

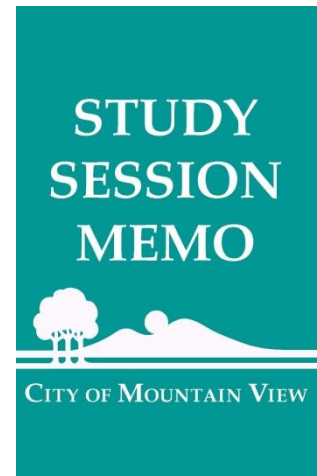
DATE: March 31, 2015

TO: Honorable Mayor and City Council

FROM: Steve Attinger, Environmental Sustainability
Coordinator
Terry Blount, Assistant Community
Development Director
Michael A. Fuller, Public Works Director

VIA: Daniel H. Rich, City Manager

TITLE: Municipal Operations Climate Action Plan



PURPOSE

The purpose of this Study Session is for the City Council to review and provide input regarding the proposed Public Review Draft of the Municipal Operations Climate Action Plan (MOCAP).

BACKGROUND

In November 2009 and March 2010, the City Council adopted voluntary greenhouse gas (GHG) reduction targets for the community as a whole and for municipal operations. The adoption of the targets was in response to the Global Warming Solutions Act (AB 32) being signed into law, requiring California to reduce Statewide GHG emissions over time.

Since that time, the City has developed several plans and policies to guide its municipal operations sustainability efforts and GHG reduction strategies, such as two Environmental Sustainability Actions Plans and a regulatory-based Greenhouse Gas Reduction Program associated with the General Plan update. However, a comprehensive plan to meet the City's short- and long-term municipal operations GHG reduction targets has not been developed.

The City's municipal operations GHG reduction targets are:

- 15 percent below 2005 levels by 2010;
- 20 percent below 2005 levels by 2015;
- 25 percent below 2005 levels by 2020; and
- 80 percent below 2005 levels by 2050.

While these reduction targets are voluntary and there are no legal consequences of not achieving them, working to reduce municipal operations GHG emissions supports the State's GHG reduction goals under AB 32 and could help reduce the City's operating expenses through increased efficiencies.

In February 2013, the City Council authorized staff to develop municipal operations and community-wide Climate Action Plans (CAPs) in conjunction with the County of Santa Clara (County), which had secured PG&E and Strategic Growth Council grant funding to develop CAPs for several local cities. Staff has worked with the County's consultant, AECOM, to develop a Public Review Draft MOCAP, which focuses on actions that reduce emissions from municipal operations (Attachment 1). In parallel, staff has also worked on the development of a draft Climate Protection Roadmap (CPR) to guide the City's broader community-wide GHG reduction efforts. A draft CPR will be presented to the City Council for review later this spring.

DISCUSSION

The purpose of the MOCAP is to provide the City Council and staff with a series of strategies and actions the City could take to reduce its municipal operations GHG emissions and potentially reach the GHG reduction targets adopted by the City Council in March 2010. The strategies and actions can be used by the City Council and staff as the basis for further conversation and development of more detailed work plans. In adopting the MOCAP, the City Council would not be committing to implement any of the strategies/actions specifically.

In creating the MOCAP, the City undertook the following process:

1. Measured its 2010 municipal operations GHG emissions and compared those to the City's 2005 baseline emissions to determine if emissions had increased or decreased during that time, and in what operational areas (see Figure 1).
2. Projected its 2020, 2035, and 2050 municipal operations emissions under two scenarios; one projecting future emissions if the City continues Business as Usual (BAU), and the other taking into consideration the potential impacts key State emission reduction programs may have on Mountain View's municipal operations GHG reduction efforts, or Adjusted BAU (see Table 1).
3. Analyzed the City's past and current GHG-reducing policies, programs, and projects across its operations to document what has already been done and to identify areas for further action.

