U.S. CLIMATE ACTION—FROM THE GROUND UP

Federal Policies to Promote Local Government Climate Protection

A White Paper for the Presidential Climate Action Partnership

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PREFACE & ABOUT THE AUTHORS

The authors of this climate action plan are grateful to the Presidential Climate Action Project for the opportunity to provide a perspective on how national climate policies could provide incentives for local governments across America to reduce greenhouse gas (GHG) emissions and create sustainable communities.

The authors conduct their work on climate change and sustainability through the International Council for Local Environmental Initiatives (ICLEI) and the Climate Communities coalition. The perspectives in this paper are the authors' alone. The paper will serve as the platform for a "Local Government Climate Leaders Retreat" held by ICLEI and Climate Communities in September 2008 that will establish a "Blueprint for Local Government Climate Action" for the next President and Congress.

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EXECUTIVE SUMMARY

Local governments are at the forefront of the movement to address climate change in the United States. Since 1991, *ICLEI- Local Governments for Sustainability* has been working with local governments to track and reduce their greenhouse gas emissions. Today more than 500 local governments are members of ICLEI and share targets and standards for measuring and reducing their greenhouse gas emissions and criteria air pollutants. Likewise, mayors from more than 850 cities have signed the U.S. Conference of Mayors' Climate Protection Agreement pledging to take actions in their communities to meet or beat the Kyoto Protocol targets for reductions in greenhouse gas emissions. More than 30 counties representing over 35 million people have joined Cool Counties and pledged to reduce greenhouse gas emissions by 80 percent by the year 2050.

The pro-active efforts of thousands of cities, counties, towns, regional metropolitan organizations, and public utilities across America to implement voluntary climate protection demonstrates the critical impact local governments can have on climate change. However, federal policymakers have, for the most part, failed to formally acknowledge or support the efforts by local governments on climate protection, either through legislation, policy or resources. There are few federal agency programs to support this effort, and they are underfunded. Most legislative proposals have ignored the important role of local governments in GHG emissions reductions and climate adaptation. Federal policy proposals that are targeted to incentivize actions that are fundamentally local in nature – land use, local transportation, building code implementation, recycling, and more – typically fail to incorporate local governments as part of the solution. Local governments are often an afterthought in the federal policy process, with widespread but inaccurate assumptions that resources provided to states will be adequate alone to support the action needed at the local government level.

Thus, the most important first action that the next President and Congress can take is to recognize the importance of local government action in advancing climate protection and engaging localities in the intergovernmental endeavor on climate protection. This should include legislation and policies that provide robust resources to deepen the abilities of local governments to execute even more aggressive actions. In this way, local governments can continue to set the framework for sustainable, green actions that can meet climate protection goals, in continued cooperation with the states, the private sector, non-profit organizations and the federal government.

Across America, local governments are developing innovative climate protection programs and policies. Local governments serve as the **laboratories** for pioneering climate protection technologies. For example:

- **ICELI-Supported Reductions** – In 2005, through ICLEI's nonbinding climate mitigation program, 74 local governments across the nation reported reductions in GHGs in excess of 25 million tons for a cost savings of more than $550 million back to local budgets.

- **King County, WA** recently announced plans to purchase 500 new hybrid buses over the next five years as part of its effort to convert the County's entire transit and vehicle fleet to low-emission vehicles.
- **Nassau County, NY** recently launched its "Green Levittown" initiative, a public-private partnership to help the 17,000 residents of America's first suburb conduct home energy audits, replace old boilers and make other home energy savings improvements.
- **Sacramento County, CA** and the **Sacramento Area Council of Governments, CA** have established a blueprint for the metropolitan region that links transportation investments to a vision of sustainable future growth and development, served by public transit, walkability measures and other approaches to reduce vehicle miles traveled (VMT) in the region by 27 percent by 2050.
- The **City of Santa Barbara, CA** took an historic step in 2007 by passing an ordinance to become the first city in the nation to adopt the 2030 Challenge for all buildings within the city limits. The legislation will reduce the fossil fuel standard for all new buildings in order to accomplish carbon neutrality by 2030. The ordinance will enact building regulations exceeding state standards for energy use by 20 percent for low-rise residential buildings, 15 percent for high-rise residential buildings and 10 percent for non-residential buildings.
- **Wyandotte Municipal Utilities, MI** is installing the first-in-the-nation utility-scale wind power project on an urban brownfield. Wyandotte is also considering renewable energy projects including woody biomass generation, river hydrokinetic power systems, combined photovoltaic-concentrated solar technologies, hybrid public utility fleets, and green roofs infrastructure to reduce emissions in a community that has historically relied on petrochemical manufacturing and coal-fired power to fuel the local economy.

In addition to serving as laboratories for cleaner technologies, local governments are beginning to achieve major GHG reductions through **green buildings**. According to the U.S. Energy Information Administration (EIA), energy used in buildings is responsible for more than 40 percent of the nation's GHG emissions. There is broad consensus that buildings can be designed to operate with far less energy using cost-effective approaches. Local governments must play a leadership role in developing and implementing new building codes and green building incentives to reduce energy use in buildings if America is going achieve the emissions reduction potential available through enhancing building efficiency.

Local governments are also positioned to leverage private sector emissions reduction activities within their jurisdictions through programs and policies that promote sustainable, **transit-oriented, walkable land use development** patterns. According to the EIA, transportation accounts for one-third of the nation's GHG emissions. Any national strategy to reduce transportation emissions must include a serious effort to reduce VMT. Indeed, growth in VMT continues to outpace improvements in vehicle efficiency and technology, according to the Center for Neighborhood Technology. While dramatic progress in emissions control technologies over the past 30 years has resulted in a per car reduction of harmful emissions (except carbon dioxide), rapid growth in driving is nevertheless outweighing those reductions.

Only local governments can provide the kind of land use and transportation planning required to promote more compact development, offer enhanced public transit alternatives, create more walkable communities, increase opportunities fo

- Lack of good information on the best local government climate protection practices including programs to promote building efficiency and reduce VMT;

- Need for more standardized methodologies for creating emissions inventories and measuring emission reductions;

- Lack of local funding for energy investments, even though most energy-related investments pay for themselves in a relatively short time frame; and

- Lack of federal and state funding and technical assistance to support local initiatives to mitigate and adapt to the impacts of climate change.

While local governments are uniquely suited to play a leadership role in addressing climate change, a strong partnership with the federal government is essential. Like homeland security, addressing climate change will require a national response and commitment. While many local governments have pledged action to prevent and adapt to climate change, most are just beginning to develop their climate protection plans. In order to turn local climate pledges into real action, local governments need funding, incentives and other assistance from the federal government.

Despite the critical role of local governments in meeting the climate challenge, the federal government currently provides very little funding or assistance to help local governments develop local climate protection strategies and deploy innovative approaches for green buildings, clean transportation, reduction of VMT, and other local actions. While President Bush recently signed new energy legislation authorizing $2 billion a year for energy efficiency block grants to local governments, the Administration included no funding for the program in its FY 2009 budget, the Senate Appropriations Committee provided no funding, and the House Appropriations Committee only provided $295 million. Likewise, the importance of providing incentives and resources to local governments has been largely overlooked during the initial debates in Congress over national cap-and-trade legislation.

The national solution to climate change must include a strong federal-local partnership that empowers local governments with the tools and resources needed to make significant progress in reducing GHG emissions. Real federal (and state) incentives and resources for local climate action will enable the nation to take advantage of the untapped reservoir of emissions reduction potential in communities across America. If funded robustly, local governments can capture the aggressive level of reductions critical to reversing the current rate of warming, as well as transform local economies through dollars saved in energy that can be freed up to invest in jobs, infrastructure, and community-wide improvements.

This paper outlines 10 key areas of federal policy and 31 specific proposals that will unleash strong local government action to address the nation's climate challenge. Specifically, the federal government should:

1. Promote **building efficiency** through Energy Conservation and Conservation Block Grants to local governments, green building codes, demand response technologies, green schools and green housing initiatives, and partnerships with public power utilities;

2. Change federal transportation laws to encourage **local land use and transportation planning** that creates more transportation choices, reduces VMT and decreases carbon emissions;

3. Provide federal funding and technical assistance to help local governments convert their **fleets to low-emission vehicles**, and develop **infrastructure** to support **cleaner fuels;**

4. Provide federal support for local deployment of **renewable generation and distributed energy technologies**;

5. Promote **green infrastructure** – community forestry, low-impact development, preservation of open space, innovative water/sewer systems, landfill gas recovery, solid waste recycling, urban wildlife corridors, and other local activities that reduce GHG emissions;

6. Support and facilitate **local government procurement of green products and technologies** that conserve energy and reduce carbon emissions;

7. Develop new partnerships between key federal agencies, states and local governments to create **climate resilient communities** that are prepared to respond to the inevitable impacts of climate change;

8. Create new **green businesses and green collar jobs** through federal support for local sustainable economic development and job training programs;

9. Use **national cap-and-trade incentives and proceeds to reward and promote local climate action**; and

10. Provide federal funding and technical assistance to build the **staff and financial capacity of local governments** to continue to play a leadership role in the national effort to address climate change.

This white paper: (1) outlines the critical impact that local governments can have in advancing climate protection; (2) describes the barriers that stand in the way of local governments utilizing their capacity to implement significant reductions in energy consumption and GHG emissions; and (3) discusses how federal policy can be strengthened to unleash the full potential of local governments to meet the climate challenge.

THE ESSENTIAL ROLE OF LOCAL GOVERNMENTS IN ADVANCING CLIMATE PROTECTION

Local governments have been at the forefront of the movement to advance climate protection. Local governments have the ability to drive GHG reduction efforts through measurable and direct actions. Specifically, local governments can:

- ***Serve as laboratories for innovation*** – Local governments can put cleaner, greener technologies into use in high-profile applications that help citizens and community sectors realize the value of innovative tools. When a green city hall saves energy and money, or alternative fuel buses are integrated into the public transit fleet, the ease and viability of green options is demonstrated to the public at large first hand.

- ***Lead deep and swift emissions reductions*** – Local governments are achieving substantial emissions reductions through the adoption of new technologies and policies applied to public infrastructure including municipal buildings, schools, public housing, and public power generation plants. Cities and counties can also launch "green infrastructure" projects that capture and sequester carbon, including urban forestry, green roofs,, open space conservation and other approaches.

- ***Accelerate private sector emissions reductions*** – Local governments are well-suited to incentivize and regulate emissions reduction actions by the private sector under their jurisdictional authority. Local governments, for instance, have the ability to use both incentives and regulations to implement and enforce green building codes; create sustainable, transit-oriented, walkable land use development patterns; and promote sustainable economic development that includes a new generation of green businesses and green jobs.

- ***Apply the framework for sustainable development*** – Shifting land use and development patterns to achieve more sustainable communities will require a challenging mix of changes in infrastructure, building, redevelopment, transportation, and other fundamental needs for sustainable development. As America struggles with aging, inefficient infrastructure and neighborhoods and the need for hundreds of millions of dollars for infrastructure investment, the nation has an opportunity to reinvest in a sustainable development framework. This framework will require partnerships among every level of the public and private sectors. Local governments are best positioned to foster these partnerships and promote new frameworks for sustainable communities.

- ***Create climate resilient communities*** – Local governments bear the brunt of the impacts of climate change, and are the first responders to the challenges of disaster, drought, flood, fires, infrastructure disruption, and other climate impacts. Local governments must play a critical partnership role in planning, preparing for and responding to these climate impacts, increasing the resilience of public infrastructure, and planning for, with a level of certainty, an increasing number of extreme climatic events.

- ***Strengthen political leadership*** – Mayors, county executives, town supervisors, and other local government officials are in an excellent position to boost the national movement toward climate action. Local officials are instrumental in outreach and education to local citizens, well-connected to their federal representatives and positioned to convey a compelling economic, moral and political case for national leadership by the next President and U.S. Congress.

Local governments have been implementing strong climate action since the early nineties through innovation, incentives for the private sector, sustainable development, climate mitigation and adaptation, and political action.

For more than a decade, ICLEI USA has been working with cities and counties to help measure and track the greenhouse gas emissions reductions achieved through local action, as well as develop and implement local climate action plans that reduce GHG emissions. ICLEI is also helping communities consider how to prepare for the predicted impacts associated with climate change. Now ICLEI has more than 500 local government members in various stages of developing and implementing aggressive local climate actions. In 2005, ICLEI local government members reported more than 23 million tons in CO2 reductions representing cost savings of more than $550 million through operational and energy efficiencies. As local government reporting by ICLEI local governments is voluntary, only half of 2006 members reported their numbers.

Likewise, mayors from 850 cities have signed the U.S. Conference of Mayors' Climate Protection Agreement pledging to take actions in their communities to meet or beat the Kyoto Protocol targets for reductions in GHG emissions. More than 30 counties representing over 35 million people have joined Cool Counties and pledged to reduce GHG emissions by 80 percent by the year 2050.

Local government action plays a critical role in American's ability to effectively curb the current rate of climate change caused by human-induced GHG emissions. Local governments are an essential element to achieve the major reductions in GHG emissions needed in their jurisdictions – through green buildings, clean transportation, green energy, green jobs, and sustainable community development – to advance climate protection and meet the reductions in GHGs requisite to avoiding catastrophic impacts from climate change.

As outlined below, as much as any other sector, local governments have the ability to promote, encourage and lead the effort to reduce GHG emissions. They are best equipped to implement land use planning, building codes, infrastructure improvements, green technology, sustainable economic development, and other local actions that advance climate protection.

