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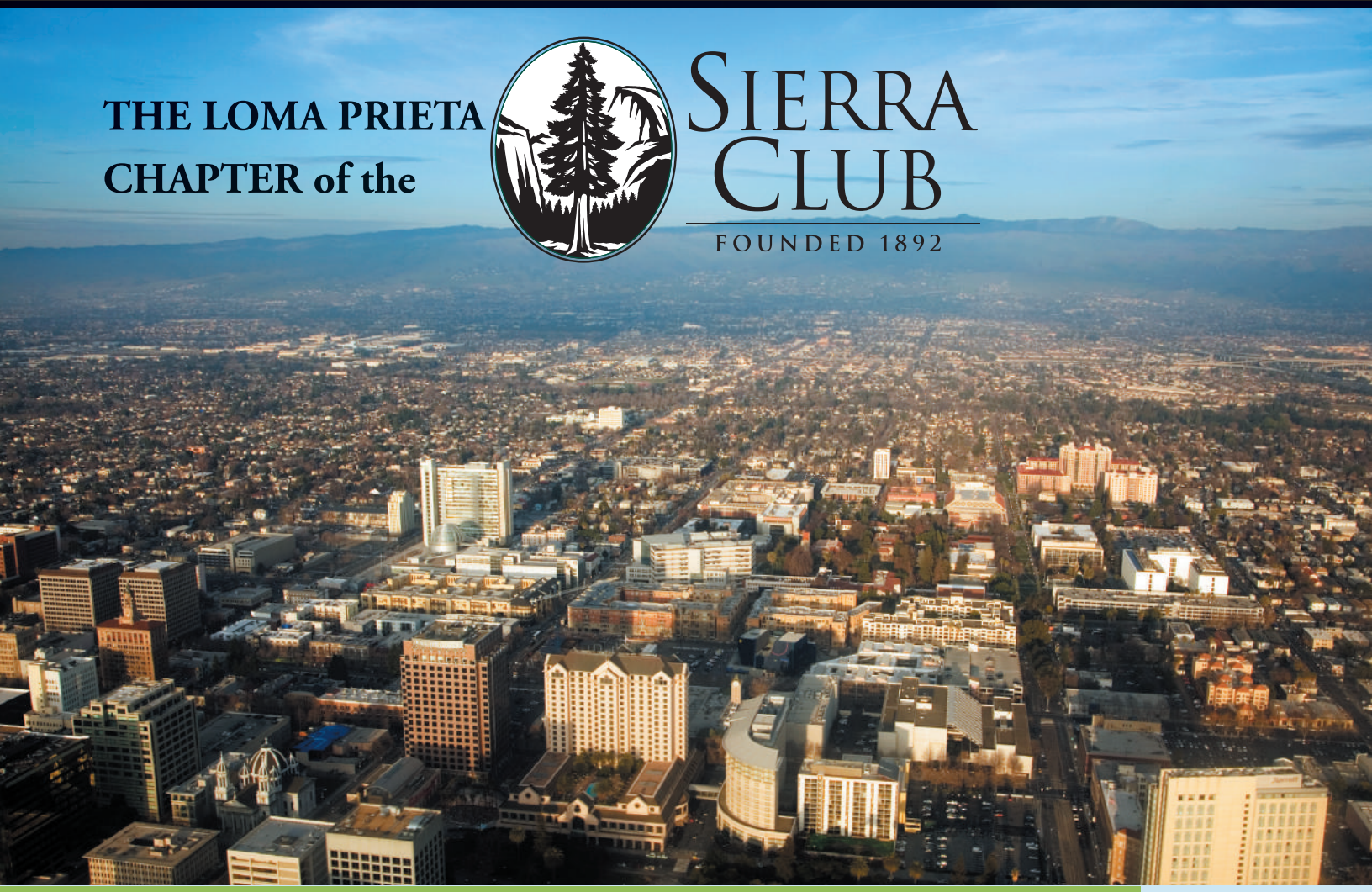

Cool Cities Local Government Climate Action Survey 2008:

A Report on Climate Protection Policies and Practices in San Mateo and Santa Clara County Jurisdictions

FINAL EDITION, AUGUST 11, 2008

The Loma Prieta Chapter's Climate Action Campaign

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Executive Summary

The Cool Cities Campaign of the Loma Prieta Chapter of the Sierra Club conducted in March 2008 a survey of climate protection policies and practices of city and county governments in Santa Clara and San Mateo counties. Twenty-eight of the 37 jurisdictions in the two-county area (76% by number, 90% by population) responded to the 30-question survey. This report presents results from the survey and provides a snapshot of local government planning and actions on greenhouse gas (GHG) emissions reductions. The purpose of this report is to increase awareness of the state of climate action by local governments in our area, to facilitate the exchange of best practices, and to advocate for decisive action worthy of the magnitude of the climate change challenge.

Key Conclusions:

1. Local governments in San Mateo and Santa Clara Counties show rapidly growing engagement on climate protection
2. Achievement of essential milestones toward emission reduction is still generally lagging and not consistent with Silicon Valley's historic leadership role in other areas
3. The high level of completed municipal emission inventories expected by the end of 2008 as well as the expected completion of community-wide inventories by nearly two-thirds of the jurisdictions is encouraging.
4. Green vehicles are slowly becoming part of many local government fleets, but rapid increases are likely soon as many jurisdictions adopt procurement policies favoring such purchases.
5. More jurisdictions need to offer multiple incentives for alternative commuting methods and provide a model for the private-sector to address the large contribution of the transportation sector.
6. Widespread encouragement of transit-oriented or mixed-use development offers the potential of reducing commute-related emissions from the broader community.
7. Local governments are increasingly adopting significant green building standards for their buildings but more effort is needed to spur green renovations in existing buildings.
8. Progress on encouraging or requiring new privately-owned buildings to meet significant green building standards is currently still weak, but the trend is somewhat encouraging.
9. The challenge of encouraging or requiring existing buildings (which make up the vast majority of the built environment) to meet significant green building standards after major renovations or remodels is not being met.
10. Our results show that surprisingly few local governments have the capacity to generate solar power from systems on their facilities while at the same time the vast majority of the jurisdictions are facilitating the installation of solar power systems in the community
11. A rich variety of local jurisdictions are already leading in specific narrow areas of GHG emission reductions.

Our region appears to be poised to regain a leadership role on local government action on climate protection if local government leaders act quickly and decisively. Our survey results suggest public engagement with local government leaders combined with regional initiatives and other resources from beyond city and county government is essential for rapid decisive action to occur at a level needed to meet the climate change/ clean energy challenge.

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Introduction

The Cool Cities Campaign of the Loma Prieta Chapter of the Sierra Club[1] conducted in March 2008 a survey of climate protection policies and practices of city and county governments in Santa Clara and San Mateo counties. Twenty-eight (28) of the 37 jurisdictions in the two-county area (76% by number, 90% by population) responded to the 30-question survey. This report presents results of these questions and provides a snapshot of local government planning and actions on greenhouse gas (GHG) emissions reductions. **The goals of this report are to:**

1. **Increase awareness of the state of climate action by local governments in our area;**
2. **Facilitate the exchange of best practices; and**
3. **Advocate for decisive action worthy of the magnitude of the climate change challenge.**

Background

Cool Cities Campaign

The Sierra Club Loma Prieta Chapter, which includes Santa Clara, San Mateo, and San Benito Counties, has made local action to reduce greenhouse gas (GHG) emissions its number one priority. The Chapter has a broad-based Global Warming Program with four initiatives to reduce local emissions. One of these initiatives is the Cool Cities Campaign. The Cool Cities Campaign is a National Sierra Club[2] campaign working for local government action to reduce municipal and community-wide greenhouse gas emissions by engaging teams of volunteers in each city. On July 16, 2007, the Sierra Club's Cool Cities initiative was expanded to include a Cool Counties effort to work for local action at the county level. Here we use the term Cool Cities to represent both efforts — Cool Cities and Cool Counties — focused on local government action. The Loma Prieta Chapter's Cool Cities effort officially started in March 2007 after an initial development phase beginning in October 2006. **Figure 1** presents a map showing the jurisdictions included in the Loma Prieta Chapter and highlights the 19 cities that have Cool Cities Teams (out of 37 cities in the Chapter's area). In addition to these teams, San Mateo County also has a Cool Counties Team covering the unincorporated areas of the county .

Each Cool Cities/ Counties Team encourages and supports local government to:

1. Commit to reducing GHG emissions throughout the community by **adopting the U.S. Mayors Climate Protection Agreement[3] or the U.S. Cool Counties Climate Stabilization Declaration[4].**
2. **Create a "green ribbon task force" or other body of residents and/or city staff or elected leaders** to develop recommendations for addressing emissions throughout the community.
3. Develop a **municipal GHG emission inventory** of emissions associated with government operations.
4. **Implement early high-impact actions to reduce municipal and/ or community-wide emissions.** For example: Green building requirements for municipal and/or private buildings or incentives to reduce commute emissions.
5. Establish a **municipal GHG emission reduction target** at least as stringent as the goals codified by Governor Schwarzenegger and the Legislature through the California Global Warming Solutions Act of 2006[5] (AB 32) in September 2006.

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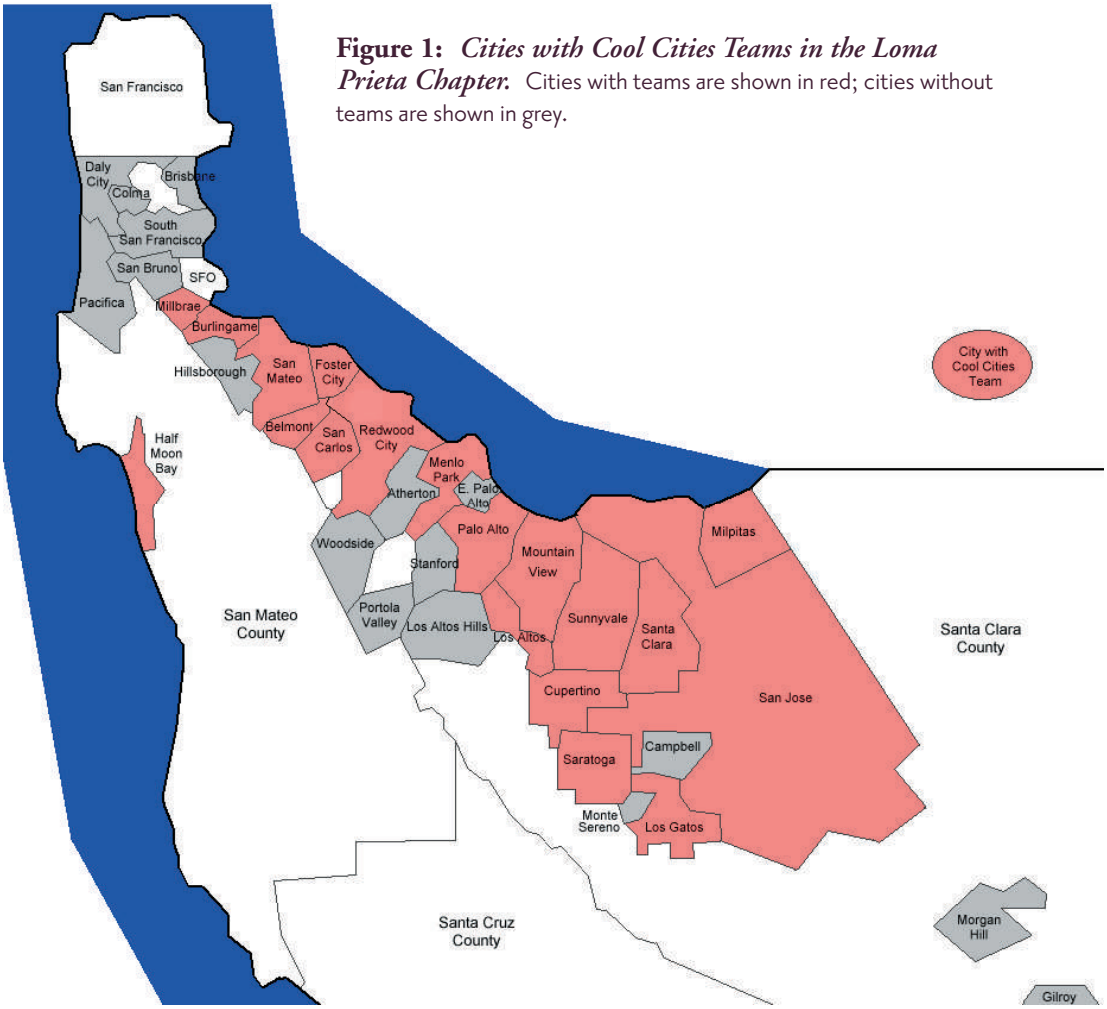

Figure 1: ***Cities with Cool Cities Teams in the Loma Prieta Chapter.*** Cities with teams are shown in red; cities without teams are shown in grey.

