

“Who’s Getting on the Sustainability Train and Why?”

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When considering the extent to which local governments are taking actions to advance sustainability, it is useful to briefly consider two questions at the outset: what is sustainability and why should it be considered at the local level of government? In 1987, the United Nations Brundtland Commission offered the following definition: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” This is echoed by ICMA (2007), which notes that for communities pursuing sustainability the focus is on “development [that improves] quality of life, making a place more livable without harming the environment or creating financial burdens for future residents” (p. 1). Sustainability has classically referred to the three e’s: environment, economy, and social equity. Both the UN and ICMA reflect these elements in their considerations of sustainability; they resonate with the belief that economic development and environmental stewardship are not dichotomous opposites and they can work together to positively impact social equity on both global and local scales.

Though sustainable development is a global concern, there are many reasons it is pursued extensively at the local level. First, as is well known, there is no international consensus regarding what should be done to address environmental issues. Though the environmental impact of the United States is admittedly large, it has not signed on to any international agreement to reduce its footprint. In the absence of leadership at the national level, cities have emerged as both innovators pursuing broadly based environmental goals and efficient utilizers of the reduced resources available to them as they seek to decrease their own energy consumption. Local executives are clearly aware of the importance of the impact they can make as over 1,000 mayors have signed on to the U.S. Conference of Mayor’s Climate Protection Agreement, in which signatories commit to pursuing Kyoto Protocol standards in their communities. (United States Conference of Mayors, n.d.) Geary (2011), writing for the National League of Cities, further comments: “...local officials across the country are providing leadership and advancing economic strategies that incorporate environmental stewardship” (p. 1).

Pursuing sustainability at the local level also makes sense in terms of scope; the policies applied at this level significantly impact a number of locally relevant areas, including local transportation, housing, water, and energy consumption. Because of their concentrated populations, the activities that occur in cities have a significant environmental ramification, which further motivates action at the municipal level. Additionally, Konisky (2011) suggests that citizens desire that the level of leadership and responsibility for a particular policy area be reflective of the level of control the jurisdiction has over related issues. Air quality, water quality, transportation issues, waste issues, and housing issues seem to primarily be experienced by individuals at the local level which may indicate that it is particularly well suited to address concerns in these areas; this is not to minimize or dismiss the importance of federal and state regulation to ensure that a consistent level of environmental protections are enforced, but it is to say that individual citizens might seek stronger and more apparent leadership from their local government in this particular area. Although Young (2002) points out that typical governmental jurisdictions rarely encompass all of the people impacted by decisions they make, the local level is the most broad and consistent level at which decisions about sustainability might be made and evaluated, as Portney (2003) notes.

It is clear that efforts to promote sustainability have become more important in local governments in the United States, with ICMA commenting that “Sustainability is a familiar concept to local government professionals, many of whom trace its roots to the values and considerations inherent in the practice of community planning...” (2007, p. 1). However, the extent to which sustainability is being pursued, the kinds of actions taken, and the reasons for pursuing them are not so clear. There appears to be broad variation in what sustainability efforts look like in practice, intent, implementation, and outcome. ICMA notes that: “For all the strong support for the broad principles, developing a consensus about what sustainability really means on the ground and how to reach agreement among community members with conflicting or competing goals can be something else altogether” (p. 1). The rate of adoption and the patterns of diffusion of local sustainability policies vary widely. An in-depth analysis of the variation in adoption levels must accompany an explanation of why extensive sustainability actions have been taken by some local governments while others lag significantly behind what a typical curve might suggest should be occurring.

Local government sustainability programs can be viewed in different ways depending on the scope of the program. As noted above, classic definitions of sustainability have focused on the three "e's": environment, economy, and social equity. ICMA (2007) extends this: “ICMA further defines the concept [of sustainability] as central to the professional management of local government, with four interdependent elements: balancing environmental stewardship, economic development, social equity, and financial and organizational viability” (p. 2). This view of sustainability presumes that balance can be achieved among the goals of promoting economic change within communities that enhances environmental quality and benefits all segments of society. Sustainability defined in this way requires a broad range of actions in which all levels of government, all sectors of the economy, and all citizens must participate. City and county governments are well positioned to make a significant contribution to this effort for several reasons: they are directly involved in providing or regulating many of the human activities that affect resource use, such as transportation, building construction, and land use; they are actively involved in efforts to promote economic development; and they provide services that help to determine whether persons from all economic levels and all racial and ethnic groups are protected and included. Whether, and how, all three classic aspects of sustainability are pursued, however, is a question that must be answered.

The impact of sustainability programs in local communities differs. Some activities produce benefits to the locality in the form of reduced costs of energy or reduced commuting times. Sustainability may be justified for its positive impact on improving the economy (Geary 2011). Other activities have broader benefits that may help society as a whole but do not produce immediate or visible advantages for the government carrying out the activities, such as reducing greenhouse gases or improving quality of air or water for persons living downwind or downstream. In addition, some activities may affect the population generally within a jurisdiction and others may be targeted to particular groups with special needs. Consequently, the perspectives on why a sustainability program should be pursued differ widely. To some supporters, these programs are altruistic efforts to address a shared problem or advance a shared goal. An alternative view is that a commitment to sustainability can strengthen local economies and provide benefits to the jurisdiction. ICMA (2007) notes both smart growth and conservation as two specific frames different localities have used for pursuing sustainability. Mixed motivations are possible as well in two respects. Some local governments may explicitly seek to advance both local and broader goals, whereas others may pursue sustainability policies but address political opposition by stressing local benefits even though the potential positive impacts of actions they are taking extend beyond the boundaries of the community.

Our analysis of the extent and kinds of sustainability practices that local governments have adopted is based on the ICMA *Local Government Sustainability Policies and Programs* survey conducted

in 2010. This was a major effort undertaken to examine what local governments have done so far to address the sustainability challenge and how they work with citizens as partners to advance shared goals and change behaviors to advance sustainability.¹ The survey and additional data collected on the participating local governments covered 110 specific practices that the government might have adopted as well as steps that may have been taken to plan and organize their sustainability effort.

There are three areas of focus in the discussion. First, we begin with an examination of what kinds of actions cities have taken as they get on the sustainability train. The actions included in the ICMA survey have been grouped into twelve activity areas, and each will be analyzed to determine the extent and range of adoption of activities in each area. Activities will be differentiated based on the nature of the benefit associated with the activity. The second focus considers which localities choose to get more actively involved in promoting sustainability overall. At the present time, the characteristics of form of government, type of government, population size, and region have been examined. In the future, socio-economic and political variables will be added to the analysis. The third question is why governments get involved in sustainability. The indicator considered for this analysis is the perceived level of priority assigned to a number of policy issues related to sustainability. Are there differences in the number and kind of activities taken based on which policies issues are considered to be important, and do these differences help to clarify the policy orientations that reinforce or obstruct a commitment to sustainability? The assessment of motivations may help to clarify why certain activities are adopted less frequently.

Other studies have provided an overview of the survey results (Svara 2011; Svara, Read and Moulder, 2011). There have been some leaders in developing and adopting broad-ranging sustainability strategies at the local level, but most local governments have been slow to adopt most of the practices. The range of activities undertaken by the typical government is limited and many focus on benefits to the locality itself. Furthermore, only three local governments in ten have set sustainability goals and even fewer have established targets for their activities.

What local governments are doing to advance sustainability

The ICMA survey reported on in this article includes specific indicators—policies, programs, and activities that local governments can take to advance sustainability—that were drawn from a number of sources.² A comprehensive set of 160 indicators was developed by the Alliance for Innovation and field tested by local governments in the Sustainability Cities Network of the Global Institute on Sustainability at Arizona State University. From that set, 109 indicators were included in the ICMA survey. Subsequently, information about completion of LEED certified government buildings was added to the dataset. The activities were chosen intentionally to cover commonly used techniques as well as rarely used practices. The specific activities have been grouped into twelve areas by their purpose and the percentage of activities adopted by the local government is the indicator of the level of commitment. The overall adoption rating is the indicator used most commonly in this presentation to capture both the amount of activity and the spread of activity across the major areas. It is the average rate of adoption for each of the twelve areas combined and ranges from zero to 100.³ The list of areas and average ratings rank ordered are presented in Table 1.

Table 1. Major Sustainability Activity Areas

Major activity areas	Average percent of activities used
Overall adoption rating across all activity areas	18
Recycling	33
Water conservation	28
Transportation improvements	22
Energy use in transportation and exterior lighting	22
Social inclusion	21
Reducing building energy use	19
Local production and green purchasing	18
Land conservation and development rights	15
Greenhouse gas reduction and air quality	12
Building and land use regulations	12
Workplace alternatives to reduce commuting	8
Alternative energy generation	7

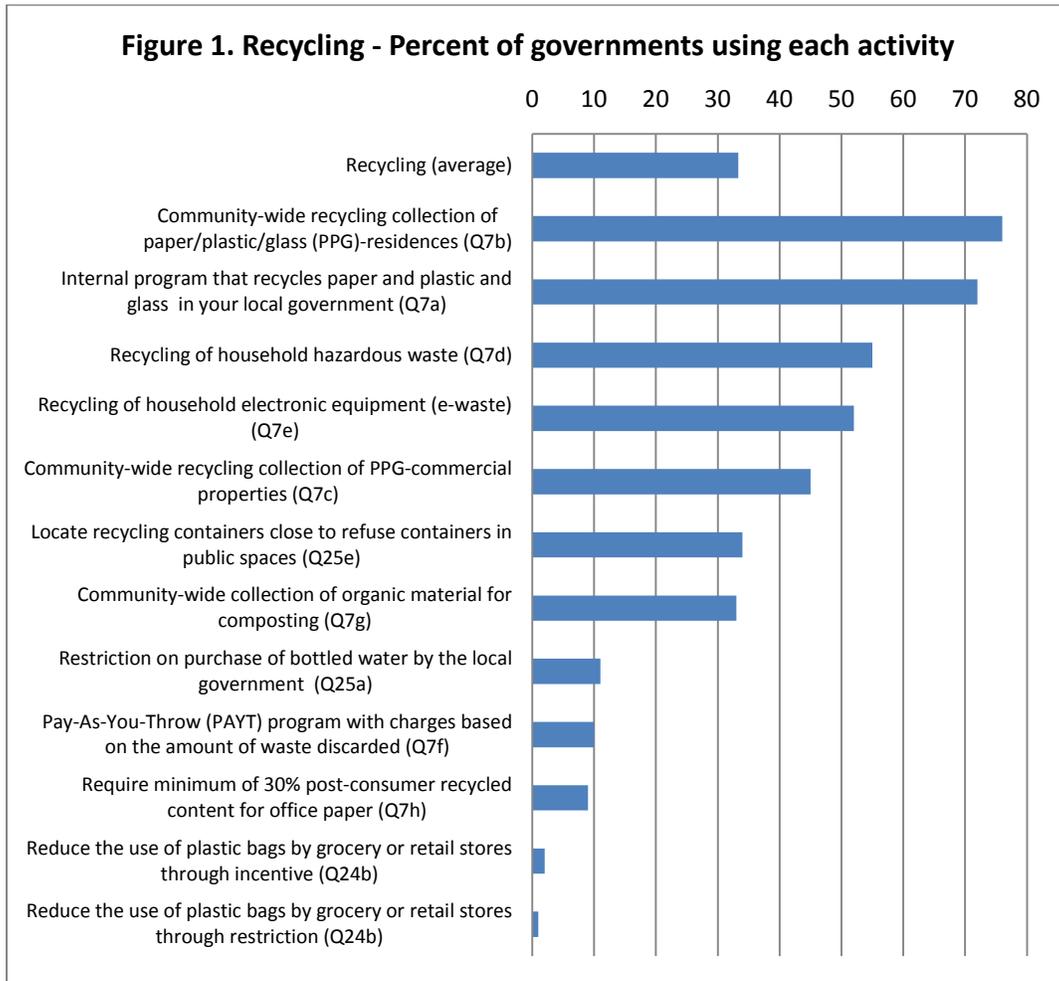
The overall activity rating for all the responding governments is 18.1. Most governments are found toward the low end on the rating scale, and 60 percent have a rate of adoption that is below the average for all the responding governments. On the other hand, some governments are undertaking a large number and wide range of sustainability activities with ratings reaching a high of 78.