Reducing Energy Consumption in Buildings

According to the U.S. Energy Information Administration (EIA), energy used in buildings is responsible for more than 40 percent of the nation's GHG emissions. At the local government level, buildings account for more than half of greenhouse gas emissions. According to the American Institute of Architects (AIA) and Architecture 2030, there is broad consensus that

buildings can be designed to operate with far less energy than today's typical buildings at little or no additional cost. This is accomplished through proper siting, efficient lighting, more efficient windows, improved insulation, more efficient heating and cooling systems, and other measures.

The AIA and Architecture 2030 report that there will be about 5 billion square feet of new construction, 5 billion square feet of renovation and 1.75 billion square feet of demolition taking place in the U.S. each year, between now and the year 2035. This means that three quarters of the built environment in the U.S. will be either new or renovated by 2035. As the AIA and Architecture 2030 point out, this transformation over the next 30 years represents an historic opportunity to reduce GHG emissions generated by the building sector. Furthermore, if this transformation of the built environment does not result in the deployment of greener and more energy efficient buildings, America and the planet will be stuck with increased emissions and their climate consequences for many decades.

Local governments have the authority to develop and implement new building codes and green building incentives to reduce energy use in residential and commercial buildings, and are increasingly embracing this opportunity. For example:

Nassau County, NY recently launched its "Green Levittown" initiative, a public-private partnership to help the 17,000 residents of America's first suburb conduct home energy audits, replace old boilers and make other home energy savings improvements. Nassau County aims to reduce carbon emissions from Levittown homes by 20 percent in 2008. Participants in the initiative's boiler upgrade program have already seen a 14 percent reduction in fuel use in 2008 over 2007, which is resulting in a significant reduction in GHG emissions. (http://www.greenlevittown.com/)

The **City of Santa Barbara, CA** took an historic step in 2007 by passing an ordinance to become the first city in the nation to adopt the 2030 Challenge for all buildings within the city limits. The legislation seeks to reduce the fossil fuel standard for all new buildings in order to accomplish carbon neutrality by 2030. The ordinance will enact building regulations exceeding state standards for energy use by 20 percent for low-rise residential buildings, 15 percent for high-rise residential buildings and 10 percent for nonresidential buildings, among other measures. (http://www.iclei-usa.org/success-stories)

The **Town of Carbondale, CO** is drafting green building codes to make sure new construction is more energy efficient as part of an overarching plan to limit energy consumption both by municipal operations and town residents. The plan is funded through utility franchise fees paid by residents, and calls for cutting GHG emissions tied to public facilities by 25 percent by 2010, and for cutting community-wide emissions by 25,000 tons by 2012, almost a 25 percent reduction. The town also hopes to increase renewable energy consumption by 50 percent in the next two years. (http://www.iclei-usa.org/success-stories)

The **City of Austin, TX** created an action plan to make all new single-family construction zero energy capable by 2015. A Zero Energy Capable Home is one that is energy efficient enough that, with the addition of onsite power generation such as solar panels, it can produce as much

energy as it consumes in a year. Practically speaking, this means new homes will be about 65 percent more efficient in 2015 than homes built today. (http://www.iclei-usa.org/success-stories)

Montgomery County, MD recently passed legislation that promotes energy efficiency in new buildings. The bill requires most new commercial, multi-family residential and single family residential buildings to meet certain Energy Star standards, and requires a building owner to pay an Environmental Sustainability Fee if the building does not comply with the energy efficiency and environmental design standards. The legislation also requires the Director of the County Department of Public Works and Transportation to develop an energy baseline, energy unit savings plan and energy cost savings plan for each County building. (http://www.montgomerycountymd.gov/content/council/mem/Berliner/PDF/30-07buildings.pdf)

Reducing Carbon Emissions from Transportation

According to the EIA, transportation accounts for one-third of the nation's GHG emissions. The recent book *Growing Cooler*: *The Evidence on Urban Development and Climate Change* points out that there are three components to reducing carbon emissions from the transportation sector: (1) increasing the fuel economy of vehicles; (2) reducing the carbon content of vehicle fuels; and (3) reducing the amount of VMT. The book goes on to point out that federal and state climate policy initiatives have focused largely on the first two components, and have largely ignored reducing VMT. The book also suggests that most of the gains made by improvements in fuel efficiency and decreasing carbon in fuels will be more that offset by higher vehicle emissions if Americans continue to increase VMT at the current rate.

Thus, any national strategy to reduce transportation emissions must include a serious effort to reduce VMT. Local governments are best suited to provide the kind of land use and transportation planning required to promote more compact development, offer enhanced public transit alternatives, create more walkable communities, increase opportunities for bicyclists, promote increased car pooling, enhance telecommuting, and offer other alternatives to cars. For example:

Sacramento County, CA and the **Sacramento Area Council of Governments, CA** have established a blueprint for the metropolitan region that links transportation investments to a vision of sustainable future growth and development, served by public transit, walkability measures and other approaches to reduce VMT in the region by 27 percent by 2050. (http://www.sacregionblueprint.org/sacregionblueprint/home.cfm)

Envision Utah is a collaboration of several public-private stakeholders in the Salt Lake City/Greater Wasatch Area focused on protecting the environment and maintaining economic vitality and quality of life as they accommodate anticipated growth in the region. The collaboration focuses on several key strategies to reduce emissions, addressing VMT though creating more walkable communities; preserving critical lands and park space; developing a region-wide transit system; and fostering transit-oriented development. Local governments in the region are in the process of implementing many of the transportation and development recommendations produced by the Envision Utah growth planning process. (http://envisionutah.org/transportation.phtml)

The **City of Portland, OR** has established an urban growth boundary, built a modern light rail system, promoted transit-oriented development, and created increased transportation opportunities for bicyclists, as part of its successful effort to reduce VMT. (http://www.metro-region.org/index.cfm/go/by.web/id/277)

Moreover, because local governments own and maintain large vehicle fleets, they are well positioned to test and promote low-emission vehicles and cleaner fuels. For example:

In 2007, **King County, WA** committed to purchase 500 new hybrid buses manufactured by New Flyer and General Motors over a five year period. The buses will be an addition to a fleet that already has over 200 hybrid buses in service. Hybrid buses use considerably less fuel and reduce some exhaust emissions by up to 90 percent. There are currently over 2,000 hybrid buses in use nationwide. (http://www.metrokc.gov/kcdot/news/2004/nr040527_hybrids.htm)

New York City, NY and the New York Taxi and Limousine Commission are implementing new emissions and mileage standards for 13,000 yellow taxicabs that will lead to a fully hybrid fleet by 2012 – the largest, cleanest fleet of taxis on the planet. The new standards will be phased in over a four-year period and will reduce the carbon emissions of New York City's taxicab and for-hire vehicle fleet by 50 percent during the next decade, and will save individual operators an average of $10,000 a year in fuel costs. In addition, by 2010, all 10,000 "black car" corporate cars in New York must achieve an average 30 miles per gallon. Overall, the new "green taxi" and "green black car" standards will save 350,000 tons of GHG and tens of millions of gallons of fuel annually. (http://www.nyc.gov/portal/site/nycgov/menuitem.c0935b9a57bb4ef3daf2f1c701c789a0/index.jsp?pageID=mayor_press_release&catID=1194&doc_name=http%3A%2F%2Fwww.nyc.gov%2Fhtml%2Fom%2Fhtml%2F2007a%2Fpr156-07.html&cc=unused1978&rc=1194&ndi=1)

Since 2001, the **City of Keene, NH** has powered their municipal fleet of 68 vehicles and other city owned equipment with B-20 biodiesel. City operators have stated that the headaches they would get from operating equipment with 100 percent diesel have gone away while operating equipment with B-20. (http://www.iclei-usa.org/success-stories)

In the 1990s, the **Town of Northbrook, IL** was the first community in the state to convert their fleet to E85. Because of the town's commitment to renewable fuels, the Ethanol Promotion and Information Council, in addition to the Illinois Corn Marketing Board, chose the town as the first location to install E10 pumps. E10 is a fuel that is 10 percent ethanol based and 90 percent enriched gasoline. The fuel gives residents of the town the comfort of choosing a renewable energy source. (http://www.drivingethanol.org/news_events/epic_news.aspx?catID=2&newsID=173)

Increasing the Use of Renewable Energy

Local governments can purchase renewable energy and establish innovative financing mechanisms to help residents install solar, geothermal or other renewable systems. In addition,

municipally-owned electric utilities can construct renewable power facilities and purchase renewable energy. For example:

Local government officials from the **City of Houston, TX** have been working to stabilize the city's $150 million annual electricity bill and have now settled on a diversified power portfolio including the use of renewable wind power. The city has negotiated a contract that would allow them to purchase up to 80 megawatts, or 700,800,000 kilowatt-hours, of renewable power which represents 50 percent of the city's total power. (http://www.iclei-usa.org/success-stories)

Wyandotte Municipal Utilities, MI is installing the first-in-the-nation utility-scale wind power project on an urban brownfield. Wyandotte is also considering renewable energy projects including woody biomass generation, river hydrokinetic power systems, combined photovoltaic-concentrated solar technologies, hybrid public utility fleets, and green roofs infrastructure to reduce emissions in a community that has historically relied on petrochemical manufacturing and coal-fired power to fuel the local economy.
(http://www.wyan.org/assets/wind/Wyandotte%20Met%20Summary%20Report%20September%202007.pdf)

In 2007, the **City of Berkeley, CA** approved a first-in-the-nation program to provide a financing structure to help residents pay for solar technology. The program provides the $15,000-$20,000 financing to purchase and install photovoltaic solar panels to city residents and business owners. The properties with the solar panels are then taxed at a higher rate (that stays with the property until payment is complete, even if the residents change) to offset the initial cost the city incurred. The plan is part of Berkeley's initiative to cut GHG emissions by 80 percent before 2050.
(http://www.ci.berkeley.ca.us/Mayor//PR/pressrelease2007-1023.htm)

Reducing Emissions in Local Public Infrastructure

Local governments are taking innovative steps to reduce emissions from government-owned landfills, solid waste management facilities and water and sewer systems. For example:

In 1995, the **City of Greensboro, NC** entered into an agreement with Duke Energy to develop a renewable energy recovery system. This system collects and transports methane gas that is created by the decomposition of organic materials found in the landfill. The gas is collected from the landfill through a series of pipes that have been placed below the surface of the waste. The gas is then transported to the program's industrial partner, Cone Mills, by way of a three-mile pipeline. The gas is burned in boilers to generate steam in order to operate machinery in the Cone Mills' textile plant. The methane is sold to Cone Mills at a lower cost than other natural gases, thereby lowering their utility costs. Historically, the City of Greensboro has received around $30,000 annually from the sale of the landfill gas. (http://www.iclei-usa.org/success-stories)

The **City of Austin, TX** is working with local stakeholders on a "zero waste" plan to achieve a 20 percent per capita reduction in solid waste by 2012 and zero waste by 2040. The plan has six main components: expanded and improved local and regional recycling and composting; new rules and incentives to reduce waste disposal; preserved land for sustainable development and

green industry infrastructure; advocacy for manufacturer responsibility for product waste; bans on problem materials; education and advocacy for a zero waste sustainability agenda; and public meetings to facilitate community involvement. (http://www.iclei-usa.org/success-stories)

The **Sonoma County Water Agency, CA** has developed several projects in order to achieve their goal of reducing GHG emissions 25 percent below 1990 levels by 2015. Their plan is to use geothermal technology to heat and cool Agency buildings. Additionally, the Agency will retrofit buildings with advanced lighting technology. The third aspect of the plan is to use treated water in the geothermal process as opposed to clean drinking water. Additionally, the treated water will be used for irrigation when it is done with heating and cooling. Reducing the amount of water that needs to be treated will greatly reduce the demand for electricity. (http://www.scwa.ca.gov/projects/documents/SonomaCountyWaterAgencyGeoExchangeEnergyEfficiencyProject.pdf)

Green Infrastructure, Preservation of Open Space and Community Forestry

Local governments can support national efforts to capture and sequester carbon through green infrastructure projects such as urban forests, rain gardens, and open space conservation. For example:

Since 2000, **Miami-Dade County, FL** has sought to increase their tree canopy by 25-35 percent. Due to increased development and tree blight infestation, Miami-Dade County has seen a steady decrease in its urban forestry over the last 50 years. The program worked with growers to increase tree viability and allows county residents to adopt trees. Since inception of the program, over 30,000 trees have been planted in the county. The increase in urban forestry has contributed to decreased stormwater runoff and improved air quality. (http://www.iclei-usa.org/success-stories)

The City of Chicago, IL has developed an aggressive program to install rooftop gardens on city-owned buildings in order to collect rain water, lower temperatures in the summer and reduce the amount of energy needed to cool buildings. The City is also encouraging private building owners to do the same. More than 300 gardens and green roofs have been constructed or are underway covering more than 4 million square feet on public and private buildings in Chicago. In addition, the City is planting more than 500,000 new trees and creating 200 acres of new parks and open spaces, all intended to help clean up the air and improve neighborhood quality of life. (http://www.asla.org/meetings/awards/awds02/chicagocityhall.html)

Carroll County, MD has established a goal of preserving 100,000 acres of land within the county in order to maintain the region's agricultural heritage. The County's land preservation efforts will control growth, reduce VMT, and serve as a sink for carbon emissions. (http://ccgovernment.carr.org/ccg/agpres/default.asp)

Adaptation: Local Government's Role in Addressing the Effects of Climate Change

Local governments are the first responders to the impacts of climate change. It is local governments that must take the lead in dealing with drought, water shortages, wildfires, flooding, rising sea levels, infrastructure disruption, and other impacts of climate change. For example:

King County, WA recently published a guidebook entitled: *Climate Change: A Guidebook for Local, Regional and State Governments.* The publication, written in conjunction with ICLEI and the National Oceanic and Atmospheric Administration's (NOAA) Climate Resilient Communities program, helps communities mitigate the effects of climate change by using broad based forecasting and experiences from other communities who have dealt with disasters. The guidebook highlights the urgent responsibility and opportunity for public decision-makers to prepare for climate change, and provides recommendations for initiating local climate resilience efforts including a five-step methodology and tools to get started.
(http://www.metrokc.gov/exec/news/2007/0912globalwarming.aspx)

In 2006, **Miami-Dade County, FL** established a Climate Change Advisory Task Force (CCATF) to identify potential future climate change impacts and provide ongoing recommendations regarding mitigation and adaptation measures to respond to climate change. The CCATF has directed all County agencies to assess the impact of sea level rise on all public investments and identify vulnerabilities in order to produce strategies for mitigation and adaptation. The CCATF has also advocated for increased funding and resources for regional and local habitat restoration and preservation efforts and initiatives.
(http://www.miamidade.gov/derm/climate_change.asp)

Moreover, several local governments are working together as part of the Center for Clean Air Policy's (CCAP) Urban Leaders Initiative, which is developing new strategies for local governments to plan for the inevitable impacts of climate change. Participants are developing commitments for "climate proofing" specific infrastructure investments, plans and policies over the next 25 years, with a focus on short-term opportunities for action.
(http://www.ccap.org/domestic/ULAI.htm)

BARRIERS TO LOCAL GOVERNMENT CLIMATE ACTION

Local governments have clearly been at the forefront of the movement to address climate change. Moreover, local governments are uniquely suited to play a major role in strategies to reduce GHG emissions in the building, transportation and infrastructure sectors.