6. Develop a **Municipal Climate Action Plan** to achieve the emission reduction targets.

7. Evaluate a **community-wide GHG emission inventory.**

8. Establish a **community-wide emission reduction target** at least as stringent as the goals codified by the California Global Warming Solutions Act of 2006.

9. Develop a **Climate Action Plan** to achieve the community-wide emission reduction targets.

10. **Implement the Climate Action Plan.**

Cool Cities/ Counties teams work to build partnerships with concerned community members and other existing organizations to show elected leaders and city staff the public support for action on global warming. The creation of 19 Cool Cities City Teams, the engagement of hundreds of volunteers, and the development of an extensive opt-in Global Warming database of over 2300 names all in one year demonstrate public concern and support for local government action in the Silicon Valley Region.

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Local Government Climate Action Survey

The Loma Prieta Chapter's Cool Cities Core Team committed to developing a snapshot of local climate protection activities around the first anniversary of the March 2007 start of the Chapter's Cool Cities Campaign. The Committee anticipated that the results of such a survey would help to accelerate climate protection actions by local jurisdictions and to educate residents about what climate protection measures their cities and counties have undertaken.

Development of Survey Instrument

The starting point of our questionnaire was the "Survey on Mayoral Leadership and City Efforts in Climate Protection" conducted nationwide in April 2007 by the U.S. Conference of Mayors. The U.S. Conference of Mayors sent this questionnaire to all signatories of the U.S. Mayors Climate Protection Agreement and presented the findings in a report entitled "Survey on Mayoral Leadership on Climate Protection" issued in summer 2007[6]. The Cool Cities Core Team noted from this report a striking lack of response by local mayors—only four responded. Given this lack of response, the extensive network of engaged Cool Cities Teams and volunteers in our Chapter's area who could assist with increasing the response rate, and the extensive climate protection developments in our area since April 2007, the Cool Cities Core Team elected to use the earlier survey by the U.S. Conference of Mayors as a starting point.

Chapter volunteers and staff with local policy expertise modified and updated the questionnaire to account for unique features of climate protection in our state and region, to more fully assess progress on the key milestones of the Cool Cities Campaign (listed above), and to explore the growing activity in the green building arena. The questionnaire consisted of 30 questions of which 29 were multiple choice or very short answer write-in questions[7]. One additional short answer question provided space for local government representatives to highlight exemplary climate protection actions. A web-based version of the questionnaire was then created to facilitate responses and electronic analysis. We also asked a follow-up question on municipal solar power capacity after the original questionnaires were received.

Implementation of the Survey

The Loma Prieta Cool Cities Campaign distributed the questionnaire in late February and early March of 2008 to the mayor, city manager, and/or other appropriate staff person in the 35 cities within Santa Clara and San Mateo counties and to a county supervisor and/or county staff person in each of the two counties. In cities with Cool Cities Teams, teams generally presented a hardcopy of the questionnaire along with a cover letter in person during a meeting. In the cities without Cool Cities Teams, the questionnaire and a cover letter were sent via e-mail to the mayor and city manager. After a couple weeks, a Cool Cities City Team volunteer or other volunteer followed-up by phone or e-mail to encourage participation in the survey. In all, 26 cities and both counties responded (for a total of 28 respondents), representing more than 75% of jurisdictions to whom the survey was administered. The responding jurisdictions represent 90% of the population of the two counties. The jurisdictions that responded are listed on the left side of Table 1.

This report presents the responses from each city and county to the multiple-choice questions of the survey and also highlights exemplary leadership by particular cities and/or counties. A preview edition of this report was issued on July 7, 2008 and distributed to all responding jurisdictions for feedback, corrections, and/or updates to the presented information. This final edition of our report incorporates these comments, additional background information, and results on solar power."

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Local Climate Change Policy in Context

The Intergovernmental Panel on Climate Change[8], the leading body on climate change research comprised of a network of more than 2,000 scientists, concludes in its most recent report that there is "… very high confidence that the globally averaged net effect of human activities since 1750 has been one of warming". The current concentration of carbon dioxide (the most important greenhouse gas introduced by human activity) has increased to levels far higher than at any time since humans started walking on the Earth. These high concentrations are mainly the result of the accumulation of the carbon dioxide released during the combustion of fossil fuel (coal, oil, natural gas) since the start of the Industrial Revolution in the 1700s. As a country, we in the U.S. bear a great burden of responsibility, contributing one-quarter of the world's GHG emissions and more than twice the per capita emissions of the next-greatest emitter. California alone is the fifteenth largest emitter of GHGs in the world[9]. Most experts agree that we have a short window -- one to two decades -- in which to act before the most severe impacts are felt. Since about 85% of the U.S.'s energy and the World's energy is derived from fossil fuels[10], virtually all organizations and individuals contribute to emissions of carbon dioxide, the most important GHG. In addition, other GHGs such as methane are produced from waste stored in landfills and other sources associated with human activity. As a result, action to reduce GHG emissions is needed by everyone and every type of organization--- individuals, businesses, federal, state, and local government. In the case of government at all levels, not only can direct measures be taken to reduce GHG emissions associated with government operations and staff commutes, but well crafted public policies can encourage and/or require community-wide emissions reductions.

Recognizing the need for action, in June of 2005 Governor Schwarzenegger established aggressive goals for reducing GHG emissions in California—calling for a reduction to 2000 levels by 2010, to 1990 levels by 2020, and to 80% below 1990 levels by 2050[11]. To codify the Governor's greenhouse gas emissions reduction goals, in September 2006 Governor Schwarzenegger signed Assembly Bill (AB 32), The California Global Warming Solutions Act of 2006[5], authored by Assembly Speaker Fabian Nuñez. This legislation represents the first enforceable statewide program in the U.S. to cap all GHG emissions from major industries.

In 2005, the Governor also called for the California Environmental Protection Agency (CalEPA) to prepare biennial reports on the potential impact of continued global warming on the California economy. CalEPA established the California Climate Change Center to lead this effort. In July of 2006, they released their first report entitled *Our Changing Climate*[12]. The report forecasts the following challenges in California resulting from climate change:

- More air pollution and a greater number of heat days threatening public health;
- Reduced Sierra snowpack restricting our water resources, hydropower-dependent electricity supply, and winter recreation;
- Interacting stresses on agriculture leading to reductions in quality and quantity, and ultimately increased agricultural prices;
- Increased frequency of large wildfires and associated health, ecosystem, and property damage;
- Rising seal levels impacting our coastal zones, our infrastructure and Bay Area real estate.

The need for concerted international action on global warming was recognized in March 1994 with the establishment of the United Nations Framework

Convention on Climate Change[13] (UNFCCC), which was ratified by 192 nations. The UNFCCC initiated a process, culminating in the negotiation of the Kyoto Protocol which required signatory nations of the developed world to reduce GHG emissions on average by 5% below 1990 levels by 2012. The Kyoto Protocol entered into force on February 16, 2005. One hundred and eighty (180) nations have ratified the treaty to date. The U.S. is not among them.

Concerned by the lack of action at the federal level and recognizing the need for local action to address global warming, Mayor Greg Nickels of Seattle created the U.S. Mayors Climate Protection Agreement[3] (MCPA) on the day the Kyoto Protocol became international law. The MCPA called on cities to commit to taking action to reduce GHG emissions and to strive to meet or beat the Kyoto Protocol's emissions reduction target for the U.S. of a 7% reduction below 1990 levels by 2012. The MCPA was adopted by the U.S. Conference of Mayors. As of this writing, more than 850 cities have already signed the MCPA. Of these, 23 cities are right here in Santa Clara and San Mateo Counties.

Leaders from King County, Washington, Fairfax County Virginia, and the Sierra Club created a similar commitment vehicle for counties — the U.S. Cool Counties Climate Stabilization Declaration[4] — and launched a Cool Counties initiative on July 16, 2007 at the National Association of Counties Annual Conference. Among other provisions, signers of the Cool Counties Declaration agree to strive to stop increasing emissions by 2010, to achieve a 10% reduction every 5 years thereafter through to 2050, and to reduce emissions 80% below current levels by 2050. These targets reflect the scientific understanding that major reductions in emissions are needed by 2050 in order to reduce the likelihood of major climate change. It is worth noting that these goals on average represent modest annual reductions in GHG emissions of 2% per year.

Local Emissions of Greenhouse Gases

To properly craft government policy and local action initiatives, understanding the sources of GHG emissions associated with local activity is important. The Bay Area Air Quality Management District (BAAQMD) conducted an inventory of the GHG emissions in the counties surrounding San Francisco Bay using data from 2002[14]. **Figure 2** presents the relative contributions of different sources of direct GHG emissions within the District's boundaries and also includes indirect emissions associated with emissions from electricity imported from outside of our region. The two largest sources of GHG emissions are carbon dioxide emissions from transportation and emissions from electricity generation and natural gas combustion to service homes and other buildings. According to the California Air Resources Board, the electricity, natural gas, and water used in buildings accounts for one quarter of all California GHG emissions[15].

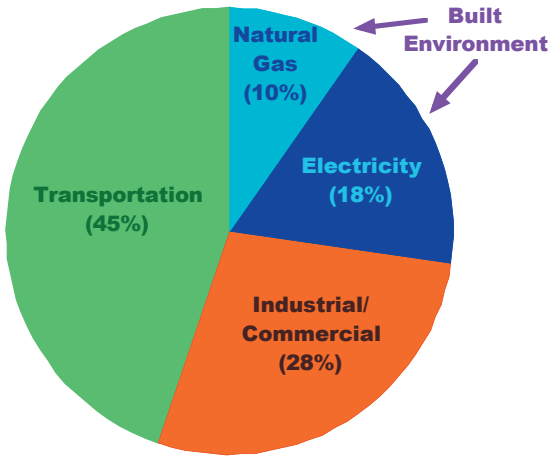

Figure 2: ***San Francisco Bay Area greenhouse gas emissions by source category.*** Data is from *Source Inventory of Bay Area Greenhouse Gas Emissions* compiled by the Bay Area Air Quality Management District using data from 2002. Emissions associated with production of imported electricity are included in the figure.

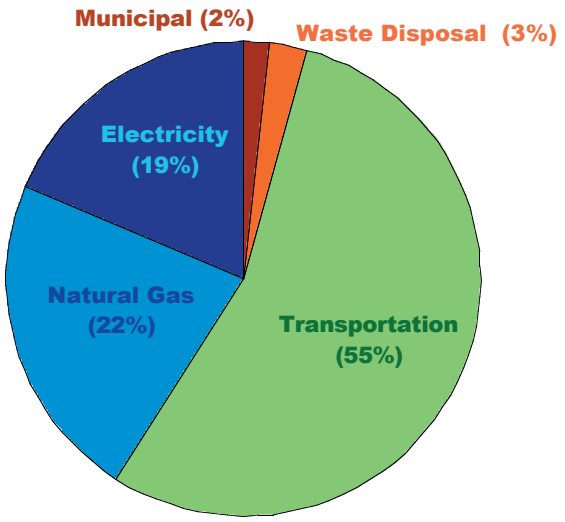

Figure 3: ***Community-wide GHG emissions inventory for city of San Mateo by source category.*** Data is from *City of San Mateo Greenhouse Gas Emissions Inventory Report*, October 24, 2007.

Figure 3 presents an example of a community-wide GHG emissions inventory by source using data from the city of San Mateo[16]. Similar to the BAAQMD inventory, the largest single source of emissions is carbon dioxide released by combustion of fuels in the transportation sector. The second largest source of emissions is electricity use and natural gas combustion associated principally with buildings. Methane emissions associated with waste disposal make a small contribution of a few percent.