Each activity area is presented with its component indicators in the following twelve figures. The graphs use the same scale to make it easier to compare the relative level of adoption within and across each area.

Recycling

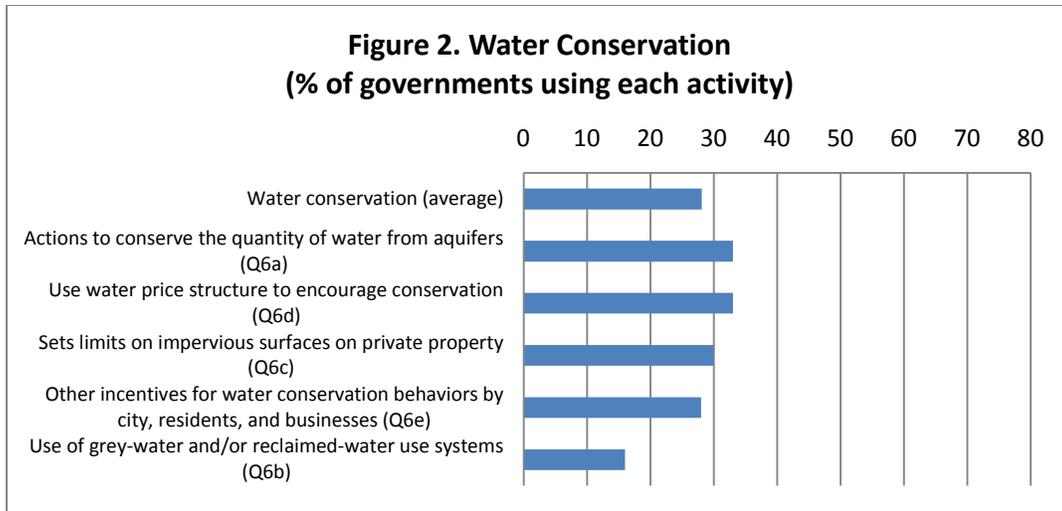
The most commonly adopted area of sustainability actions is recycling. Recycling is important to sustainability because it reduces the amount of land that must be devoted to landfills, eliminates hazardous materials from the waste stream, and recovers resources for reuse. As indicated in Figure 1, a majority of governments have community-wide residential collections of recyclable materials, internal collection, and offers recycling of hazardous materials and e-waste. A third or more provide commercial recycling, co-location of trash and recycling containers, and collection of compostable materials. Other methods of promoting recycling directly and indirectly are still uncommon. For this area, there has been a long period of building up use of recycling methods, but some methods are still rarely used. Although it seems conventional now, recycling was once dismissed as a noble goal that the public would never support. As Hopper and Nielsen (1991) note, recycling was seen as costly and burdensome to individual residents. As pressure to find alternatives to landfills increased, cities worked to set up recycling centers, but residents still had to sort and transport their recyclables to them. The incentive for the individual to participate was very small, and many studies pointed to altruism as the main motivator for those who did recycle. Over time, cities made the act of recycling second nature, particularly by improving the simplicity of the process and ease of accessibility for individual residents through residential collections. As it became more simple, residents no longer needed an altruistic commitment to the greater good in

order to participate. It is possible that recycling will be a model that other areas of sustainability will follow in time.



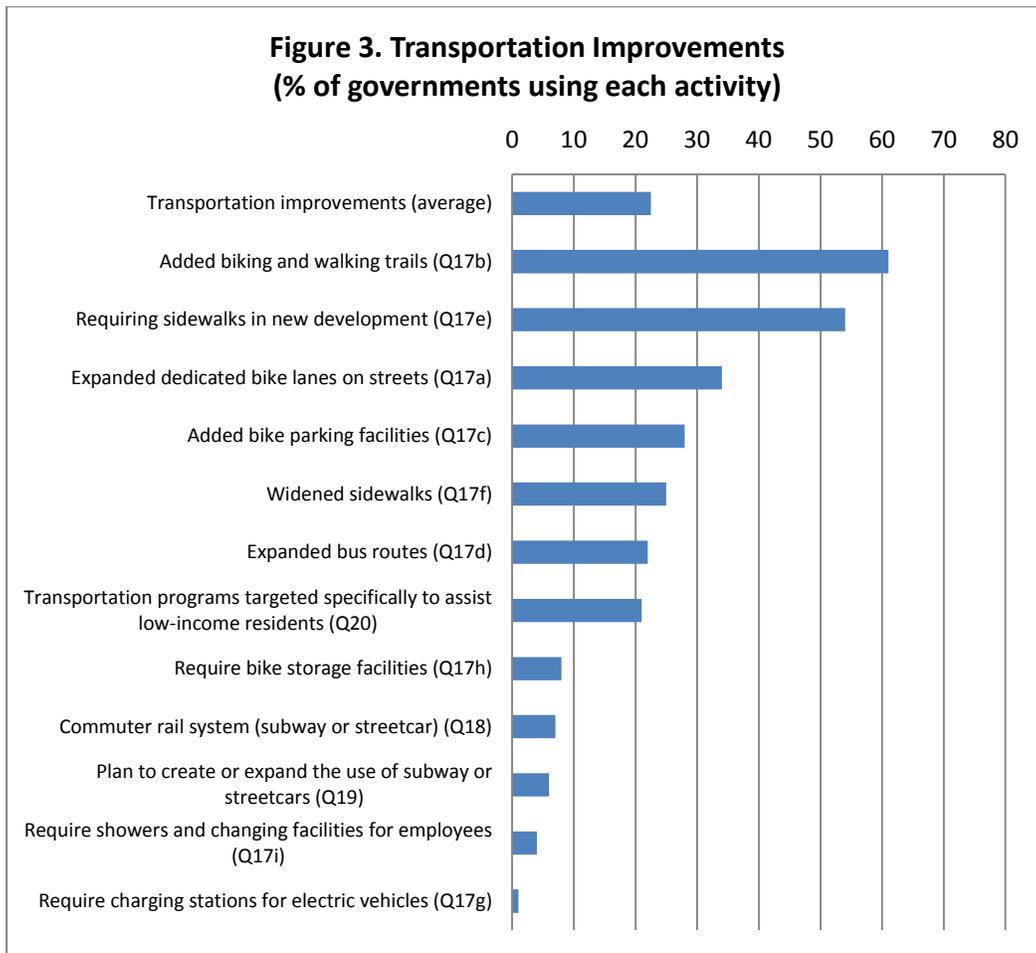
Water Conservation

A cluster of activities is generally used by approximately three out of ten local governments to promote the conservation and quality of water resources, as indicated in Figure 2. These are conserving the quantity of water in aquifers, using water pricing to encourage conservation, setting limits on impervious surfaces on private property to reduce runoff, and other incentives for water conservation behaviors by city, residents, and businesses. Only half as many local governments have started using grey-water and/or reclaimed-water use systems to expand water supply.



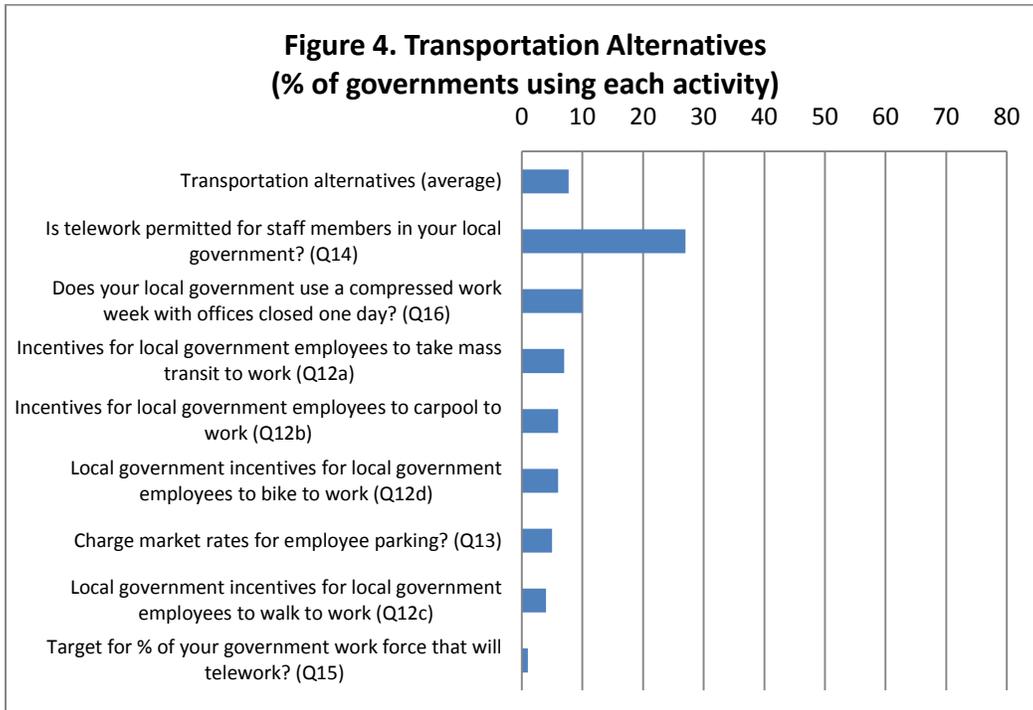
Transportation Improvements

Among a range of methods to improve and diversify transportation options in the local government, most of the adoptions expanded bicycling and walking, as indicated in Figure 3. One local government in five expanded bus routes or provide transportation programs targeted at low-income groups. Other transportation improvements, however, are rarely adopted.