However, despite these local government efforts, many barriers remain to effective implementation of local programs and policies that could significantly reduce GHG emissions. A recent survey by the Institute for Local Self Reliance of ten proactive cities that have pledged to meet the Kyoto targets found that these communities will "fail in their attempts unless complementary state and federal policies are put in place." *(Lessons from the Pioneers: Tackling Global Warming at the Local Level)*

Barriers preventing more aggressive local government climate protection action include:

Limited local staff capacity: In order to develop and implement local climate action plans, local governments need capable staff with knowledge and experience in energy conservation, transportation and land use planning, environmental sustainability, clean energy, and related matters. While local governments are increasingly hiring sustainability directors, energy managers or climate coordinators, most still lack the full complement of staff needed to make sufficient progress on these issues. Many local governments are struggling to come up with the local funding to hire the needed staff. For others, they are grappling with the challenge of finding qualified staff.

Lack of good information on best practices: While several local governments have made great strides in developing innovative local programs and technologies, most still lack good information on what strategies will yield the best results. For example, there is a need for better information on the best local building codes to maximize energy efficiency, the best strategies for greening local government vehicle fleets and the best approaches for reducing VMT.

Need for more standardized measurement methodologies: ICLEI USA has developed a model for creating emissions inventories and measuring emission reductions. However, resources are needed to refine the model and ensure that communities are using standardized methodologies with transparent assumptions. This will enable comparisons to be made between local governments and thereby help determine needed areas for further investment and assistance.

Lack of local funding for energy investments: Even though most energy-related investments pay for themselves in a relatively short time frame, it is difficult for many local governments to come up with the upfront capital due to tight local budgets. New sources and methods of financing are needed to enable local governments to take advantage of the many opportunities to improve energy efficiency in communities across the country.

Lack of federal and state support for local initiatives: Despite the fact that local governments are well-positioned to reduce GHG emissions and are developing innovative approaches, there are currently very few federal and state resources supporting local climate protection activities.

For example, while the new Energy Independence and Security Act of 2007 authorizes $2 billion a year for Energy Efficiency and Conservation Block Grants for local governments, Congress has yet to appropriate any funds for this program. Additionally, there are few legislative or regulatory levers that exist to incentivize or reward early, voluntary action on climate by local governments.

FEDERAL INCENTIVES TO PROMOTE LOCAL CLIMATE ACTION

Overall Federal Recommendation – **The President and Congress must recognize and support the essential role of local governments in addressing the climate change challenge**

1.) LOCAL GREEN BUILDINGS

Federal Policy Recommendation 1.1 – **Fully fund the Energy Efficiency and Conservation Block Grant program and the Qualified Energy Conservation Bonds program**

Federal Policy Recommendation 1.2 – **Establish national green building code incentives with funding and technical support for local implementation**

Federal Policy Recommendation 1.3 – **Deploy smart meters and demand response technologies in public buildings and beyond**

Federal Policy Recommendation 1.4 – **Support green school buildings through a $50 million annual "Healthy High-Performance Schools" Act**

Federal Policy Recommendation 1.5 – **HUD should work with local governments and other partners to green public and assisted housing**

Federal Policy Recommendation 1.6 – **Launch a "Green Communities Partnership" through America's 3,000 public power systems & electric cooperatives**

2.) VMT, TRANSIT & SUSTAINABLE LAND USE

Federal Policy Recommendation 2.1 – **Increase federal funding and provide cap-and-trade resources for public transit**

Federal Policy Recommendation 2.2 – **Require and fund action by states, metropolitan planning organizations and local governments to develop and implement VMT reduction plans**

3.) GREEN LOCAL VEHICLE FLEETS, FUELS & INFRASTRUCTURE

Federal Policy Recommendation 3.1 – **Increase federal funding for the DOE's "Clean Cities" program to $100 million annually to support local efforts to deploy cleaner vehicles and fuels**

Federal Policy Recommendation 3.2 – **Provide federal funding to local governments to help cover the incremental cost differential between conventional petroleum-fueled vehicles and alternative, low-emission vehicles and fleets**

Federal Policy Recommendation 3.3 – **Fund new federal grant programs under the Energy Independence & Security Act to locate alternative fueling stations at local public facilities and abandoned gas stations**

4.) LOCAL RENEWABLE ENERGY

Federal Policy Recommendation 4.1 – **Mandate interconnection standards, rate structures & other federal incentives for community-scale renewables**

Federal Policy Recommendation 4.2 – **Ensure adequate long-term funding for the Clean Renewable Energy Bond program, Renewable Energy Production Incentive, and the Production Tax Credit for renewable energy**

Federal Policy Recommendation 4.3 -- **Demonstrate renewable technologies on public buildings by providing $70 million total annual funding for the DOE "Solar America Cities" program, an enhanced DOE Wind Powering America program, and the EPA local government green building demonstration program authorized in the Energy Independence & Security Act**

5.) LOCAL GREEN INFRASTRUCTURE

Federal Policy Recommendation 5.1 – **Make community forestry, green infrastructure, and open space preservation eligible as offset projects under national cap-and-trade legislation**

Federal Policy Recommendation 5.2 – **Enhance federal funding for the Land and Water Conservation program and the Forest Service's Urban & Community Forestry program**

Federal Policy Recommendation 5.3 – **Support research, development and demonstration of innovative sewage sludge gasification and other projects for renewable energy generation**

Federal Policy Recommendation 5.4 – **Capitalize local revolving loan funds for green roofs and low-impact development**

Federal Policy Recommendation 5.5 – **Support new approaches to solid waste reduction, recycling and landfill gas energy generation**

6.) LOCAL GREEN PROCUREMENT

Federal Policy Recommendation 6.1 – **Establish a GSA task force to study and promote green procurement at the local government level including through GSA discounted pricing agreements for green products**

7.) LOCAL CLIMATE RESILIENCE

Federal Policy Recommendation 7.1 – **Create a "Federal Interagency Task Force on Community Climate Resilience"**

Federal Policy Recommendation 7.2 – **Expand FEMA's Pre-Disaster Mitigation program to address climate impacts**

Federal Policy Recommendation 7.3 – **Expand NOAA's Coastal Zone Management Act and climate programs to support local coastal climate planning and implementation**

Federal Policy Recommendation 7.4 – **Direct the U.S. Army Corps of Engineers to establish a climate adaptation mission to protect water resources**

8.) LOCAL GREEN JOBS & GREEN BUSINESS

Federal Policy Recommendation 8.1 – **Fully fund the Green Jobs Act of 2007**

Federal Policy Recommendation 8.2 – **Create an "Energy Conservation Corps" and a "National Senior Service Corps"**

Federal Policy Recommendation 8.3 – **Direct HUD, Small Business Administration, USDA, and Economic Development Administration funding in support of green business**

9.) CAP-AND-TRADE PROCEEDS FOR LOCAL CLIMATE ACTION

Federal Policy Recommendation 9.1 – **National cap-and-trade legislation should devote a significant portion of allowances and/or auction proceeds to local government actions to reduce emissions through green buildings, VMT reduction, green local fleets and fuels, renewable energy, green infrastructure, green procurement, adaptation, and green jobs**

10.) LOCAL GOVERNMENT CAPACITY FOR CLIMATE ACTION

Federal Policy Recommendation 10.1 – **Help build capacity at the local government level with $100 million annually for U.S. EPA "Climate Change Local Demonstration" grants**

Federal Policy Recommendation 10.2 – **Support research, outreach and education that identifies and promotes local government best practices**

Federal Policy Recommendation 10.3 – **Help standardize the measurement of GHG emissions from local green activities**

FEDERAL INCENTIVES TO SUPPORT LOCAL CLIMATE ACTION

A vast potential for GHG emissions reductions could be achieved with real federal incentives and resources for local climate action. Federal standards, incentives and resources are closely connected to the ability of local governments to pursue climate action through green buildings, cleaner transportation, green infrastructure, renewable energy and demand response, green jobs, green procurement, sustainable land development, and climate resilience. These approaches are "no regrets" efforts that will produce major economic, environmental and community co-benefits beyond GHG emissions reductions. Following is a discussion of 10 federal policy initiatives and 31 specific incentives that could help unleash stronger local government action on the climate challenge.

OVERALL RECOMMENDATION

THE PRESIDENT AND CONGRESS MUST RECOGNIZE AND SUPPORT THE ESSENTIAL ROLE OF LOCAL GOVERNMENTS IN ADDRESSING THE CLIMATE CHANGE CHALLENGE

The efforts of thousands of cities, counties, towns, regional metropolitan organizations, and public utilities across America to take proactive action have demonstrated the essential role of local governments on the climate challenge. However, federal policymakers have, for the most part, failed to consider and encourage the efforts of local governments on climate change. There are few federal agency programs to support this effort, and they are underfunded. Most legislative proposals have ignored the role of local governments in GHG emissions reductions and climate adaptation. Federal policy proposals that are targeted to incentivize actions that are fundamentally local in nature – land use, local transportation, building code implementation, recycling, and more – typically fail to incorporate local governments as part of the solution. Local governments are often an afterthought in the federal policy process, with widespread but inaccurate assumptions that resources provided to states will be adequate alone to support the action needed at the local government level.

Thus, the most important first action that the next President and Congress can take is to recognize and acknowledge that meeting the challenge of climate change cannot be achieved without key actions at the local government level. This recognition can lead to renewed efforts to engage local governments in the intergovernmental dialogue necessary to achieve the right solutions, and to better decisions to devote resources and effort to promoting proactive local action. In this way, local governments can continue to set the framework for sustainable, green actions that can meet climate protection goals, in cooperation with the states, the private sector, non-profit organizations, and the federal government.

1.) LOCAL GREEN BUILDINGS

Local governments are ideally positioned to transform America's built environment to more efficient buildings and facilities through their role in greening public facilities, implementing green building codes and providing incentives and outreach to the private sector. Building operations alone are responsible for 43 percent of total U.S. GHG emissions.

In a new report titled *The 2030 Blueprint: Solving Climate Change Saves Billions*, Architecture 2030 found that an annual investment of $21.6 billion for 5 years in readily available, off-the-shelf building efficiency measures would save local energy consumers $128 billion, create more than one million new local jobs, and reduce U.S. energy consumption by 5 QBtu and CO_2 emissions by 433.5 MMT. This investment, disseminated through local governments and existing federal incentive programs, would be distributed across the entire country and to all U.S. industries from wood, glass and metals to paints, sealants, contractors, and professional engineers.

The federal government should support stronger and broader local action through federal funding for building and technology transition, the establishment of stronger national and regional building code standards that can be deployed locally and the development of building best practices to support local innovation, especially through public power communities and electric cooperatives. Federal policy actions should include:

Federal Policy Recommendation 1.1 – Fully fund the Energy Efficiency and Conservation Block Grant program and the Qualified Energy Conservation Bond program

Congress has taken strong action to support local government efforts to promote green buildings through the authorization of $2 billion in annual funding for the Energy Efficiency and Conservation Block Grant (EECBG) program through the Energy Independence and Security Act of 2007. The EECBG program would provide formula funding to larger cities and counties and competitive grant funding from the Department of Energy (DOE) and through states to smaller local governments. These funds can be used to develop energy efficiency and conservation strategies, conduct building audits and efficiency retrofits, conduct efficient building code and inspection programs, implement onsite renewable energy projects on public buildings, implement distributed energy technologies, promote energy efficiency zoning requirements, establish financial incentive programs for energy efficiency improvements, and conduct other emissions-reducing activities. The EECBG program would be one of the first and only federal support programs for these activities.

The EECBG program must be funded by Congressional appropriations through the DOE and/or through proceeds of auctions or other resources from a national GHG cap-and-trade program. Although $2 billion is a relatively small amount for a national program geared toward all local governments, in summer 2008 the Congress was considering only a fraction of that amount in the FY 2009 federal spending process. A more hopeful development emerged in the proposed Senate climate legislation sponsored in 2008 by Senators Lieberman and Warner (S.3036), which proposed to devote 2 percent of auction proceeds from the climate cap-and-trade system to EECBG funding, an amount that would likely fully fund the program if the legislation is passed.

The next President and Congress should invest annual appropriations in these important block grants at the full $2 billion level, and build long-term sustainable funding for the EECBG program through proceeds from the GHG cap-and-trade system.

