive Leadership Roundtable: Regional Policy for Green Building……21

**IV. Afternoon Issues Breakout Session……24**

Session 1: Starting and Managing a Local Green Building Programs……24

Session 2: Integrating Green Building with Natural Systems & Infrastructure…28

Session 3: Promoting Green Building Innovation in the Private Sector:
What Can Local Government Do? ……31

Session 4: Energy Innovation in Green Building……34

Session 5: The Real Costs of Green Building……36

**Attending Elected Officials 40**

**Final Regional Green Building Policy 41**

**University of Maryland Conference Center, College Park, MD**

sponsored by

Metropolitan Washington Council of Governments, Maryland Department of Natural Resources, Maryland Energy Administration, District of Columbia Energy Office, Virginia Energy Office, U.S. Environmental Protection Agency

# Conference Overview

On Sept. 29th, 2006, three hundred elected officials, local government planners, citizens, nonprofit organization representatives, and industry guests met to discuss opportunities for greening building practices in the region--and the role that area local governments can play green building. The event was sponsored by the Metropolitan Washington Council of Governments (COG), the Maryland Department of Natural Resources, the Maryland Energy Administration, the District of Columbia Energy Office, the Virginia Energy Office, and the U.S. Environmental Protection Agency. Specific conference objectives were:

- to review successful practices, policies, regulations and legislation for green building at the local and regional level
- to consider green building parameters, principles, and best practices to inform local and regional policy
- to move toward making the greater Washington region a national model for green building innovation

Jay Fisette, current chair of the COG Board of Directors and Arlington County Board member, hosted the day's program. He led participants through a four-part agenda that commenced with introductions and a presentation of best practices. This was followed by a lunch keynote and a leadership roundtable. The afternoon was devoted to in-depth discussion on specific green building topics through parallel breakout sessions. Mr. Fisette also announced the work currently underway at COG on the regional Green Building Policy resolution, scheduled to come before the Board on Nov. 8th.

# Conference Findings

## Support for Green Building

Elected officials attending the conference expressed great enthusiasm for green building, as did other conference attendees. The benefits of green building highlighted during the conference included:

- improved environmental health for the region
- improved building operations and lower utility bills
- enhanced occupant comfort and health
- lower infrastructure costs for municipalities

Mr. Fisette emphasized that green building can help to mitigate some of the impacts of regional development, saying: "The Washington region is growing rapidly and the resulting development won't come without a cost to our infrastructure and to our natural resources. Green building can help us overcome some of these growth challenges." He and others expressed concern over the region's contribution to climate change, and suggested that this green building gathering be the beginning of a broader conversation on environmental sustainability.

## Best Practices and Tools

Speakers from the U.S. Green Building Council (USGBC), private industry, and leading jurisdictions implementing green building shared their best practices and experiences. It is evident that the green building movement is taking off across the country, and leading innovation companies are adopting it as standard practice. In the public sector, presenters from Austin, Texas; Chicago; Portland, Oregon; and Arlington, Virginia presented an array of best practice tools used by local governments for green building. Green building can be introduced and enacted locally through legislation, executive order, and policy—but whatever the means, as a number of speakers pointed out, the strongest programs were distinguished by strong leadership and a vision for green from elected officials.

Morning presentations and afternoon breakout sessions lead to engaged discussions about the best implementation tools for green building, appropriate standards, and cost and management issues. The USGBC Leadership in Energy and Environmental Design (LEED) standard emerged as the most helpful tool for tracking and certifying green building performance, with adjunct local standards in some regions for residential buildings and for energy and stormwater issues. Attendees agreed that the ASHRAE (American Society for Heating, Refrigeration and Air Conditioning Engineers) 189P green building code under development by the U.S. Green Building Council and ASHRAE will provide a valuable tool for "raising the floor" for green building performance.

Private industry representatives expressed concern about mandated green building standards for private projects, but all expressed support for LEED certified government buildings and code-based reform toward green for all sectors. It was agreed that local governments should demonstrate best practices as a means to educate and build public support. "The Mayor believes you have to walk the talk," said Deputy Commissioner of Environment Karen Hobbs of Chicago's green building programs. "Don't ask the private sector to do what the City isn't already doing." The most favored approach to raising standards in the private sector was a combination of incentives and negotiated requirements for projects requesting special consideration. Density bonuses, expedited review, and tax credits were discussed. A number of presenters pointed out that simply tracking building performance with the USGBC LEED score card was a useful education tool.

Renee Worme, sustainability manager for Portland's leading green developer, Gerding Edlen, said: "Partnerships and collaboration between public and private sector interests are very important if you want to succeed in green building. You have to raise the bar together to create livable and sustainable communities." Ms. Worme emphasized the importance of a public sector environment that was open to innovation and creativity. This was echoed by local green entrepreneurs Jim Schulman and Paul Hughes, who identified a number of steps that local governments could take to support deconstruction and building materials recycling practices.

## Costs of Green

While costs remained a major concern for elected officials and local planners, there was general consensus that green building costs have come down, and that an average premium for green building is now between 2 and 3 percent. Many of these costs are recouped through more efficient building operations, utility savings, and lowered absenteeism. The actual costs of green, noted several experienced developers and managers, is more dependent on team experience and the specific technologies selected than overall green practices. "Green building doesn't have to cost more than conventional building," said Bob Braunohler, Vice President of the Louis Dreyfus Property Group, and developer of several green commercial projects in Washington D.C. Chris Van Arsdale, President of VNV Development and GBO Construction noted a "learning curve" cost to green, and observed that by his third project, he had reduced his green building premium to zero.

Conference participants identified specific issues related to costs for local government. The tendency to "value engineer out" green building when other costs went up is one problem. Another is that municipal budgets for building projects are determined years ahead of implementation, making it difficult to respond to changing conditions. The best government programs set aside line item commitments of 2 to 10 percent for green building implementation. Finally, the fact that energy cost savings from a green building might accrue to a completely different municipal department does not encourage innovation. Elected officials expressed a desire to get more specific and quantifiable information about the costs of green, as well as about benefits and other aspects. They and others at the conference spoke about the need to make green building's benefits and performance "visible" to industry members, government officials, and consumers.

## Regional Leadership and Cooperation

Many attendees and, notably, elected officials expressed the desire to bring the Washington Metropolitan region into a position of national leadership for green building, learning from the experiences of acknowledged municipal pioneers such as Austin, Chicago, Seattle, Portland, and regionally, Arlington County. The Green Building Policy resolution under consideration by COG's Board of Directors will be an important step in this direction. Attendees began identifying areas of potential cooperation among area municipalities, such as:

- coordinated public and private sector policies and requirements for green building
- regional adaptation of the international energy code and the ASHRAE 189P green building code, to be released in 2007
- regional government cooperation for green products procurement
- regionally coordinated incentives for green business development
- high profile pilot projects that demonstrate green building innovation at the building and the community scale

Session participants and speakers noted that green building initiatives and practices will be most effective if they are coordinated with broad regional initiatives such as the COG Regional Strategic Energy Plan, regional smart

growth efforts, watershed protection, and green infrastructure development. Green roofs served as a popular example of how a green building strategy can serve to support sustainable stormwater runoff strategies, air quality goals, and quality of life in the region.

## Education

Leader and staff education remain the biggest challenge for successful adaptation of green building by the region's governments. At virtually every session, government sector presenters with experience in green building implementation identified lack of staff education as their biggest hurtle. Green building education will need to be undertaken by every municipality vertically and horizontally across government departments. Communication between departments, conflicting priorities, and lack of program funding were also identified as key issues to be dealt with if municipalities are to succeed individually and regionally. Whatever the challenges, Jay Fisette expressed the feeling of most attendees in saying: "We really need to step forward to make the nation's capitol a leader for green." Richard Morgan, manager of Austin's green building program emphasized that "Municipalities need to make the investment for green building" and then commit to carrying it through. Speakers from across the country encouraged local government leadership to take up the challenge. "I'd like to see the Washington area become the capitol of green building, said USGBC Vice President Tom Hicks, "and I think it can be done."

## COG's Role

COG was identified throughout the day as the potential vehicle for regional education and cooperation for green building, and as a central source of information on best practices. There was general support for the proposed COG Green Building Policy resolution strong interest in establishing a dedicated green building program and possibly a climate action initiative.