An important point to note is that emissions associated with local government operations and facilities account for only a few percent of community-wide emissions. Direct action by local governments to control emissions associated with their activities is an essential first step, demonstrating leadership and introducing new technologies and practices to the community. However, significantly lowering a community's GHG footprint requires addressing community-wide emissions. Local governments can begin by promulgating policies impacting the two major sources of emissions: transportation and buildings.

Figure 4 presents the municipal emissions inventory for operations and facilities of San Mateo city government[16]. Emissions associated with electricity consumption and natural gas use in the built environment represent the largest source of municipal emissions. Interestingly, emissions associated with employee commutes and with the city's vehicle fleet are approximately equal.

By developing policies that spur efficiency in the transport and building sectors, local governments in and around Silicon Valley can also help to foster local innovation in energy efficiency, renewable energy, and information technologies. Given our region's historic leadership role and world impact in the area of technology, local innovation in our region can be leveraged to help local jurisdictions throughout the country and the world reduce their contribution to GHG emissions.

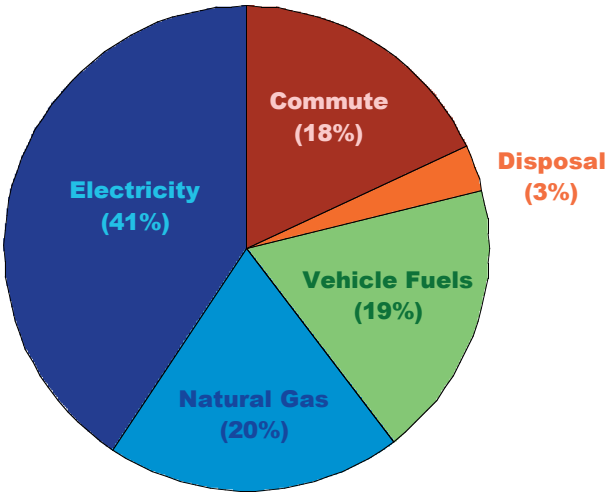

Figure 4: ***Municipal GHG emissions inventory for city of San Mateo government operations and facilities.*** Data is from *City of San Mateo Greenhouse Gas Emissions Inventory Report*, October 24, 2007.

Climate Action: Commitment & Planning Milestones

Emissions Reduction Commitments

An important first step by local government is to make a commitment to reducing GHG emissions. Although municipal government emissions are typically only a few percent of the total emissions of a community (see **Figure 3**), by taking action to reduce their own emissions, cities and counties lead by example and demonstrate paths for successful climate action; the importance of such an example should not be underestimated. In addition, local government can adopt policies, programs, and incentives which lead to reductions in emissions throughout the community where the vast majority of the global warming impact of a community is represented.

An important and widely recognized vehicle for cities to make an emissions reduction commitment is the U.S. Mayors Climate Protection Agreement (MCPA) (see earlier discussion). **By signing the MCPA[3]:**

1. The mayor declares that global warming and climate change is an important issue in need of action and that action is needed at all levels of government.
2. **The mayor commits the city to reduce GHG emissions from both city operations and the community as whole.**
3. The mayor agrees to *strive* to meet or beat the Kyoto Protocol targets for the U.S.: 7% below 1990 emissions by 2012.

The equivalent commitment vehicle for counties is the U.S. Cool Counties Climate Stabilization Declaration[4]. Briefly, the essential highlights of this declaration are:

1. The county commits to taking an inventory of GHGs emitted by county government operations.
2. The county will work with all levels of government and other leaders to reduce county-wide emissions to 80 % below current levels by 2050 by developing a GHG emissions inventory, establishing intermediate emissions reduction targets, and establishing a climate action plan for achieving the targets.
3. The county will urge Congress and the Administration to act to reduce GHG emissions through the adoption of appropriate nationwide policies.
4. The county will take immediate steps to identify climate change impacts and draft and implement a plan to prepare for those impacts.

It is important to note that both the MCPA and the Cool Counties declaration express a commitment to reducing not only emissions from local government operations, but also express a commitment to creating programs and policies that will lead to reductions in city- or county-wide emissions, thus addressing all the emissions from a jurisdiction. Cool Cities and Cool Counties Teams' first objective is to get their local government to sign onto these documents.

Figure 5 shows that both counties have signed the Cool Counties declaration and 23 cities of the 35 (65%) in these two counties have signed the MCPA. Every city in Santa Clara County, with the exception of three, have signed the MCPA, while slightly less than half of the cities in San Mateo County have signed the MCPA. To illustrate the rapidly growing engagement of local governments on GHG emission reduction, **Figure 6** illustrates the cities in Santa Clara and San Mateo Counties that had signed by

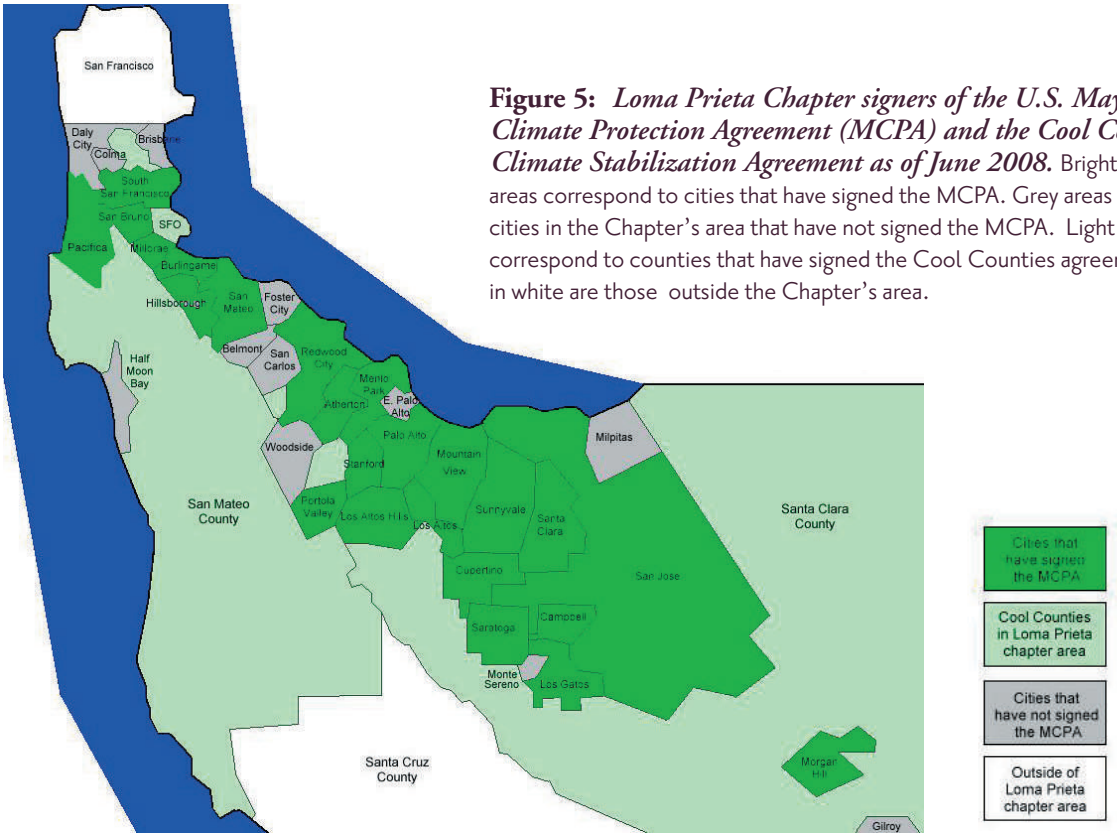

Figure 5: ***Loma Prieta Chapter signers of the U.S. Mayors Climate Protection Agreement (MCPA) and the Cool Counties Climate Stabilization Agreement as of June 2008.*** Bright green areas correspond to cities that have signed the MCPA. Grey areas indicate cities in the Chapter's area that have not signed the MCPA. Light green areas correspond to counties that have signed the Cool Counties agreement. Areas in white are those outside the Chapter's area.

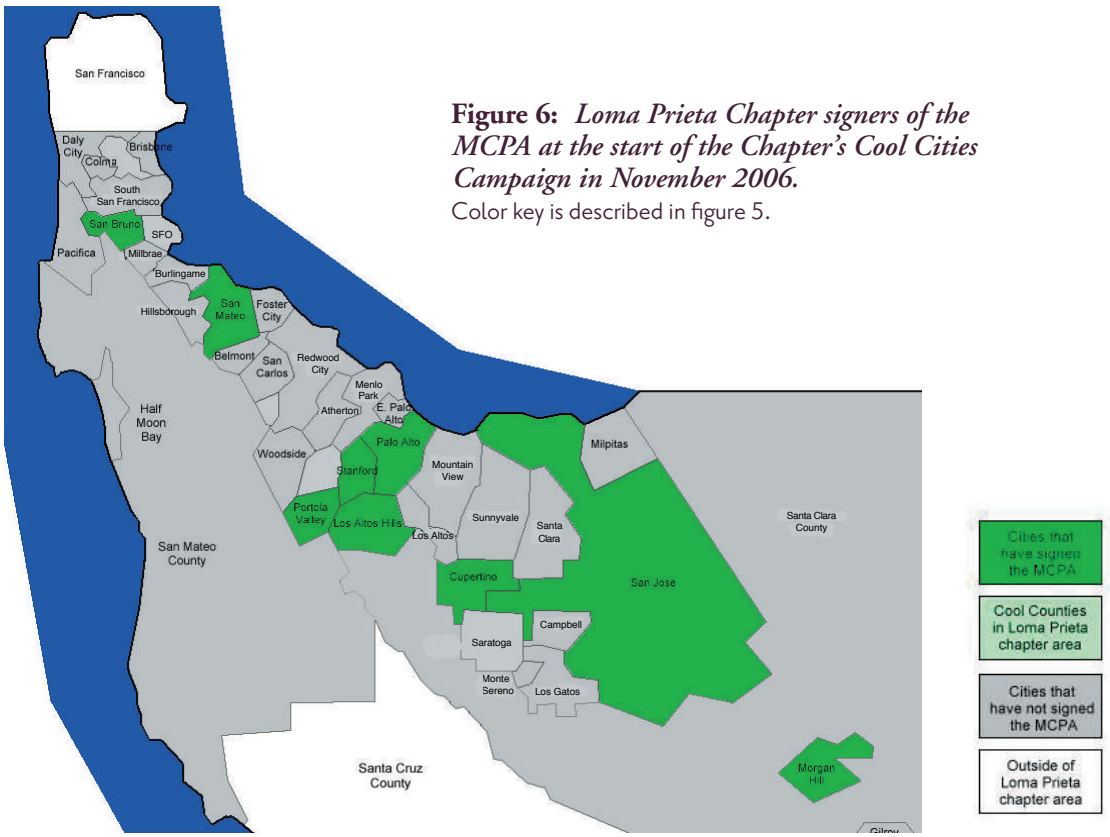

Figure 6: ***Loma Prieta Chapter signers of the MCPA at the start of the Chapter's Cool Cities Campaign in November 2006.***
Color key is described in figure 5.

November 2006, which is when the Loma Prieta Chapter's Cool Cities Campaign began. During the 19 month period that elapsed between these two maps, eighteen cities and two counties committed to climate protection on a community-wide basis.

Another vehicle for local governments (as well as other institutions) in our region to commit to reducing GHG emissions is to become a partner in the nonprofit Sustainable Silicon Valley (SSV)[17]. Each partner can choose its own emissions reduction target and commit to reducing emissions from its operations by this amount and to reporting annually on its emissions. The overall goal of SSV is to reduce the Silicon Valley's regional emissions by 20% below 1990 levels by 2010. SSV provides an excellent forum for obtaining commitments to reduce emissions, quantifying emissions reduction and exchanging best practices among government and institutional partners. Note, however, that when a local government commits to participate in SSV it commits to reducing GHG emissions from its municipal government operations; the local government is not committing to reducing city-wide or county-wide emissions.

Participants

An important first step in the implementation of the MCPA or Cool Counties Declaration is to allocate or engage human resources to assist with planning and implementation of an emissions reduction commitment. Assigning city or county staff, hiring consultants, and/or forming "green ribbon task forces" of community members are all ways for cities to begin the process of implementing the GHG emissions reduction commitment. These participants can take on various important roles such as evaluation of emissions inventories, assessment of emissions reduction target options, and evaluation of elements of a Climate Action Plan to achieve reduction targets.