In addition, Congress should enact energy tax legislation that creates the proposed new **"Qualified Energy Conservation Bond"** program, which would establish a new category of tax credit bonds to finance local government and state programs and initiatives to reduce greenhouse gas emissions. This new program would provide a new, zero-interest financing mechanism for local energy efficiency projects. The Congress and President should support this new proposed program, which would provide a national limitation of $3 billion to local and state governments, at a cost to the federal treasury of approximately $1.027 billion over 10 years.

Federal Policy Recommendation 1.2 – Establish national green building code incentives based on meeting or exceeding the "2030 Challenge" targets with technical support for local implementation

Green buildings are a key solution for GHG emissions reductions, and local governments are critical to the solution. Moreover, investments in green buildings are an investment in local job creation, as this work cannot be outsourced outside the country.

Experts have estimated that three-fourths of America's built environment of commercial and residential buildings will be replaced or renovated by 2038, with nearly 10 billion square feet of space built new or renovated each year and another 1.75 billion square feet removed annually. (*See, e.g.*, American Institute of Architects and Architecture 2030, *Architects and Climate Change*). The energy use of this national building stock will have a lengthy, decades-long emissions impact.

The nation could achieve major GHG emissions reductions by setting national standards plus "beyond compliance" incentives and goals for green building codes for new and renovated commercial and residential buildings, along with resources and technical assistance to local governments for implementation. In particular, there is the need for more investment in local code implementation and enforcement. The next Congress and Administration should take the following actions:

- Establish **national building code goals that meet or exceed the regionally-sensitive "2030 Challenge" targets for new and renovated buildings** (commercial, residential and industrial) (See Architecture 2030, *Meeting the 2030 Challenge Through Building Codes*). The federal government has already adopted the 2030 Challenge for federal buildings, in the Energy Independence and Security Act of 2007. Moreover, the U.S. Conference of Mayors has adopted the 2030 Challenge as a goal for cities across the nation (Resolution #50).

- DOE should work with the **American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) and the International Code Council (ICC) to update building codes** for both commercial and residential buildings to help achieve the 2030 Challenge targets.

- The next Administration and Congress should implement and fully fund **DOE's National Office of Commercial High-Performance Green Buildings**, the **National Commercial High-Performance Green Buildings Partnership Consortium**, and the **Zero-Net-Energy Commercial Buildings Initiative**, as mandated in the Energy Independence and Security Act of 2007. The Zero-Net-Energy initiative includes target voluntary goals for commercial buildings of all new commercial buildings by 2030, half of the U.S. building stock by 2040, and the entire U.S. building stock by 2050. Priorities for these DOE initiatives should include outreach to local governments, code setting organizations, and building trades on the adoption and implementation of green building codes.
- Congress should provide funding to the DOE through annual appropriations and cap-and-trade proceeds, to provide **$50 million annually in grant funding to states and locals that adopt binding green building codes that go beyond minimum standards.** These funds could be directed to states that adopt state legislation requiring the implementation of local building codes that meet or go beyond compliance with ambitious goals such as the Architecture 2030 challenge, the DOE Zero-Net-Energy Commercial Building targets, or mandatory requirements for green building codes for residential housing. Grants should also be provided **directly to local governments** that adopt green building codes or innovative green buildings concepts that go beyond state or federal targets, or in states that do not adopt the federal green building targets. Grants should also be provided to local governments that adopt innovative approaches such as local laws to require home energy audits as part of house inspections during the property sales process, or local laws requiring disclosure of residential utility bill information to buyers in home sales and transfer.

These national and regional green building codes, matched with state deployment grants and training and outreach programs for local governments, can help accelerate the greening of buildings at the local level.

Federal Policy Recommendation 1.3 – Deploy smart meters and demand response technologies in public buildings & beyond

"Demand response" technologies and approaches should be a key complement to energy efficiency and green buildings, and the federal government should continue to provide incentives and resources to local governments and other parties to deploy a "smart grid" infrastructure that includes smart meters, retail load control devices and other technologies.

Demand response uses information and energy technologies, within the context of improved regulatory approaches such as time-of-use rates, to enable energy consumers to reduce consumption during peak periods. According to the McKinsey & Company consulting group, Americans could save up to $19 billion in energy costs each year by balancing new investments in power plants with investments in demand response.

Demand response uses innovative smart meters that record energy usage throughout the day on a real-time basis. According to the Demand Response and Advanced Metering Coalition (DRAM), smart meters can be coupled with innovative load control devices such as smart thermostats, smart appliances, automatically dimmable dynamic lighting, smart homes, smart buildings, and smart storage (such as off-peak ice storage for air conditioning). These smart

meters and load control devices can use the power of internet and computer technology to match reductions in energy use to high-peak, high-price, high-polluting periods. According to DRAM, these demand response systems, by saving energy when it costs the most, reduce the need for power plants, make energy efficiency investments more cost-effective, and make intermittent distributed generation sources such as solar or wind power more economic when used to displace higher on-peak energy prices. Demand response technologies also help energy consumers measure, verify, and monetize energy reductions in the context of carbon-constraining policies.

The Energy Policy Act of 2005, Section 1252 and the "Smart Grid" Title XIII provisions of the Energy Independence and Security Act of 2007 call on the Department of Energy, the Federal Energy Regulatory Commission, states, utilities and other sectors to invest in the deployment of demand response and smart grid technologies and systems.

Local governments are well-situated to conduct outreach, education, and deployment assistance programs that help energy consumers and the building sector adopt and use demand response technologies. Moreover, the demonstration of demand response technologies on public schools and municipal buildings could help drive private sector adoption. The Congress and Department of Energy should use the authorities already created in the Energy Policy Act and Energy Independence and Security Act legislation, and invest $50 million in new annual federal funding, to work with local governments to establish outreach, education, and demonstration funding programs to deploy smart meter and demand response technologies.

Federal Policy Recommendation 1.4 – Support green school buildings through a $50 million annual "Healthy High-Performance Schools" Act

Nationally, K–12 schools use 425 trillion BTU of energy every year, or 7 percent of all energy used by commercial buildings, according to the Energy Information Administration and the Green Schools Initiative. Taxpayers spend $6 billion a year on energy for schools but could reduce that amount by $1.5 billion through energy efficiency measures alone – an amount that could be redirected to hire 30,000 new teachers or purchase 40 million new textbooks annually.

The Federal, state and local governments are spending about $20 billion a year to build new schools and renovate old ones. And it is estimated that over time, close to $300 billion will be directed into major rehabilitation and new construction of schools. Clearly, this massive changeover in a significant segment of the American building sector should be built green.

The federal government can support the greening of schools through legislation such as the "Healthy High-Performance Schools" title of the proposed "High Performance Green Buildings Act, S. 2620. The act would direct the U.S. EPA to work with states, together with the Department of Education, the Department of Health and Human Services, and other relevant agencies to develop state guidelines for the development and implementation of new school environmental health programs to promote pollutant emission reductions, natural daylighting, and other environmental health approaches. The act would provide U.S. EPA grants to state agencies for technical assistance and for developing new standards for school building design, construction and renovation.

The next President and Congress should build on the approach proposed by this Healthy High-Performance Schools legislation, setting new standards and guidelines for school buildings that meet climate protection goals, and providing grant funding to local governments and school districts for demonstration projects for green schools. This program should be funded at $50 million annually.

Federal Policy Recommendation 1.5 – HUD should work with local governments and other partners to green public and assisted housing

Significant energy savings and GHG emission reductions could be achieved through partnerships between HUD and local governments to green public and assisted housing.

The climate impact of public housing is substantial. For instance, according to the U.S. Department of Housing and Urban Development, HUD spends an estimated $4 billion a year on energy, more than 10 percent of its annual budget, through utility allowances in connection with rental assistance payments to low-income renters and indirect operating subsidies to public housing authorities. A savings of just 5 percent a year over five years could generate $1 billion to invest in affordable housing.

In 2006 HUD provided a report to Congress outlining administrative and regulatory steps to reduce energy costs in public and assisted housing through an "integrated energy strategy," as required by Section 154 of the Energy Policy Act of 2005. In the report, HUD established a vision for reduction of energy in public, assisted and HUD-financed housing. This vision calls for:

Public Housing

- Public Housing Authorities adopt Energy Star as the standard for purchasing appliances and equipment
- Newly built HOPE VI projects have an energy performance rating equivalent to the standards for Energy Star Qualified New Homes
- Federally assisted housing on Indian lands promotes energy conservation

Community Planning and Development

- Community Development Block Grant (CDBG) grantees adopt energy efficiency guidelines for housing rehabilitation that incorporate Energy Star product and construction standards
- HOME grantees adopt energy efficiency guidelines for new construction or substantial rehabilitation and incorporate Energy Star product and construction standards

FHA Single Family

- The Federal Housing Administration (FHA) takes steps to increase consumer awareness of Energy Efficient Mortgages and energy efficiency in the "Streamlined (k)" Limited Repair Program
- FHA-approved housing counseling agencies provide counseling and information on opportunities for residential energy efficiency

FHA Multifamily

- Assisted multifamily properties are operated and maintained in an energy-efficient manner
- Section 202 and 811 projects meet or exceed Energy Star building energy performance standards
- Newly insured multifamily properties achieve energy efficiency performance levels equivalent to the 2003 International Energy Conservation Code or to Energy Star

Other

- New energy partnerships are formed with cities, states, counties, other federal agencies, and nonprofit and private-sector stakeholders

HUD also maintains a program called the "Partnership for Advancing Technology in Housing" or "PATH" program, dedicated to accelerating the development and use of technologies that improve the quality, durability, energy efficiency, environmental performance, and affordability of America's housing. PATH is a voluntary partnership between leaders of the homebuilding, product manufacturing, insurance, and financial industries and representatives of Federal agencies concerned with housing. Working together, PATH partners improve new and existing homes and strengthen the technology infrastructure of the United States.

The next Administration and Congress should support renewed HUD leadership to implement the integrated energy strategy for publicly-supported housing, and to use the PATH strategy to build partnerships for greener housing. Moreover, HUD should enhance its partnership with local governments to spread these green housing approaches beyond public and assisted housing to the broader housing markets. Congress should support these efforts with up to $50 million in annual funding throughout HUD's programs.

Federal Policy Recommendation 1.6 – Launch a "Green Communities Partnership" through America's 3,000 public power systems and electric cooperatives

Public power and rural electric cooperative systems have tremendous advantages in fostering energy efficiency and conservation at the residential, retail, commercial, and industrial levels. Public power communities and cooperatives have many of the characteristics of local governments, in that they are not-for-profit, community-owned entities that are accountable to locally elected officials and local citizens. These public utilities also have established energy infrastructure systems including electrical generation and distribution facilities, customer networks, and often advanced telecommunications systems. In a 2006 report, *Public Power: Generating Greener Communities,* the American Public Power Association (APPA) found that public power systems use renewable energy, zero-emissions generation and green pricing systems at levels much higher than electricity industry trends. APPA and the Natural Resources Defense Council (NRDC) vowed to take these efforts further in June 2008, with an announcement that the groups would work jointly to make efficiency improvements in buildings and equipment, develop new rate-setting policies and programs to achieve efficiency improvements, support existing regional alliances and new university centers on energy efficiency, and spread best practices. Other green energy efforts are being undertaken by public

utilities, as described in the March-April 2008 article *75 Ways to Get Greener*, by J.P. Blackford in Public Power magazine.

There are more than 2,000 public power communities and nearly 1,000 rural electric cooperatives serving 85 million people in all 50 states in America, more than 25 percent of the nation's electric customers. With a public purpose mission and a quarter of the nation's customers, these public utility systems can be a powerful force for efficiency, green building and conservation efforts in all customer sectors.

To take advantage of this public utility infrastructure, the federal government should launch a $50 million annual ***Green Communities Partnership*** program through which DOE will work with public power and electric cooperatives to conduct outreach to customers on green buildings and energy efficiency, explore rate policies that incentivize these approaches and establish new funding and performance contracting mechanisms that will better enable public power and cooperatives to finance the up-front capital costs of deploying residential and commercial efficiency technologies and systems.

2.) VMT, TRANSIT & SUSTAINABLE LAND USE

The U.S. transportation sector accounts for a third of all CO_2 emissions, and within this share, 60 percent of these emissions come from personal vehicle use. Greener vehicles and fuels, while important and needed, will not be sufficient alone to reduce the impacts of transportation on GHG emissions. Increases in fuel efficiency have not been, and are not predicted to be, adequate to keep pace with the increases in driving associated with more sprawling development patterns and the lack of adequate public transit.

Local governments across America and numerous smart growth and public transit organizations have identified better approaches to community transportation that pair more compact, walkable development with increased public transit. According to the group Smart Growth America, "compact, mixed-use, interconnected and pedestrian-friendly neighborhoods with transportation choices, a balance of homes, jobs, schools, and other uses can help reduce the need to drive and foster walkability. Areas like these, whether dense city cores or small-town neighborhood streets on a grid, generate less vehicle travel because people drive shorter distances and have to drive less due to the ability to walk or take transit." Smart Growth America cites a study commissioned by the American Council for an Energy Efficient Economy, which finds that "shifting just 10 percent of new U.S. housing starts to smart growth would save 4.95 billion gallons of gasoline, 118 million barrels of oil, 59.5 million metric tons of CO2, and $220 billion in household expenses over 10 years."