# Session Notes

## I. Welcome and Introductions

**David Robertson** welcomed all to the conference and introduced COG and its mission, noting that 21 jurisdictions in the District of Columbia, Maryland, and Virginia are now members, with most represented at the conference. He introduced green building as "the practice of creating healthier and more resource-efficient models of construction, renovation, operation, maintenance, and demolition." He added that when buildings are designed and operated with lifecycle impacts in mind, the can provide great environmental, economic, and social benefits. He also highlighted green buildings as a pivotal strategy in COG's Regional Energy Strategic Plan. This conference, he noted, would help build the foundation for further green innovation in the region.

Mr. Robertson acknowledged conference sponsors and their representatives: Tomaysa Sterling of the District of Columbia Department of the Environment (formerly the Energy Office), Sean McGuire of the Maryland Department of Natural Resources, Katy Hatcher of the U.S. Environmental Protection Agency, and John Warren of the Virginia Department of Mines, Minerals, and Energy. Mr. Roberts extended appreciation to COG's Department of Environmental Programs staff who managed the conference: Stuart Freudberg, George Nichols, and Leah Boggs, and to several members of the ad hoc Intergovernment Green Building Group, a group of planning professionals from the region who have been meeting during the past year to facilitate dialogue on green building, especially Joan Kelsch and Stella Tarnay of Arlington County, who were on the planning committee for the conference.

**Jay Fisette** welcomed conference attendees and speakers to the event, acknowledging the elected officials who were present, and extended a special welcome to guests from the private and nonprofit sectors. He brought attendees' attention to the fact that they were meeting at a conference facility with a green hotel, and encouraged them to take a tour. Noting the timely nature of the conference, he observed that both Montgomery County and the District of Columbia have introduced legislation in support of green building and that a handful of jurisdictions in the region are developing green building programs.

Mr. Fisette reflected on the development pressures that the Washington metropolitan area is facing, saying: "The Washington region is growing rapidly and the resulting development won't come without a cost to our

infrastructure and natural resources. Green building can help overcome some of these growth challenges." He spoke about the benefits of green building, both in terms of environmental protection and reduction of stress on regional infrastructure. For local government, he said, "The municipal math is pretty clear--lower infrastructure burdens mean lower public costs and lower tax burdens for our citizens." He also spoke about the health benefits of green building, especially for children in schools.

Mr. Fisette expressed his concern about global climate change and identified green building as a part of the solution. He also referenced COG's Regional Energy Strategic Plan noting that the region has already started addressing issue such as energy, land use, and resource protection. He brought conference attendees' attention to the regional Green Building Policy resolution, currently under consideration by the COG Board. If passed, this resolution will support regional cooperation on green building among area jurisdictions and potentially could be the basis of a regional standard for green building. "I anticipate that the Board will embrace this action which will formalize a green building program at COG." He encouraged conference attendees to take the opportunity to learn, explore, and ask questions about green building during the course of the day, and to take action to make it a reality in the region.

Acknowledging the support of the state of Maryland for the conference, he introduced Frank Dawson.

**Frank Dawson** expressed appreciation to everyone attending the conference for the willingness to collaborate and explore how our region can continue its leadership role in green building and environmental design. "From state government to local communities to the private sector, all of us are realizing the inherent environmental and economic benefits of green building," he said. He noted that the State of Maryland sponsored a Mid-Atlantic conference on green building four years ago, and noted the progress that has been made. Maryland's $25 million Green Building Tax Credit has been fully appropriated, ahead of schedule, and the Maryland Solar Grants Program has increased its funding from $75,000 to $1.4 million. He acknowledged the local governments leading by example in the region, namely Montgomery County, Arlington County, Gaithersburg, Baltimore County, Worcester County, and Anne Arundel County. Mr. Dawson also acknowledged the advances made by the private sector in the region, noting the growing number of LEED-registered projects and the number of green building teams in area architecture firms.

"Clearly, green buildings are becoming the norm," Mr. Dawson said, "but we still have worked to do." He noted that regional efforts continue on

restoring and protecting the region's watersheds, and that the region is moving toward more sound land use practices. He pointed out the need to work to establish appropriate building and site design practices. Mr. Dawson encouraged conference attendees to share what has worked, to learn from various stakeholders, and to recommend implementable policy options for the region.

## II. Best Green Building Practices from the Nation and the Region

Morning Keynote

### Green Building in a National Context

Tom Hicks, Vice President for LEED, U.S. Green Building Council

Keynote speaker Tom Hicks gave an overview of green building nationwide and highlighted the activities of the U.S. Green Building Council (USGBC), a national nonprofit organization dedicated to promoting and certifying green buildings. He defined green building as design and construction practices that significantly reduce and eliminate the negative impacts of buildings on the environment through: sustainable site planning, water conservation, energy efficient and use of renewables, materials and resource conservation, and indoor environmental quality. This is the basis of the USGBC Leadership in Energy and Environmental Design (LEED) point-based rating system that has been adopted by many local governments. Today there are over 5,000 registered projects with his organization and 500 that have gone on to certification. Mr. Hicks shared examples of LEED projects from both the public and private sectors. USGBC is currently working on development of a green building code, ASHRAE 189P, in cooperation with American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) and others. It is due to be released in 2007.

Mr. Hicks highlighted the many benefits of green building to owners, building occupants, and communities. Green building practices enhance the health and wellbeing of building users; they reduce strain on local infrastructure; and they make business sense because of improved building operations, lower utility bills, and higher investment returns. He noted that every $4.00 in green building investment brings $28.00 in long term benefits. A recent study showed that performance measures for companies implementing LEED were 35% above average. “The best innovation companies are LEED companies,” he said. The costs of green building, Mr. Hicks said, is steadily decreasing as organizations and their consultants learn to apply the integrated design approach and become more comfortable with green building practices. A study several years ago measured the incremental cost of green at .6 percent to 6 percent above standard practice based on the level of certification, but many LEED buildings now cost no more than conventional ones.

Mr. Hicks encouraged conference attendees to move forward on their plans for green building. “I’d like to see the Washington area become the capitol of green building, and I think it can be done.”

Morning Plenary Panel

## Local Initiatives from the Ground Up: Best Green Building Practices in the Public and Private Sector

*Moderator:*
**George Leventhal**, President, Montgomery County Council

*Public Sector panelists:*
**Richard Morgan**, *Manager, Green Building Program, City of Austin, TX*
**Joan Kelsch**, Environmental Planner, Arlington County

*Private Sector panelists:*
**Renee Worme**, Sustainability Manager, Gerding Edlen Development, Portland, OR
**Robert H. Braunohler**, Regional Vice President, Louis Dreyfus Property Group, Washington, DC

During this morning plenary moderated by Montgomery County Council president **George Leventhal**, leading practitioners from the public and private sector showcased their approaches to green building at the local level. Mr. Leventhal highlighted some of Montgomery County's efforts for green building prior to panelist presentations. The County has made a number of important commitments to environmental sustainability for its buildings, including purchase of green renewable energy and efficiency measures. Green building legislation for public and private buildings is now under consideration. Mr. Leventhal supports mandates for LEED certification and expressed the hope that the region would move together in this regard, stressing that developers should not be bale to "game" one locality by threatening to locate their projects in another that does not require LEED. He noted a wide range of acceptance among developers today, with some leading the way with others resisting.

**Richard Morgan** provided an overview of the green building program in Austin, Texas. His program was the first in the country, established 15 years ago, initially with an energy focus. To date, 6,500 single family homes, 13,000 multifamily units, and 12 million square feet of commercial space have been "green rated." The city makes use of:

- A locality-specific green rating system for single family and multifamily residential
- LEED rating for commercial buildings
- Legislated LEED silver requirement for all city buildings

Austin's City Council took the step to legislate public LEED standards because between 1994 and 2000, environmental program staff found that

they were not getting engaged participation from the city's public works department.

The program is funded primarily through a fee assessed by the city's public utility, assuring a continual source of funding for Austin Energy and its green building program. Staff employ a series of innovative strategies and tools in working with consumers and the building industry. These include direct technical assistance, testing, easy to access phone assistance, a rich web site, resource publications, educations programs, active media and community outreach, and partnerships with building industry leaders. The goal of these activities is to achieve market transformation for green building. Austin recently achieved its 25% market saturation goal and is looking to raise the bar for performance. He noted a high level of enthusiasm for green building among homeowners, with interest and some resistance from the private building sector. "Work with industry leaders," Mr. Morgan suggested, "and the rest of the market will follow." Austin is simultaneously working to raise the floor for green building industry-wide by collaborating with ASHRAE and the USGBC on the ASHRAE 189 P green building code.