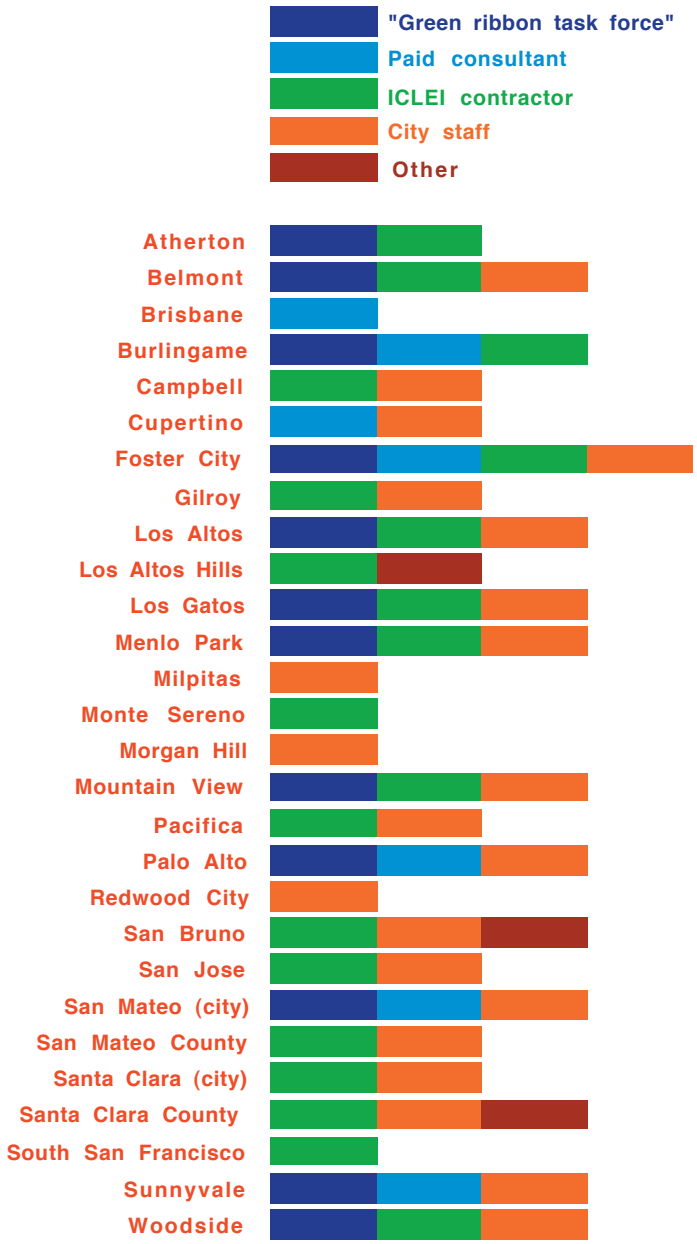

Figure 7: *Participants engaged by cities and counties in the climate action planning process.* Color bars correspond to different categories of participants included in the response options for this question. Results are presented for each responding jurisdiction.

Figure 7 shows the following results on participant engagement:

- Multiple participants have been engaged in the climate action commitment and planning process by the vast majority of the responding jurisdictions (22 or 79%).
- Staff time for work on climate protection actions has been allocated by 22 (79%) of the responding jurisdictions.
- ICLEI, which is a nonprofit that provides assistance with evaluation of emissions inventories, reduction targets and development of Climate Action Plans[18], has been engaged by 20 jurisdictions (71%) to assist with implementation of emission reduction commitments.
- "Green ribbon task forces" of community members have been formed by 12 jurisdictions (43%).

These results are encouraging as they show the vast majority of jurisdictions are engaging multiple participants to assist with the implementation of their commitments and therefore taking important steps toward making this commitment a reality.

Figure 8 summarizes the aggregate results pertaining to climate action commitment and planning milestones. For example, this figure shows that 75% of the responding jurisdictions have either signed the MCPA or the Cool Counties Declaration. The large percentage (79%) of responding jurisdictions that have engaged multiple participants in the climate action commitment and planning process is illustrated for comparison as well. **Individual results for each responding jurisdiction are presented in Table 1.**

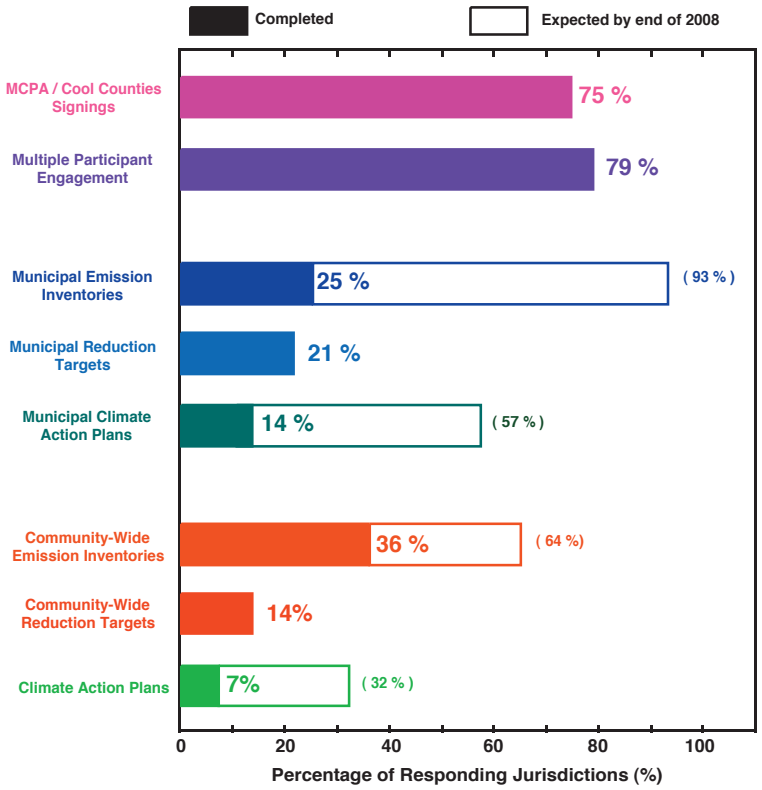

Figure 8: ***Climate action commitment and planning milestones achieved by the responding jurisdictions.*** Figure presents the percentage of jurisdictions that have (i) signed the U.S. Mayors Climate Protection Agreement (MCPA) or U.S. Cool Counties Stabilization Declaration (Cool Counties Declaration), (ii.) Engaged multiple participants such as city staff, consultants, and community members to assist with climate action planning, (iii) Completed a baseline inventory of GHG emissions associated with local government operations and facilities , (iv) Adopted municipal GHG emission reduction targets, (v) Adopted a Municipal Climate Action Plan to achieve the emission reduction targets, (vi) Completed a community-wide baseline emission inventory, (vii) Adopted a community-wide emission reduction target, (viii) Adopted a community-wide Climate Action Plan to reduce emissions from the baseline levels to the established reduction targets. Responses indicating that milestone will be completed by the end of 2008 are also indicated.

Municipal Emission Reduction Planning

To reduce GHG emissions associated with local government operations, jurisdictions need suitable baseline emission data, an emissions reduction target, and a plan for achieving this target. The first step is for the jurisdiction to complete an inventory of GHG emissions associated with its operations and facilities from electricity use, natural gas use, fleet vehicles, and other sources. Such an inventory involves a detailed assessment and review of emissions associated with the jurisdiction's operations and facilities. Recall that figure 4 shows the results of such an inventory for the city of San Mateo. Our survey asked jurisdictions if they have inventoried emissions or if they plan to do so by the end of 2008. **Figure 8** shows the following key results:

- Municipal emission inventories have been completed by seven (25%) of the responding jurisdictions [93% by the end of 2008]

Another key step in reducing emissions from government operations is establishing an emission reduction target. With a baseline emissions inventory and reduction targets, a jurisdiction has a quantitative basis for managing the carbon footprint associated with its operations. **Figure 8** also presents the aggregate results for jurisdictions that have set municipal emission reduction targets.

- Municipal emission reduction targets have been established by 6 jurisdictions (21%).

To achieve the GHG emission reduction goals starting from the baseline emissions inventory, a plan of action—a Municipal Climate Action Plan (MCAP)—needs to be developed by a jurisdiction. This action plan identifies the approach that will be used to reduce GHG emissions from city or county operations. In our Cool Cities survey, we asked jurisdictions if they have already developed and adopted an MCAP or if they plan to do so in 2008. Key results can be seen in figure 8:

- Municipal Climate Action Plans have been developed by only four jurisdictions (14%) — San Mateo, Palo Alto, San Jose, Sunnyvale [57% by end of 2008].

Exemplary Leaders: San Mateo, Palo Alto, San Jose, *and* **Sunnyvale** *have all completed key milestones in reducing GHG emissions associated with municipal government: completion of baseline inventories, establishment of reduction targets, and adoption of Municipal Climate Action Plans*

Community-wide Emission Reduction Planning

Since municipal operations account for only a few percent of the GHG emissions from a typical jurisdiction (see **Figure 3**, for example), it is essential that cities and counties develop policies and programs to reduce community-wide emissions. An important first step to developing such a plan is to develop an inventory of GHG emissions within the jurisdiction as a whole.

- Community-wide GHG emission inventories have been completed by 10 (36%) of the responding jurisdictions [64% by end of 2008].

This number is somewhat higher than the number of jurisdictions reporting completion of a municipal inventory possibly because a community-wide inventory is often somewhat more straightforward to complete. This results from the fact that a first community-wide assessment provides a coarse picture by sector (buildings, transportation,

etc.) and data from utilities and other sources are organized in a manner that makes such a community-wide assessment more straightforward. In contrast, a detailed evaluation of the emissions associated with the many operations of a local government requires finer scale data and more analysis.

Table 2 presents the community-wide emission reduction targets set by the four responding jurisdictions (14%) that have set a target.

TABLE 2: *Community-Wide Emission Reduction Targets*

Jurisdiction	Community-Wide Emission Reduction Target
San Mateo (city)	• 2009 emissions less than 2006 baseline • Exceed 2020 state target of emissions @ 1990 levels • Meet state target of 80% below 1990 by 2050
San Mateo County	Cool Counties Declaration Targets: • Stop increasing by 2010 • 10% reduction every five years thereafter • 80% below current levels by 2050
Palo Alto	15% reduction by 2020
Sunnyvale	7% below 1990 levels by 2012

To achieve these community-wide emission reductions, a Climate Action Plan (CAP) is needed. Figure 8 and Table 1 show the following results:

- Community-wide Climate Action Plans (CAPs) have been developed and adopted by a mere two of the responding jurisdictions (7%) – Palo Alto and San Mateo [32% by the end of 2008].

Exemplary Leaders: Palo Alto *and* **San Mateo** *both have shown exceptional leadership by achieving all major milestones for both municipal and community-wide GHG emissions reductions: completion of baseline inventories, establishment of reduction targets, and adoption of Climate Action Plans.*

The results in this section reveal that local governments in San Mateo and Santa Clara Counties show rapidly growing engagement on climate protection. However, achievement of essential milestones toward emission reduction is still generally lagging and not consistent with Silicon Valley's historic leadership role in other areas. The high level of completed municipal emission inventories expected by the end of 2008 as well as the expected completion of community-wide inventories by nearly two-thirds of the jurisdictions is encouraging.

An organized systematic effort to quantify and reduce GHG emissions involves all of the above milestones. However, many jurisdictions have already taken or will soon take specific actions that reduce GHG emissions even in the absence of achieving some or all of these planning milestones. In the following sections, we report on survey responses regarding actions that have already been taken or will soon be taken to reduce GHG emissions.