Such smart growth works best when connected with improved and new public transportation including bus and rail transport, intermodal transportation systems and high-speed rail networks between cities. Public transportation already reduces CO_2 emissions by 37 million metric tons annually. Local governments, regional government organizations and transit organizations are essential to the effort to invest in America's smart growth and sustainable transportation infrastructure in order to achieve reduced GHG emissions. However, America's public transportation system is currently facing an estimated $32.8 billion *annual* shortfall, according to the American Public Transportation Association (APTA). Certainly the federal government has a major role in directing and supporting transportation funding, and thus should play a role in shifting transportation investments into more sustainable, lower-emissions strategies that take advantage of smart growth and transit tools. The consideration of federal climate change legislation and the reauthorization of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users of 2005 (SAFETEA) in 2009 provide major opportunities for such sustainable transportation investments. Federal policy support for local governments should include the following:

Federal Policy Recommendation 2.1 – Increase federal funding and provide cap-and-trade resources for public transit

Congress and the next President should support a re-investment in public bus and rail transit to meet the $32.8+ billion annual shortfall in federal transit funding, initially through increased annual appropriations and then through a devotion of adequate proceeds of national cap-and-trade allowances/auctions to public transit. Moreover, the federal formula for such local transit investments should equalize the currently inequitable federal share proportion for transit projects

(60 percent federal, or as low as 50 percent federal under current Administration preferences), when compared to funding for highways and roads (currently 80 percent federal). Federal transit funding formulas should also provide more funding opportunities and incentives to smaller-sized communities that are currently ineligible for or disadvantaged in obtaining direct Federal Transit Administration (FTA) resources.

Federal Policy Recommendation 2.2 – Require and fund action by states, metropolitan planning organizations, and local governments to develop and implement VMT reduction plans

Currently, federal transportation funding is directed to local governments and metropolitan regions whose projects are included in transportation improvement plans (TIPs) that prioritize funding. The next federal surface transportation law should require that states and metropolitan planning organizations (MPOs) must include Alternative Land Use and Transportation Scenario Analyses within these TIPs. Such analyses would identify the VMT increases or reductions that result from transportation plans, programs and projects (including induced demand) in the context of the local and regional transportation system. These alternative transportation plans must include tools for the measurement and tracking of local/regional VMT, as well as tools for the measurement and public reporting of GHG and petroleum reduction results from transportation projects, as part of long range transportation plans.

This requirement for the inclusion of alternative transportation plans and GHG/petroleum reduction strategies in local and regional transportation improvement and long-range transportation plans should be matched with $50 million in additional annual federal funding and technical assistance. Bonus funding should be awarded to states and local governments that reduce VMT and GHG below current baseline levels, or that implement innovative approaches such as location-efficient mortgage or mileage-based insurance programs. Finally, the Congress should establish a new center for best practices and VMT/GHG data at the Department of Transportation (DOT) to support local governments, regional areas and states in their efforts to identify effective measures for VMT and GHG reductions through transit and smart growth approaches.

3.) GREEN LOCAL VEHICLE FLEETS, FUELS & INFRASTRUCTURE

Local governments and public agencies including schools, airports, emergency responders, and public utilities utilize extensive vehicle fleets. These fleets often include service vehicles, transit buses and school buses, public works trucks, police, fire and emergency vehicles, and other vehicles. For example, the Federal Highway Administration (FHWA) reports in *Highway Statistics 2006* that municipalities, counties and states owned and operated more than 3,600,000 motor vehicles.

The transition of these vehicle fleets to alternative technologies using reduced-carbon fuels could achieve substantial emissions reductions. Moreover, such a public investment could also shift private sector vehicle fleets and consumer vehicles by showcasing new technologies, bolstering clean vehicle markets and fostering the deployment of better alternative fuel infrastructure systems. The need for such visible leadership is important, as the DOE National Renewable Energy Laboratory (NREL) has identified "inconsistency in public policy and leadership messages" by government as one of the top five barriers to the transition of conventional vehicle fleets to alternative fuel vehicles. *See Transitioning to a Hydrogen Future: Learning from the Alternative Fuels Experience*, M. Mendez, National Renewable Energy Laboratory (February 2006). That same report found that national support for local government initiatives is critical.

The federal government should support the conversion of local government vehicle fleets to cleaner vehicles and fuels by implementing the following policies:

Federal Policy Recommendation 3.1 – Increase federal funding for the DOE's "Clean Cities" program to $100 million annually to support local efforts to deploy cleaner vehicles and fuels

DOE sponsors the "Clean Cities" program, a government-industry partnership that utilizes local geographically-based coalitions composed of local fleets, fuel providers and decision-makers that focus on the goal of petroleum reduction. According to DOE, there are nearly 90 coalitions working with more than 5,000 stakeholders representing 126 million U.S. citizens – approximately 63 percent of the country's total population. Since its inception in 1993, Clean Cities and its stakeholders have displaced more than 1.2 billion gallons of petroleum, and is on track to reduce petroleum consumption in participating fleets by 3.2 billion gallons by 2020.

Clean Cities focuses on five technology approaches: alternative fuels and vehicles, hybrid electric vehicles, idle reduction technologies, fuel economy measures, and low-level fuel blends. Clean Cities coalitions determine which combinations of the five technologies will best help their cities and regions reduce petroleum consumption.

Despite its success, this important and effective program receives only a small amount of federal funding to support these widespread efforts, with only $35 million provided between 1998 and 2005.

Congress should boost Clean Cities funding to meet the rapidly expanding demand for alternative vehicle and fuel approaches at the local level, with an annual funding level of $100 million.

Federal Policy Recommendation 3.2 – Provide federal funding to local governments to help cover the incremental cost differential between conventional petroleum-fueled vehicles and alternative, low-emission vehicles and fleets

According to the DOE NREL, one of the top five barriers to the deployment of clean local vehicle fleets is the incremental cost differential between conventional vehicles and advanced clean vehicles. Clean vehicle fleets can cost 10-15 percent more or higher than conventional fleet vehicles.

The federal government should provide $150 million in annual grant funding to local governments to help cover incremental costs of clean local fleets, and provide a significant funding preference for cleaner fleets. In particular, Congress should support funding for the DOT's Bus and Bus Facilities grants program and the DOE's Vehicle Technologies programs.

Federal Policy Recommendation 3.3 – Fund the new federal grant programs under the Energy Independence & Security Act to locate alternative fueling stations at local public facilities and abandoned gas stations

Despite the emergence of important alternative fuel vehicles, only around 4,000 alternative fueling stations exist in the U.S., as opposed to approximately 167,000 traditional gas stations, according to the DOE's Alternative Fuels and Advanced Vehicles Data Center. The lack of an alternative fuel infrastructure network in American communities has been cited as the top barrier to clean fleets.

Because the deployment of local government clean fleets would be an effective first step toward broader deployment to consumers, it makes sense to locate alternative fueling stations, which could include biofuels, electric charging stations, hydrogen fuel stations, and other fuel stops, at public buildings such as municipal and school sites. Local governments active in brownfields redevelopment could also direct alternative fueling stations to some of the estimated 190,000 abandoned gas stations located in most communities across America.

The Energy Independence and Security Act of 2007 authorized two new programs to support the deployment of alternative fuel infrastructure by local governments and others. One program calls for $200 million annually to provide 10 yearly "Refueling Infrastructure Corridors" matching seed grants of $20 million each to support the installation and operation of the infrastructure and equipment necessary to support biofuel vehicles in targeted areas.

Another program authorized by Congress would provide $90 million annually to establish a program to provide plug-in electric hybrid vehicle grants on a cost-shared basis to state governments, local governments, metropolitan transportation authorities, air pollution control districts, private or nonprofit entities, or combinations of those governments, authorities, districts, and entities.

These types of federal support programs for local green fleets programs could make a large difference in local deployment. Congress should fully fund these Energy Independence and Security Act programs through the annual appropriations process and potentially through national cap-and-trade proceeds. The Administration should consider implementing these green fleets programs as part of the Clean Cities program, which has an already established national and local infrastructure for deployment.

4.) LOCAL RENEWABLE ENERGY

Renewable sources of energy are clearly critical for achieving substantial GHG reductions in the building and housing sectors as well as for innovative approaches such as plug-in hybrid electric vehicles. While large, utility-scale renewable generation projects are important and welcomed, major additional benefits could be available from small-scale, distributed sources of renewable energy that could be achieved by local governments or cooperatives of individual businesses and neighborhoods. Community wind, solar, low-impact hydro such as river hydrokinetic, and bio-energy projects could achieve widespread deployment and major environmental and economic benefits. However, the federal policy structure provides few incentives for, and daunting barriers to, small-scale, distributed renewable energy resources.

The federal government could play a decisive role in providing incentives to community-scale renewable energy deployment by local governments and local organizations. Such incentives should include better transmission interconnection standards, better ratemaking structures, tax and other funding incentives, and resources for the demonstration of innovative renewable technologies on public buildings, as follows.

Federal Policy Recommendation 4.1 – Mandate Interconnection Standards, Rate Structures & Other Federal Incentives for Community-Scale Renewables

A chief barrier to the deployment of small-scale, distributed renewable energy projects is the difficulty associated with obtaining access to the transmission and distribution grid that would allow renewable power to serves homes, businesses and neighborhoods. Although the Federal Energy Regulatory Commission has mandated interconnection for small-scale (<20MW) renewable projects, the implementation of such interconnection standards remain complicated and inconsistent across the nation. In some cases, local governments have sought to establish energy-smart zones that use distributed renewable energy sources and efficiency technologies to lower fossil energy demand within targeted neighborhoods, but these efforts have been challenged or thwarted by incumbent electric utility corporations seeking to maintain their sales load.

Congress and the next Administration could help overcome these challenges to local renewable energy projects through legislation such as the **"Renewable Energy Jobs and Security Act," (H.R. 6401)**. This legislation, modeled after a successful German policy called a "feed-in tariff" that has also been implemented in another 40 nations plus a number of states in this country, would provide a guarantee that small-scale renewable projects can obtain interconnection to the grid under uniform standards. In addition, the legislation would create a mandatory requirement that electric utilities, at the request of any new renewable energy facility owner, must enter into a 20-year fixed-rate power purchase agreement. Uniform national "renewable energy payment" rates would be set by the Federal Energy Regulatory Commission at levels that would provide a 10 percent internal rate of return on investment for available commercialized technologies in regions constituting the top 30th percentile of renewable energy resource potential in the U.S. Further, the legislation would create a new rate-recovery system through a regional cost-sharing and systems benefit charge.

Enacting such a federal renewable-energy payments policy would streamline what could become a patchwork regulatory structure and an unstable investment climate for the U.S. domestic renewable energy market. This feed-in tariff approach would also provide incentives for renewables beyond the current federal production tax credit, which can only be applied to taxes owed on passive income, which is not a usable incentive for local governments or most non-corporate organizations or cooperatives of individuals.

Federal Policy Recommendation 4.2 – Ensure adequate long-term funding for the Clean Renewable Energy Bond program, Renewable Energy Production Incentive, and the Renewable Production Tax Credit

Deployment of widespread renewable energy projects will require resources for local governments and public power, beyond incentives targeted only to the private sector. Local governments and public power are critical to demonstration of new technologies, deployment of distributed and small-scale renewables, and penetration into consumer markets.

Important federal incentives for renewable energy projects by local governments, public power, and rural cooperatives have been established, including the Clean Renewable Energy Bond (CREB) program and the Renewable Energy Production Incentive (REPI).

The CREB program, created in the Energy Policy Act of 2005, provides a federal tax credit to bondholders for zero-interest bonds that are issued by local governments, public power and rural cooperatives, and state governments to finance renewable energy projects. Already, the IRS has allocated CREB lending authority to nearly 1,000 local energy projects with bond financing of more than $1.2 billion. However, the applications and demands for this financing far exceed the amount that has been awarded. The Congress has considered extending an additional $2 billion in CREB authority in pending energy tax legislation that has stalled. **The next President and Congress should pass new, expanded CREB authority for public power, electric cooperatives and local governments at a level that can help meet the strong demand and need for such federal renewable incentives.**

The REPI program was created in the Energy Policy Act of 1992 for public power and rural electric cooperatives, as a counterpart to the renewable energy production tax credits made available to for-profit, taxable utilities only. The law authorizes the program through 2026. Under REPI, the Department of Energy can make direct payments to not-for-profit public power systems and rural electric cooperatives to support operations at solar, wind, geothermal, ocean and biomass renewable energy projects, at a rate near 1.8 cents per kWh for electricity generated. There is an estimated backlog of unfunded REPI requests of more than $80 million, with increasing demand each year. Yet the program typically only receives $5 million annually, and the current Administration has proposed to eliminate the REPI program. **The next President and Congress should support REPI funding that meets the demand and need for this funding, at the level of at least $25 million annually.**

Beyond the CREB and REPI programs that directly support renewable projects by local government entities, local governments support the Production Tax Credit for renewable energy that remains a subject of congressional debate and funding uncertainty. Localities support the Production Tax Credit because it can provide an important tool for local governments that seek

to partner with private sector entities to deploy renewable technologies on public buildings and facilities. **Congress and the next Administration should ensure that the extension and long-term certainty of the Renewable Production Tax Credit is a priority for passage. Congress should pass a full-value, 8-year extension of the Production Tax Credit.**

Federal Policy Recommendation 4.3 – Demonstrate renewable technologies on public buildings by providing $70 million total annual funding for the DOE "Solar America Cities" program, an enhanced DOE Wind Powering America program, and the EPA local government green building demonstration program authorized in the Energy Independence & Security Act

Several new federal programs are designed to support the deployment of renewable technologies at local government buildings and facilities. However, these programs are not funded at an adequate level to meet local needs and achieve the congressional intent of fostering local government green buildings as a catalyst for market transformation.

The Department of Energy **"Solar America Cities"** program provides direct grant funding to cities to deploy high-profile solar energy projects on municipal buildings and other community facilities. In 2008, DOE plans to award 12 cities up to $2.4 million for these demonstration projects. DOE will also provide up to $3 million over two years in hands-on technical assistance from technical and policy experts to help cities integrate solar technologies into city energy planning, zoning, and facilities; streamline city-level regulations and practices that affect solar adoption by residents and local businesses; and promote solar technology through outreach, curriculum development, and incentive programs. To be eligible for a Solar America Cities award, cities must have a population of 100,000 or more – a level that may exclude many worthy projects.