Mr. Morgan encouraged conference attendees to be bold and to make their efforts for green building visible. "You have the opportunity to do something very exciting regionally for green building," he said. He drew on his own experience to acknowledge the challenges that exist for green building even in Austin. "We are not there yet." He expressed his hopes for the future of his green residential program by saying: "We will consider the market transformed when a home built to standard practice is so efficient that it is cost effective to install a PV system and make it a zero energy home."

**Joan Kelsch** shared information about Arlington County's green building program, a leading municipal program in the region. She noted that the program developed in the context of the County's commitment to smart growth and community sustainability. The County Board has long recognized the need to deal with issues such as stormwater runoff, air quality, heat islands, traffic and parking, open space preservation, and the health of indoor environments in the urbanizing county. Since the late 1990s, the County has been working to green its own building practices and to support private market innovation. The County's green building program has several components:

- County policy encourages all large commercial and multi-family residential projects to incorporate LEED components. Although the site plan process is voluntary, there is an expectation that these

projects will include 25 or more LEED credits. The LEED components are tracked through the construction process to ensure compliance.

- Arlington's Green Building Incentive Program allows developers to apply for bonus density in exchange for official LEED certification. Projects may apply for a bonus density of .15 to .35 additional floor to area ratio (FAR). Developers who choose to participate in the density bonus and commit to LEED certification post a bond that is released when the building is certified.

- Site plan projects that do not receive official LEED certification from the US Green Building Council are asked to contribute $.03 per square foot to the County's Green Building Fund. This money is used to fund green building education and workshops.

- A volunteer Green Home Choice program partners with homeowners and builders of small-scale residential projects. The program utilizes a local green standard based on EarthCraft. Thirty homeowners and builder are participating in the voluntary green homes program.

Ms. Kelsch highlighted a few buildings that have gone through the County's green building incentive program, including the new Navy League building, the National Rural Electric Cooperative Association building, and a private multifamily building currently under construction. She showed examples of the County's own green buildings, which include Langston Brown School and the Walter Reed Community Center. The County is also home to the Pentagon, one of the Washington area's greenest federal facilities. The success of these projects, she observed, was highly reliant on an integrated design process and an experienced LEED consultant. Requiring developers to track their projects using the LEED scorecard as been a very valuable educational process, she observed, even for those who chose not to "go green." It is part of a larger educational initiative that includes green building outreach and workshops, and collaborative programming with other municipalities in the regions including Alexandria, Falls Church, Fairfax County, and Montgomery County.

*Joan Kelsch's PowerPoint presentation:*
*http://www.mwcog.org/uploads/committee-documents/ulheVls20061004125926.pdf*

**Renee Worme** introduced the private sector perspective with her presentation of Gerding Edlen projects in Portland, Oregon. Founded ten years ago, the firm is one the nation's foremost developers of LEED-certified green buildings. The firm currently has 31 registered or completed LEED projects in the Northwest and California. During her presentation, Ms. Worme focused on the successful Brewery Blocks project in Portland. The mixed use project covers a five-block area formerly the site of a brewery complex and other historic structures between the city's Pearl District and downtown. Gerding Edlen preserved the site's historic structures and integrated them with state-of-the-art high performance buildings. Buildings on all five blocks have earned LEED certification, with the Henry high-rise earning the first LEED gold certification for a condominium project. The historic Armory building, now the home of a performing arts center, is the first historic preservation project to have earned a LEED platinum rating.

All five blocks of the Brewery Blocks incorporate street-level retail with commercial or residential uses above. The developer reconnected the site to Portland's free downtown trolley and provided space for 1,300 cars underground. The project's green innovations include rooftop and facade-integrated solar panels, several green roofs, and an efficient centralized chiller plant that serves all buildings. The company recycled 94 percent of the site construction waste. Buildings finished by Gerding Edlen were completed to green indoor environmental standards, and properties to be finished out by tenants or new owners were provided with green guidelines. This project has commanded some of the highest rents in the city. Ms. Worme identified five guiding principles that Gerding Edlen followed in developing the site:

- Placemaking through the preservation of historic structures
- Development of appropriate mixed uses to create an 18-hour live/work/play environment
- Activation of the streetscape through quality pedestrian spaces
- Collaboration for best environmental practices
- Green demonstration components such as LEED certification, green roofs, and visible solar panels

Ms. Worme stressed the importance of partnerships for sustainable development. Gerding Edlen sought out partnerships with the City of Portland Sustainable Development Office (check name) and other City agencies, state agencies and utilities, and with nonprofit and educational institutions. The firm benefited from a series of public and utility grants that supported their project goals:

- $6 million low interest loan from the City of Portland for underground parking
- $2 million grant for streetscape improvements from the City of Portland, contingent on LEED certification
- $40,000 grant from the City of Portland Green Investment Fund in support of LEED certification
- $160,000 grant from the Oregon Energy Trust to support a solar demonstration project
- 45-foot height extension for LEED certification
- 35 percent business energy innovation credits from the State of Oregon
- Utility grants for energy efficiency measures

"Partnerships and collaboration between public and private sector interests are very important if you want to succeed in green building. You have to raise the bar together to create livable and sustainable communities." Gerding Edlen is currently working with others to reduce the carbon footprint of its projects, as the firm's principals are very concerned about their contribution to climate change.

**Bob Braunohler** spoke about the experience of developing green commercial buildings in the Washington D.C. area, and how he has personally made the transition to greener, more sustainable development practices. Louis Dreyfus is primarily an international commodities trading company, but its property group has developed over 9 million square feet of Class A commercial space since 1971. The first property to be developed by the Louis Dreyfus Property Group (LDPG) in Washington DC was the Four Seasons Hotel in Georgetown. He noted that the Washington DC area is the most active office development market in North America and Europe.

Mr. Braunohler shared the story of how his daughter was a transformative influence on him for the environment. As a student at Oberlin College, she studied under the green educator David Orr, and interned with the Rocky Mountain Institute in Snowmass, Colorado. She asked her father to take a closer look at green building, and challenged him to transform his business practices. He chose to step up to the challenge. Mr. Braunohler noted that awareness of green building and its benefits is growing among investors, lenders, tenants, and professionals, and expects that green building design will increasingly become a factor in tenants' decisions. He has been working to place his office at the leading edge of that market trend. All future developments will at a minimum be designed to attain LEED silver certification.

Mr. Braunohler described some of the green features of current LDPG projects, most notably the commercial building at 1101 New York Avenue, currently under construction, designed to reach LEED gold certification. These include high efficiency heating and cooling system, construction waste recycling, indoor air quality measures, water conservation, use of sophisticated smart-building systems to minimize energy waste, use of low-emitting paints and building components, and on-site support of alternative transportation modes. Other green properties under development by his office include Lafayette Tower at 801 17th Street, NW and a 500,000 square foot commercial project on 2nd Street, NE, near Union Station. Mr. Braunohler reported that in his experience, green buildings do not need to be more expensive than conventional projects, and suggested that some architects are impeding progress by claiming cost premiums that are not realistic.

Reflecting on the public process, Mr. Braunohler expressed his preference for incentives rather than mandates for the private sector. "When green building is mandated, innovative developers like ourselves lose our market edge. That's bad for business," he quipped, and warned about the negative effects of a "moving goalpost." Louis Dreyfus and other builders in the DC area are working through the DC Building Industry Association (DCBIA) with the District of Columbia to advise on the proposed green building legislation. He supported the effort of area municipalities to adopt green building practices for their public buildings, and expressed his support for USGBC's LEED rating system as a tool for green building. Mr. Braunohler concluded by stating that the "the train has left the station," and that fewer and fewer developers are resisting green building.

*Bob Braunohler's PowerPoint presentation:*
*http://www.mwcog.org/uploads/committee-documents/uFheVlk20061004130848.pdf*

**Best Practices Discussion**

A brief question and answer session sparked discussion about the value of mandates versus incentives for green building. Ms. Kelsch emphasized that the Arlington site plan process is a voluntary one, and that developers can choose to avoid green requirements by simply building "by right." Mr. Morgan recommended a voluntary approach unless the developer asks for special consideration by the city. "When the developer requests special consideration, then it is perfectly acceptable to make the tradeoff for green. It's worked well in Austin," he said. Mr. Braunohler suggested that the distinction between mandates and incentives may become less relevant in the future as building code requirements for

environmental performance are raised. “The market and good government policy will make green happen,” he said.