Transportation Alternatives

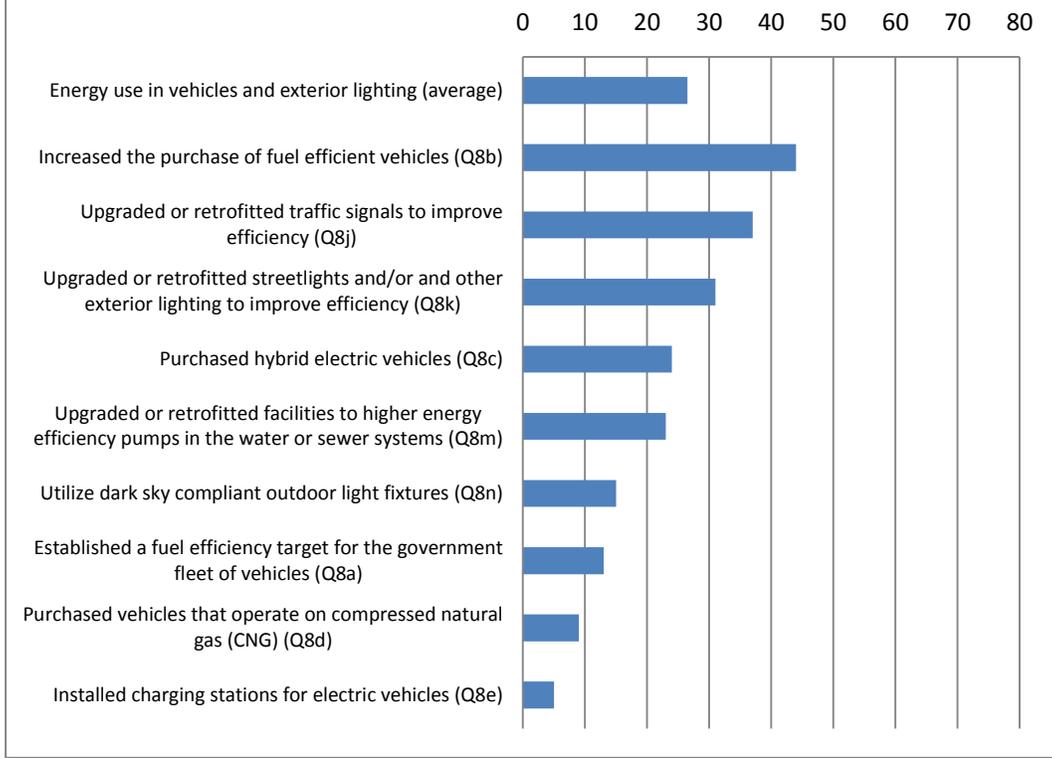
Whereas certain transportation improvements are widely adopted for community benefit, (as described above), there is little provision of alternatives to traveling by car to worksites for government employees. As indicated in Figure 4, working from home or another location with an electronic connection to the office is permitted by only one government in four, and the other alternatives to change the mode of transportation or commuting patterns are still rarely used.



Energy in Vehicles and Lighting

A large proportion of local governments (44percent) have taken the step of purchasing vehicles that are fuel efficient. This action has clear and immediately tangible benefits in the form of upfront cost-savings, particularly as gas costs continue to be unstable. 37percent have taken the step of improving their traffic signals so that greater efficiency is achieved, and 31percent have upgraded their streetlights. These actions may also be somewhat easily justified through cost-savings. Fewer of the responding cities and counties have taken the more extensive actions of supporting hybrid vehicle purchase (24percent) or upgrading their sewage pumps (23percent), though these would seemingly also be justified through efficiency and cost-saving arguments. Hardly any of them had established fuel efficiency goals or chosen to use dark-sky compliant lighting. Supporting electric vehicle recharging is still an undeveloped activity.

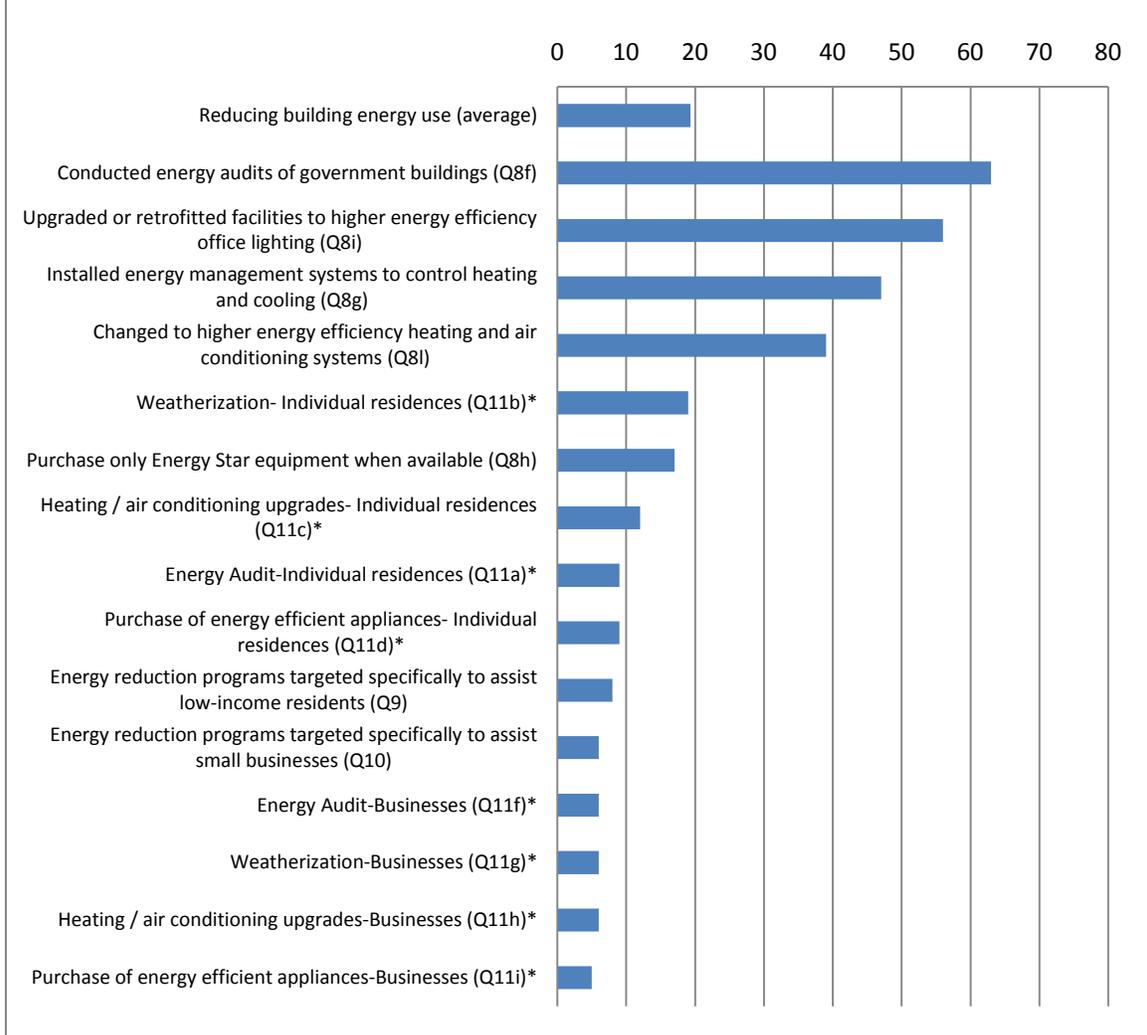
**Figure 5. Energy in Vehicles and Lighting
(% of governments using each activity)**



Energy in Buildings

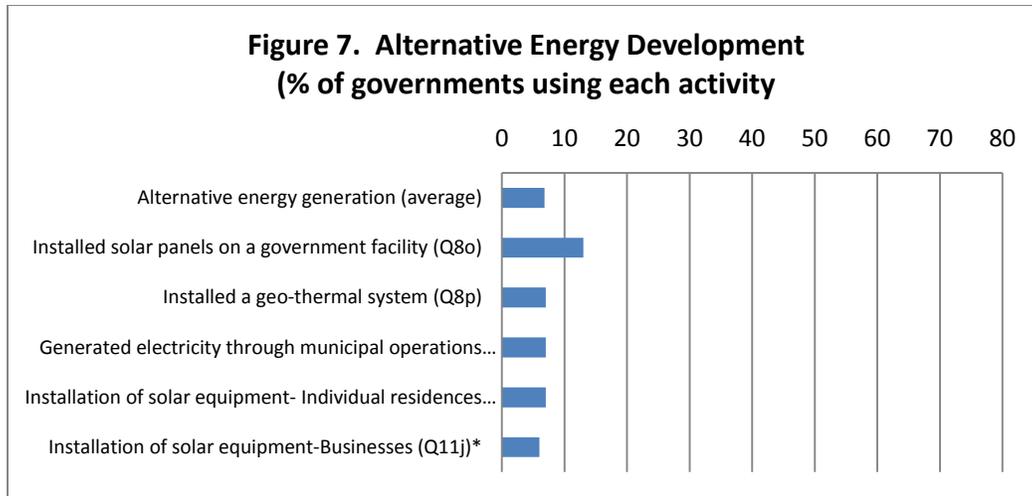
Encouragingly, 63percent of the respondents have conducted an energy audit of government buildings, which seems to correspond to a high level of interest in both retrofitting lighting and more efficiently managing internal energy consumption. However, only 9percent offer energy audit services for individual residences and the same number of respondents offer assistance to individual residences in order to facilitate the purchase of energy efficient appliances. Only 6percent offer energy audit services for local businesses, with 5percent offering assistance for the purchase of energy efficient appliances for this sector.