DOE's "Wind Powering America" program provides guidance, technical assistance, and resources to support the development of wind power systems in communities across America. Program focus areas include support for public power, wind-powered economic development, small wind projects, a "Wind for Schools" project for rural schools, support for wind in the agricultural community, and partnerships with states. The Wind Powering America program has the potential to catalyze community-based wind energy projects that support local government green buildings and public facilities.

Under the Energy Independence and Security Act of 2007, Congress authorized a new, $20 million annual program for U.S. EPA to provide competitive demonstration grants of up to $1 million each to assist local governments in deploying technologies for green local government buildings.

These are exactly the type of federal programs that can help proactive local governments demonstrate green buildings and green technologies that can be beacons of climate sustainability within their communities. **The next President and Congress should support strong funding for these programs, with $25 million annually for the Solar America Cities program, $25 million annually for DOE's Wind Powering America program, and $20 million annually for the EPA green local government building demonstration grant program.**

5.) LOCAL GREEN INFRASTRUCTURE

Local governments have control of major infrastructure including water, wastewater, solid waste and landfills, and other infrastructure systems. Increasingly, local governments also have a role in promoting green infrastructure such as open space preservation, urban forestry, green roofs, and urban wildlife corridors. These infrastructure systems provide major opportunities for GHG emission reductions as well as for terrestrial sequestration of carbon. However, there remains a major need for research, development and deployment of new systems for implementing green infrastructure and cleaner grey infrastructure. Moreover, there is a need for new tools and approaches for measuring and verifying the climate benefits of green infrastructure. The federal government should play a role in developing and deploying these green infrastructure systems at the local government level.

First, local governments need support in reducing the GHG emissions impact associated with huge energy demand at municipal water and wastewater plants. Likewise, localities must continue to implement new approaches for solid waste reduction, recycling, and landfill gas recovery, in order to reduce and utilize the energy used in the waste cycle.

Beyond GHG emissions reductions, climate protection also depends on climate sinks provided by forests, fields, green corridors, better agricultural techniques and other terrestrial sequestration approaches. While international projects and large scale forestry and agriculture projects are important components of terrestrial carbon sinks, local green infrastructure must play a role too. Urban and community forestry, permanent preservation of open space, green roofs and other green infrastructure can help provide increased terrestrial sequestration of carbon.

The federal government can help localities reduce emissions from grey infrastructure and capture emissions from green infrastructure through the following policy and funding incentives:

Federal Policy Recommendation 5.1 – Make community forestry, green infrastructure, and open space preservation eligible as offset projects under national cap-and-trade legislation

Carbon emissions offsets are a legal and economic mechanism that allows emitting entities to offset their GHG emissions through the purchase of green practices elsewhere that sequester or reduce carbon emissions. For example, an emitter can purchase the preservation of a certain amount of Amazon rainforest, or can fund no-till agricultural practices on a set number of acres. Such emissions offsets can be purchased through private carbon trading entities such as the Chicago Climate Exchange, which is the world's first and North America's only active voluntary, legally binding integrated trading system to reduce emissions of all six major greenhouse gases (GHGs), with offset projects worldwide that are independently verified. The Chicago Climate Exchange provides offsets in a number of areas, including energy efficiency, fuel switching, renewable energy, forestry, landfill methane recovery and other approaches.

If the United States implements a greenhouse gas cap-and-trade system, it can be expected that regulated emitters will be able to achieve some level of their compliance through the purchase of verifiable and enforceable offsets. For example, the Boxer-Lieberman-Warner Climate Security Act legislation proposed that up to 15 percent of compliance for any regulated entity could be

achieved through the purchase of certain types of offsets. The Republican candidate for President in 2008 has suggested that up to 100 percent of compliance with national cap-and-trade requirements could be achieved via offsets.

Several practices and programs conducted by local governments can achieve the emissions capture and terrestrial sequestration benefits that more traditional offsets such as corporate forestry or no-till agriculture projects can achieve. Local approaches such as urban and community forestry that increases overall tree canopy, green roofs infrastructure that covers impervious surfaces with vegetation, low-impact development techniques that use trees and vegetation to reduce urban impacts, and other techniques can create and maintain significant carbon sinks, particularly when such approaches are aggregated across urban or metropolitan areas. Likewise, local government initiatives to legally preserve green spaces, urban wildlife corridors, and agricultural lands can provide valuable carbon terrestrial sequestration opportunities.

Such local government green infrastructure practices should be eligible as carbon emission offsets under federal cap-and-trade legislation. This could provide a significant source of resources for localities seeking to build and maintain green infrastructure and green spaces as a climate protection technique. Such a regulatory approach should also permit local governments to be aggregators of qualifying projects for offsets. For example, while one green roof may not achieve a significant level of carbon sequestration, a city program that results in the establishment of 1,000 green rooftops could make a substantial positive contribution to carbon reduction.

In addition, the federal government should support further research and tool development for the measurement and verification of the carbon reduction benefits of dispersed, local green infrastructure systems. Such research could be conducted through the U.S. Environmental Protection Agency and the U.S. Forest Service. Currently local governments do not have adequate access to effective models and measurement tools for measuring and verifying the carbon sink capabilities of aggregated urban forestry, green infrastructure, and open space conservation. In order for the federal government to be able to utilize these emissions reductions in a regulatory system, these tools need to be developed and deployed at local and regional levels.

Federal Policy Recommendation 5.2 – Enhance federal funding for the Land and Water Conservation Fund program and the Forest Service's Urban & Community Forestry program

Two long-standing federal government programs that support the preservation and improvement of green corridors in local communities should be expanded as part of an effective climate protection strategy – the Land and Water Conservation Fund (LWCF), and the U.S. Forest Service's Urban and Community Forestry program.

The LWCF was created more than 40 years ago as a tool for funding the conservation of parks, open space and other natural resources for the use and enjoyment of citizens. These same resources are critical to a climate protection strategy that must maintain green corridors from ill-

placed development, including in urbanized areas controlled by local governments. LWCF devotes resources to states and directly to local projects through programs at the U.S. Forest Service and Department of Interior agencies including the National Park Service.

The Forest Service's Urban and Community Forestry Program provides technical, financial, research and educational services to local government, non profit organizations community groups, schools and educational institutions, and tribal governments. This includes challenge grants, demonstration projects, support for community tree planting programs, and research to identify the benefits of urban forestry, including the carbon dioxide reduction benefits.

Urban forests are dynamic ecosystems that provide environmental services such as clean air and water. Urban forests broadly include urban parks, street trees, landscaped boulevards, public gardens, river and coastal promenades, greenways, river corridors, wetlands, nature preserves, natural areas, shelter belts of trees and working trees at industrial brownfield sites. In the Cooperative Forestry Assistance Act, the Congress finds that "urban trees are 15 times more effective than forest trees at reducing the buildup of carbon dioxide and aid in promoting energy conservation through mitigation of the heat island effect in urban areas."

These federal programs are very important to local governments, creating a number of other co-benefits in addition to important climate protection benefits. Although Congress has on several occasions approached the idea of enhancing funding for these programs, these efforts have fallen short. In recent years, funding for the LWCF has been at levels as low as a third of the $900 million authorized level for the program. The Urban and Community Forestry program, funded at levels as high as $49 million in FY05, have fallen to approximately $30 million annually now, a 40 percent reduction for the program.

The next President and Congress should support the full authorized funding of the Land and Water Conservation Fund at $900 million annually. This could be accomplished through annual appropriations, but would be better met through the establishment of a conservation trust fund with the oil and gas lease revenues (which typically amount to more than $4 billion each year) that fund the LWCF, as proposed in the Conservation and Reinvestment Act (CARA), which was narrowly defeated in the 107th Congress. Likewise, **the next President and Congress should support an expansion of the Urban and Community Forestry program to at least $50 million annually.**

Federal Policy Recommendation 5.3 – Support research, development and demonstration of innovative sewage sludge gasification and other projects for renewable energy generation

The energy use at municipal water and wastewater treatment plants accounts for as much as 20 percent of GHG emissions from the municipal sector. Moreover, wastewater treatment plants are one of the top emitters of methane and nitrous oxides, which are potent greenhouse gases. Reducing this impact depends on finding more sustainable sources of energy for these essential municipal operations.

The federal government must play a substantial role in helping research, development, demonstrate, commercialize, and deploy new approaches at water and wastewater plants.

For example, the Department of Energy and the U.S. Environmental Protection Agency are now underway with the City of Stamford, Connecticut on an innovative Wastewater-to-Energy project that will convert dried sewage sludge into clean, renewable energy. This first-ever application of biomass gasification technology is free of air and carbon emissions and will use a renewable resource available in nearly every locality If deployed nationally, this waste-to-energy technology could produce *100 times* the electric energy needed to serve U.S. domestic demand, and could reduce *1.1 billion* metric tonnes of greenhouse gases by 2030.

Stamford has launched a project to construct an innovative, zero-emissions, waste-to-energy electric generation facility that will turn dry, pelletized sewage sludge into a synthetic gas that provides 10 megawatts of electric power in a region facing major electricity shortages and electric grid congestion. The residuals generated by the wastewater treatment process are organic substances that, when treated properly, have a high heating value of about 9000 BTU/lb and can be used as a fuel source. To produce the fuel, Stamford is using drying and pelletizing technology, the state-of-art residuals handling process for wastewater treatment plants. Typically, these dried pellets (or wastewater sludge, if not pelletized) are transported long distances away from the locality with petroleum-fueled vehicles and applied to land as a fertilizer. Stamford will turn this waste into a renewable energy source. Stamford will use a biomass gasifier technology that produces no air or carbon pollution emissions. This will revolutionize the treatment of domestic sewer waste and create a source of renewable fuel. All of the equipment that will be used for this project is "industry standard" and no new equipment will have to be developed. However, this waste-to-energy application is an innovative, first-ever approach that could be transferred to other communities.

This project will address a crisis in Connecticut, in an area that has the highest electricity prices in the nation. Moreover, this renewable electricity will serve critical urban infrastructure in Stamford including the wastewater treatment plant itself, law enforcement and emergency preparedness facilities, hospital and health care facilities, municipal and communication facilities, and other critical areas. The will also provide emergency back-up power in blackout situations, and avoid the potential discharge of massive amounts of untreated effluent to waterbodies in times when the electric grid is down.

These types of projects are already obtaining limited federal funding for demonstration and testing. But the impact on climate emissions from America's wastewater treatment plants and other municipal infrastructure is so large that such approaches must be deployed on a much broader scale. **The next President and Congress should provide $50 million annually for an R&D, demonstration and deployment strategy by the Department of Energy biomass program, working jointly with the EPA Office of Wastewater Management, to move these technologies into more widespread deployment.**

Federal Policy Recommendation 5.4 – Capitalize local revolving loan funds for green roofs and low-impact development

Local governments have been at the forefront of fostering the deployment of green vegetated roofs on urban buildings, which can reduce the energy wasted in urban heat islands, capture carbon emissions, and produce other co-benefits such as stormwater pollution reduction.

Likewise, local governments are the lead in land use and environmental requirements and incentives for the deployment of low-impact development techniques such as conservation development zones, bioswales and raingardens, and other low-impact approaches. These techniques can reduce the energy use of commercial and residential buildings, and increase/maintain urban green infrastructure that plays a role in climate protection.

However, local governments need more support in understanding best practices and workable techniques for such green roofs and green infrastructure, including the measurement of climate benefits from such practices. **The next Administration and Congress should support continued efforts by federal agencies, particularly the U.S. Environmental Protection Agency and its water and smart growth offices, to provide technical assistance to communities on these approaches.**

The federal government could also help local governments establish local funding programs that can help both the private sector and the public sector bear the incremental costs of using green roofs and low-impact green development techniques in building practices, as these approaches still involve an initial cost premium. **One approach would be for the Congress to provide $50 million in annual funding to the U.S. Environmental Protection Agency for up to $2 million grants to local governments to capitalize local revolving loan funds for green infrastructure.** Through these EPA grants, localities could establish revolving loan funds that would provide zero- or low-cost loans to builders and developers to cover the up-front cost of designing, constructing, and retrofitting buildings and neighborhoods with green roof and other green infrastructure. As these systems typically pay for themselves over time through energy savings and reduced stormwater costs, the local loans can be paid out of savings. These funds could then revolve to new building owners and developers. The EPA has successful experience with clean water and other revolving loans that could be applied to this approach.

This approach would remove much of the disadvantage to building green in communities with zero-cost financing, and help broaden deployment of these important climate protection practices.

Federal Policy Recommendation 5.5 – Enhance federal support for local solid waste reduction, recycling and landfill gas energy generation

The GHG emissions reduction and other environmental and economic benefits of solid waste reduction, recycling, and landfill methane energy generation are well recognized. Congress and the Environmental Protection Agency should continue to provide technical assistance to local governments to develop comprehensive waste management approaches to reduce the GHG emissions related to the waste cycle, and should provide demonstration grant funding to support

innovative approaches such as "resource recovery parks" for waste reduction, recycling and reuse.

Waste reduction and recycling can have a major impact on GHG emissions reductions through the energy consumption savings achieved through less extraction, manufacturing, and transport of goods, reduced emissions from incinerators and landfills, and increased storage of carbon in trees through paper recycling.

The U.S. EPA estimates that increasing the national recycling rate from its current level of 27 percent to 35 percent would annually reduce greenhouse gas emissions by 11.4 million metric tons of carbon equivalent over landfilling the same material. According to EPA's Office of Solid Waste, waste prevention also makes an important difference: by cutting the amount of waste generated by just 5 percent, the U.S. could reduce greenhouse gas emissions by another 10.2 million MTCE. Together, these levels of recycling and waste prevention slash emissions by more than 20 million MTCE-an amount equal to the average annual emissions from the electricity consumption of roughly 12 million households.