When asked by Mr. Leventhal whether the LEED green rating system was a good choice for local government, all four panelists concurred that it was, with Ms. Kelsch noting that is “a well thought out, nationally established and recognized, consensus-based system.” She expressed her hope that the LEED system will be adopted throughout the region. Richard Morgan added that there is a place for locality-specific requirements, and that verification is key. He emphasized that the integrated team approach is very important to the success of any green project, as is commissioning. “Green building is not just about scoring,” he emphasized. “You have to look at the tradeoffs and synergies between systems.” Renee Worme noted that Gerding Edlen found the Natural Step, an international business-oriented program for sustainable development, very useful as an adjunct to LEED. Ms. Worme noted that green building practices worked best when combined with smart growth and place making. She also emphasized the importance of a creating a public sector environment that is open to innovation and that supports developers in the process. She said that awareness in the private sector is growing. “Businesses are starting to understand that they have to respond to green issues in order to survive financially.”

Conference attendees queried Mr. Morgan and Ms. Kelsch about how difficult and expensive it is to get municipal staff “on board” for green building. Ms. Kelsch suggested that this may vary from municipality to municipality, and that it was less of an issue in a small county like Arlington. Third-party certification takes some pressure off of staff resources, she said. Mr. Morgan emphasized how important appropriate investment is for a successful green initiative. Austin Energy and its Green Building Program has a budget of $1.3 million at their disposal and a staff of 14. “Municipalities need to make the investment for green building rather than pay consultants,” he said.

**Mr. Leventhal** provided closing comment by observing that many local government master plans predate environmental incentives. He recommended that area municipalities review their master plans and development requirements to make sure that they do not preclude incentives.

Luncheon Keynote

## Leadership for Green Building at the Local Level: Chicago

Karen Hobbs, Deputy Commissioner of Environment, City of Chicago

Luncheon keynote speaker **Karen Hobbs** introduced conference participants to Chicago's cutting edge green building initiatives instituted under the leadership of Mayor Richard Daley. She provided an overview of initiatives and a timeline. The city's green programs started in 1989 with the planting of 5,000 street trees to mitigate environmental degradation. In 2000 City leaders began to see the connections between aesthetics, economic development, and green building. That year the city launched it green homes competition and City Council adopted the Energy Conservation Code, based on the international energy code. In 2001 Mayor Daley visited Germany and was inspired to install the City's first green roof on City Hall, a historic public building. Today, Chicago has over 3 million square feet of green roofs on its buildings. It is Mayor Daley's goal to make Chicago the greenest city in the nation, conserving and enhancing the City's natural resources while increasing it competitive edge. That vision is embodied in the City's "Environment Action Agenda 2006: Building the Sustainable City" and "The Chicago Standard," a set of guidelines for sustainable building and development. The action agenda was developed collaboratively and cross-departmentally over a period of ten months, with the contribution of 16 subcommittees on such topics as building management and regulation, incentives, landscapes and open space, procurement, waste, and infrastructure.

Ms. Hobbs emphasized that Mayor Daley is committed to leading by example, and that his vision has empowered City departments to take the initiative for green. "The Mayor believes we have to walk the talk," she said. "Don't ask the public to do what the City isn't already doing." In 2002, for example, the City invested $8 million in solar panels for schools and museums. It has committed to ten LEED accredited professionals in each agency. The City's green programs have followed a continuum, noted Ms. Hobbs, of: **learning**--**research**, followed by **pilots—testing—proving** and **communication** and finally **requirements** and **incentives**. Chicago's current policies have to a large extent evolved from this process. Ms. Hobbs presented case studies of Chicago's green pilot programs including:

- LEED silver police station
- LEED certified libraries
- LEED commercial interiors
- Green residential initiative
- Chicago Center for Green Technology

- Ford industrial development site

The City launched its Green Homes for Chicago competition with learning in mind. Five homes were selected to demonstrate creative and resourceful applications of existing green technology. They represented three categories of projects: a base green home, an upgraded green home, and a cutting edge green home. This was followed by the Green Homes for Chicago pilot program and the Green Bungalow initiative, a project to renovate and maintain the City's bungalows using sustainable materials and focusing on energy efficiency. Testing, feedback, and learning followed, leading to the newly released Chicago Green Residential Standard. In 2002 the City completed the Chicago Center for Green Technology in partnership with the American Institute of Architects Committee on the Environment. This pilot project on green building rehabilitation on a former brownfield site was the first LEED platinum municipal building in the U.S. and now serves as a popular education and resource center on green building.

In the residential sector, as with public and private commercial buildings, the City has used these experiences to go **from pilots to widely applied public policies and codes**, combining incentives and mandates to raise the bar for environmental building performance. City government leaders have implemented their green vision through a series of policies, codes, and programs, including:

- "The Chicago Standard," a policy and guidance document that requires all city facilities to meet LEED certification, and provides guidance for green furnishings and operations.

- The Green Residential Standard introduced in Fall 2006, with voluntary criteria and assistance for green renovation and new construction.

- The Green Permit Program – an expedited permit process that partners with private industry to reward green innovation and LEED certification.

- Strormwater Management Ordinance – requiring mitigation of stormwater flow and land disturbance from buildings, and demonstration of best practices.

- Energy Conservation Code – requiring improved energy efficiency in new building construction by up to 25%, verifiable by City compliance audits (adapted from the international energy code).

- Green Roof Initiative – partnering and facilitating for development projects that integrate green roofs and reflective roofs. Some grants are available.

- Construction and Demolition Recycling Ordinance – requiring a 25% recycling rate for construction waste by 2006 and a 50% recycling rate by 2007.

The City works with private industry in a collaborative manner to promote, educate, and inspire for green building. The Chicago Center for Green Technology supports the development of green businesses and provides training, such as that for building trades and homeowners. The City's Green Business Strategy promotes green products, green processes, and green building in support of business.

# III. Green Building Leadership for the Region

## Executive Leadership Roundtable: Regional Policy for Green Building

*Convener:*
**The Honorable Jay Fisette**, Chair, COG Board of Directors,
Member, Arlington County Board

**Laura Cole**, Executive Director, ULI Washington

**Larisa Dobriansky,** Deputy Assistant Secretary for National Energy Policy, U.S. Department of Energy

**Karen Hobbs,** Deputy Commissioner of Environment,
City of Chicago

**James Lyons**, Lecturer and Resident Scholar, Yale School of Forestry and Environmental Studies

COG Board of Directors Chair Jay Fisette engaged invited leaders from private development, energy policy, local government, and environmental advocacy to address green building in the context of regional policy and collaboration. He asked them to consider what it would take for the Washington region to be a leader in green building, and invited conference attendees to join the discussion through comments and questions.

Acknowledging the leadership of elected officials in the region and the USGBC, Jim Lyons pointed out that environmental sustainability extended beyond the buildings. “Think about development in a regional context and in a watershed context,” he suggested. Many other aspects of green building need to be considered from a regional perspective, suggested other panelists and attendees. Sustainable development is by its nature a regional issue, noted Arlington County member Paul Ferguson from the audience. “We need to find ways to cooperate regionally for sustainable development,” said Mr. Ferguson. Bill Washburn from Prince Georges County reminded attendees that LID and TOD techniques were important adjuncts to green building. Mr. Fisette suggested that COG members may want to look at a document like the Chicago Standard in developing a regional approach.

Karen Hobbs pointed out that the region’s governments have procurement power, and that by cooperating to purchase green building products, could support their goals. Laura Dobriansky observed that this has worked very well at the federal level—not only are agencies making good long term investments, she said, but they are moving markets toward green. Panelist acknowledged the leadership of federal agencies in

the region, from the Pentagon to the buildings developed by the General Service Administration, which has adopted LEED as its building standard. As an example of the kind of cooperation that is possible, conference cosponsor Katy Hatcher of the EPA brought attendees' attention to the recently signed federal Memorandum of Understanding high performance and sustainable building.

Laura Cole pointed out that consumers are very important to regional adaptation of green building. "Local governments are in a position to help consumers understand the benefits of green building. You have to make the benefits visible. COG can play a role in that." Mr. Fisette suggested that there was room for developer education along this front, noting that "developers get it at the commercial level. They don't get it yet at the residential level." Joining from the audience, Montgomery County president George Leventhal noted that there was a need for quantifiable information on the benefits of green building, especially of potential savings. Noting that some valuable studies have already be undertaken, Jay Fisette concurred and suggested that there was a need to pull together this information in a meaningful way for local government. "We especially need good information about real costs, so that green building can't get talked down." From the audience, energy expert Cliff Majersik pointed to the importance of verifying building performance results.

As roundtable participants considered leadership opportunities for green building, several attendees suggested that the region's elected officials take the opportunity to learn from their peers in Chicago and the Northwest, and even Europe. Karen Hobbs encouraged this, and noted that mayors have been meeting at Sundance, Utah, to discuss climate change.