**Figure 6. Reducing Energy Use in Buildings
(% of governments using each activity)**



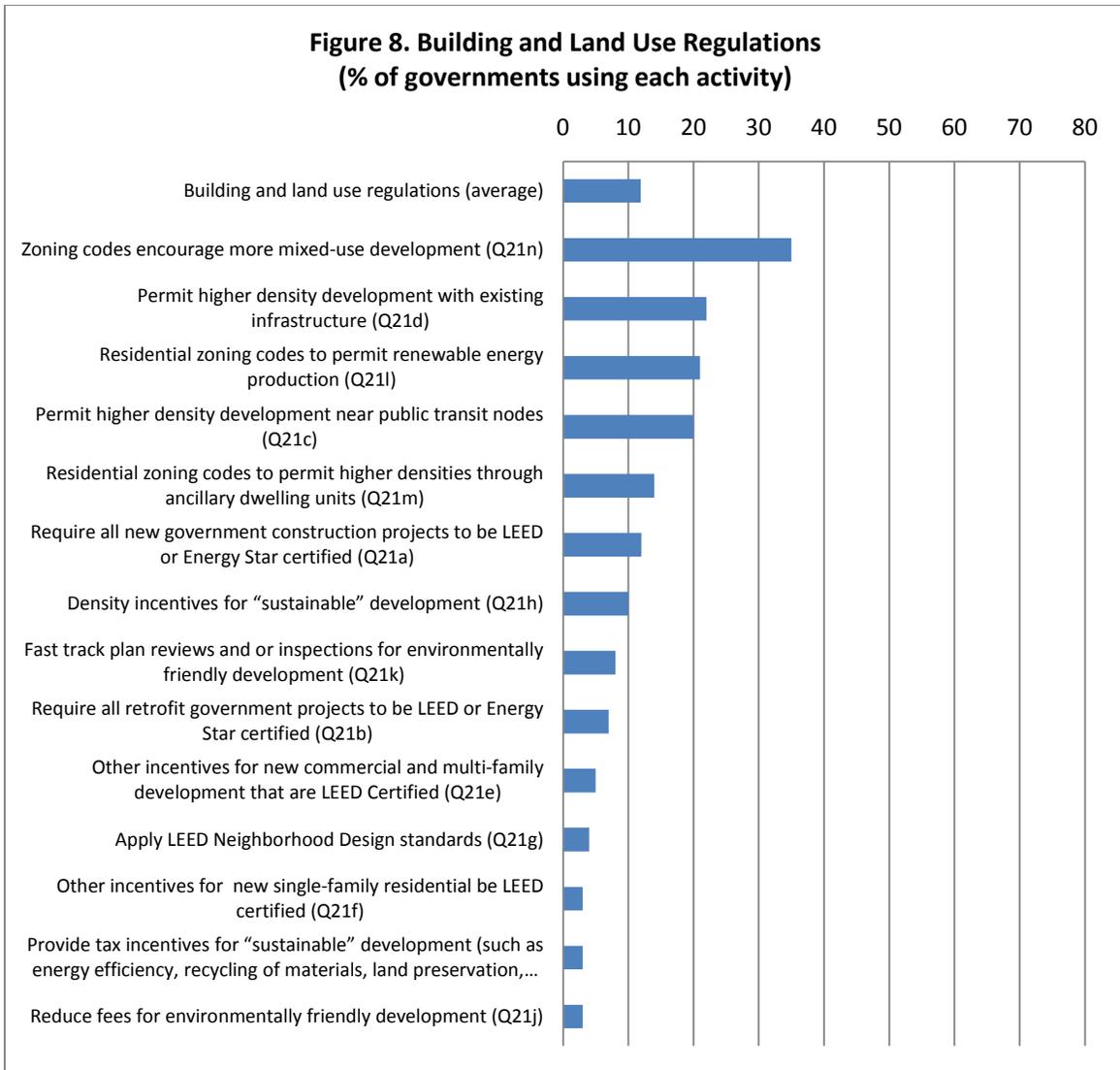
Alternative Energy

It is clear that alternative energy usage and development is pursued by only the most motivated cities in this sample. Only 13percent of cities had installed solar panels on government facilities, and this was the most pursued activity. Less than 10percent of respondents offer assistance to facilitate alternative energy usage for businesses, and the same number had pursued geothermal energy usage for government facilities or the development of other alternative energy creation.



Building and Land Use Regulations

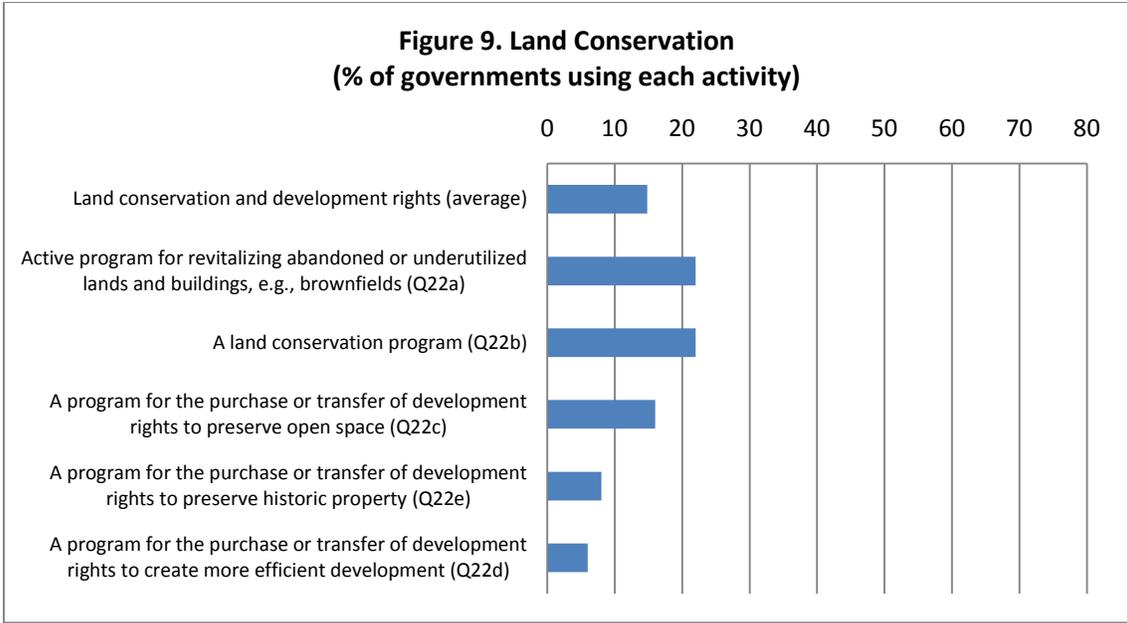
Zborel (2011), writing for the National League of Cities, notes that: “Nearly all stages of construction, operation and eventual disposal of buildings present significant financial investments and opportunities for savings. Employing green building principles during new construction or through retrofitting existing buildings can significantly reduce operating costs while increasing the overall property value” (p. 6). Whether and how sustainability opportunities related to building development are being pursued is considered in the figure below. Over one third of the respondents have zoning codes that encourage mixed-use development, but the usage of regulations to pursue sustainability goals drops off sharply from this high point. About 20 percent of respondents permit higher density development in existing infrastructure or by an existing transportation node. Only 3 percent of respondents have reduced fees or tax incentives for environmentally friendly development, which is clearly a missed opportunity to encourage green economy in the locality. Only 12 percent require new government construction to be LEED or Energy Star certified, with even fewer requiring this certification for government retrofits.



Review of records of the U.S. Green Building Council reveals that 8 percent of the responding governments have a LEED certified government building.⁴ Among governments that have set a requirement to meet certification standards for their new buildings, 30 percent have a certified structure compared to only 5 percent for governments that have not set this requirement.

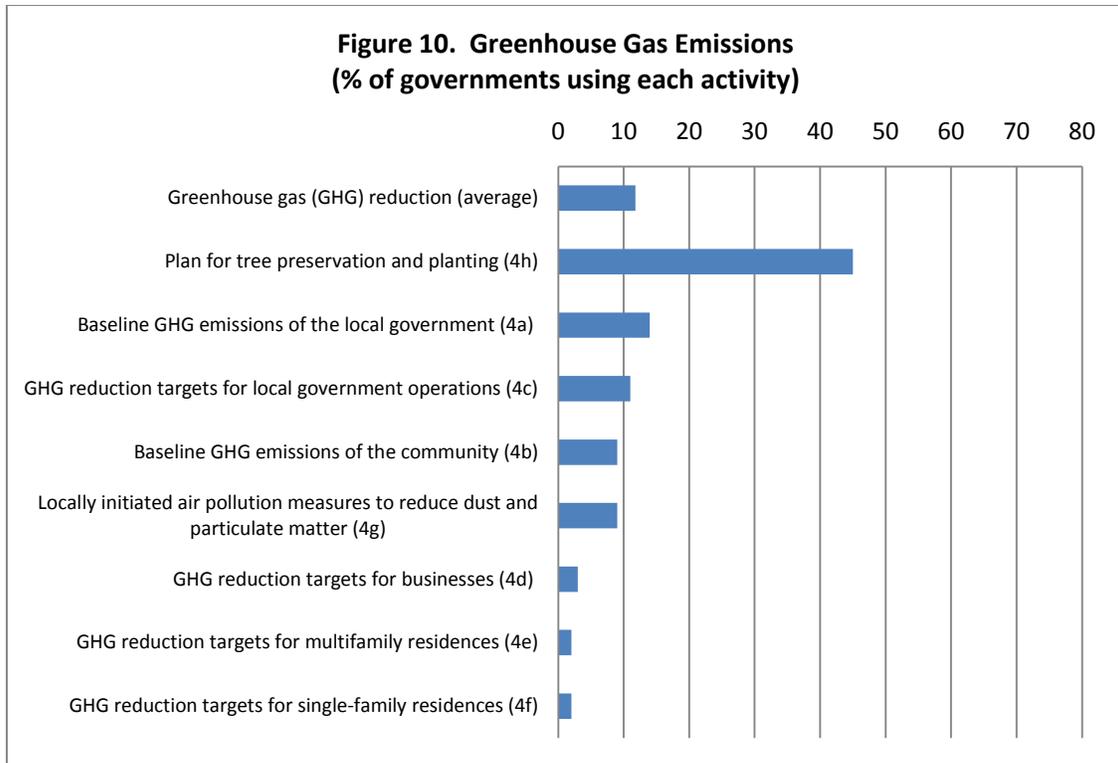
Land Conservation

Land conservation is evidently not a priority for the majority of the survey respondents. Less than 25 percent of the respondents have a land conservation program or an active program for revitalizing underutilized facilities, and only one in six have a program for the purchase or transfer for development rights to preserve open space. Even fewer have have a similar program to preserve historic property or to acquire development rights to create more efficient development.



Greenhouse Gas Reduction

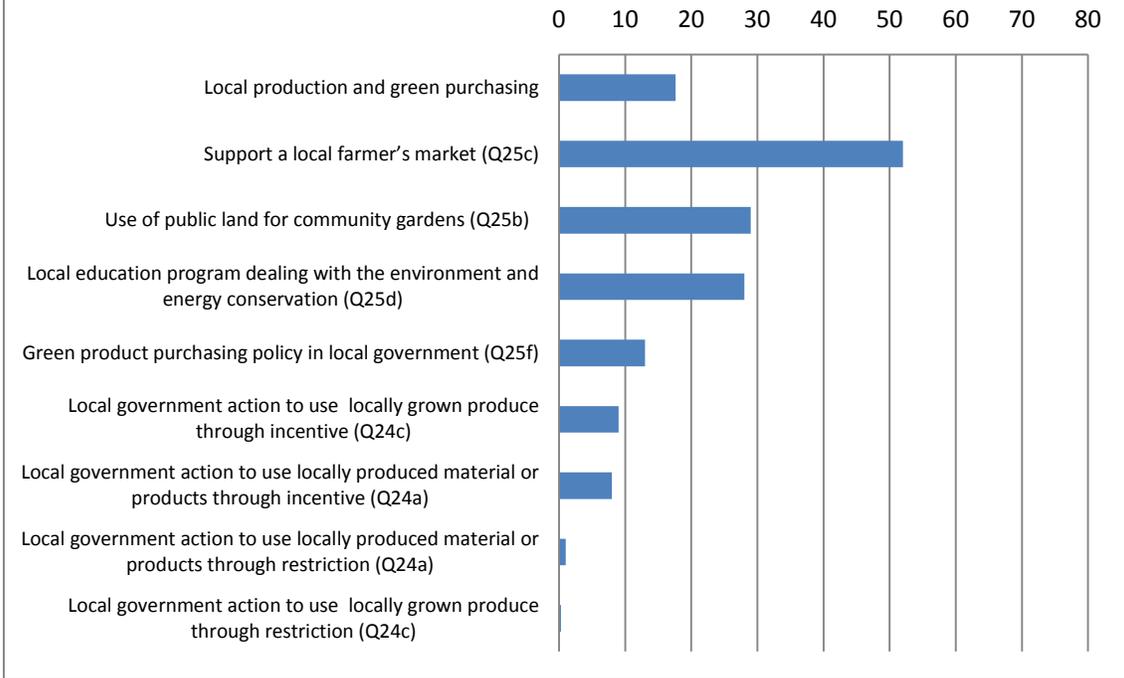
By far, the most commonly undertaken activity in the category of greenhouse gas emission reduction is a program for tree planting and preservation, with 45 percent of local government respondents pursuing this option. It is possible that such programs are part of beautification or landscaping projects. With regard to measures explicitly related to greenhouse gases, only 14 percent of respondents have determined their baseline GHG emissions, with 11 percent establishing reduction targets for local operations. 9 percent have determined reduction targets for the community at large, with 6 percent establishing targets for businesses and 2 percent establishing targets for single and multi-family residences.