One innovative approach by local governments is the establishment and operation of "Resource Recovery Parks." A resource recovery park is the co-location of reuse, recycling, compost processing, manufacturing and retail businesses in a central facility. Also called integrated resource recovery facilities, serial recovery facilities, and discard malls, resource recovery parks provide a one-stop "drop and shop" location where the public and waste haulers can bring wastes and recoverable materials at one time. Resource recovery parks enable local governments and their constituents to save money by reducing the amount of wastes going to landfills or incinerators; realize value and revenue from the sale of recovered materials; and buy and sell items and materials from reuse, recycling, and composting vendors. Resource recovery parks can be the core of a comprehensive strategy for local resource management.

For the solid waste that is landfilled, GHG emissions reductions can be achieved through the recovery and beneficial use of landfill gas methane recovery and energy generation. According to the EPA's Landfill Methane Outreach Program, landfills are the top human-caused source of the potent GHG methane: 36 percent of human caused methane releases come from municipal solid waste landfills. Of the 2,300 or so currently operating or recently closed MSW landfills in the United States, more than 420 have landfill gas utilization projects. EPA estimates that approximately 535 additional MSW landfills could turn their gas into energy, producing enough electricity to power more than 808,000 homes. Already, EPA's landfill gas utilization program has helped local governments and landfill operators reduce landfill methane emissions by more than 28 million metric tons of carbon equivalent, which is equivalent to annually sequestering carbon with 24 million acres of pine or fir forests or removing the annual greenhouse gas emissions from more than 19 million passenger vehicles. The EPA Landfill Methane Outreach Program has provided important and valuable support to local governments, states, industry and other partners in efforts to utilize landfill methane.

Local governments have the most responsibility for handling waste. However, localities are often overlooked in federal legislative debates over climate protection, which have considered resources and support for state recycling and solid waste efforts, but not for local governments.

Further, local governments have no control over the federal standards, regulations and incentives for product design and manufacturing that could reduce waste consumption.

As part of a climate change solution, the federal government should provide additional resources to the U.S. Environmental Protection Agency, to local governments and other critical parties to develop comprehensive waste and resource management approaches that can reduce, recycle, and use waste.

First, the federal government should maintain EPA programs that provide outreach, technical assistance and support for solid waste reduction. This could include a new, $25 million annual demonstration grant program to assist local governments in establishing "Resource Recovery Parks" for waste reduction.

Second, the federal government should **maintain and expand EPA's Landfill Methane Outreach Program beyond the Administration's FY09 funding proposal of $4.4 million, to at least $10 million annually.**

Third, any future **national climate legislation should recognize and provide resources to *local governments,* not just states, for efforts to address solid waste reduction and recycling.**

6.) LOCAL GREEN PROCUREMENT

Local governments nationwide represent a significant purchasing force, and the climate impacts of their operations are directly related to the products they buy. Local and state agencies purchase over $900 billion annually in products and services. Many cities and counties have already taken steps to "green" their purchasing decisions, and have developed local policies that encourage the procurement of energy-efficient products and technologies. Local green purchasing leaders are successfully reducing energy consumption in buildings, decreasing fuel consumption and pollution by vehicles and capturing and converting waste into electricity. Besides conserving energy and reducing GHG emissions, environmentally preferable purchasing often has the additional benefit of saving limited tax dollars.

Federal Policy Recommendation 6.1 – Establish a GSA task force to study and promote green procurement at the local government level including through GSA discounted pricing agreements for green products

The Energy Independence and Security Act of 2007 (Public Law 110-140) encouraged the federal government to purchase products that conserve energy, thereby reducing GHG emissions. The federal government should also move aggressively to promote further green procurement at the local and state government levels.

Local governments seek enhanced opportunities to take advantage of the General Service Administration's (GSA) negotiated discounted pricing agreements for green products. In addition, many local governments seek new tools for obtaining volume purchase discounts through purchasing collaboratives, especially for expensive, cutting-edge products that could be procured less expensively if volume purchases spark the market, such as green buses. GSA should establish a task force, comprised of representatives of local, state and federal government and industry, to explore ways to expand and support the public sector's use of energy-efficient products and accelerate the development of energy-saving technologies, specifically in the areas of indoor lighting, building products, clean vehicles and buses, traffic and street lighting, alternative energy, and waste-to-energy systems.

7.) LOCAL CLIMATE RESILIENCE

Local governments must play a central and critical role in planning for and adapting to the negative impacts of climate change. Local governments are both the first responders and the final stop for dealing with the impacts of disaster, flood, drought, water supply disruption, wildfires, infrastructure disruption, and other impacts. Local governments across the nation are seeking to respond to these threats and impacts through conducting climate resilience studies, assessments and action plans. The critical and multiple roles of local governments on climate adaptation are reflected in the recent publication *Preparing for Climate Change: A Guidebook for Local, Regional and State Governments*, co-authored by The Climate Impacts Group and King County, WA in association with ICLEI-USA.

There are currently no federal programs that directly support local governments on adaptation issues. There is a need for expanded federal programs that support research, demonstration and deployment activities supporting local government efforts to prevent and adapt to the impacts of climate change. Recommendations for federal policy improvements include:

Federal Policy Recommendation 7.1 – Create a "Federal Interagency Task Force on Community Climate Resilience"

Dealing with the impacts of climate change typically involves a myriad of federal agencies that are often poorly coordinated. An interagency task force, with significant participation by local and state governments, could identify the barriers to better federal interagency with local governments, review lessons learned from events such as Hurricane Katrina and identify new structures and programs for intergovernmental collaboration on these issues. The interagency task force should include NOAA, EPA, FEMA, the U.S. Army Corps of Engineers, the Bureau of Reclamation, the U.S. Department of Agriculture including the Forest Service, the U.S. Fire Administration, the U.S. Department of Transportation, and other agencies.

Federal Policy Recommendation 7.2 – Expand FEMA's Pre-Disaster Mitigation program to address climate impacts

The FEMA Pre-Disaster Mitigation program provides funds to states, territories, federally-recognized Indian tribal governments, and communities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. In FY 2008, Congress provided $114 million for FEMA's program. Funding may be used for the development of comprehensive pre-disaster mitigation plans, and for a number of mitigation projects including:

- Voluntary acquisition of real property (*i.e.* structures and land, where necessary) for conversion to open space in perpetuity;
- Relocation of public or private structures;
- Elevation of existing public or private structures to avoid coastal or riverine flooding;

- Structural retrofitting and non-structural retrofitting (*e.g.*, storm shutters, hurricane clips, bracing systems) of existing public or private structures to meet or exceed applicable building codes relative to hazard mitigation;

- Hydrologic and hydraulic studies/analyses, engineering studies and drainage studies;

- Vegetation management for natural dune restoration, wildfire or snow avalanche;

- Protective measures for utilities (*e.g.*, electric and gas), water and sanitary sewer systems and/or other infrastructure (*e.g.*, roads and bridges);

- Stormwater management projects (*e.g.*, culverts and retention basins) to reduce or eliminate long-term risk from flood hazards; and

- Localized flood control projects, such as certain ring levees and floodwall systems that are designed specifically to protect critical facilities (defined as Hazardous Materials Facilities, Emergency Operation Centers, Power Facilities, Water Facilities, Sewer and Wastewater Treatment Facilities, Communications Facilities, Emergency Medical Care Facilities, Fire Protection, and Emergency Facilities) and that do not constitute a section of a larger flood control system.

However, it remains unclear whether FEMA's Pre-Disaster Mitigation resources can be directed to the impacts of climate change.

Congress and the next Administration should confirm the clear role and mission of FEMA in addressing the potential impacts of climate change on local communities, and establish a new FEMA Office of Climate Change Adaptation and Mitigation. Congress should require FEMA to report on the level of federal resources that will be needed to support the office's activities. FEMA should clarify in its pre-disaster mitigation guidance that local governments and states may use pre-disaster mitigation funding to plan for and implement projects that address the potential disaster impacts of climate change on local governments. Finally, Congress should increase funding for the FEMA program by $50 million annually from the FY08 level of $114 million, in order to support the Office of Climate Change Adaptation and Mitigation and the climate projects in local communities.

Federal Policy Recommendation 7.3 – Expand NOAA's Coastal Zone Management Act and climate programs to support local coastal climate planning and implementation

The current federal approach to working with coastal communities is based on the Coastal Zone Management Act (CZMA), administered through NOAA. As Congress and the next President consider reauthorization of the CZMA program, the federal government should expand NOAA resources to local governments in coastal areas for planning and implementation of climate adaptation actions.

Local communities in America are heavily concentrated on the coastlines and the Great Lakes, home to more than 150 million or 50 percent of the U.S. population. These communities are obviously vulnerable to the impacts of climate change.

Yet, the existing CZMA program provides little direct assistance to local governments in their efforts to plan for community development and adaptation in coastal areas. Local governments are not adequately engaged in the coastal management process, and often local agencies involved in land use, infrastructure, disaster mitigation, economic development, and other key areas are not integrated sufficiently with coastal planning and opportunities. Local governments have very few opportunities to obtain direct NOAA funding or technical assistance to promote sustainable coastal revitalization.

The CZMA program should be improved to provide more direct support to coastal local governments seeking to plan for coastal land use and infrastructure in the context of the expected potential impacts of climate change.

Congress should expand NOAA's existing CZMA Section 309 program for "Coastal Zone Enhancement Grants" to support local government climate action in coastal areas. Section 309 grants can be used to prevent or significantly reduce threats to life and destruction of property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas and anticipating and managing the effects of potential sea level rise and Great Lakes level rise. These grants can also be used to prepare and implement special area management plans (SAMPs) for important coastal areas. SAMPs are used to address one or more specific management goals within a specific geographic area. These goals can include: managing wetlands, beaches, dunes and water bottoms; improving public access to coastal waters; reducing properties and people at risk in coastal high hazard areas; improving coastal water quality; promoting waterfront redevelopment, port expansion or redevelopment; managing dock and pier proliferation; and protecting cultural, historic or aesthetic resources, among others.

However, currently the NOAA Section 309 grant program is limited to $10 million annually, with no funding directed to local governments in coastal areas. In the reauthorization and funding of the Coastal Zone Management Act, Congress and the Administration should increase the program to at least $100 million annually, and provide direct grants to eligible local governments (as well as continued funding to coastal state governments) for the creation and implementation of SAMPs that address coastal revitalization in the context of climate change.

NOAA also maintains a Climate Program Office engaged in a number of important research, education and outreach activities. One such activity in the Sectoral Applications Research Program (SARP), which seeks to promote interaction between NOAA and other levels of government on climate information and forecasts in order to enhance adaptive management options. NOAA should identify *local governments* as a key sector for analysis, planning and technical assistance on the climate adaptation issue.

Federal Policy Recommendation 7.4 – Direct the U.S. Army Corps of Engineers to establish a climate adaptation mission to protect water resources

The U.S. Army Corps of Engineers is already substantially involved in the impacts of water resources on local communities, the economy and the environment. Major Corps activities in flood control, water supply, levees, and wetlands should be closely connected with national, regional, state, and local planning for climate adaptation.

Yet, the Corps of Engineers is strangely absent from the effort to identify climate change threats and actions. The Corps has no office or officials dedicated to climate change issues related to the Corps' water resources mission. The Corps has no guidance to local project sponsors on the integration of climate adaptation into local water resources projects. There is no mention of climate change in the Corps' "Environmental Operating Principles" nor the "Environmental Operating Principles Training Site" that includes implementing guidance, regulations, briefing slides, and other materials on the Corps and the environment.

The next President and Congress should reorient the Corps of Engineers to ensure that its flood control, environmental and navigation missions are connected with climate adaptation issues and activities. Congress should officially establish climate adaptation as a mission area of the Corps in the next Water Resources Development Act (WRDA). The Corps should establish an office of climate adaptation in its headquarters, with staff devoted to this mission in every division and district. The Corps should train and educate its division and district staff on climate issues related to their specific project activities. Congress also should fund a Corps climate adaptation program that provides funding and technical assistance to local project sponsors for planning and implementation of resilience programs and projects.

8.) LOCAL GREEN JOBS & GREEN BUSINESS

America's transition to a green economy could benefit local communities and citizens through the creation of "green collar jobs" in the manufacturing, engineering, professional services, construction, and energy sectors.

Much of the work to be done to green the American economy involves transforming the places that we live and work and the way we get around. These jobs are difficult or impossible to offshore. For instance, you cannot pick up a house, send it to China to have solar panels installed and have it shipped back. In addition, a major source for potential manufacturing jobs – a sector that has been extensively off-shored – is component parts for wind towers and turbines. Because of their size and related high transportation costs, they are most cost-effectively produced as near as possible to wind-farm sites.

Local governments have a tremendous stake in the development of green businesses and the growing of green jobs within their communities. Local governments also have an important role in identifying areas for green jobs development, recruiting and supporting new and expanded businesses that can create such jobs and training workers for green jobs.

One promising initiative is the Local Governments Green Jobs Pledge. In partnership with the Apollo Alliance and the Center for American Progress, Green for All and ICLEI-Local Governments for Sustainability launched the Local Governments Green Jobs Pledge to unify and demonstrate the willingness by local elected leaders across the country to build green local economies.

The federal government could enhance and support the local government role in the development of green businesses and green jobs in several important ways:

Federal Policy Recommendation 8.1 – Fully fund the Green Jobs Act of 2007

The Green Jobs Act of 2007 was passed into law as part of the Energy Independence and Security Act of 2007. The legislation directs the Department of Labor to provide $125 million annually to help prepare the nation's workforce for changes resulting from the creation of jobs in the expanding energy-efficiency and renewable energy sectors. Twenty percent of authorized funding is dedicated to studies to determine where green job opportunities will emerge and what skills are needed to fill these jobs. Another 20 percent of authorized funding is dedicated to the Pathways Out of Poverty Demonstration Program, which provides grants to non-profits to help impoverished populations train for jobs in the energy-efficiency and renewable energy field. The remaining 60 percent of the authorized funding will be split between the Energy Partnership Training Grants and State Energy Training Partnership Grants, which both aim to enhance workers job skills in the energy-efficiency and renewable energy sector. These federal green jobs programs will be implemented in coordination with local agencies including workforce investment boards and community organizations.