Mr. Fisette queried representatives from the federal sector about support that could be available for regional green initiates such as the one that is being discussed at COG. Katy Hatcher noted that a number of EPA community grants could be helpful to these efforts. Laura Dobriansky highlighted one program that her office is supporting—a collaborative pilot project to bring integrated energy solutions (including renewables, waste energy, and decentralized cogeneration) to a community in California. This collaborative project was supported by DOE and partners from the nonprofit and university sectors. She noted that the neighborhood and community scale offered rich opportunities for innovative green building, energy, and sustainable development, and she encourage attendees to consider projects at this level.

Mr. Fisette encouraged conference attendees to take action on green building initiatives in their jurisdictions and for the region. “We really need to step forward to make the nation’s capital a leader for green.”

# IV. Afternoon Issues Breakout Sessions

## Session 1
## Starting and Managing a Local Green Building Program

*Discussion Leaders:*
**Joan Kelsch**, Environmental Planner, Arlington County
**Chris Shaheen**, Program Manager, DC Office of Planning

*Issue Resource Experts:*
**Michael Mallinoff**, Director of Neighborhood and Environmental Programs, City of Annapolis
**Noel Kaplan**, Senior Environmental Planner, Fairfax County
**Joe Maheady**, Director of Public Policy, USGBC

Led by experienced managers of existing and evolving programs in the region, the session explored how effective green building programs are developed and managed; how managers respond to challenges and opportunities; and how momentum can be maintained as political climate and community participation shift. With the exception of Arlington County, green building programs are currently under development or folded into broader environmental programs in the region. Discussion leader Joan Kelsch presented Arlington County's program during the plenary best practices panel while co-leader Chris Shaheen and the session's resource experts presented their municipal approaches to green building during this session.

**Noel Kaplan** outlined Fairfax County's expanding activities in support of environmentally sustainable development, which include incorporating more sustainable building practices, watershed protection, and a turn toward more transit-oriented planning. The County has focused its green building efforts in two areas: the greening of public buildings, and policy for private development. Of 20 municipal buildings recently built in the County, 18 have LEED elements, with many moving toward certification. Construction costs remain the chief concern—in the County's experience, building to LEED certification standards adds 3 to 5 percent to overall project cost. Mr. Kaplan noted that one of the obstacles to success in green building implementation is lack of staff training. The County currently has no LEED-accredited professionals, and as a result, oversight of green projects is less effective.

The County is in the process of reviewing the Comprehensive Plan, its key guidance document, and is developing broad language supporting green building. The County's Area Plans, noted Mr. Kaplan, offer another opportunity for green building guidance of private development.
Mr. Kaplan suggested that the County may wish to consider green

building incentives in these planning areas as well as larger active development areas such as Tyson's Corner. Mr. Kaplan noted that in general, Fairfax County's current approach to green building in the private sector tends toward land use planning guidance, rather than distinct program activities.

**Michael Malinoff** described the broad environmental initiatives undertaken by Annapolis under the leadership of Mayor Elen Moyer. Environmental programs fall under the Department of Neighborhood and Environmental Programs, which incorporates traditional code enforcement and "quality of life" initiatives. Annapolis currently has no dedicated green building program, but is implementing a green procurement policy, low impact development (LID) practices, energy efficiency measures, and various clean air initiatives. The city coordinates its activities with national and international nonprofit partners such as the International Council for Local Environmental Initiatives (ICLEI) and the World Wildlife Fund. An Energy Efficiency Task Force advises the City on green programs. Mr. Malinoff emphasized the importance that mayoral leadership has played in the success—and ongoing support for--Annapolis' green programs. Strong leadership for green building and other environmental initiatives, he suggested, foster an environmental ethos and initiative throughout the organization.

**Chris Shaheen** informed the group about the District of Columbia's proposed green building legislation and green building program. A forty-member cross-sector Green Building Task Force met over several months to advise the District on environmental priorities and a legislative framework for a green building program. The task force also identified political, operational, and legal issues that could impact the program. For example, the District has multiple agencies with overlapping authorities in areas pertaining to buildings. Another issue addressed during the process was that of which green building standard to use. LEED appears to have "risen to the top," and is being approached as a tool in the context of broader regional environmental goals that include watershed protection and energy conservation. The legal issues related to mandated third-party certification of privately developed green buildings are also being considered. District program staff have been working internally with colleagues to develop an implementable approach.

Once passed passed, the legislation will immediately require LEED certification--with possible additional requirements for water and energy--of all government buildings. Private sector incentives and requirements are to be phased in over the next five years. District staff are researching and considering various potential incentives, such as a density bonus, and an expedited permitting process. The District is also looking at

opportunities to integrate third-party certification. Mr. Shaheen noted that because of high densities and proximity to public transit, many District buildings are already close to achieving sufficient LEED points for certification.

**Joe Maheady** provided a USGBC perspective on municipal green building programs. He emphasized that LEED is a voluntary certification program. USGBC is working with the American Society for Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) and the Illuminating Engineering Society of North America (IESNA) to update ASHRAE Section 189 P to minimum code standards for green buildings. The 189P standard is expected to be completed in 2007. He suggested that the public sector has been adopting LEED standards for government owned buildings--some required by legislation, others by executive order, and others by policy--because it is a good way to manage taxpayers' money. After completing a study evaluating sustainable building design, the U.S. General Services Administration (GSA) embraced LEED certification for all new construction projects and substantial renovations. He noted that 44 percent of LEED projects are government buildings. USGBC tracks the various local and state green building programs at www.usgbc.org.

Mr. Maheady emphasized that in his overview of public initiatives, the most successful programs were initiated and supported by strong leaders who had a vision for green building. Successful programs, he noted, also require education of policy makers and staff. Lack of program funding and conflicting priorities are common roadblocks. He suggested that documentation and certification costs for LEED can be managed with increased design team experience. USGBC is also making it possible to reduce certification costs by developing LEED Online for more efficient documentation and less paperwork.

**Session 1 Questions and Answers**

With changes in elected officials that inevitably occur, how do you ensure the continuity of a program?

- Staff can coach and educate officials with tools such as whitepapers, meetings, and PowerPoint presentations. This has made them a resource to elected officials, such as in Arlington.

- Integrate new officials into the process, for example by sending them to the U.S. Mayor's Climate Protection Council meeting, as Annapolis did.

- Once green building gets on an elected officials' radar screen, such as it has in the District, it is hard to oppose. It simply makes too much sense today.

What if a change in leadership means that an existing program is in danger of being dropped?

- Building support from the bottom up is one way to keep a program going under less auspicious leadership.

- Citizen advisory groups can be powerful allies to keep elected officials on target.

How does expedited permitting work from a municipal resource and staff perspective?

- This can be a problem, and it is clearly a common challenge to be addressed. One strategy is to use third party review so that a local government does not have to build internal staff resources.

How can you get the necessary resources to run a program?

- Carve out something that you want to manage—pick something and make it successful, and give your boss credit for it. The more often this happens, the more resources you can get and the more staff cross-training you'll have access to.

What do you do if your region needs economic development but a potential developer threatens to go elsewhere because your jurisdiction requires green?

- For buildings over 50,000 square feet, there is little cost difference for green—so it should not be an issue. Potential cost burdens for smaller buildings should be addressed through legislation or policy.

## Session 2
## Integrating Green Building with Natural Systems and Infrastructure

*Discussion Leaders:*
**Marion Clark**, Environmental Planner, Maryland National Capital Park and Planning Commission-Montgomery County Department of Planning
**John Bailey**, Executive Director, Washington Smart Growth Alliance

*Issue Resource Experts:*
**Karina Ricks**, Manager, Great Streets Program, District of Columbia Department of Transportation
**Barbara Deutsch**, Director of Special Projects, Casey Trees, Washington DC
**Gail Blazer**, Ocean City, MD (invited)
**Ted Graham,** Director, Water Resources, MWCOG

This session considered green building in the context of broader ecological and infrastructure systems, and explored how green building practices can support systems-wide integrated strategies for sustainable development.

Discussion leaders **Marion Clark** and **John Bailey** opened the session by asking resource experts to consider the relationship between green buildings and green sites and larger scale environmental systems. Marion Clark pointed out that under the USGBC LEED rating system, points earned for sustainable site design and location can account for half of the points leading to certification. The regional Reality Check exercise sponsored by ULI Washington and area partners last year already began to consider sustainable development on a larger scale. Two of the principles emerging from that exercise were that new development be established near transit, and that it be focused back into the urban core. But these guidance principles pose important associated questions from an environmental and quality of life point of view, Ms. Clark noted. Increased urban densities are associated with increased imperviousness, added traffic, deforestation, and poor air quality. Session leaders asked participating resource experts and session attendees to consider how building green might help mitigate impact of increased densities and how green building practices can support broader environmental goals through integrated best practices. Stormwater management, heat island mitigation, protection of natural resources for public health and recreation, habitat and forest restoration, low impact development practices, integrated land use planning, and infrastructure management were identified as key issues.