Local Purchase

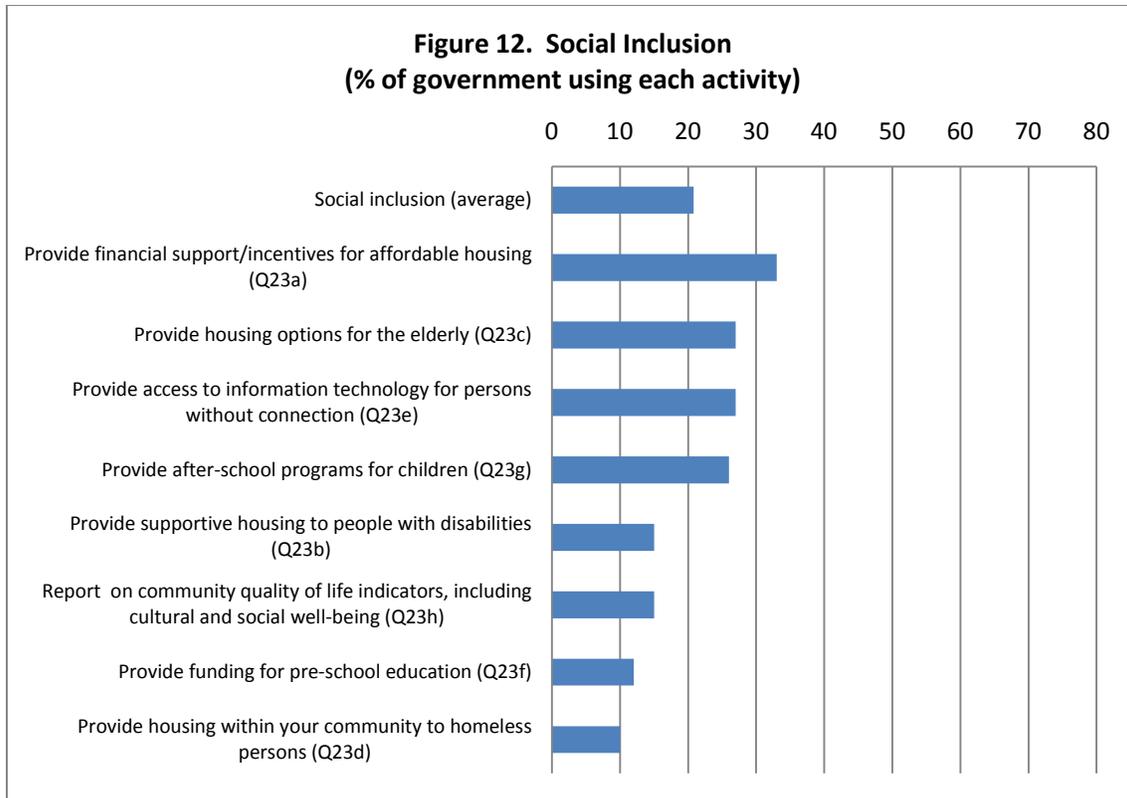
Over half of respondents indicated they offer support for local farmers’ markets. Like recycling and tree planting, this may be a longstanding commitment by many local governments rather than an action taken in response to the sustainability movement. On the other hand, community gardening seems to be a “new” idea, and three local governments in ten are now engaging in it. About the same proportion offer community education regarding the local environment and energy conservation. However, only 13 percent of responding governments have an internal green purchasing policy, and less than 10 percent use either incentive or restriction to encourage use of locally sourced materials.

**Figure 11. Local Production and Purchasing
(% of governments using each activity)**



Social Inclusion

In considering social inclusion, this survey asked questions about housing, access to technology, and education options for low-income individuals in the city. Over 30 percent of responding local governments provide support or incentives for affordable housing, while 27 percent provide options for the elderly. 27 percent also provide access to technology for those who do not have it and about the same amount offer after school programs for children. 12 percent provide some sort of early preschool funding support. Only 15 percent provide supportive housing to people with disabilities, and only 10 percent provide some sort of housing for homeless persons.



Summing up the activities: Glass still empty or starting to fill up?

This extended review of the general patterns and specific choices of actions reinforces the view that most governments are slow to commit to sustainability and are using only a small range of possible approaches. As noted, some of the most commonly used practices may be longstanding and adopted for reasons other than a commitment to sustainability. Such activities are important as part of an integrated sustainability strategy, but they do not necessarily indicate a current commitment to promote sustainability. This interpretation is reinforced by the typical lack of an overall sustainability program. Less than three the governments have set goals, and only 19 percent have set targets.

Another indication of an explicit commitment to promote sustainability is joining a national or international campaign. In 2005, the U.S. Conference of Mayors endorsed the Mayors Climate Protection Agreement.⁵ To reduce global warming pollution levels, the agreement urges action on the national and local government levels. Among the city governments responding to ICMA's sustainability survey, 281 (13 percent) have adopted the agreement.⁶ (Virtually no counties have signed it.) The signees have an overall sustainability rating of 30 compared to 18 for all governments (Svara 2011). An association that local governments can join is ICLEI—Local Governments for Sustainability (formerly, the Council for Local Environmental Initiatives) with over 1,200 local government members internationally.⁷ ICLEI members become part of the Cities for Climate Protection (CCP) campaign by passing a resolution to reduce greenhouse gas (GHG) emissions from their local government operations and throughout their communities by undertaking specific actions.⁸ Over 600 local governments in the United States are ICLEI members. Among governments responding to the ICMA survey, 10 percent are members. The signees have an overall sustainability rating of 34 (Svara 2011).

It appears that up to a quarter of the local governments have gotten on the sustainability train for the long haul with the intent of traveling to an explicitly chosen destination. Even these

governments could do much more but they are exploring a fairly wide range of options. The remaining local governments are adopting some prominent actions or identifying existing practices that are related to sustainability. In effect, they stay on the train for a few stops but have not yet committed to making the journey.

Who Is Adopting Sustainability Activities?

Earlier analysis of the ICMA Sustainability Survey results has shown that three factors are associated with differences in the overall level of sustainability action—form of government, population, and region (Svara 2011). In addition, cities are slightly more active than counties that have an appointed or elected executive. The focus in the present discussion is variation in these patterns of difference for specific action areas.

Form of Government

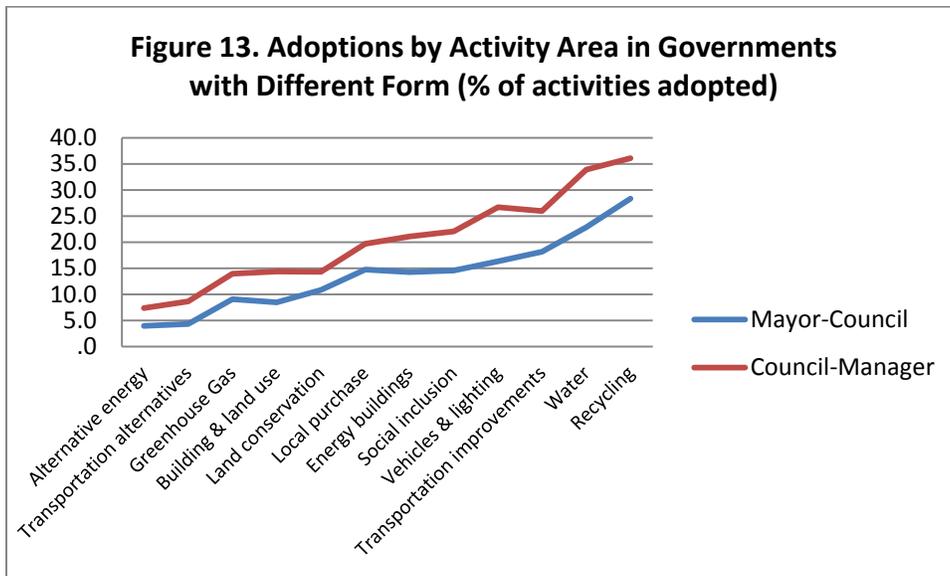
Council-manager cities have a track record of earlier and more extensive adoption of innovations than mayor-council cities (Kearney, Scavo, and Feldman 2000; Moon and deLeon 2001; Kearney 2005). Although newly elected executives in mayor-council cities are more likely than their counterparts in council-manager cities to initiate policy changes (Wolman, Strate, and Melchior 1996), mayors in council-manager cities who provide visionary and facilitative leadership can strengthen goal setting (Nelson and Svara 2011). Furthermore, city managers provide policy advice and achieve effective implementation. In county governments, change from the traditional commission form to either an elected executive or county administrator form has been associated with expanded services (Benton 2003). The higher adoption of reinventing government and information technology practices in council-manager cities might suggest that city managers focus on innovation in administration and management rather than in policy, but council-manager cities have higher rates of adoption of economic development strategies (Kwon, Berry, and Feiock 2009) and sustainability practices (Svara 2011) than mayor-council cities. With regard to sustainability, Bae and Feiock (2011) argue that there is a stronger internal focus in council-manager cities and a stronger community focus in mayor-council cities, i.e., managers make changes within the administrative arena.⁹ When the activities covered in the ICMA survey were divided by internal (e.g., energy audit of government building) versus community emphasis (density incentives for sustainable development), however, it is demonstrated that council-manager cities and counties are conducting more activities than the governments with elected executives of both the internal and community types, as indicated in Table 2.

Table 2. Form of Government and Number of Sustainability Activities Adopted

	Internal activities	Community activities	Total activities	Number
Mayor-Council	4.6	12.8	17.5	606
County Executive	5.9	14.3	20.2	74
Council-Manager	7.3	18.4	25.7	1164
County Administrator	7.5	16.9	24.4	228
Total	6.5	16.4	22.9	2172

The difference is not as great in counties, but the council-manager governments are doing more in this setting as well.¹⁰

Given the overall difference in the extent of sustainability policy adoptions whether internally or externally focused, it is possible that governments may differ in the activity areas that they emphasize. Figure 13 compares the percentage of practices in each activity area adopted with governments separated by form of government. The twelve activity areas are ordered by increasing frequency of adoptions.



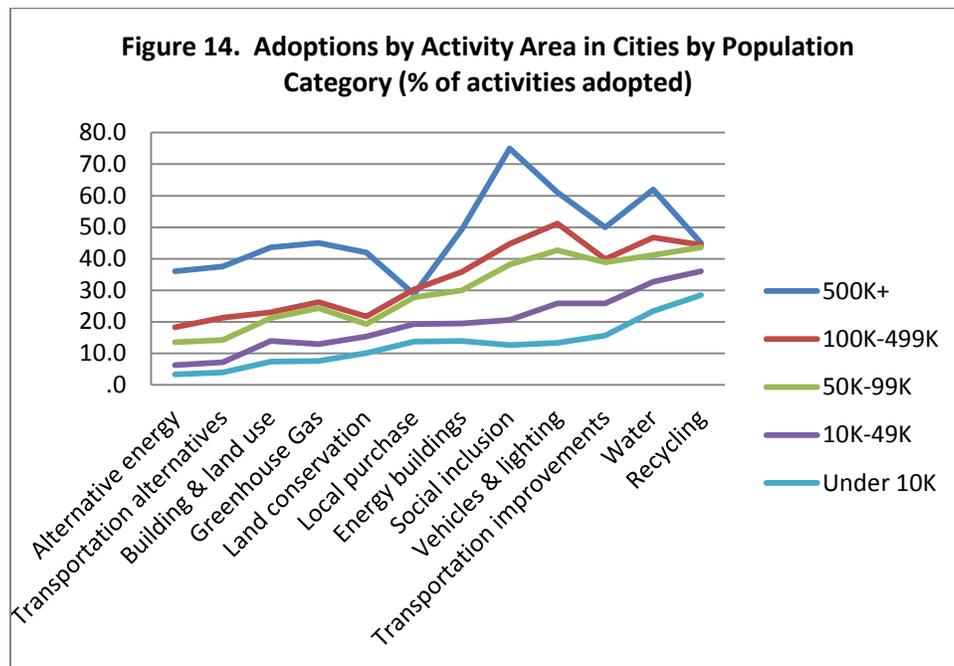
The gap between council-manager and mayor-council governments in cities and counties is fairly uniform across the twelve areas. This indicates that different forms of government do not specialize in different areas of sustainability.