4. Identified industry Best Practices for reducing emissions across municipal operations.
5. Identified potential strategies and actions that could enable the City to reach its 2050 municipal operations GHG reduction target. Some of the strategies/actions are new, while some expand upon existing initiatives.

Since the City's reduction targets only currently include the years 2010, 2015, 2020, and 2050, the MOCAP recommends establishing five additional reduction targets every five years between 2020 and 2050 to make it easier to track the City's progress in meeting its 2050 reduction target. This would require the City to calculate its municipal operations GHG emissions every five years at a minimum; over time, it may make sense to calculate emissions every two to three years, and eventually, even annually, to gain greater visibility of the City's progress between the target years. However, the City does not currently have the resources for such frequent calculations.

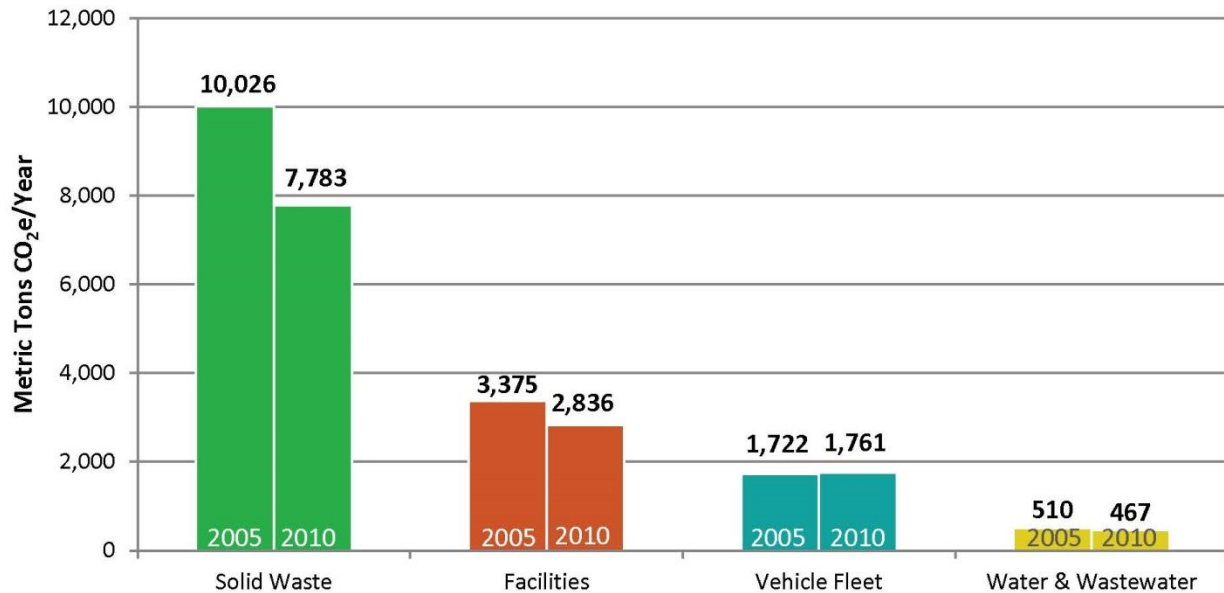
- 34 percent below 2005 levels by 2025;
- 44 percent below 2005 levels by 2030;
- 53 percent below 2005 levels by 2035;
- 62 percent below 2005 levels by 2040; and
- 71 percent below 2005 levels by 2045;

2010 Greenhouse Gas Emissions Inventory

In order to evaluate the City's progress against its 2010 GHG reduction target (15 percent below 2005 levels), staff conducted a 2010 GHG emissions inventory, as shown in Figure 1 and Table 1.

Between 2005 and 2010, the City reduced its municipal operations emissions 18 percent, to 12,846 metric tons of carbon dioxide equivalent (MT CO₂e), which is 3 percent beyond the City's 2010 reduction target. Emissions decreased in the Solid Waste, Facilities, Water, and Wastewater sectors; only the Vehicle Fleet sector emissions grew, but the increase of about 2 percent was minor.