TABLE 1: Cool Cities Local Gover
Results by Respo

Completed: ■ **Expected by end of 2008: (X)**

	Climate Action: Commitment & Planning Milestones								*Transportation Policy*		
			Municipal			Community-Wide					
	MCPA/ Cool Counties Signings	Multiple Participant Engagement	Municipal Emission Inventories	Municipal Reduction Targets	Municipal Climate Action Plans	Community-Wide Emission Inventories	Community-Wide Reduction Targets	Climate Action Plans	Procurement Policies Favoring Green Fleets	Municipal Employee Commute Incentives	Tr et E
SAN MATEO COUNTY											
Atherton	■	■	(X)		(X)	(X)		(X)			
Belmont		■	(X)			■					■
Brisbane			(X)		(X)				(X)	■	
Burlingame	■	■	(X)							■	
Foster City		■	(X)		(X)	(X)		(X)	■	■	■
Menlo Park	■	■			(X)	■		(X)		■	■
Pacifica	■	■	(X)			(X)					
Redwood City	■		(X)			■			■	■	■
San Bruno	■	■	(X)		(X)	■		(X)	■	■	■
San Mateo	■	■	■	■	■	■	■	■	■		■
San Mateo County	■	■	(X)		(X)	(X)	■	(X)	■	■	■
South San Francisco	■		(X)							■	
Woodside		■	(X)		(X)				(X)		
SANTA CLARA COUNTY											
Campbell	■	■	(X)		(X)					■	
Cupertino	■	■							■	■	■
Gilroy		■	■	■	■	■	■	■	■		■
Los Altos	■	■	(X)								■
Los Altos Hills	■	■	(X)		(X)	(X)			■		■
Los Gatos	■	■	(X)	■	(X)	■			■		■
Milpitas									(X)	■	
Monte Sereno			(X)			(X)			(X)	■	
Morgan Hill	■		■	■	■	■	■	■	(X)		■
Mountain View	■	■	(X)			(X)			■	■	■
Palo Alto	■	■	■	■	■	■	■	■	(X)	■	
San Jose	■	■	■	■	■	■	■	(X)	■	■	■
Santa Clara	■	■	(X)		(X)	(X)			■	■	■
Santa Clara County	■	■	(X)	■	(X)	■		(X)	■	■	■
Sunnyvale	■	■	■	■	■		■		■		■

Table 1: ***Results by Responding Jurisdiction.***
Commitment and Planning Milestones: "MPCA/ Cool Counties Signings": Signed the U.S. Mayors Climate Protection Agreement (MCPA) or U.S. Cool Counties Stabilization Declaration (Cool Counties Declaration). *"Multiple Participant Engagement":* Engaged multiple participants such as city staff, consultants, and community members to assist with climate action planning. *"Municipal Emission Inventory":* Completed a baseline inventory of GHG emissions associated with local government operations and facilities. *"Municipal Reduction Targets":* Adopted municipal GHG emission reduction targets. *"Municipal Climate Action Plan":* Adopted a Municipal Climate Action Plan to achieve the emission reduction targets. *"Community-Wide Emission Inventories":* Completed a community-wide baseline emission inventory. *"Community-Wide Reduction Targets":* Adopted a community-wide emission reduction target. *"Climate Action Plans":* Adopted a community-wide Climate Action Plan to reduce emissions from the baseline levels to the established reduction targets. Responses indicating that milestone will be completed by the end of 2008 are also indicated.

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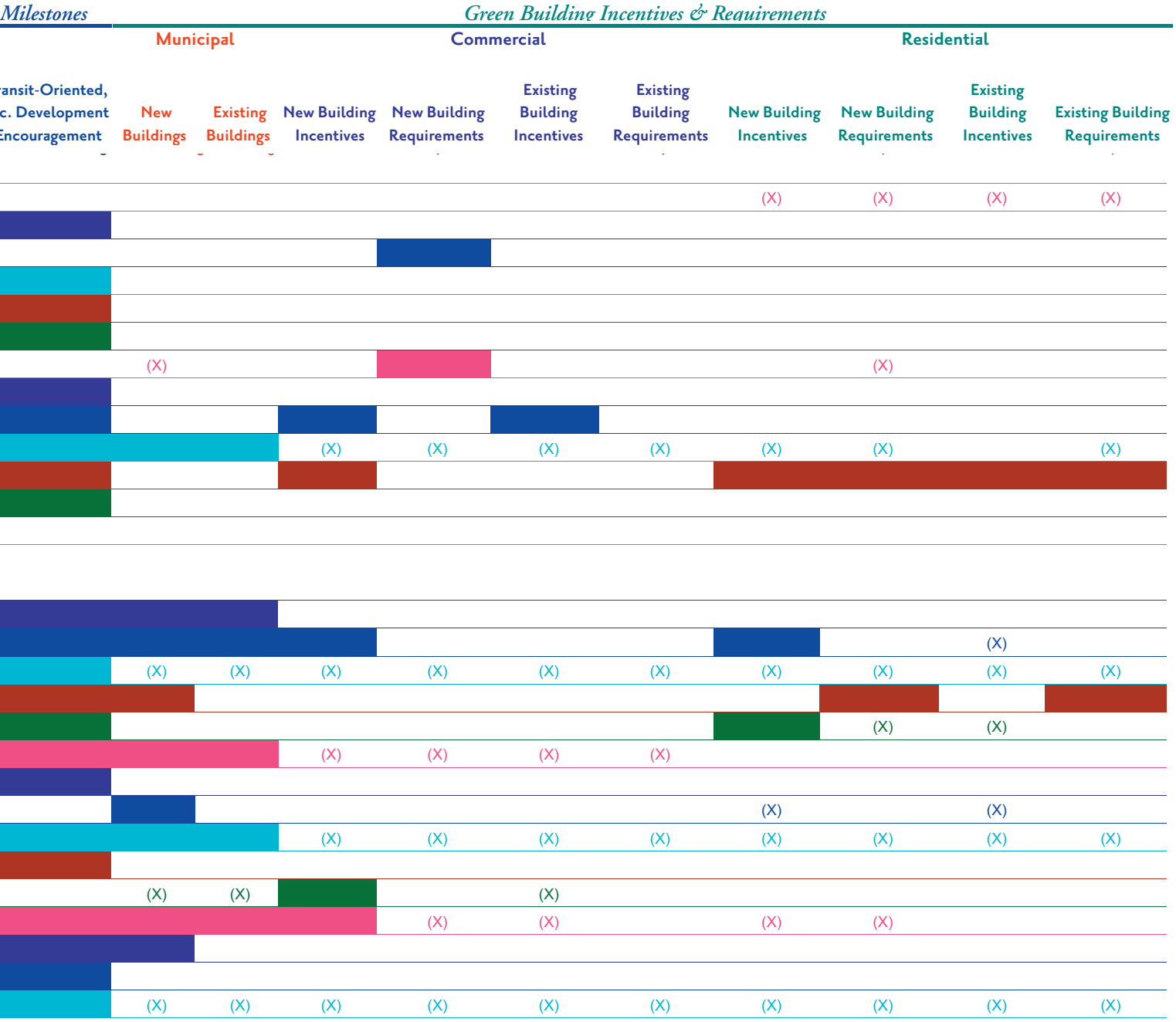

Transportation Policy Milestones: *"Procurement Policies Favoring Green Fleets":* Jurisdiction has policy favoring the purchase of alternative technology or alternative fuel vehicles ("green vehicles"). *"Municipal Employee Commute Incentives":* Jurisdiction has incentives for municipal employees to commute using modes other than single-occupancy vehicles. *"Transit-Oriented, etc. Development Encouragement":* Jurisdiction states it has policies that encourage transit-orientated or mixed-use development.

Green Building Incentives & Requirements: New municipal building and commercial building incentives and requirements are for those that meet LEED Silver certification, equivalent or better. Existing municipal and commercial building incentives and requirements are for those meeting LEED-EB Certified level, equivalent or better. New residential building incentives and requirements are for those buildings that meet BIG GreenPoint-Rated 50 points, equivalent or better. Finally, for existing residential structures, incentives and requirements are based on a minimum number of BIG GreenPoint-Rated points.

Climate Action: Transportation Policy Milestones

Transportation comprises about 50% of total GHG emissions in our region and represents the largest single source of emissions (see **Figures 2 & 3**). Although cities and counties cannot directly regulate emissions from vehicles, they can craft policies and programs that reduce transportation emissions from local government operations and/or encourage greater use of mass transit or other alternate forms of transportation by residents and employees. Municipal actions to reduce transportation-related GHG emissions range from upgrading their fleets to more climate-friendly technologies, encouraging alternative modes of transportation for their employees, and promoting transit-oriented or mixed-use development in the community.

Municipal Emissions

Figure 4 shows that emissions associated with vehicle fleets and employee commutes represent a significant portion of overall emissions from government operations and facilities. Hence one way to reduce transportation emissions is by purchasing vehicles that produce fewer or no GHG emissions per mile. Alternative fuel vehicles include those running on compressed natural gas (CNG) and those running on biofuels. CNG vehicles produce fewer emissions per mile through more efficient combustion of the simple methane molecule in natural gas. Biofuels can reduce the net emission of carbon dioxide since carbon dioxide was absorbed from the atmosphere by the plants that provided the materials for biofuels production, and the combustion of the biofuel releases the carbon dioxide back into the atmosphere. Depending on the process used to produce the biofuel, the net release of CO_2 into the atmosphere per mile of vehicle travel can be much smaller than that from combustion of gasoline. However, it is important to note that production of the biofuel ethanol from corn produces very little benefit in reducing net emissions of carbon dioxide[19]. Alternative technology vehicles include hybrid-gas/electric or all electric vehicles, for example.

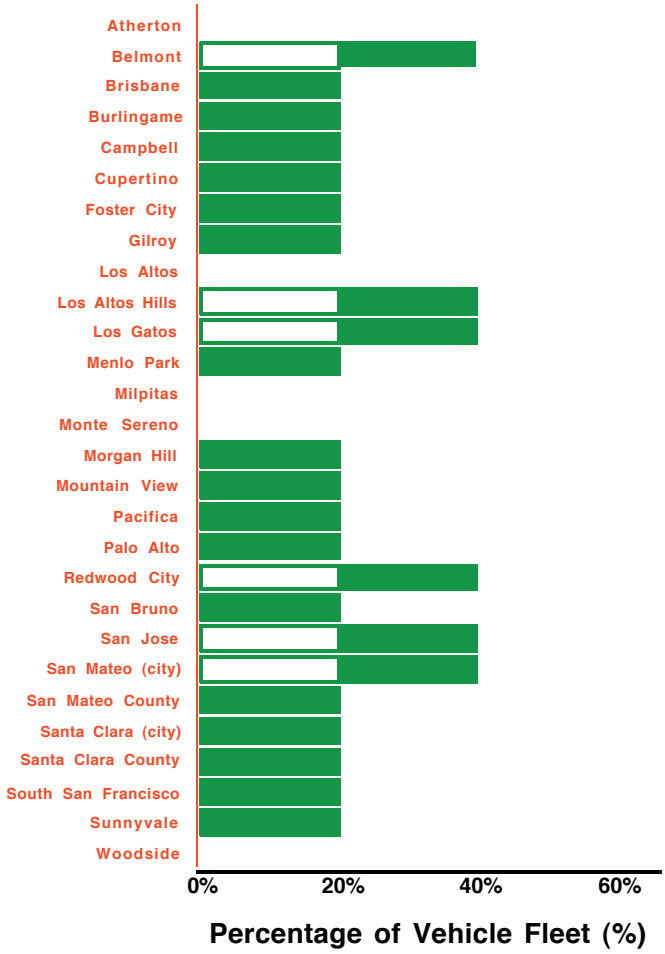

Figure 9: ***Percentage of local government vehicle fleets powered by alternative fuels and/or technologies.*** Solid bars show percent ranges chosen by the responding jurisdictions. See text for details.

Figure 9 presents responses to our query on the percentage of local government vehicle fleets powered by alternative fuel and/or alternative technology vehicles.

- Seventeen jurisdictions (61% of the respondents) have fleets with 1- 20% alternative vehicles.
- Six (21%) of the jurisdictions have 21-40% of their fleets made up of such vehicles.

Although the vast majority of cities do not currently have many alternative vehicles in their fleets, jurisdictions that have or soon will adopt procurement policies favoring the purchases of alternative vehicles could significantly reduce the CO_2 emissions of vehicle fleets in coming years. Such policies can not only directly reduce emissions associated with municipal operations, but also they can increase the market for development and production of such vehicles and, therefore, increase the selection and decrease the cost of these vehicles in the future.

Exemplary Leaders: Redwood City and Santa Clara *has shown exceptional leadership by including 80% and 88% hybrids in their sedan fleets, respectively*

Figure 10 displays the responses to our question on whether jurisdictions currently have procurement policies that favor the purchase of alternative fuel or technology vehicles. Results for individual jurisdictions are presented in Table 1.