Congress should fully fund the Green Jobs Act with $125 million in annual appropriations for the program. In addition, local governments and climate protection would benefit if the Green

Jobs Act is supported with longer-term, more sustainable funding through the proceeds of national climate change cap-and-trade legislation. For example, the Lieberman-Warner-Boxer Climate Security Act of 2008 (S. 2023) proposed to direct between 1 percent and 4 percent of cap-and-trade auction proceeds to both the Green Jobs Act programs and new "Climate Change Worker Training and Assistance Fund" and "Workforce Training and Safety" programs to train and assist workers to transition into the green jobs industry.

Federal Policy Recommendation 8.2 – Create an "Energy Conservation Corps" and a "National Senior Service Corps"

The proposed "Generations Invigorating Volunteerism and Education or GIVE Act" (HR 5563) would renew for five years the Corporation for National and Community Service, best known for its AmeriCorps program (PL 101-610). An amendment to this act, introduced by Representatives Inslee and Sarbanes, would create an Energy Conservation Corps and enhance the National Senior Service Corps to address the nation's green energy and transportation infrastructure needs while providing work and service opportunities.

These service training and deployment programs would support projects including energy efficient green housing for elderly and low-income people; environmental education and energy conservation education for elementary and secondary school students and the public; reusing and recycling including deconstruction; the repair, renovation or rehabilitation of existing infrastructure facilities including rail, mass transportation, ports, inland navigation, schools, and hospitals; transportation enhancements; recreational trails improvements, including those that enable alternative means of transportation and ensure safe use; transformation of military bases affected by the Base Realignment and Closing (BRAC) process to greenspace; tree planting and reforestation; renewable resource enhancement; assisting in emergency operations, such as disaster prevention and relief; and projects to provide opportunities for youth and young adults, especially disadvantaged youth, to be trained for careers related to these activities and the emerging green collar jobs field.

The GIVE Act fell one vote shy of passage in the U.S. House in spring 2008. Congress and the next Administration should seek the passage of the GIVE Act and its green service corps, fully fund the program, and require coordination between these Energy Conservation and Senior Service corps and local governments. Specifically, program funding criteria should direct program funds toward those programs that integrate service programs and projects with the goals and activities of the local government jurisdiction in which they will take place.

Federal Policy Recommendation 8.3 – Direct HUD, Small Business Administration, USDA, and Economic Development Administration funding in support of green business

Several federal agency programs provide funding to catalyze and support economic development at the local government level, such as the HUD Economic Development Initiative, the Small Business Administration's Small Business Development Centers and Small Business Innovations Research grant program, the Economic Development Administration's Public Works and Economic Development Facilities grant program, and the USDA's Rural Business Opportunity Grant program.

Congress and the Administration should use legislative reauthorizations and agency policy decisions to identify green business development as a policy and funding priority under these federal economic development support programs. These agencies should establish Task Forces on Green Jobs Development, with participation of local governments and other key stakeholders, to identify and deploy funding and technical assistance to local governments and the private sector in the green business and jobs fields. Funding preferences should be established for local business development and support projects for the green technologies field.

9.) CAP-AND-TRADE PROCEEDS FOR LOCAL CLIMATE ACTION

The need for federal funding to support local government climate action may be difficult to meet through federal annual appropriations alone. However, if the nation adopts a greenhouse gas cap-and-trade system designed to shift the nation from one of unlimited carbon emissions to a green economy, such a system could direct a portion of the proceeds from payments by GHG emitters to emissions-reduction activities. A portion of such cap-and-trade proceeds should be directed toward local governments that seek to take action to reduce emissions through green buildings, VMT reduction, green local fleets and fuels, renewable energy, green infrastructure, green procurement, adaptation, and green jobs.

The climate legislation debated in the Senate in 2008, the Lieberman-Warner-Boxer Climate Security Act (S. 3036), recognized the benefits of providing cap-and-trade resources to local governments for emissions reduction activities. The legislation found at Subtitle I, Section 2(18) that "state and local government programs, including incentives, renewable portfolio standards, efficiency requirements, land use policies, and other such programs typically implemented at the state and local level are having and will continue to have a substantial and direct beneficial effect on reducing greenhouse gas emissions." The legislation proposed to devote two percent of auction proceeds to the Energy Efficiency and Conservation Block Grant program, and between one and 2.75 percent of auction proceeds for bus and rail transit and VMT reduction, bicycle and pedestrian projects, telecommuting and carpool programs. These auction proceeds for green buildings and emissions reductions in the transportation sector would support federal agency grant programs that would direct resources to proactive local governments engaged in climate protection efforts.

Federal Policy Recommendation 9.1 – National cap-and-trade legislation should devote a significant portion of allowances and/or auction proceeds to local government actions to reduce emissions through green buildings, VMT reduction, green local fleets and fuels, renewable energy, green infrastructure, green procurement, adaptation, and green jobs.

Although the amounts proposed for local climate action in S. 3036 are not sufficient to meet local need, the direction of this legislation was very positive, and should be followed in future Senate and House of Representatives legislative efforts.

10.) LOCAL GOVERNMENT CAPACITY FOR CLIMATE ACTION

While some local governments are taking early action to reduce their carbon footprint, many cities and counties lack the staff capacity and technical expertise to develop and implement effective climate action plans. There are currently no federal programs that assist local governments with climate change planning and implementation activities. Local governments need tools and assistance to develop inventories of GHG emissions within their jurisdictions, develop and enact strategies for reducing carbon emissions and measure and verify resulting GHG reductions.

Federal Policy Recommendation 10.1 – Help build staff capacity at the local government level with $100 million annually for U.S. EPA "Climate Change Local Demonstration" grants

While local government leaders are enthusiastic to take climate actions that reduce GHG emissions in their communities, many are struggling to find the resources to hire qualified staff. Capable staff with knowledge and experience in energy conservation, transportation and land use planning, environmental sustainability, and clean energy are needed to help cities and counties develop and implement climate action plans that will achieve significant GHG emissions. While local governments are increasingly hiring sustainability directors, energy managers or climate coordinators, most still lack the funding to staff effective climate protection offices.

Congress should provide up to $100 million in annual appropriations for the U.S. Environmental Protection Agency to expand currently authorized Clean Air Act grantmaking authority to meet the critical need to build local government capacity to reduce and adapt to the impacts of GHG emissions. This "Climate Change Local Demonstration Pilots" grant program would provide competitive EPA grants to units of local government to build staff capacity to engage in GHG emissions reduction activities, develop climate change implementation programs, implement activities including land use, VMT-reduction, green buildings, and energy efficiency and renewable energy programs that reduce GHG emissions, and develop and implement strategies for local adaptation to the impacts of climate change.

This program would be based on existing U.S. EPA grantmaking authority contained in Section 103 of the Clean Air Act via 42 U.S.C. Section 7403(a) & (b), which authorizes EPA to conduct demonstrations relating to the causes, effects (including health and welfare effects), extent, prevention, and control of air pollution; and to make grants and provide financial assistance to public agencies in the conduct of such activities.

Climate Change Local Demonstration Pilot funding could be used for the following types of activities:

- Establishing GHG inventories for public and private sector activities;
- Using tools such as the U.S. Local Government Greenhouse Gas Emissions Operations and Community Measurement and Analysis Protocol developed by ICLEI;
- Establishing GHG reduction strategies based on approaches including vehicle miles traveled (VMT) reduction programs; sustainable land use policies and programs that reduce GHG emissions; green building technologies and programs for new and existing

commercial and retail buildings; deployment of energy efficiency technologies and approaches; deployment of renewable, distributed and demand response technologies that reduce greenhouse gas emissions; and other activities identified by the U.S. EPA as producing GHG emissions reductions;
- Implementing GHG reduction strategies through technical assistance and facilitation;
- Conducting public outreach and training that builds local capacity to reduce GHG emissions;
- Coordinating with other local jurisdictions, state and federal programs to achieve these GHG reduction and climate adaptation strategies; and
- Obtaining training for local government officials and staff to conduct these activities.

Federal Policy Recommendation 10.2 – Support research, outreach, and education that identifies and promotes local government best practices

A number of local governments are developing innovative climate protection programs. However, most cities and counties still lack good information on what climate action strategies will yield the best results. In order to achieve quick GHG reductions and conserve limited local resources, it is imperative to share the successes of local government climate protection leaders with other communities nationwide.

DOE, DOT and EPA should fund research that helps local governments identify the most promising strategies for reducing GHG emissions. Particular areas of best practices research should include local building codes that maximize energy efficiency, strategies for greening local government vehicle fleets, and effective approaches for reducing VMT.

Federal Policy Recommendation 10.3 – Help standardize the measurement of GHG emissions from local green activities

One of the greatest barriers to local climate action is the difficulty local governments face in measuring and demonstrating the specific GHG reduction benefits of specific activities. Local governments seek tools and technology to better measure the climate benefits of green buildings, cleaner transportation, green infrastructure, renewable energy and demand response, green jobs, green procurement, sustainable land development, and climate resilience.

ICLEI USA has developed a model for creating emissions inventories and measuring GHG emission reductions. However, federal support is necessary to refine the model and ensure that communities are using standardized methodologies with transparent assumptions. This will enable comparisons to be made between local governments and thereby help determine needed areas for further investment and assistance.

DOE, DOT and EPA should work collaboratively with cities and counties to develop better measurement an\d modeling tools, tailored to local governments and the types of projects that produce the verifiable, surplus GHG reductions.

RESOURCES

The following organizations and programs are among the many that can provide valuable assistance and resources to local governments and policy-makers in the endeavor to foster local government action on climate change:

ICLEI-Local Governments for Sustainability
www.icleiusa.org

Climate Communities
www.climatecommunities.us

Presidential Climate Action Project
www.climateactionprogram.com

American Institute of Architects – Sustainability Resource Center
www.aia.org/susn_rc_cl_default

American Planning Association
www.planning.org/energy/

American Public Power Association
www.appanet.org

American Public Transit Association
www.apta.com

Apollo Alliance
www.apolloalliance.org

Architecture 2030
www.architecture2030.org/

Association of Metropolitan Planning Organizations
www.ampo.org

Center for American Progress
www.americanprogress.org

Center for Clean Air Policy
www.ccap.org

Center for Neighborhood Technology
www.cnt.org/

Chicago Climate Exchange
www.chicagoclimatex.com

Clean Cities
www.eere.energy.gov/cleancities/

Cool Cities
http://coolcities.us/

Cool Counties
www.kingcounty.gov/exec/coolcounties

County Executives of America
www.countyexecutives.org/

Demand Response and Advanced Metering Coalition
www.dramcoalition.org

Department of Energy – Office of Electricity Delivery and Energy Reliability
www.oe.energy.gov/climate.htm

Department of Energy – Office of Energy Efficiency and Renewable Energy
www.eere.energy.gov

Department of Energy – Renewable Energy Production Incentive
www.eere.energy.gov/repi/

Department of Energy – Solar America Cities program
www.eere.energy.gov/solar/solar_america/

Department of Energy – Wind Powering America program
http://www.eere.energy.gov/windandhydro/windpoweringamerica/

Department of Interior / Forest Service – Land and Water Conservation
www.nps.gov/lwcf or www.fs.fed.us/land/staff/LWCF/

Energy Information Administration
www.eia.doe.gov

Environmental and Energy Study Institute
www.eesi.org

Environmental Protection Agency – Brownfields Cleanup and Land Revitalization Office
www.epa.gov/brownfields

Environmental Protection Agency – Climate Protection Division
www.epa.gov/cppd/

Environmental Protection Agency – Landfill Methane Outreach Program
www.epa.gov/lmop/

Environmental Protection Agency – Smart Growth Office
www.epa.gov/smartgrowth

Federal Emergency Management Agency – Pre-Disaster Mitigation Program
www.fema.gov/government/grant/pdm/index.shtm

Forest Service – Urban and Community Forestry program
www.fs.fed.us/ucf/

Green for All
www.greenforall.org

Green Roofs for Healthy Cities
www.greenroofs.org

Green Schools Initiative
www.greenschools.net

Gridwise Alliance
www.gridwise.org

HUD – Integrated Energy Strategy
www.huduser.org/publications/destech/energyefficiency.html

Institute for Local Self Reliance
www.ilsr.org/

International City/County Management Association
http://icma.org/main/sc.asp

Local Government Greenhouse Gas Emissions Protocol
www.icleiusa.org/protocol

Local Governments Green Jobs Pledge
www.usgreenjobspledge.org

Low Impact Development Center
www.lowimpactdevelopment.org

Mayors Climate Protection Center

www.usmayors.org/climateprotection/

National Association of Clean Air Agencies
www.4cleanair.org

National Association of Counties
www.naco.org/

National Association of Regional Councils
www.narc.org

National League of Cities
www.nlc.org/

National Oceanographic and Atmospheric Administration – Climate Program Office
www.climate.noaa.gov

National Oceanographic and Atmospheric Administration – Coastal Zone program
http://oceanservice.noaa.gov/topics/coasts/management/welcome.html

National Renewable Energy Laboratory
www.nrel.gov

Natural Resources Defense Council
www.nrdc.org/globalwarming

National Rural Electric Cooperative Association
www.nreca.org

Reconnecting America
www.reconnectingamerica.org

Smart Growth America
www.smartgrowthamerica.org

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