Figure 1: 2005 Baseline and 2010 Municipal Emissions by Sector



Reaching the City’s Municipal Operations GHG Reduction Targets

Under a BAU scenario, the City is projected to exceed the GHG emission reductions needed to achieve its 2015 and 2020 targets, and to achieve about 97 percent of the emission reductions necessary to achieve the proposed 2035 target by only relying on its decreasing landfill emissions (see Table 1). Methane, the primary component of landfill gas, is approximately 25 times more potent a greenhouse gas than carbon dioxide over a 100-year period and therefore, reductions in landfill gas emissions cause a significant decrease in GHG emissions. Many of the MOCAP strategies, however, reduce operational expenses and provide an opportunity for the City to demonstrate leadership in addressing climate change and therefore, may still be worth pursuing from a financial savings and environmental protection perspective.

While the short-term results are good, under BAU, the City is projected to reduce its emissions only 55 percent below 2005 levels by 2050, well shy of the 80 percent reduction target. However, as shown in Table 2, implementing the MOCAP actions could more than cover this emission reduction shortfall and enable the City to exceed its 2050 reduction target.

Table 1: Municipal Operations “Business As Usual” Emissions (2005-2050)

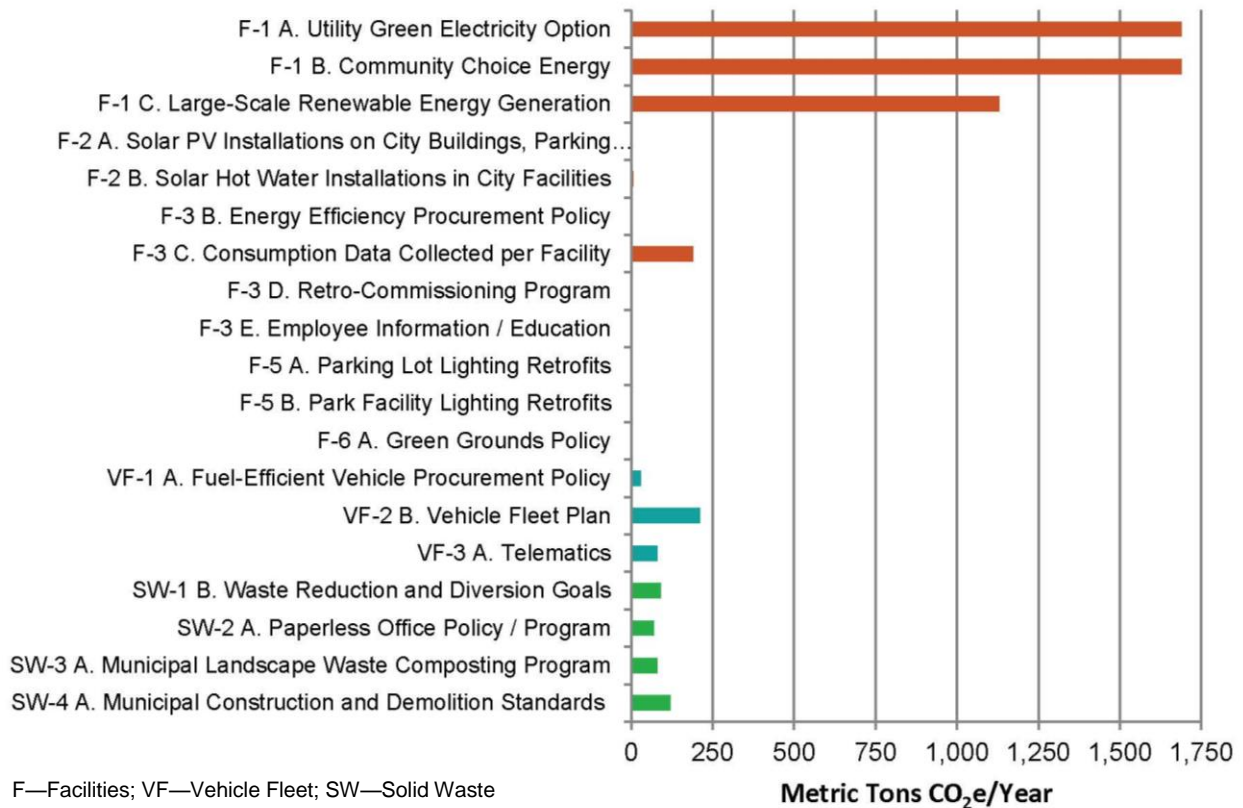
Sector	Subsector	2005 (MT CO ₂ e/yr)	2010 (MT CO ₂ e/yr)	2020 (MT CO ₂ e/yr)	2035 (MT CO ₂ e/yr)	2050 (MT CO ₂ e/yr)
Solid Waste		10,026	7,783	4,293	1,967	1,122
	Municipal Operations	495	556	574	594	615
	Landfill (closed)	9,531	7,226	3,719	1,373	507
Facilities		3,375	2,836	2,929	3,029	3,135
	Building Energy	2,735	2,246	2,319	2,398	2,482
	Public Lighting	640	591	610	631	653
Vehicle Fleet		1,722	1,761	1,847	1,942	2,044
Water and Wastewater		510	467	536	618	715
	Water and Stormwater Facilities	510	371	426	492	569
	Wastewater Services	Included in Water above	96	110	126	146
Total		15,633	12,846	9,605	7,556	7,016
Reduction Target		-	15% below 2005	25% below 2005	53% below 2005	80% below 2005
Target Emissions Level		-	13,288	11,725	7,348	3,127
Reductions Needed to Achieve Target		-	0	0	208	3,889