- Policies favoring acquisition of alternative fuel or alternate technology vehicles are reported by 14 jurisdictions (50%) [71% expect to have such policies in place by the end of 2008].

Our results show that green vehicles are slowly becoming part of many local government fleets but rapid increases are likely soon as many jurisdictions adopt procurement policies favoring such purchases.

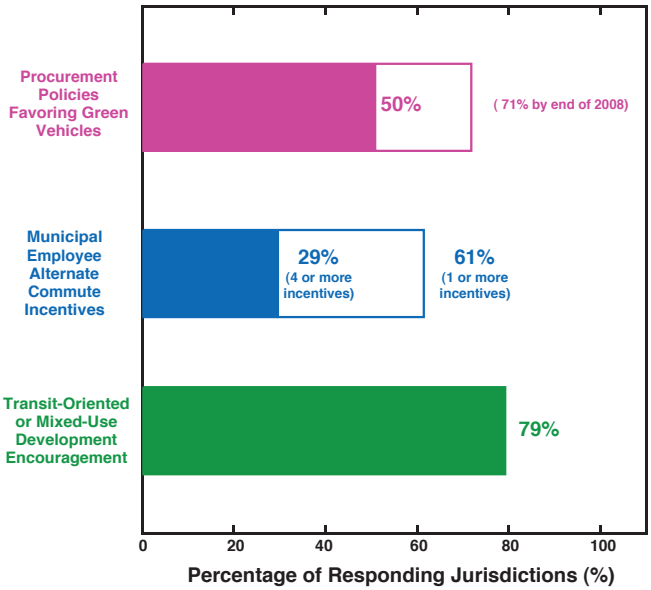

Figure 10 : ***Transportation policy milestones achieved by responding jurisdictions.*** (i) Percentage with procurement policies favoring the purchase of alternative technology or alternative fuel vehicles ("green vehicles"). (ii.) Percentage with incentives for municipal employees to commute using modes other than single-occupancy vehicles. (iii.) Percentage stating they have policies that encourage transit-orientated or mixed-use development.

Local governments can also have an impact on emissions associated with their operations by offering incentives for employees to switch from driving to work alone in a car to some alternative means of transportation that reduces CO_2 emissions per person. In the case of San Mateo **(see Figure 4)**, emissions associated with employee commutes account for almost the same level of emissions as the city's vehicle fleet. Therefore, we asked local governments whether they offer incentives for employees to use any of the following alternatives to single-occupancy vehicles: public transportation, carpools, vanpools or car-sharing, a bicycle or walk to work, and/or other alternative transportation. **Figure 11** presents the responses to this question for each jurisdiction, and **Figure 10** presents the results in aggregate form.

Cool Cities
Local Government Climate Action Survey 2008

A Report on Climate Protection Policies and Practices in San Mateo and Santa Clara County Jurisdictions

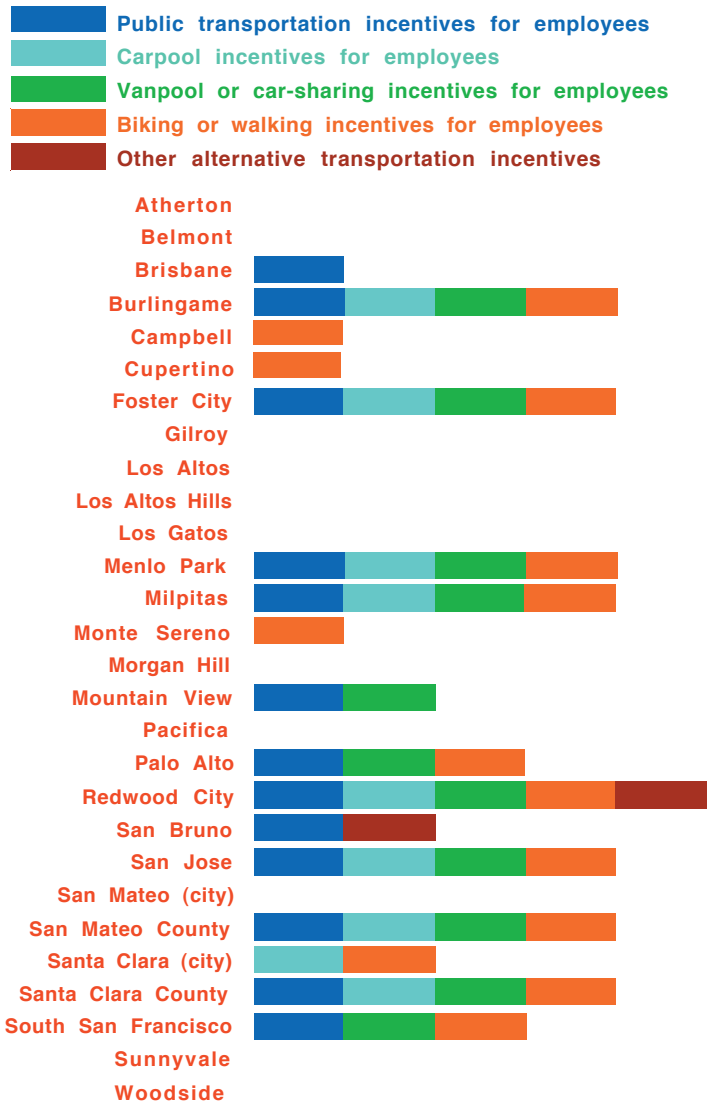

Figure 11: ***Municipal employee alternative commute incentives offered by responding jurisdictions.*** Color bars correspond to different types of incentives for municipal employees to commute to work not using a single-occupancy vehicle. Incentives types correspond to the response options for this question.

- One or more incentives are offered by 17 (61%) of the responding jurisdictions.
- Eight jurisdictions (29%) stand out for providing all of these incentives to employees—Burlingame, Foster City, Menlo Park, Milpitas, Redwood City, San Jose, San Mateo County, and Santa Clara County.

More jurisdictions need to offer multiple incentives for alternative commuting methods and provide a model for the private-sector to address the large contribution of the transportation sector.

Exemplary Leaders: Burlingame, Foster City, Menlo Park, Milpitas, Redwood City, San Jose, San Mateo County, and Santa Clara County have shown exceptional leadership by offering 4 or more types of incentives for employees to adopt alternative commutes.

Community-Wide Emissions

Local government has authority over development or land-use decisions within the community and this authority provides a powerful and effective means of reducing single vehicle use. Smart land use planning, also known as "smart growth" is a critical tool for cities and counties of all sizes to embrace to accommodate population growth while at the same time trying to drive down GHG emissions. Studies show that "people living in places with twice the density, diversity of uses, accessible destinations and interconnected streets drive about a third less than otherwise comparable residents of low-density sprawl[20]. Furthermore, the energy associated with getting people to and from the average building is typically around 30% greater than energy used for building operation. For newer more efficient buildings, the difference is even greater. These comparisons illustrate the importance of considering the relative locations of our housing, offices, and retail spaces in addressing community GHG emissions.

Since encouraging transit-oriented or mixed-use development can have an important impact on transportation emissions within a community,

jurisdictions were queried as to whether they currently encourage transit-oriented development or mixed-use development to reduce automobile use and encourage alternative transportation use. **Figure 10** shows that 22 (79%) of the reporting jurisdictions currently encourage such development, and the specific jurisdictions are enumerated in **Table 1.**

As jurisdictions seek to implement the MCPA or Cool Counties Declaration, the importance of GHG emissions associated with transportation will necessitate multiple actions to reduce emissions from this source. Other types of actions might include funding or seeking funds for free community shuttles, which would encourage residents to reduce car use. Similarly, incentives for, or requirements on, employers to reduce employee commutes by single-occupancy vehicles may be helpful. In addition, municipal leaders need to engage with regional and county public transportation authorities to increase mass transit options and convenience for residents.

Combining vehicle miles traveled (VMT) with the average fuel economy of the vehicle fleet (mpg), GHG emissions associated with vehicle use can be roughly estimated but only very roughly at the scale of a city. As jurisdictions seek to measure the impacts of their policies to reduce GHG emissions from the transportation sector in their jurisdictions, accurate city or county-specific data on VMT, or ideally, more direct measures of GHG emissions from vehicles will be needed. State-level action — such as requiring that annual car registrations include an odometer reading — could assist local jurisdictions. Such a requirement would facilitate collection of data on annual miles traveled, vehicle make and hence miles per gallon, and zip code information, which in turn, would enable an accurate determination of aggregate annual carbon dioxide emissions from vehicles registered in a city or county.

Climate Action: Green Building Incentives & Requirements

Buildings represent 39% percent of GHG emissions in the U.S.[21]. Over the next 25 years, these emissions are projected to increase faster than any other sector's emissions. So the practice of green building, and policies that support it, are a critical and urgent piece of a broader strategy to reduce our global warming emissions.

Green building applies a "whole systems" approach to the design, construction and operation of buildings. Those who build "green" consider (1) efficient and responsible use of the building site, such as the site's natural characteristics and appropriate landscaping, (2) efficient resource use - using materials, energy and water wisely, (3) high quality indoor air by selecting materials lower in chemicals or the installation of mechanical ventilation, and (4) community issues, such as siting within easy access to public transit[22]. Therefore, such buildings reduce GHG emissions associated with the construction and use of the building.

Local jurisdictions that encourage green building generally rely on two voluntary certification systems that can be used to assess how "green" a building project is. The U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is generally considered the benchmark for commercial green building[23]. Under the LEED ratings system, building projects meeting certain prerequisites and performance benchmarks may earn credits toward certification. Based on the score attained, projects may be awarded Certified, Silver, Gold, or Platinum certification. For residential buildings,

Build It Green's (BIG) GreenPoint Rated verification system is becoming the regional standard, with support from the Home Builders Association of Northern California and the Association of Bay Area Governments[24]. Further, the Home Builders Association will promote mandatory green building standards based on GreenPoint Rated in all 101 cities and counties in the Bay Area. A GreenPoint rating of 50 points is being promoted by BIG as a minimum standard for a green building.

Since the LEED and GreenPoint Rated systems are accepted systems for evaluating green buildings, we surveyed jurisdictions on their policies to encourage or require LEED Silver Certification, equivalent, or better for new municipal and commercial buildings. For new residential structures, we asked if they encourage or require BIG GreenPoint-Rated 50 points, equivalent, or better for residential buildings.

A key challenge of addressing GHG emissions associated with the building sector is that the vast majority of buildings are existing structures. Opportunities to address this challenge occur, for example, when major renovations or remodels occur, when a building is sold, or by providing attractive financing for green building upgrades. The USGBC has created LEED-EB certification levels for existing buildings. Recognizing the importance of the existing building stock, we asked the cities and counties if they encourage and/or require LEED-EB certification, equivalent, or better at the time of major renovations or remodels of existing municipal or commercial buildings. For existing residential structures, we asked if incentives or requirements exist for a minimum number of BIG GreenPoint-Rated points.

Figure 12 presents aggregate results from our green building questions, and Table 1 presents results for individual jurisdictions.

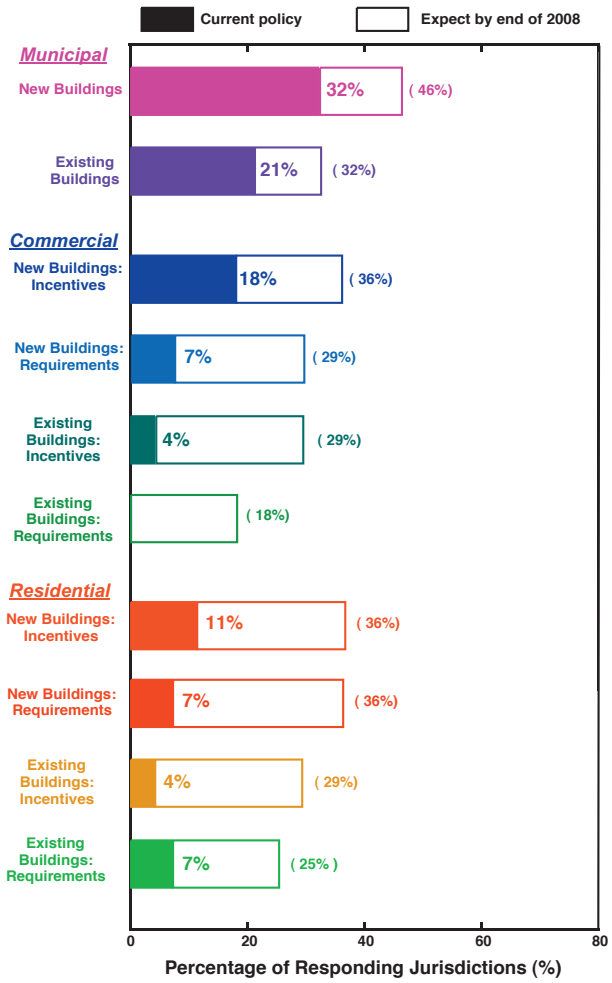

Figure 12: ***Green building incentives & requirements for the responding jurisdictions.*** Each stacked bar presents the percentage of jurisdictions with the following policies either currently in place or expected by the end of 2008. New municipal building and commercial building incentives and requirements are for those that meet LEED Silver certification, equivalent or better. Existing municipal and commercial building incentives and requirements are for those meeting LEED-EB Certified level, equivalent or better. New residential building incentives and requirements are for those buildings that meet BIG GreenPoint-Rated 50 points, equivalent or better. Finally, for existing residential structures, incentives and requirements are based on a minimum number of BIG GreenPoint-Rated points.

