

**Memorandum**

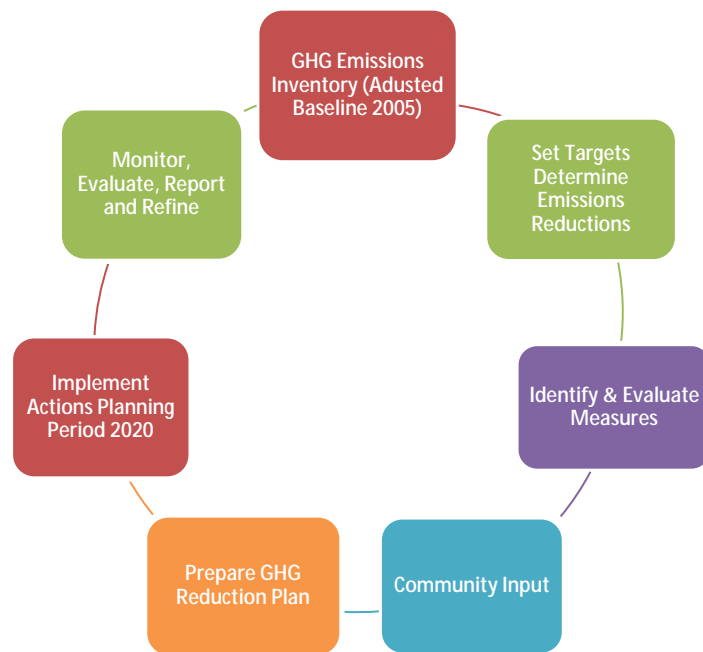
**Date:** January 30, 2013  
**TO:** City Council  
Planning Commission  
**From:** Susan DeCarli, Planning Manager  
**Subject:** Joint Study Session – Greenhouse Gas Reduction Plan

**Background**

The State legislature adopted State Assembly Bill 32 (2006) which requires cities and counties to reduce their greenhouse gas (GHG) emissions. The State also determined that GHG emissions can result in environmental impacts. As such, evaluation of GHG emissions has been incorporated into the environmental procedures of the California Environmental Quality Act (CEQA). Since it is a part of CEQA, development projects that require a CEQA review must evaluate potential GHG impacts. Without a GHG Reduction Plan in place that demonstrates how GHG emissions will be reduced, it would not be possible to adequately measure and evaluate GHG impacts and could potentially expose development projects to CEQA litigation. Therefore, it is necessary for the City to adopt a GHG Reduction Plan to comply with State law and so that future development is not imperiled by this mandate.

The City of Paso Robles partnered with the San Luis Obispo County Air Pollution Control District (APCD) to prepare a GHG Reduction Plan. APCD is also preparing a plan for each of the other six small cities. (The City of San Luis Obispo and SLO County have already adopted GHG Reduction/Climate Action Plans.) The GHG Reduction Plan is grant-funded through PG&E, SoCal Gas, and APCD.

The GHG Reduction Plan includes a long-range strategic framework for measuring, planning, and reducing GHG emissions to comply with the States’ mandate. The framework identifies how much GHG emissions need to be reduced and evaluates the options or measures on how to reduce them. As part of a public process, gathering community input on the options is important to ensure that measures considered are locally feasible. All these activities are then consolidated into a Plan. Once the plan is approved the measures need to be implemented, monitored and evaluated for future refinements. Figure 1 below shows the relationship of these activities and information that goes into this type of project.



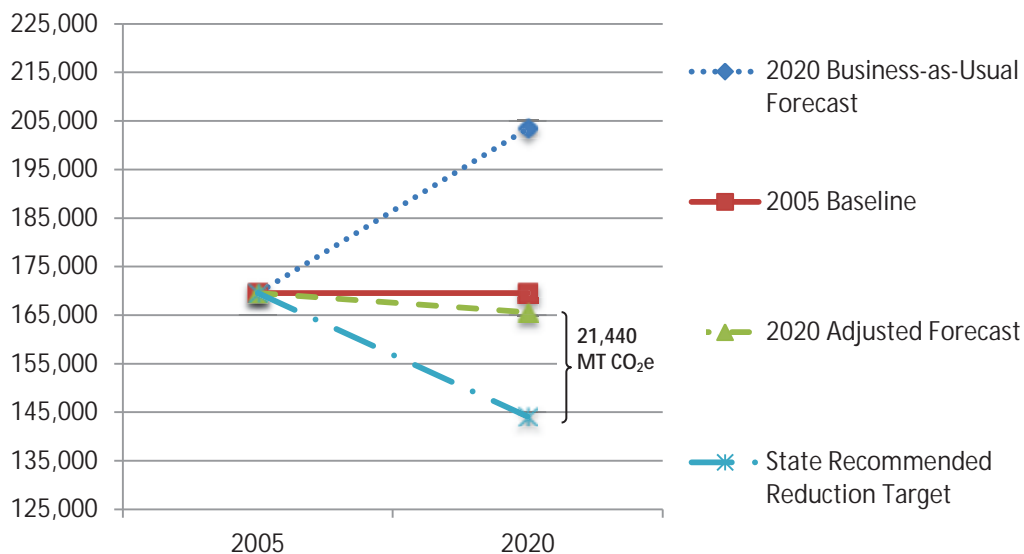
**Figure 1 GHG Reduction Plan Framework**