MT CO₂e = metric tons of carbon dioxide equivalent

Proposed Municipal Operations GHG Reduction Strategies

The proposed MOCAP strategies focus on Facilities, Vehicle Fleet, and Solid Waste operations since those three areas generated almost 97 percent of GHG emissions from municipal operations in 2010. Strategies are not included for the Water or Wastewater areas because of their very small contributions to the City’s overall municipal GHG emissions.

As shown in Figure 2, the Facilities sector actions offer the largest emission reduction potential for 2020 by far, particularly the first three “Low-Carbon Grid Electricity” actions. Facilities actions in 2020 provide between 34 percent and 49 percent of the reductions needed to achieve the City’s 2050 target, depending on which actions are implemented.

Figure 2: Comparative Emission Reduction Potential of MOCAP Actions (2020)

To assist decision-makers in evaluating the proposed GHG reduction strategies and actions, Chapter 3 provides estimates of:

- The GHG emission reductions likely to be achieved in 2020 from implementing each strategy or action.
- Each strategy/action's contribution to the 2050 GHG reduction target.
- The GHG reduction amount needed to reach the City's reduction targets.
- A level-of-magnitude one-time or annual cost to implement each action. For actions the City wishes to pursue, staff will provide more detailed financial costs, estimated number of hours, the timeline, and the organizational benefits on a project-by-project basis.

From this information, the City Council and staff can assess the cost/benefit and determine the relative effectiveness of each strategy/action in reducing emissions over

time and develop a more detailed, functional area-based work plan and budget for achieving the City's reduction targets.

Table 2 summarizes the three GHG reduction strategy areas. Implementing all of the actions identified in the MOCAP could generate 108 percent of the GHG emission reductions needed to reach the City's 2050 reduction target, assuming the City migrates to low-carbon grid electricity through implementing Strategy F-1.