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Municipal Buildings

- LEED Silver Certifications, equivalent, or better for new municipal buildings are currently required in 9 (32%) of the responding jurisdictions [46% by the end of 2008].
- Adoption of LEED-EB certification requirements for existing buildings undergoing major renovations is still low (21% or 6 jurisdictions) but essential for reducing GHG emissions as most buildings fall into this category [32% expect to adopt such requirements by end of 2008].

Local governments are increasingly adopting significant green building standards for their buildings but more effort is needed to spur green renovations in existing buildings.

Further action may be spurred by existing efforts by city and county associations. The Santa Clara County Cities Association (SCCCA) has adopted a green building policy for municipal buildings in the cities in its purview. SCCCA recommends that cities in the region lead by example, by adopting the LEED Silver threshold for new municipal buildings[25].

Exemplary Leaders: San Mateo, Campbell, Cupertino, Los Gatos, Morgan Hill, and San Jose *have all shown exceptional leadership by adopting policies to require LEED Silver certified, equivalent, or better for new municipal buildings and to require LEED EB, equivalent, or better for major renovations of existing municipal buildings.*

Commercial and Residential Buildings

Key results on new privately-owned buildings:

- Incentives for LEED Silver Certified, equivalent, or better for new commercial buildings currently exist in 5 jurisdictions (18%) [36% by the end of 2008].
- Requirements for LEED Silver Certified, equivalent, or better for new commercial buildings currently exist in 2 jurisdictions (7%) [29% by the end of 2008]
- Incentives for new residences to achieve Build It Green 50 point ratings, equivalent, or better exist in 3 jurisdictions (11%) [36% by the end of 2008]
- Requirements for new residences to achieve Build It Green 50 point ratings, equivalent, or better exist in 2 jurisdictions (7%) [36% by the end of 2008]

Exemplary Leaders: **Brisbane** *and* **Pacifica** *have both shown exceptional leadership by requiring LEED Silver certified, equivalent, or better for new commercial buildings.* **San Mateo County** *and* **Los Altos** *have also shown exceptional leadership by requiring Build It Green 50 point ratings, equivalent, or better for new residences"*

Therefore, our survey results show progress on encouraging or requiring new privately-owned buildings to meet significant green building standards is currently still weak. However, the large increase in the percentage of jurisdictions expecting to have incentives or requirements by the end of 2008 is good news. The overall trend toward high-bar green building standards for new commercial and residential buildings is somewhat encouraging although the absolute percentages by the end of 2008 will still be relatively small.

Key results on existing privately-owned buildings:

- Only one city (4%) — San Bruno — encourages LEED EB or equivalent for commercial buildings (29% expect to do so by end of 2008)
- No jurisdiction currently requires LEED EB or equivalent for commercial buildings (18% expect to do so by end of 2008)
- Only one jurisdiction (4%) — San Mateo County — provides incentives for a minimum number of BIG points for existing residences (29% expect to do so by end of 2008)
- Two jurisdictions (7%) — San Mateo County and Los Altos — require a minimum number of BIG points for existing residences (25% expect to do so by end of 2008)

Exemplary Leaders: San Bruno, San Mateo County, *and* **Los Altos** *have adopted policies to encourage and/or require significant green building standards for major renovations or remodels of existing privately-owned buildings.*

Our results indicate that the challenge of encouraging or requiring existing buildings to meet significant green building standards after major renovations or remodels is not being met. Addressing this challenge is essential since so much of our building energy use and loss comes from existing buildings.

Note added at press time: Since this survey was completed, the City of Palo Alto has adopted a new green building ordinance. Palo Alto's green building requirements apply to new commercial and residential structures (including multi-family) and those undergoing major renovation; the certification requirements meet or exceed those reported here for other jurisdictions.[26]

Climate Action: Solar Power

Clean energy technologies which do not result in emission of GHGs are an essential component of any strategy to reduce GHG emissions locally as well as globally. As the world's economies and population grow, energy demands will rise dramatically and energy efficiency and conservation measures— such as those discussed in previous sections — alone cannot meet this rising need[27]. Solar energy provides an abundant clean energy source of sufficient magnitude to meet projected world energy demands. In fact, using existing solar photovoltaic technology all of the U.S.'s energy needs could be met with a solar photovoltaic array spanning 250 km x 250 km in the Arizona desert[28].

At present Federal and State tax incentives and rebates are needed to make solar photovoltaic (PV) technologies cost competitive with the current major sources of electricity based on fossil fuels[29]. However the costs of solar PV are decreasing through production changes and through gradually growing economies of scale. Local governments can facilitate the adoption of solar PV technologies in significant ways. First, they can lead by example by modeling the deployment of solar PV on government buildings. Moreover, the cumulative impact of purchases by local governments can increase the demand for solar PV systems and bring down costs. Furthermore, broad adoption of solar PV systems

presents a significant and growing opportunity for local clean technology companies which will benefit from increased demand for solar systems.

Local governments can directly extend the impact to the community by adopting policies that reduce the local costs associated with the installation of solar PV systems. For example, almost all cities and counties charge a solar permit fee to install solar PV systems. By reducing or eliminating these fees, local government can have a notable impact on lowering solar PV costs. In addition, other aspects of the permitting of solar systems by local jurisdictions can introduce delays that lead to increased labor costs.

Municipal Solar Power Generation Capacity

We queried the responding jurisdictions to determine the total peak solar power generation capacity of installed solar PV systems on municipal government buildings and other facilities. By asking for the peak power capacity of the systems we can properly inter-compare the systems.

Figure 13 shows these results for the responding jurisdictions that have solar power generation capacity.

- Solar power generation capacity for government operations is reported by only 6 (21%) of the responding jurisdictions
- Solar power generation capacity over 100 kW is reported by only 3 of the responding jurisdictions (11%)

In addition, several jurisdictions reported noteworthy developments relating to municipal solar power:

- Menlo Park is proposing a 35-50 kW system.
- Morgan Hill has approved a 15 kW system which will be installed by the end of the year.

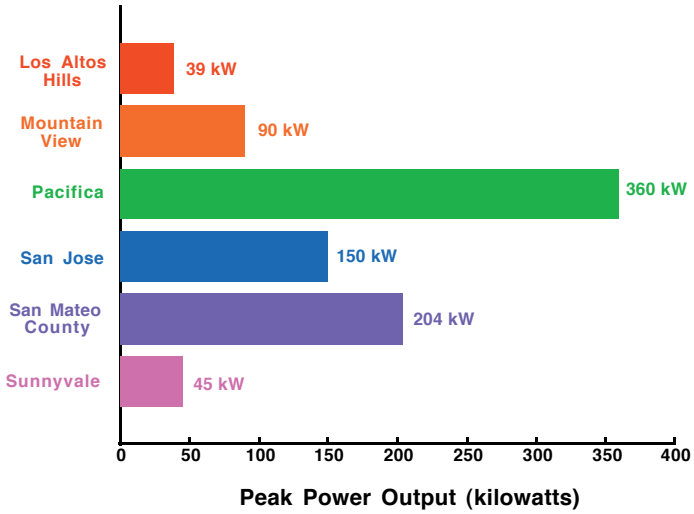

Figure 13: ***Municipal solar power generation capacity of local governments in San Mateo and Santa Clara Counties.*** Total peak power generation capacity of solar photovoltaic (PV) systems on local government facilities is displayed for the responding jurisdictions that have such capacity. Unlisted responding jurisdictions reported no solar power generation capacity.

- Palo Alto has installed solar arrays as technology demonstration projects

Exemplary Leaders: Pacifica, San Mateo County, *and* **San Jose** *have shown exceptional leadership by installing solar photovoltaic systems with power capacities exceeding 100 kW for municipal electricity needs.*

Steps Taken to Facilitate Installation of Solar Power in the Community

We surveyed the jurisdictions on which, if any, of the following steps have been taken to reduce barriers to solar power in the community: Reduced or eliminated solar permit fees; Expedited solar permitting; Promoted alternative financing for solar (e.g. solar co-ops, Power Purchase agreements, special financing districts). **Figure 14** presents the responses to this question. Key results are:

- Permit fees have been reduced or eliminated by 25 of the responding jurisdictions (89%).
- Expedited solar permitting is reported by 11 of the jurisdictions (39%).
- Alternative financing for solar power systems has been promoted by 5 of the responding jurisdictions (18%).

Reductions in permit fees for solar PV installations can be credited almost exclusively to the Loma Prieta Chapter's *Solar Permit Fee Study*[30], which was issued in 2005, and the subsequent follow-up efforts and press coverage. The study revealed quite large variations in solar permit fees, and many jurisdictions subsequently reduced or eliminated their high fees as is reflected in the results presented here.

Exemplary Leader: San Mateo County *has shown exceptional leadership by both having the largest municipal solar power generation capacity of the responding jurisdictions and by encouraging solar power in the community through both reduced permit fees and expedited permitting.*

Our results show that surprisingly few local governments have the capacity to generate solar power from systems on their facilities while at the same time the vast majority of the jurisdictions are facilitating the installation of solar power systems in the community.

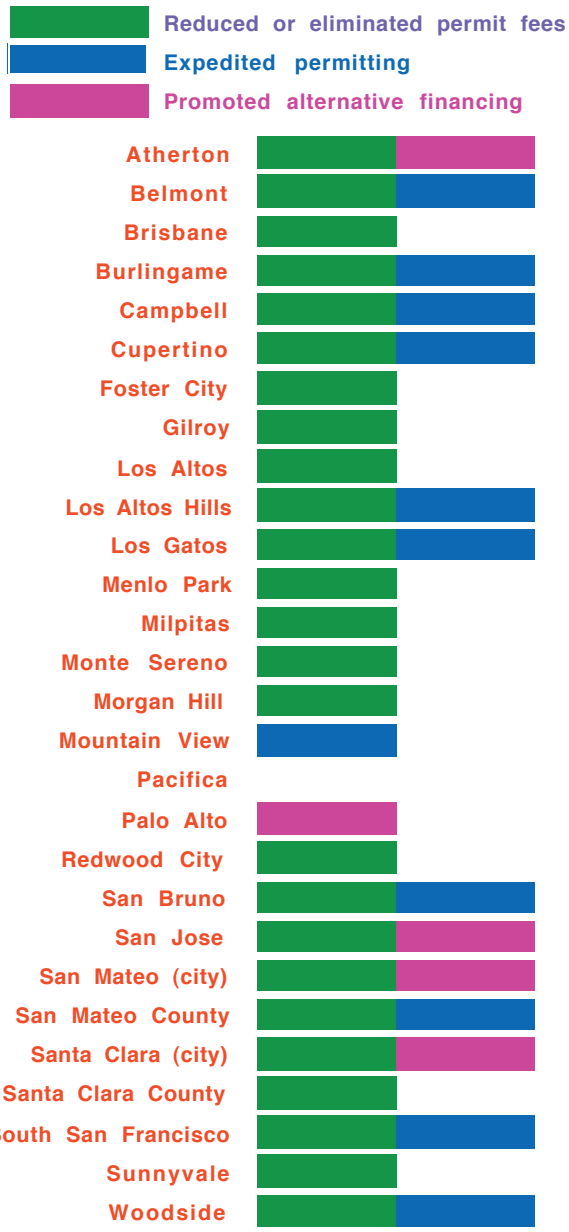

Figure 14: *Steps taken by responding jurisdictions to reduce barriers to solar power installation in the community.* Color bars correspond to the different response options listed for facilitating solar power system installation. See text for details.