**Barbara Deutsch** spoke about the value of trees to urban infrastructure and sustainability and emphasized that trees and green spaces in

themselves are infrastructure that sustains the health of a city. She pointed out that the District's sewer systems were not sized to handle the amount of stormwater runoff they have to handle today "The District's sewer systems overflows 70 times a year because of lack of capacity." Her organization, Casey Trees, has proposed and demonstrated green solutions to stormwater runoff such as tree plantings and green roofs. Casey Trees was instrumental in the development of a green roof on their downtown office building. Green roofs are growing in popularity as a green building strategy because they help to mitigate stormwater runoff and heat island effect in urban areas, keeping cities cooler in summer and buildings warmer in the winter. Additionally, green roofs introduce new greenspace and wildlife habitat into the urban environment.

**Karina Ricks** drew on her experience with the Great Streets program to explore the potential for multimodal streets. Traditionally, that is thought to incorporate various forms of transportation, but can also include natural mitigation techniques such as bioswales and other Low Impact Development (LID) practices. She suggested that LID projects need to be developed in partnership with communities, so that communities understand their value and become partners in maintaining them.

**Ted Graham** emphasized that land use decisions must be considered in the context of overall sustainable development policy and that watershed planning must be a part of that. Poor building practices, he noted, contribute to the region's serious problem with impervious surfaces. Poor building decisions contribute to water quality problems such as fecal bacteria buildup and algae blooms, and to soil erosion. He pointed out that between 1999 and 2000 the region's population grew by 8 percent, but the impervious surface cover expanded by 41 percent during the same period. Bioswales, rain gardens, green roofs, and bioretention ponds can all be part of the solution. Mr. Graham noted that for these efforts to be successful, the problems of disconnected communication and actions across departments in local government needs to be overcome.

**Green Building and Systems Discussion**

During the course of the discussion that followed, session attendees asked questions related to best management practices within a municipal setting and about working with the private sector.

John Bailey encouraged municipalities to lead by example, and to think about "packaging" the benefits of integrated green planning and building practices in a way that was understandable to the private sector. This might include presentation of the market benefits of going green, meaningful assessments of the monetary and performance value of green buildings over time, and highlighting of private sector best practices to

demonstrate green building's practicality. Other panelists agreed that higher performance stormwater systems and good water quality should be positive selling points for a project.

Session participants debated the value of conventional underground stormwater management systems versus the less known green infrastructure solutions proposed during presentations. Ted Graham observed that typical underground systems often appear to be the quickest and safest solutions, but that they are less creative. One challenge to implementing creative, above ground green solutions, he noted, is that creative solutions often take more time, and developers want a quick, predictable schedule. Barbara Deutsch suggested that if "green" site projects were properly valued, developers could recoup costs through increased value. She noted that a healthy large tree on a site typically added $4000 in value to a property. Karina Ricks pointed out that the "quick" standard underground solution of storage tanks and pipes is often quite vulnerable. Breaks from root systems and above surface pressure make them less stable over time. This problem is already "surfacing" in the District, she said. A session attendee from Montgomery County noted that innovative solutions can work in the right places under the right conditions, but that care needed to be taken in applying green infrastructure solutions. Using permeable paving applications for a parking lot as an example, he pointed out that this was a good solution given the right substrate conditions--too dense a clay at the substrate level would block seepage into the ground, while a too-loose substrate would allow stormwater into the ground too quickly.

A general group consensus emerged that success of integrated green infrastructure and building solutions would rest in appropriate, flexible response to site conditions. There is no "one size fits all" answer. John Bailey added that unless innovative solutions are sought, mediocre status quo practices will prevail. He encouraged local government representatives to highlight excellent examples from both local government and the private sector as a way to encourage peer to peer learning.

Addressing the concerns of limited resources for green infrastructure development, Karina Ricks suggested that municipalities try the approach taken by the Great Street program--using a limited grant of $100 million in the District to identify and target corridors for pilot projects.

Discussions about air quality and waste management related to green building remain to be addressed beyond this session and the conference in follow-up regional conversations.

## Session 3
## Promoting Green Building Innovation in the Private Sector – What Can Local Government Do?

*Discussion Leaders:*
**The Honorable Daniel Sze**, Council Member, City of Falls Church
**Sean McGuire**, Maryland Department of Natural Resources

*Issue Resource Experts:*
**Jared Swan**, President, Old Town Construction, Ellicott City, MD
**Joe Sternlieb**, Vice President for Acquisitions, EastBanc
**Paul Hughes**, President, Deconstruction Services
**Jim Schulman**, President, Community Forklift

This session considered the role that local governments, along with regional green building policies, can play in promoting and encouraging best practices in the private sector. Emerging green business opportunities were considered, as were lessons learned from local innovative businesses.

**Jared Swan** shared his perspective as a green builder. He identified some of the costs and benefits of green building, noting that 25 years ago, green building costs were projected to be 25 percent above conventional practice. Today, that margin is about 2 to 3 percent. Many of the long term benefits of green building are being acknowledged, including operating savings and lower energy costs, and healthier indoor environments. All Fortune 500 companies are currently pursuing green building projects, said Mr. Swan. “Green building is not just good for the environment. It’s good business.” In retail environment, he pointed out, studies show that products sell better in natural light. Nevertheless, many builders, developers, architects, and contractors still assume that green building is too expensive. He cited a tendency toward entropy among older generation professionals who are reluctant to change their practices. He noted that time constraints are one of the chief reasons that even those who are interested in green building may be reluctant to act on it. “Understanding green building takes time,” said Mr. Swan. The development process has gotten so complex and lengthy in many jurisdictions, he noted--with projects that used to take one year now taking three--that developers are reluctant to add another layer of complexity. He also said that there was a need for education about green building among the realtor community.

**Jim Schulman** and **Paul Hughes** represented the new industry of deconstruction and materials reuse, discussing the opportunities and challenges they have experienced in starting their businesses. Mr. Schulman runs a recently opened surplus, salvage, and green building

materials store that sells non-virgin building materials. If green building is going to be truly green, he suggested. “We need to ask: where do the materials we use come from?” He cited a Wuppertal Institute study from Germany that found that 84 percent of all harms to environmental and human health result from materials extraction. In order to arrest environmental degradation we must reduce the use of new resources by 50 percent worldwide, and by 90 percent in industrialized countries, he said. The good news is that the recycling materials market is growing in the region, and a recent directory underwritten by COG, www.buildersrecycleingguide.com, provides good information on how to connect with area businesses. The real market challenge to the materials reuse and recycling industry comes from the waste hauling industry, Mr. Schulman said. It is a vertically integrated industry, with landfills, transfer stations, etc. all under the same ownership. The materials reuse business runs hand in hand with deconstruction, he noted. Another challenge that this nascent industry faces is that it is difficult to find out where buildings are being deconstructed.

Deconstruction is an environmentally friendly way to demolish buildings. It is possible in many cases to recycle and reuse 80 percent of all materials from a building. Mr. Hughes’ business, started two years ago, removes useable wood, metals, shingles, cabinetry, roofs, flooring, tiles, and masonry for recycling or new uses. His company also removes toxins like mercury and Freon for safe disposal. Deconstruction, he said, can be competitive with demolition, as it reduces landfill fees for the building owner or contractor, and the owner is eligible for a tax deduction. The benefits of deconstruction include diversion of waste from landfills, access to affordable salvaged materials, and fewer environmental hazards. Deconstruction of a building typically takes three to four weeks. For the industry to reach its full potential, he said, builders will need to learn how to use recycled materials.

Mr. Hughes and Mr. Schulman recommended a number of steps that government can take to support innovative green businesses such as theirs. Municipalities and states need to first recognize the potential of used materials and help create regional facilities for recycling and reuse. They can create markets by requiring recycling and reuse of materials through a salvage ordinance or through policy. Requiring recycled content in roads, for example, creates a market for recycled roof shingles. State building codes that allow for use of recycled 2 by 4s in non support walls will strengthen the reuse market. Public contracts requesting deconstruction and recycling plans will create competition to the demolition industry and would encourage growth of new businesses. A requirement that a certain percentage of public projects undergo deconstruction and materials recycling would also increase demand. It will

be important to build capacity in traditional industries and to build public awareness for green businesses to thrive.