Population Size

Population size is an important determinant of the scope of sustainability activity, as it is of adoption of innovation generally (Kearney 2005). A majority of governments of all sizes have a

sustainability approach that combines the following: recycling in government and in the community; and expanded opportunities for cycling and walking. ; and. Larger governments (over 50,000 population) do more, but their additional activities are typically limited to more recycling; measures to reduce energy use in government buildings, vehicles, and facilities; increasing traffic signal efficiency; dedicated bike lanes and requiring sidewalks; support for affordable housing; tree preservation and planting;purchasing hybrid vehicles; and support of farmers’ markets. A majority of governments over 500,000 in population have initiated over twenty additional activities. (For a breakdown of activities by population size, see Appendix 1.)

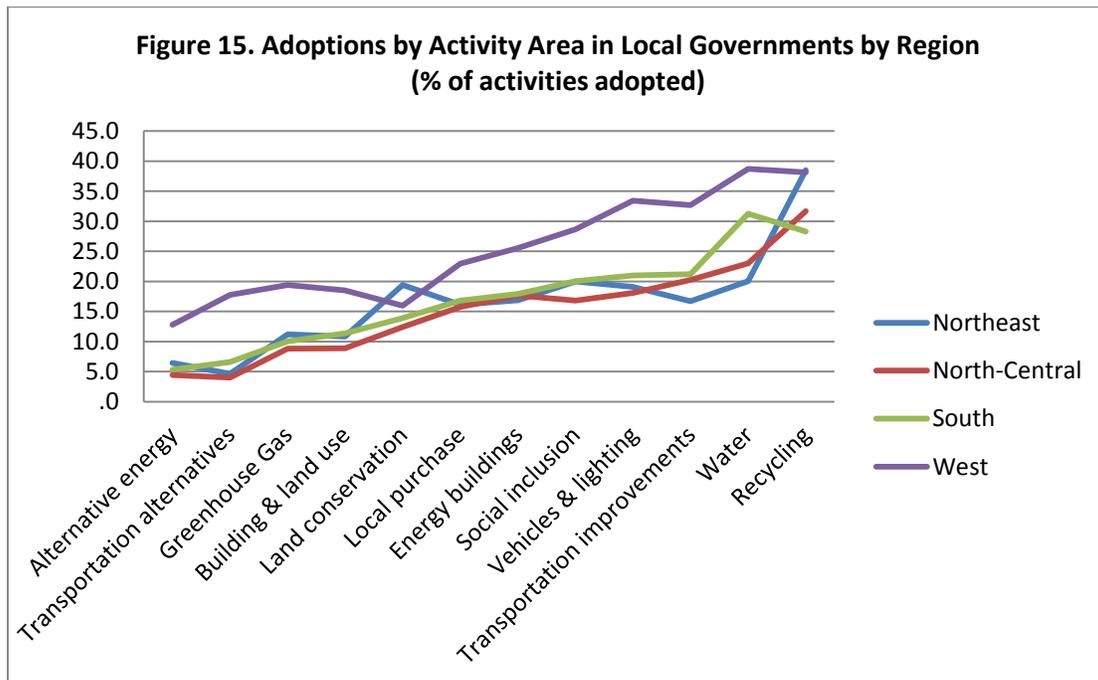
The percentage of activities in each sustainability area that have been adopted typically increases with higher population. Figure 14 highlights the percentage of practices in each activity area that are adopted by cities in five size categories. Generally larger cities do more but there are exceptions in the the strong co-variation between population size and the extent of adoption of sustainability practices. Still, there are notable exceptions.



First, very large cities are not more likely than large and medium-sized cities to emphasize local production and purchasing, in particular community gardens and farmer’s markets. The advantage in very large cities compared to the next two categories shrinks in the areas of vehicles/lighting and transportation improvements and disappears in the extent of recycling activity. On the other hand, the very large cities have an unusually great lead over governments of other sized cities in their promotion of social inclusion. The figure also indicates that large and medium-sized cities are very similar in their rates of adopting policy and practices; they have similar adoption rates for most activity areas and identical rates for transportation improvements and recycling. The smaller city categories consistently differ from each other and have lower adoption rates across the board than the cities with populations of 50,000 or greater.

Region

There is much greater involvement in sustainability by local governments in the west than in other regions of the country. The higher levels of activity in the West can be explained in part by natural resource issues such as water scarcity and the need to control air pollution and to handle growing transportation needs. Western cities tend to be larger than those in other regions, and they make more extensive use of council-manager governments.¹¹ As indicated in Figure 15, local governments in the west generally have higher rates of adoption for all but two activity areas, and for many of the other areas, the governments in other regions have similar rates of adoption.

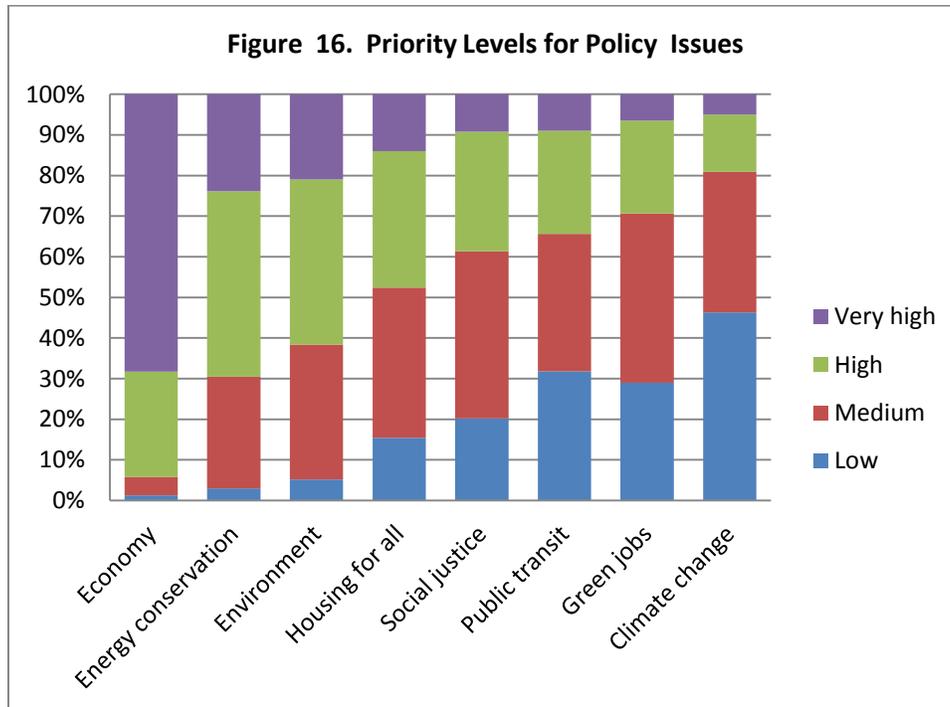


There are exceptions to both generalizations. Northeastern governments rank highest in land conservation activities and match the western rate of recycling. The Southern governments have a higher rate of adoption of activities related to water than those in the Northeast or the Midwest, but the Midwestern governments do somewhat more than those in the South on recycling. Northeastern governments, on the other hand, lag behind on transportation improvement and water.

Why Local Governments Promote Sustainability

The motivations to take actions to advance sustainability presumably relate to concerns about the social, economic, and environmental concerns that underlie the movement. The ICMA Survey measured the priority assigned to eight issues that could be related to sustainability. As indicated in Figure 16, on a scale of low to very high, most local governments—almost seven in ten—assign a very high priority to their economy, and most of the rest make it a high priority. Almost two thirds to half consider energy conservation and the environment to be a high or very high priority. The proportion drops to less than half that assign at least a high priority to housing for all, social justice, public transit, or green jobs.

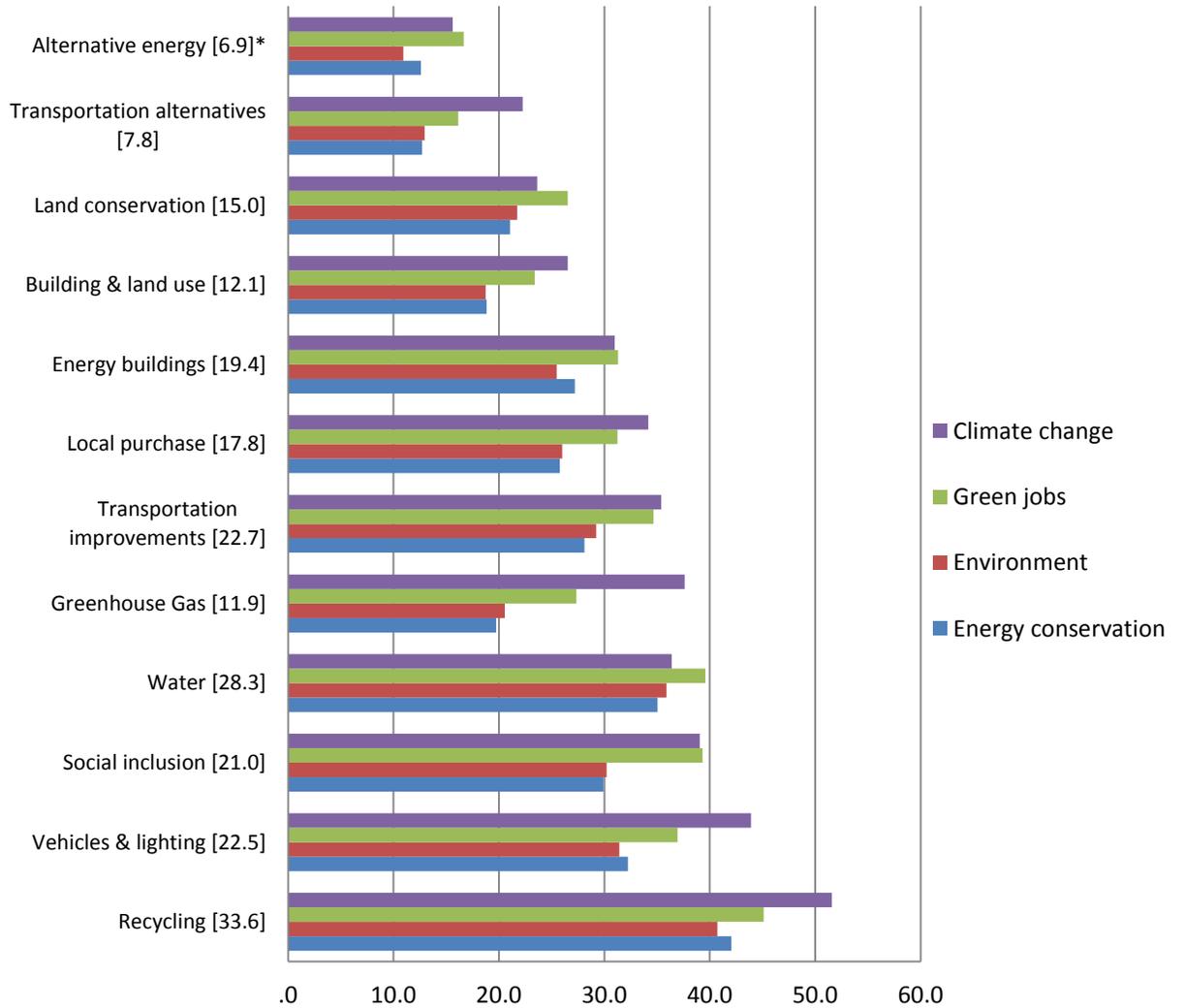
Climate change is a high priority in only one local government in five. Presumably, the “environment” as an issue pertains to the quality of air, water, and land. Climate change, on the other hand, deals with the human impact on the level of greenhouse gases in the atmosphere. Whereas it is protecting the environment is a high or very high priority in over three local governments in five, climate change is assigned this same priority in only one city in five. It is a contested concept that is must less likely to find widespread support at the present time.