Additional Climate Action Highlights

Water Efficiency

Measures to encourage watershed protection and promote lower water use, through greater efficiency, are motivated both by the stress that climate change places on our water resources as well as the direct emissions that arise from water use. Increased air and water temperatures contribute to declining Sierra snowpack. This snowpack effectively stores water (in the form of snow) for use in warmer months (as it melts). Reduced snowpack accompanied by earlier springtime threatens the availability of summer water. This, coupled with intense summer drought conditions, such as we are currently experiencing, puts undue stress on our water resources which is only predicted to worsen[12]. Furthermore, our flood protection structures may not be able to handle future flows as rising tides, associated with climate change, overwhelm levees in the Sacramento-San Joaquin delta, in the South Bay, and elsewhere. In addition, the energy required to pump, purify, and heat water and wastewater contributes directly to greenhouse gas emissions.

In this survey, we looked at several different measures that local jurisdictions are taking to reduce water use. These include the following:

- Incentives for installing low-flow toilets;
- Incentives for drought-tolerant or native landscaping;
- Use of reclaimed water
- Public education
- Other measures

Some examples of "other measures" include: no longer purchasing water bottles for City Council and other city meetings (Los Altos), providing incentives for efficient clothes washers (several cities); and using reclaimed water (in new Santa Clara County buildings).

Figure 15 presents the responses from each jurisdiction. Key results are:

- Action to encourage water-use efficiency is being taken by all respondents but one (96%).
- Four or more steps to encourage increased efficiency of water use and water conservation are being taken by 5 jurisdictions (18%).

At least one step to encourage water-use efficiency and/or conservation has been taken by the vast majority of jurisdictions, but much more action is needed to match the challenge posed by expected changes to the Sierra Nevada snowpack resulting from climate change.

Solid Waste

Solid waste that ends up in landfills produces methane, a potent greenhouse gas. Cities and counties can avoid a significant amount of methane generation by diverting reusable, recyclable and compostable products from the landfill through education and their solid waste collection system. California law requires municipalities to divert at least 50% of their waste[31].

- Twelve jurisdictions (43%) significantly exceed the state mandate of 50% solid waste diversion rates.

Exemplary Leaders: Atherton, Belmont, Brisbane, Los Altos Hills, Monte Sereno, Morgan Hill, Mountain View, Palo Alto, Redwood City, San Mateo County, Sunnyvale, *and* **Woodside** *report diversion rates between 60 and 80%."*

Support from Resources Beyond Cities and Counties

The challenge of addressing GHG emissions in a typical community involves technical, financial, and other issues which transcend any one community. Examples of technical needs include proper methodology and software tools for evaluating emissions inventories and for financial analysis of proposed emission reduction actions. Another example would include guidance on creation and implementation of a green building ordinance. Financial needs could include funding for staff time to work on climate protection activities or financial assistance for investments in new energy efficiency measures or solar power generation capacity. Hence, support for cities and counties from outside agencies and initiatives is essential and can potentially facilitate and accelerate climate action.

The Climate Protection Program of the Bay Area Air Quality Management District (BAAQMD)[32] includes several initiatives to assist local governments. The District's ICLEI-BAAQMD Workshop Series has held workshops on developing GHG emission inventories and selecting climate protection strategies. The impact of these workshops on evaluations of community-wide emission inventories is suggested by our results on commitment and planning milestones (figure 8). These results show that action on key climate protection milestones beyond the initial commitment is still weak except in the case of emission inventories. Ten (36%) of the jurisdictions responding to our survey have completed such an inventory while 64% expect to do so by the end of 2008.

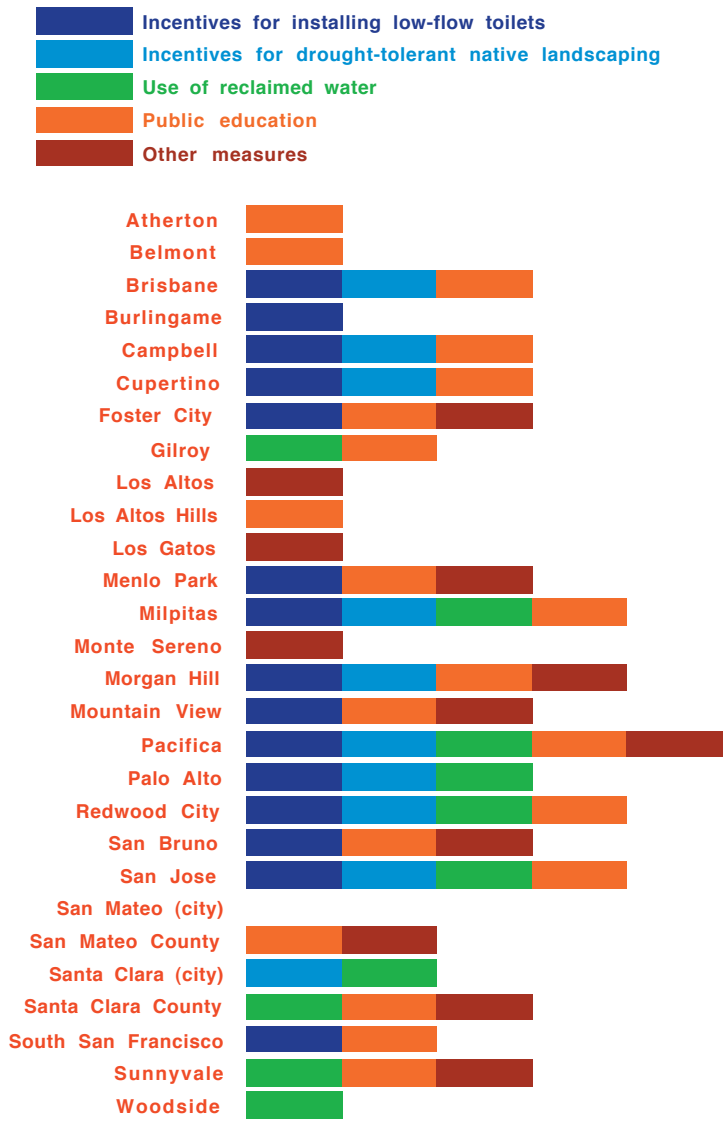

Figure 15: ***Steps taken by cities and counties to increase efficiency of water use.*** Color bars correspond to the different water conservation and efficiency response options offered in the question.

Joint Venture Silicon Valley (JVSV) Network's Climate Protection Initiative[33] has offered a special volume purchase agreement with ICLEI[18] to reduce the cost of having individual public agencies in San Mateo and Santa Clara Counties perform municipal GHG emission inventories. The impact of this initiative can also be seen in our results in figure 8, where although 7 (25%) of the responding jurisdictions have already completed a municipal inventory, 93% expect to have completed an inventory by the end of 2008.

The City/ County Association of Governments (C/CAG)[34] in San Mateo County created a program to provide $6,500 to each city in San Mateo County that agreed to participate in the JVSV program to reduce the cost of municipal emission inventories. The results in Table 1 suggest that this program likely had an impact since every responding jurisdiction in San Mateo County expects to have completed a municipal emissions inventory by the end of 2008.

The California Air Resources Board (CARB) is the lead agency for implementation of The California Global Warming Solutions Act of 2006 (AB 32). The agency has issued its *Climate Change Draft Scoping Plan*[15] for reducing GHG emissions in California to meet the AB 32 targets. The plan addresses a wide array of emission reduction measures including action by local governments and regional emission reduction targets.

Our questionnaire asked jurisdictions to assess the support that regional initiatives and/or agencies have provided to their climate protection efforts; a separate question asked for an assessment of support from state government leaders and/or agencies. Aggregate responses are presented in **figure 16**.

- Regional initiatives and/or agencies were listed as very helpful or somewhat helpful by 89% of responding jurisdictions.

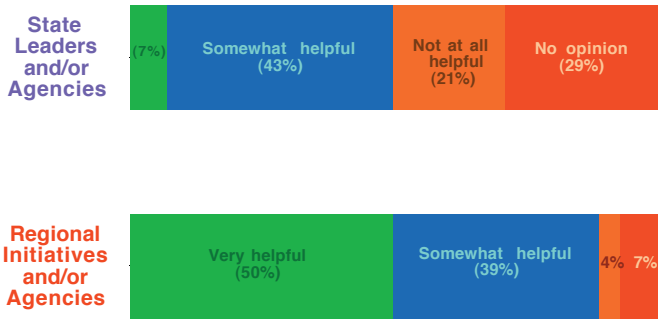

Figure 16: ***Assessment of support from resources beyond city or county governments.*** Percentages of jurisdictions listing support as "Very helpful" (green), "Somewhat helpful" (blue), "Not at all helpful" (orange), or "No opinion" (red). Assessment of support from state government leaders and/or agencies as well as from regional initiatives and/or agencies was surveyed. Total length of each bar corresponds to 100%.

- State government leaders and/or agencies were listed as very helpful or somewhat helpful by 50% of responding jurisdictions

These findings mirror our earlier results that regional initiatives and agencies have been quite helpful in stimulating climate protection efforts of cities and counties. The significantly lower assessment of state level support may reflect the focus by CARB on developing a broad plan for meeting the AB 32 target of reducing emissions by approximately 10% from current levels by 2020. However, the *Climate Change Draft Scoping Plan* does seem to underestimate the potential for early emission reduction gains from local government action given the rapidly growing engagement of local governments in the Bay Area and elsewhere on climate protection. The draft scoping plan also does not properly quantify the emission reductions that would be possible through early local government action. In addition, the draft plan does not provide for much- needed guidance and technical and financial assistance for cities and counties interested in taking early action.

Conclusions

Our *Cool Cities Local Government Climate Action Survey* results show a growing level of engagement by local governments to reduce GHG emissions from the Silicon Valley Region. However, the region's historic role as a leader does not yet extend to action on the climate change challenge. Key metropolitan areas such as Portland, Oregon and Seattle, Washington have progressed much further and faster in reducing GHG emissions and in planning for climate change impacts. The results of our survey suggest our region is poised to quickly assume a leadership role if local government leaders act quickly and decisively to enable emissions reductions from transportation and buildings, which dominate the GHG emissions in our area. A rich variety of local jurisdictions are already leading in specific narrow areas of GHG emission reductions. These exemplary leaders offer an opportunity for rapid diffusion of leading practices and policies.

Key challenges include: Planning and implementing community-wide emissions reductions and addressing emissions associated with existing buildings. Our survey suggests a combination of public engagement with local government leaders combined with regional initiatives and other resources from beyond city and county government is essential for rapid decisive action to occur at a level needed to meet the climate change/ clean energy challenge.

About the Global Warming Program of the Loma Prieta Chapter of the Sierra Club

The Cool Cities Campaign of the Sierra Club Loma Prieta Chapter is one of four initiatives in the Chapter's Global Warming Program to reduce greenhouse gas (GHG) emissions from the Silicon Valley Region. The Cool Cities Campaign is a National Sierra Club Campaign that forms teams of volunteers in each city and county to work for local government action to reduce emissions. The Campaign currently has 19 Cool Cities Teams of volunteers in the cities in San Mateo and Santa Clara Counties and one Cool County Team in San Mateo County. Other initiatives in the Chapter's Global Warming Program include an Education and Outreach initiative, an initiative to work for emissions reductions by individuals and institutions, and an initiative to reduce local barriers to the installation of solar power.

For more information go to: lomaprietaglobalwarming.sierraclub.org, or contact the Global Warming Program Coordinator, Julio Magalhães, at e-mail: julio.magalhaes@sierraclub.org, phone: 650-390-8441.

(Endnotes)

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32. Bay Area Air Quality Management District Climate Protection Program ICLEI-BAAQMD Workshop Series (www.baaqmd.gov)
33. Joint Venture Silicon Valley Network's Climate Protection Initiative (www.jointventure.org)
34. City/ County Association of Governments of San Mateo County (www.ccag.ca.gov)

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Climate Action Campaign:

Addressing Global Warming in the Silicon Valley Region

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