**Joe Sternlieb** addressed the question of green building mandates and incentives for private industry. Both, he said, have a place in the local government toolbox. Given the rapid rate of climate change, it is critical, he emphasized, that the public sector promotes high environmental performance across all industries. “But how do we do so without stagnating the economy?” he asked. One tool available to government, he suggested, is the standardization of green building codes across the region. Mr. Sternlieb also suggested a tax abatement of 2 to 3 percent to help defray the typical first costs of green development. He suggested that municipal governments could make up the difference within ten months through increased tax revenue generated by a green building. Mr. Sternlieb recommended that local governments create better oversight and technical support for green development. “This will pay off with better quality projects.” He also recommended that government agencies consult with builders to develop a better design and build process.

**Discussion on Promoting Private Sector Innovation**

Session attendees and resource experts continued to discuss government mechanisms that can incentivize green innovation. Jared Swan noted that Old Town Construction benefited from an 8 percent energy credit from the state of Maryland for implementing LEED. Money can often be saved, he added, through an expedited review process offered by many municipalities for green building and other worthy projects. Session attendees continued the discussion of municipal tools by asking for information about other types of incentives. Arlington County’s program was discussed, with participants noting that the 3 cent per square foot pay-in for non-green projects was an effective tool, as was the requirement to complete a LEED checklist for all site plan projects. Several participants raised the question of how regional boundaries should be defined, and several suggested that the concept of a standardized requirement for the region needed to be further explored and defined. Zoning and planning tools are quite different, for example, in a city like Greenbelt versus Arlington County. The session’s resource experts suggested that local governments need to find a way to align economic incentives with the public environment of their jurisdiction. A tool like Transfer Development Rights for green buildings may be possible to apply across jurisdictional lines.

## Session 4
## Energy Innovation in Green Building

*Discussion Leaders:*
**George Nichols**, Principal Environmental Planner, COG
**Tomaysa Sterling**, Chief, Sustainable Solutions Division, DC Department of the Environment

*Issue Resource Experts:*
**Scott Sklar**, President, The Stella Group, Ltd.
**Richard Morgan**, Manager, Green Building Program, City of Austin, TX
**Caterina Hatcher**, National Manager, Energy Star, Public Sector, US Environmental Protection Agency
**John Morrill**, Energy Manager, Arlington County

Understanding and managing energy use is one of the keys to successful green building practice. Energy strategies are also vital to counteracting global climate change. This session explored effective and innovative strategies available to local government for conservation and renewable energy, and how they can work successfully in tandem with green building. The session also provided an opportunity to update participants on COG's newly released regional energy strategy.

George Nichols and Tomaysa Sterling opened the discussion of tools and strategies. Ms. Sterling described how her division, Sustainable Solutions, of the District of Columbia Energy Office focuses on the interface of strategies and tools to design the most cost effective and meaningful energy program. Mr. Nichols discussed the COG Chief Administrative Officer's Energy Advisory Committee (EAC) recommendations for an Energy Strategic Plan (Plan) for the National Capital Region. The Plan outlines an energy vision and mission for the region, and expands existing regional energy and environmental goals. The Plan also identifies potential initiatives to address the region's diversity of energy sources, help manage energy demand, mitigate the effects of energy disruption and enhance overall environmental quality. Green building, noted Mr. Nichols, is identified as a critical component of the regional strategy in the Plan. Again, the question at hand, Mr. Nichols suggested, is: what are the best tools for interface planning and understanding the interconnectivity of air, water, land, and energy resources?

Resource expert Scott Sklar noted a growing interest in alternative energy technologies by end users. Mr. Sklar brought in an LED light bulb, noting its efficiency compared to a standard incandescent. Mr. Sklar highlighted a variety of technology and management tools available to local government that can offset conventional approaches, including blended on-site renewable energy strategies that provide back-up to critical

infrastructure. Combined renewable technologies can also be dedicated to certain building circuits to counteract power surges, swells, and transients, making overall energy quality better and more reliable. Renewable energy, he added, can offset high rates, expressed in demand charges, peak power rates or ratchet rates. Renewable energy technologies are now viable and can be financed via traditional lending, leasing, or 3rd party financed or via ESCOs (Energy Saving Companies) or ESPC (Energy Saving Performance Contracting) contractors, Mr. Sklar added.

Katy Hatcher highlighted the Energy Star building products web site, and noted that the EPA has teams available to assist localities. Ms. Hatcher suggested that architects, engineers, and building owners use Energy Star Target Finder in addition to green building criteria to achieve low energy targets. Energy Star's Portfolio Manager will be enhanced in 2007 to allow multiple users to pool and share their data for special building types, such as those in local government.

Resource expert John Morrill observed that in general, Arlington County's newer buildings tend to use more energy than older buildings, due to increased ventilation loads and increased intensity of use (occupant density, more computers and other plug loads). He noted that Arlington County now has several buildings built to LEED criteria, and he will be looking forward to assessing their energy performance.

Richard Morgan from Austin Energy described the many progressive energy and green building policies and incentives in place in Austin, Texas, and suggested that the Washington region could try to emulate them. He reminded the group of the fact that the City of Austin has a municipal utility. This allows them to do more than our region, with its multiple utilities under different jurisdictional authority.

Several panelists commented that typical green criteria for LEED and other rating systems do not place enough emphasis on energy performance, and that criteria for energy under LEED can be "gamed." The general sentiment expressed was to continue pursuing LEED for municipal buildings, but that owners should make energy savings priorities a clear priority. Also, operation and maintenance of buildings was identified as critical to their performance over time, but discussion participants noted that funding and staffing of operations and maintenance is too often in short supply.

## Session 5
## The Real Costs of Green Building

*Discussion Leaders:*
**Carol Mitten**, Director, Office of Property Management, District of Columbia
**Chris Van Arsdale**, President, VNV Development and GBO Construction

*Issue Resource Experts:*
**Hamid Omidvar,** Chief, Building Planning and Design Section, Division of Capital Development, Montgomery County
**Renee Worme**, Sustainability Manager, Gerding Edlen Development, Portland OR
**Jeremy McPike**, Division Chief, Capital Projects, Department of General Services, City of Alexandria

This session considered the real costs of going green—and NOT going green—exploring issues such as lifecycle project costs, benefits evaluation, and cost accounting in a local government setting. Perspectives from both the private and public sector were welcome. Discussion leader **Carol Mitten** led an interactive discussion with session co-leader **Chris Van Arsdale** and the session's resource experts to address these issues.

**Hamid Omidvar** discussed some of the ways in which Montgomery County is addressing green building costs. There are many ways to consider this, he suggested, including through up front costs, incremental costs, and foregone costs based on green building savings. The qualitative benefits of green buildings are sometimes difficult to enumerate, he noted. Montgomery County has had good energy policy and codes for municipal buildings since 1985, and has incorporated life cycle cost analysis of major systems and components into planning. Three years ago it began reviewing building guidelines to raise agency standards for environmental sustainability. The County plans to deliver its first office building designed to LEED silver standards in two years, and is currently developing a series of baselines and parameters to study the building's performance. Mr. Omidvar estimated that Montgomery County has saved over $1 million per year in electricity costs alone over the past 12 years. One of the important questions related to costs in a public setting, he suggested, is how to capture and insure adequate funding for green building projects.

**Chris Van Arsdale** addressed costs from a builder/developer perspective. Just five or six years ago the question for green building was "why do this," he observed. Now it is "how do I do it cost effectively?" Mr. Van Arsdale said that costs are up front and personal for a developer. He has discovered that the answer to the question of whether green buildings

cost more is more or less, “it depends.” One must consider what the base standard is, and what shade of green is being considered. Building and design choices such as LEED platinum, Energy Star, or geothermal-based energy have different costs attached to them, he said. Costs are also defined by the time line used. Do you mean up front, or life cycle? Net zero houses have more up front costs, for example, but in the long run they may cost less than building to code, he observed. Mr. Van Arsdale referred to a 2003 study commissioned by the State of California which identified the green building premium as 1.84 percent. A Boston study suggested a green building premium of 2.42 percent. In Mr. Van Arsdale’s experience, the cost of green buildings is also related to the “learning curve” of the builder and the project team. By his third project, his additional costs were reduced to zero. The main cost driver, he suggested, is engineering.