The nature of a community’s priorities affects their inclination to take action. There is only a weak relationship between emphasizing the economy and sustainability activity adoptions.¹² In contrast, assigning a higher priority to the environment, energy conservation, green jobs, and climate change are positively linked to the government’s sustainability activity. These issues differ in that two--energy conservation and green jobs--are areas in which the locality can directly benefit from taking action, whereas improving the environment and taking actions to offset climate change may have broad affects but little direct benefit to the government in the short run.

In governments that assign a very high priority to these four issues (the environment, energy conservation, green jobs, and climate change), their activity ratings are above the average level for all governments. As indicated in Figure 17, however, there is a higher level of activity in governments that assign a high priority to green jobs and especially climate control. A strong commitment to climate control is associated with the highest activity ratings for seven of the areas, and a commitment to green jobs accounts for the highest ratings in the other five areas.

Figure 17. Activity Ratings in Governments with VERY HIGH Policy Priority



*Rating for all governments

With regard to actions to reduce greenhouse gas, indicating climate change as a very high priority to has a particularly strong effect. Compared to an average rating of 12percent for all governments, these cities are using 38percent of the available activities.

Thus, it appears that the factor that distinguishes local governments that outstrip others in taking action to promote sustainability is not whether they emphasize policies that directly benefit the community or benefit the greater society. Promoting energy conservation has a direct and immediate benefit to the local government but its impact on the level of sustainability action is similar to improving the environment which has more general and long-term benefits. Similarly, giving a very high priority to green jobs and reversing climate are both associated with the highest level of sustainability action even though they differ in the nature of the benefits provided.

Conclusion

American local governments are taking a tentative and uneven approach to embracing sustainability. The general level of adoption of sustainability measures tends to be low, and most options are not being pursued. Based on actions taken through the year 2010, there are approximately one in six governments who have relatively high scores on the overall sustainability adoption rating, although those governments at the low end of the high group are adopting only 30 percent of the optional practices. This is about the proportion that one would expect of early and high adopters in the population of local governments if sustainability matched the typical pattern of diffusion of innovations. What is unusual is that three governments in five are below average in their adoption of sustainability practices. The late adopters and the laggards represent a super majority that is holding down the extent of commitment for the local government sector as a whole. Additional indicators of limited commitment are the absence in most governments of goals and targets for the sustainability program.

The variation in use of practices from twelve activity areas indicates that experience, control, resources, and the extent of local benefit influence the areas used most. The most commonly used areas are recycling and water conservation—both areas in which local governments have long records of involvement. In these areas, 33 and 28 percent of the activities, respectively, are being used. Still, the use of new practices like the purchase of recycled products or reuse of gray water are usual. Four of the next five areas in frequency of adoption—18-22 percent of the practices are used—are largely controlled by local governments and provide benefits to the local government in the short term. These are transportation improvements, reducing energy use in transportation and exterior lighting, reducing energy use in government buildings, and local production and green purchasing. Local governments benefit from using these practices, and they can be adopted without much public involvement or likely resistance. The final area in this group is social inclusion, which does include practices that potentially general controversy. More research is needed to determine whether the activities adopted in this area are recent decisions taken as part of a comprehensive sustainability plan or rather are longstanding government policies or programs. For the remaining five areas, 15 percent or less of the practices have been adopted. These involve promoting land conservation and development rights, greenhouse gas reduction and air quality, building and land use regulations, workplace alternatives to reduce commuting, and alternative energy generation. Local governments must regulate the behavior of residents or businesses to adopt these activities and in some cases invest substantial resources to provides incentives for change. The exception is promoting alternatives to commuting for government employees that need not be costly or difficult to implement. For these actions to be as rare as installing solar panels suggests that many governments have not explored their options in sufficient depth or have a limited commitment to sustainability.

As research on other examples of the diffusion of innovation, local government with greater governance capacity, more resources, and the example of nearby governments that are inclined to change all increase the likelihood that a local government will adopt more new practices and do so earlier. The presence of a group of early and extensive adopters that not being followed by a larger group that would fill out the early majority suggests that motivational factors are particularly important in developing a broad and coherent commitment to sustainability. There is a substantial boost in sustainability action that is linked to higher support for addressing issues related to sustainability—protecting the environment, economizing on the use of energy, promoting green jobs, and reversing climate change. Whereas the lower and the slower adopters may be acting primarily to derive benefits¹³, the governments that adopt more practices sooner are likely to be influenced by a normative commitment to advance sustainability and provide benefits to persons outside their jurisdiction. They are acting to promote the greater good in the future as well as the present. This explanation may offer insights regarding the difference between leaders and followers in the diffusion of innovation generally.

Appendix A.

Sustainability Activities Used by a Majority of Governments in at least One Population Category

	500,000 or higher	100,000-499,999	50,000-99,999	10,000-49,999	Under 10,000	All
Internal program that recycles paper and plastic and glass in your local government (Q7a)	83	89	87	76	61	72
Community-wide recycling collection program for paper and plastic and glass for residential properties (Q7b)	78	80	81	79	71	76
Added biking and walking trails (Q17b)	86	81	73	65	50	61
Conducted energy audits of government buildings (Q8f)	97	89	81	68	48	63
Upgraded or retrofitted facilities to higher energy efficiency office lighting (Q8i)	100	86	72	60	41	56
Recycling of household hazardous waste (Q7d)	78	80	71	59	42	55
Support a local farmer's market (Q25c)	50	56	65	55	47	52
Increased the purchase of fuel efficient vehicles (Q8b)	94	76	68	50	26	44
Recycling of household electronic equipment (e-waste) (Q7e)	69	73	70	54	42	52
Requiring sidewalks in new development (Q17e)	67	61	65	60	45	54
Installed energy management systems to control heating and cooling in buildings (Q8g)	97	76	66	49	32	47
Upgraded or retrofitted facilities to higher energy efficiency heating and air conditioning systems (Q8l)	94	71	58	40	26	39
Upgraded or retrofitted traffic signals to improve efficiency (Q8j)	72	59	58	42	22	37
Expanded dedicated bike lanes on streets (Q17a)	78	61	55	38	19	34
Provide financial support/incentives for affordable housing (Q23a)	81	60	56	33	20	33
Plan for tree preservation and planting (Q4h)	56	53	56	47	38	45
Purchased hybrid electric vehicles (Q8c)	81	65	50	25	7	24
Education program in the local community dealing with the environment and energy conservation (Q25d)	56	52	41	30	18	28
Community-wide recycling collection program for paper and plastic and glass for commercial properties (Q7c)	53	47	49	45	43	45
Upgraded or retrofitted streetlights and/or and other exterior lighting to improve efficiency (Q8k)	53	42	46	31	23	31
Added bike parking facilities (Q17c)	61	46	46	29	18	28
Other incentives for water conservation behaviors by city, residents, and businesses (Q6e)	56	41	32	29	21	28
Is telework permitted for staff members in your local government? (Q14)	60	45	36	27	19	27
Provide housing options for the elderly (Q23c)	53	44	43	27	20	27
Provide access to information technology for persons without connection to the internet (Q23e)	53	43	34	26	23	27
Provide after-school programs for children (Q23g)	58	44	44	27	17	26
Upgraded or retrofitted facilities to higher energy efficiency pumps in the water or sewer systems (Q8m)	58	33	32	24	18	23
A land conservation program (Q22b)	58	41	32	23	15	22

An active brownfields, vacant property, or other program for revitalizing abandoned or underutilized residential, commercial or industrial lands and buildings (Q22a)	50	42	30	22	16	22
Permit higher density development near public transit nodes (Q21c)	61	40	36	22	8	20
Established policy to only purchase Energy Star equipment when available (Q8h)	53	30	29	17	11	17
Use of grey-water and/or reclaimed-water use systems (Q6b)	64	35	28	16	9	16
Provide supportive housing to people with disabilities (Q23b)	53	35	28	16	7	15
Installed solar panels on a government facility (Q8o)	50	35	22	12	6	13
Require all new government construction projects to be LEED or Energy Star certified (Q21a)	56	26	24	12	6	12
Provide housing within your community to homeless persons (Q23d)	64	39	26	7	2	10
Purchased vehicles that operate on compressed natural gas (CNG) (Q8d)	64	31	17	7	2	9
<i>LEED CERTIFIED BUILDING PROJECTS (Added after survey)</i>	67	32	18	4	1	8
Local government incentives for local government employees to take mass transit to work (Q12a)	69	28	14	5	1	7
Does your community currently have a commuter rail system (subway or streetcar)? (Q18)	59	14	11	7	3	7
Local government incentives for local government employees to carpool to work (Q12b)	64	23	15	4	1	6
Does your community have a plan to create or expand the use of subway or streetcars? (Q19)	58	22	13	5	1	6

Report on community quality of life indicators, such as education, cultural, diversity, and social well-being (Q23h)	47	35	29	15	7	15
Baseline greenhouse gas emissions of the local government (Q4a)	47	36	32	13	6	14
Generated electricity through municipal operations such as refuse disposal, wastewater treatment, or landfill (Q8q)	47	26	14	6	2	7
Expanded bus routes (Q17d)	44	49	43	23	10	22
Permit higher density development where infrastructure is already in place (utilities and transportation) (Q21d)	44	35	37	24	14	22
A program for the purchase or transfer of development rights to preserve open space (Q22c)	44	29	19	16	10	16
Weatherization- Individual residences (Q11b)*	42	32	30	11	10	16
Green product purchasing policy in local government (Q25f)	42	35	26	12	6	13
Established a fuel efficiency target for the government fleet of vehicles (Q8a)	39	31	18	13	6	13
Greenhouse gas reduction targets for local government operations (Q4c)	39	27	21	11	6	11
Baseline greenhouse gas emissions of the community (Q4b)	39	22	23	7	3	9
Residential zoning codes to permit solar installations, wind power, or other renewable energy production (Q21l)	36	31	26	22	16	21
Provide funding for pre-school education (Q23f)	36	27	20	12	7	12
Locally initiated air pollution measures to reduce dust and particulate matter (Q4g)	33	20	11	9	5	9
Local government established any energy reduction programs targeted specifically to assist low-income residents (Q9)	33	23	14	6	5	8