Table 2: Contributions to 2050 Reduction Target by MOCAP Strategy Area

Strategy Area	Percent of 2010 GHG Emissions	Contribution to 2050 Reduction Target (if Strategy F-1 is implemented)	Contribution to 2050 Reduction Target (if Strategy F-1 is not implemented)
Facilities	22%	63%	55%
Vehicle Fleet	14%	31%	19%
Solid Waste	61%	14%	14%
	97%	108%	88%

Facilities Strategies

While facilities-related GHG emissions comprised 22 percent of the City's 2010 emissions, the six Facilities strategies could provide almost 63 percent of the GHG emission reductions needed to reach the City's 2050 reduction target, assuming implementation of Strategy F-1. The strategies are comprised primarily of new renewable energy development projects and existing building energy efficiency audits, upgrades, and tracking systems. *It is worth noting that on its own, Strategy F-1 (Low Carbon Grid Electricity) could achieve 50 percent of the GHG emission reductions needed to reach the City's 2050 reduction target, and therefore represents a very effective, relatively easy way of reducing a large amount of emissions quickly and on an ongoing basis.* As shown in Table 3.2 of the MOCAP, Strategy F-1 could be implemented for approximately \$375,000.

Vehicle Fleet Strategies

GHG emissions from fleet vehicles produced approximately 14 percent of total 2010 emissions. The proposed three strategies focus on developing policies and plans that help the City continue procuring more alternative fuel or high-efficiency models, where such options exist at reasonable cost and provide the required level of performance. The strategies also encourage the City to explore developing the infrastructure needed to support alternative fuel vehicles. The three Vehicle Fleet strategies could provide

more than 31 percent of the GHG emission reductions needed to reach the City's 2050 reduction target, assuming implementation of Strategy F-1, since this strategy would provide low-carbon electricity for the City's electric vehicles.

Solid Waste Strategies

Although solid waste-related emissions represented almost 61 percent of the City's overall 2010 municipal GHG emissions, 93 percent of those emissions are from the closed Shoreline landfill. Because landfill emissions are projected to decrease steadily over time on their own as the landfill's organic content fully decays, the included four strategies focus on reducing or diverting waste from municipal operations through goal setting, policy development, and program implementation. These four Solid Waste strategies could generate more than 13 percent of the GHG emission reductions needed to reach the City's 2050 reduction target.

California Environmental Quality Act (CEQA) Compliance

To comply with CEQA, staff evaluated the MOCAP for its potential environmental impacts and determined that none of the proposed strategies and implementation mechanisms have the potential for causing a significant effect on the environment. Since the MOCAP can be seen with certainty to have no significant effect on the environment, it is not subject to CEQA (CEQA Guidelines Section 15061.b.3).

RECOMMENDATION

Staff seeks direction from the City Council on the MOCAP, including whether (1) the Council endorses its overall approach, (2) any of the proposed strategies or actions should be prioritized or removed, (3) any new strategies should be added, and (4) the City should adopt additional GHG reduction targets every five years between 2020 and 2050.

NEXT STEPS

Based on City Council direction from the Study Session, staff will revise the Public Review Draft MOCAP and return to the Council with a Final Draft for evaluation and adoption.

There would be no fiscal impact to adopting the proposed MOCAP as it does not commit the Council to funding any of the underlying actions. The MOCAP will be used as a framework for forwarding specific actions to the Council for funding via the budgetary process.

Following adoption of the MOCAP by the City Council later this spring, staff will perform a cost-benefit and resource impact study to prioritize the strategies and return to the Council with an Environmental Sustainability Action Plan 3 that incorporates actions from the MOCAP and CPR, and other initiatives deemed high priority by the Council.

PUBLIC NOTICING

Agenda posting and e-mails sent to community members interested in environmental sustainability.

SA-TB-MAF/3/CAM

816-03-31-15SS-E

Attachment: 1. Public Review Draft Municipal Operations Climate Action Plan

cc: APWD – Hosfeldt, APWD – Solomon, ACDD/PM, PSSM, TBM, FFM, SWPM