**Jeremy McPike** outlined Alexandria’s experience with managing green building projects. The city initiated a green building policy four years ago and adopted a LEED stand for all public buildings in 2003-4. Project staff go through the LEED checklist to see what they can do within their existing budgets, and then make the decision whether to fully certify. They currently target a 3.5 percent premium for projects in order to meet the LEED silver standard. One percent is reserved for green construction costs. The City has found the commissioning component of certification to be very useful. Project commissioning has lead to improvements in process and fewer complaints from occupants. The City is seeing improved operational performance of equipment and systems. Third-party commissioning generally costs $20,000 to $30,000 per project.
Mr. Mc Pike observed that green budget line items often paid for themselves, but that savings accrued to different departments depending on who was paying for energy uses. This is one of the challenges of assessing the benefits of green building, he noted. Organizational structures don’t necessarily reward high performance building practices logically. In Mr. Mc Pike’s experience, the greatest barrier to effective implantation of green building practices has been staff and maintenance knowledge.

**Renee Worme** explained that the starting point for the Portland-based private developer is creating a for-sale product that responds to market demand. Because her organization is committed to providing high livability and other amenities, it is difficult to break out the exact costs of green. She estimated, however, that for each two-year cycle project--generally a large commercial or mixed use building--Gerding Edlen allocates $250,000 in soft costs for LEED certification. Of this, about $50,000 goes to a LEED consultants who manages the registration, documentation, and certification process. Gerding Edlen goes through a

rigorous process of energy analysis and cost benefit analysis for each project. The firm begins integrating LEED point requirements into the design process as early as possible and in a wholistic way. They have found that this helps ensure best performance and lowers costs. Since 2000, the firm has been working with the same architects and engineers, and has been able to minimize the "learning curve" costs of a green project. Reflecting on the market, Ms. Worme observed that many buyers want the savings associated with green buildings, but they don't necessarily want to pay for them. Portland's informed and environmentally motivated consumers often ask for them. Renee Worme noted that Gerding Edlen created tenant and retail manuals about the systems and operations of their green buildings and that they are partnering with Portland State University to conduct post-occupancy studies. She emphasized the importance of commissioning to ensure building performance.

Like Gerding Edlen, the City of Alexandria uses sustainable design consultants to keep project goals focused, as does Montgomery County. Mr. Omidvar noted that Montgomery County has developed a design manual with requirements at every phase of a project so that green is not "value engineered out." Changing construction costs have been a challenge to project budgets much more so than green building practices. "Construction costs increase, but budgets always stay the same. We have a one-time window to get it right," he said. The fact that project budgets are set years in advance of construction is an ongoing challenge for all of the region's municipalities. In order to better manage this, Alexandria passed legislation in July 2006 to allow a design-build process for projects. This will tighten schedules and lock in costs earlier. Green building will be integrated into that process. Montgomery County is working through its office of management and budget to address similar issues.

**Costs Discussion**

Session attendees participated in the experts discussion with in-depth questions related to their initial points. They observed that quantifying many of the benefits of green building can be difficult. Hamid Omidvar suggested specific calculations for estimating the number of employee sick hours that could be saved by better building decisions. If one assumes that 30 percent of work sickness relates to an unhealthy work environment, he suggested, for Montgomery County's 8,000 employees that would amount to 8.4 percent of the municipal budget lost to poor building performance. In the end, Mr. Omidvar said, local governments should support green building simply because "it is the right thing to do." We must move, he suggested, from the "dump era" in human development, to the "awakening" era, to the "intelligent" era. Session

attendees suggested that COG could help by gathering information about the health-related benefits of green building in area jurisdictions.

Resource experts and several session attendees emphasized the importance of building capacity within a municipal organizational structure to design, oversee, and manage for green. They spoke of the difficulties of implementing streamlined, cross-sector processes within top-down management and implementation structures. Several emphasized the importance of leadership at the elected and upper management level in leading for green.

## Attending Elected Officials

**Maryland**

1. **The Honorable Stanley J. Alster**, Councilmember, City of Gaithersburg
2. **The Honorable Bill Bronrott**, Councilmember, Maryland General Assembly
3. **The Honorable Bob Catlin**, Councilmember, City of College Park
4. **The Honorable Colleen Clay**, Councilmember, City of Takoma Park
5. **The Honorable Judith Davis**, Mayor, City of Greenbelt
6. **The Honorable Robert Dorsey**, Councilmember, City of Rockville
7. **The Honorable Nancy Floreen**, Councilmember, Montgomery County Council
8. **The Honorable Bill Gardiner**, Mayor, City of Hyattsville
9. **The Honorable Susan Hoffman**, Councilmember City of Rockville
10. **The Honorable Michael Knapp**, Councilmember, Montgomery County Council
11. **The Honorable George Leventhal**, President, Montgomery County Council
12. **The Honorable Phyllis Marcuccio**, Councilmember, City of Rockville
13. **The Honorable John B. Schlichting**, Councilmember, City of Gaithersburg
14. **The Honorable Michael A. Sesma**, Councilmember, City of Gaithersburg
15. **The Honorable Todd Turner**, Councilmember, City of Bowie
16. **The Honorable Anne M. Robbins**, Councilmember, City of Rockville

Virginia

1. **The Honorable J. Walter Tejada**, Member, Arlington County Board
2. **The Honorable Paul Ferguson**, Vice Chairman ,Arlington County Board
3. **The Honorable Jay Fisette**, Member, Arlington County Board
4. **The Honorable Daniel Sze**, Council Member, City of Falls Church
5. **The Honorable Paul C. Smedberg**, Member, City of Alexandria
6. **The Honorable Andrews Fellows**, City of College Park

# Final Regional Green Building Policy

**Resolution R55-06**
**ADOPTED November 8, 2006**

**METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS**
**777 North Capitol St., N.E.**
**Washington, DC 20002**

**RESOLUTION SUPPORTING THE DEVELOPMENT OF A REGIONAL GREEN BUILDING PROGRAM**

**WHEREAS**, the Metropolitan Washington Council of Governments (COG) Round 7.0 cooperative forecasts project that the Washington metropolitan statistical area will experience an increase of approximately 1.6 million persons and approximately 1.2 million jobs by 2030; and

**WHEREAS**, integrating sustainable design practices into this regional growth can reduce the impact of development relating to air and water quality, energy use, stormwater management, climate change, material use, natural resource preservation, and other health and environmental issues, while supporting economic growth and community health, and;

**WHEREAS,** the COG Strategic Plan promotes balanced, sustainable growth and livable communities; and

**WHEREAS**, the Metropolitan Washington Region is comprised of 21 local governments, all having the ability to incorporate Green Building practices into public facilities and to impact private sector development through buildings codes, regulation and/or policy, thus providing national leadership on Green Building issues; and

**WHEREAS**, staff from local governments have coordinated with COG under the title of Intergovernmental Green Building Group (IGBG) to share knowledge and discuss Green Building policies and programs in support of individual jurisdictional Green Building programs, and to explore avenues for further interjurisdictional coordination; and

**WHEREAS**, coordinated Green Building programs and guidelines in the Metropolitan Washington Region could provide a consistent interjurisdictional approach to the application of Green Building principles, leading to regulatory predictability, greater markets for Green Building materials and services in the region, greater Green Building efficiencies, and cost reductions.

**NOW, THEREFORE, BE IT RESOLVED**, that COG supports the application of coordinated Green Building practices throughout the Metropolitan Washington Region, and encourages each member jurisdiction to incorporate Green Building practices into the planning, design, construction, and operation of public sector development projects, to develop incentives, policies and/or regulatory approaches supporting the application of Green Building practices in private sector development projects, and to provide public education and staff training promoting Green Building practices; and

**BE IT FURTHER RESOLVED**, that COG supports the efforts of the IGBG and adopts this group as a standing technical committee that will report to the Chief Administrative Officers

Committee of COG with staff resources that will enable the committee to recommend regional Green Building policies and guidelines, identify opportunities, and encourage coordination and leveraging of resources;

**BE IT FURTHER RESOLVED**, that the COG Board Chair will appoint an ad hoc elected official committee to advise on regional green building policy development. This special ad hoc committee shall have tenure for 12 months from passage of this resolution.

**BE IT FURTHER RESOLVED,** that the IGBG Technical Committee will prepare a report on the following items for transmittal to the Chief Administrative Officers Committee and, ultimately, the COG Board of Directors:

- Options and recommendations to develop and adopt regional Green Building guidelines and implementation strategies that consider use of existing standards (such as LEED®, Energy Star®, or other nationally recognized Green Building programs), and which address issues of particular regional importance and interest;
- Options and recommendations for approaches to measure regional progress in the application of Green Building practices.