Has your local government established any transportation programs targeted specifically to assist low-income residents? (Q20)	32	44	36	19	14	21
Local government incentives for local government employees to bike to work (Q12d)	31	18	14	4	2	6
Installed charging stations for electric vehicles (Q8e)	31	15	12	4	2	5
A program for the purchase or transfer of development rights to preserve historic property (Q22e)	28	12	6	9	6	8
Residential zoning codes to permit higher densities through ancillary dwellings units or apartments (such as basement units, garage units, or in-house suites) (Q21m)	25	21	20	14	10	14
Restriction on purchase of bottled water by the local government (Q25a)	25	22	14	10	7	11
Require minimum of 30% post-consumer recycled content for everyday office paper use (Q7h)	25	24	17	8	5	9
Require all retrofit government projects to be LEED or Energy Star certified (Q21b)	25	13	14	7	4	7
Utilize dark sky compliant outdoor light fixtures (Q8n)	22	20	21	15	13	15
Installed a geo-thermal system (Q8p)	22	14	11	6	4	7
A program for the purchase or transfer of development rights to create more efficient development (Q22d)	22	11	6	6	4	6
Local government incentives for local government employees to walk to work (Q12c)	22	13	9	3	2	4
If your local government offers employees parking, do you charge market rates for employee parking? (Q13)	20	14	3	3	5	5
Fast track plan reviews and or inspections for environmentally friendly development (Q21k)	19	19	14	9	4	8
Does your local government use a compressed work week with offices closed one day? (Q16)	17	17	14	11	6	10
Energy Audit-Individual residences (Q11a)*	17	18	16	6	5	8
Require bike storage facilities (Q17h)	14	14	23	8	3	8
Heating / air conditioning upgrades- Individual residences (Q11c)*	14	17	13	8	6	8
Incentives other than increased density for new single-family residential be LEED certified or the equivalent (Q21f)	14	9	5	3	1	3
Installation of solar equipment- Individual residences (Q11e)*	14	9	7	3	2	4
Local government established any energy reduction programs targeted specifically to assist small businesses (Q10)	13	15	8	5	4	6
Installation of solar equipment-Businesses (Q11j)*	11	8	6	2	2	3
Energy Audit-Businesses (Q11f)*	11	10	8	4	4	5
Weatherization-Businesses (Q11g)*	11	10	8	4	4	5
Provide density incentives for "sustainable" development (such as energy efficiency, recycling of materials, land preservation, storm water enhancement, etc.) (Q21h)	11	16	13	11	6	10
Heating / air conditioning upgrades-Businesses (Q11h)*	11	14	12	5	5	6
Incentives other than increased density for new commercial development (including multi-family residential) that are LEED Certified or an equivalent (Q21e)	11	12	8	6	2	5
Purchase of energy efficient appliances- Individual residences (Q11d)*	8	14	10	5	5	6
Pay-As-You-Throw (PAYT) program with charges based on the amount of waste discarded (Q7f)	8	14	15	9	10	10
Local government action to use locally grown produce through <i>incentive</i> (Q24c)	8	9	10	9	9	9

Local government action to use locally produced material or products through incentive (Q24a)	8	14	13	8	7	8
Purchase of energy efficient appliances-Businesses (Q11i)*	8	13	7	3	4	5
Apply LEED Neighborhood Design standards (Q21g)	8	5	6	5	2	4
Provide tax incentives for “sustainable” development (such as energy efficiency, recycling of materials, land preservation, storm water enhancement, etc.) (Q21i)	8	2	4	3	2	3
Reduce fees for environmentally friendly development (Q21j)	8	6	8	3	1	3
Require showers and changing facilities for employees (Q17i)	6	8	10	4	2	4
Greenhouse gas reduction targets for businesses (Q4d)	6	5	8	2	1	3
Require charging stations for electric vehicles (Q17g)	6	3	3	0	1	1
Greenhouse gas reduction targets for multi-family residences (Q4e)	3	2	6	1	1	2
Greenhouse gas reduction targets for single-family residences (Q4f)	3	3	7	2	1	2
Local government action to reduce the use of plastic bags by grocery or retail stores through restriction (Q24b)	3	0	1	1	1	1
Do you have a specific target for the percent of your government work force that will telework? (Q15)	3	1	1	1	0	1
Local government action to use locally produced material or products through restriction (Q24a)	3	1	1	2	1	1
Local government action to reduce the use of plastic bags by grocery or retail stores through incentive (Q24b)	0	2	4	2	2	2
Local government action to use locally grown produce through restriction (Q24c)	0	0	0	0	0	0

References

- Bae, J. and Feiock, R. C. 2011. *Form of Government and the Adoption of Climate Change Policies in U.S. Cities*. Paper delivered at Annual Meeting of the Southeastern Conference on Public Administration.
- Benton, J. E. (2003). The impact of structural reform on county government service provision." *Social Science Quarterly*, 84 (December, 2003), 858-874.
- DiMaggio, Paul J. and Walter W. Powell. 1983. The iron cage revisited: institutional isomorphism and collective rationality. *American Sociological Review* 48: 147-160.
- Geary, C. (2011). *Sustainable connections: Linking sustainability and economic development strategies*. National League of Cities. Published online . Accessed December 17, 2011: <http://www.nlc.org/find-city-solutions/research-innovation/sustainability>
- Hopper, J.R. and Nielsen, J.M. (1991). Recycling as altruistic behavior: Normative and behavioral strategies to expand participation in a community recycling program. *Environment and Behavior* 23: 195 – 220. Accessed online January 4, 2012: <http://eab.sagepub.com/content/23/2/195>
- ICMA. (Fall 2007). *ICMA management perspective: Sustainability*. Published online. Accessed December 17, 2011: <http://webapps.icma.org/pm/9001/private/sustainability.pdf?author=&title=Managementpercent20Perspectivepercent3Apercent20Sustainability&subtitle>
- Kearney, Richard C. 2005. Reinventing Government and Battling Budget Crisis: Manager and Municipal Government Actions in 2003. *Municipal Yearbook 2005*, pp. 27-32
- Kearney Richard C., Barry M. Feldman, and Carmine P. F. Scavo, 2000. Reinventing Government: City Manager Attitudes and Actions. *Public Administration Review* 60: 535-548.
- Kwon M., F.S. Berry, and R.C. Feiock, 2009. Understanding the adoption and timing of economic development strategies in U.S. cities using innovation and institutional analysis. *Journal of Public Administration Research and Theory* 19: 967-988.
- Moon, M. Jae and Peter deLeon. 2001. Municipal Reinvention: Managerial Values and Diffusion among Municipalities. *Journal of Public Administration Research and Theory* 11: 327-351
- Nelson, Kimberly and James H. Svara, 2011. Form of Government Still Matters: Fostering Innovation in U.S. Municipal Governments, *American Review of Public Administration* 41 (forthcoming, 2011).
- Portney, K.E. (2003). *Taking sustainable cities seriously: Economic development, the environment, and quality of life in American cities*. Cambridge: The MIT Press.
- Svara, James H. 2010. Local Government Leadership in the Fiscal Crisis in the United States of America, *International Journal of Policy Studies*, Vol. 1, No. 1, 5-24.
- Svara, James H. 2011. The Early Stage of Local Government Action to Promote Sustainability, *The Municipal Year Book 2011* (Washington: ICMA, 2011), 43-60.

- United Nations. (1987). *Report of the world commission on environment and development*. Published online. Accessed December 15, 2011: <http://www.un-documents.net/a42-427.htm>
- United States Conference of Mayors. (n.d.) The United States Conference of Mayors Climate Protection Center. Accessed online December 16, 2011: <http://www.usmayors.org/climateprotection/revised/>
- Wolman, H., J. Strate, and A. Melchior, 1996. Does changing mayors matter? *Journal of Politics* 58: 201-223.
- Young, I.M. (2002). *Inclusion and democracy*. Oxford: Oxford University Press.
- Zborel, T. (2011). *Sustainable connections: Strategies to support local economies*. National League of Cities. Published online. Accessed December 17, 2011: <http://www.nlc.org/find-city-solutions/research-innovation/sustainability>

Endnotes

¹ The survey was developed with input of ICMA's Center for Sustainability Communities, the Center for Urban Innovation at Arizona State University (ASU), ASU's Global Institute of Sustainability (ASU GIOS), the Alliance for Innovation, and others. Its distribution was conducted through a collaboration of ICMA, ASU GIOS, and the Sustainable Cities network, a multijurisdictional partnership. The survey was provided in a print format because the local government response rate is both higher and more scientifically representative than from an electronic survey. Approximately 12 percent of the responding governments chose to submit the form electronically.

² The sources included SustainLane (sustainlane.com/us-city-rankings/); Visible Strategies: Framework Adapted from U.S. Mayors (usmayors.visiblestrategies.com/); Portney (2003, 65); Go Green Virginia Green Community Challenge (gogreenva.org/?/challenge/participate/id/1); and the ICMA Center for Performance Measurement.

³ It would be somewhat misleading to use a raw activity count as the measure of activity level because the number of specific measures differs across the activity areas. To provide an extreme example, a government that performed all 15 building energy activities but no other activities would have a rating of 13.8 if divided by the total activity count of 109. Performing 100 percent of the indicators in only one major activity area out of 12, on the other hand, would equal an overall activity rating of 8.3 (100/12). Thus, governments that adopt activities across many areas have a higher rating than a concentrated effort in fewer areas.

⁴ The review of the U.S. Green Building Council inventory of certified buildings was carried out by Sean Gause as part of his research for a senior honors thesis.

⁵ Available at usmayors.org/climateprotection/documents/mcpAgreement.pdf.

⁶ In addition, seven cities using commission, town meeting, and representative town meeting forms of government and four counties signed the agreement.

⁷ See ICLEI—Local Governments for Sustainability at iclei.org/.

⁸ The organization was founded in 1990 as the "International Council for Local Environmental Initiatives." The Cities for Climate Protection (CCP) campaign was launched in 1993 as a successor to the organization's initial *Urban CO2 Reduction Project*. The five milestones of the CCP are calculating greenhouse gas emissions, establishing targets to lower emissions, reducing greenhouse gas emissions and of monitoring, measuring results, and reporting performance. Information about CPP is available at iclei.org/index.php?id=810 (accessed January 14, 2011).

⁹ Bae and Feiock (2011) asked respondents to indicate which of a list of the energy/climate related issues the jurisdiction officially addresses with respect to government facilities and operations (internal) and the community at large (community). Examples of issues are green buildings and retro-fitting existing buildings for energy efficiency.

¹⁰ The ICMA survey was distributed only to county government with appointed or elected executives. It is not possible, therefore, to compare these governments to those with traditional commission form of government.

¹¹ Other studies have determined that the western region has greater adoption of innovations even when controlling for the other factors mentioned.

¹² The correlation between the priority given to the economy and the overall sustainability rating is 0.16.

¹³ These governments are also likely to be influenced as well as by the other factors that influence governments to conform to emerging practices—coercive, mimetic, and normative isomorphism (DiMaggio and Powell 1983).