## GHG Inventory & Gap Analysis

The City prepared a GHG inventory in 2009 which determined the amount of GHG emissions that were emitted from City operations and the community in the baseline year of 2005. The baseline inventory was used to establish reduction targets and a level from which future reductions can be measured. This study was recently adjusted in November 2012 to reflect GHG reductions that have occurred since 2005 through State and local measures. State measures that have reduced GHG emissions include: a) clean car standards; b) low carbon fuel standards; c) Title 24 (e.g. energy code of the Building Code Standards); d) renewable energy portfolios of energy provider (e.g. PG&E); and e) the Sustainable Communities and Climate Protection Act (SB 375). Local reduction measures include: a) solar energy installations; b) light fixture retrofits; c) improved waste diversion; e) water conservation; and f) reductions in vehicle miles traveled (VMT) and improved vehicle efficiency. (Please see Attachment 1, Gap Analysis and Target Refinement)

The adjusted GHG inventory was used to forecast the gap between what would be emitted if nothing was done to reduce GHG emissions, aka “business-as-usual” (BAU) scenario, and meeting the States’ target of reducing GHGs by 15% below 1990 levels by 2020. The BAU forecast shows 203,448 metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e) emitted by 2020. After applying the reductions that have already occurred, the adjusted forecast decreased to 144,123 MT CO<sub>2</sub>e. As shown in Figure 2, the remaining gap necessary to meet the 2020 target is 21,440 MT CO<sub>2</sub>e.

**Figure 2**  
**City of Paso Robles**  
**2020 GHG Emissions Forecast and Reduction Target**



(Source: Rincon Consultants, November 2005)

## GHG Reduction Opportunities

To help determine what can be done to reduce GHG emissions, the project consultants prepared an interactive model, or “toolbox”, of potential implementation measures. It identifies six categories of measures with several actions included in each measure that can be selected to reduce GHG emissions which can be applied to either municipal operations or community activities. The categories of measures includes: a) energy; b) land use & transportation; c) off-road equipment; d) water; e) solid waste; and f) trees & open space.

The measures can be voluntary, such as those that are focused on education, encouragement, and incentives. They can also be mandatory, where the City commits to specific actions for municipal operations and implements codes and ordinances that require specific activities by the community. There is greater control and surety with implementation of mandatory measures. However not all measures lend themselves to be mandatory since issues

such as funding and collaboration may be beyond the City’s control and/or it might not be acceptable. Additionally, not all measures included in the toolbox would be suitable in Paso Robles. The amount of reductions that can be achieved through each measure are linked to underlying performance assumptions. The assumptions can be adjusted to reflect what the City thinks it is capable of achieving. For instance, the number streetlights that can be retrofitted with LED light fixtures by 2020 can be changed depending on how many lights the City thinks would be reasonable to retrofit. The assumptions are key to the amount of GHG emissions individual measures can reduce.

The toolbox model also identifies an estimated costs and savings for each measure for both the City and the community. The costs and savings vary due to potential changes in the economy, funding availability, and other factors. The cost and savings measurements are noted in Table 1, and are included with each measure selected so that the City and community can get a general sense of the potential costs and savings anticipated with each measure.

**Table 1  
Estimated Costs & Savings**

<b>Aggregate Municipal Cost</b>	<b>\$1-\$10,000</b>	<b>\$10,001-\$50,000</b>	<b>\$50,001-\$100,000</b>	<b>\$100,001+</b>
	<b>\$ Very Low</b>	<b>\$\$ Low</b>	<b>\$\$\$ Medium</b>	<b>\$\$\$\$ High</b>
<b>Aggregate Municipal Savings</b>	<b>\$1-\$10,000</b>	<b>\$10,001-\$50,000</b>	<b>\$50,001-\$100,000</b>	<b>\$100,001+</b>
	<b>\$ Very Low</b>	<b>\$\$ Low</b>	<b>\$\$\$ Medium</b>	<b>\$\$\$\$ High</b>
<b>Per Residence or Business Community Cost</b>	<b>\$1-%500</b>	<b>\$501-\$1,000</b>	<b>\$1,001-\$5,000</b>	<b>\$5,001+</b>
	<b>\$ Very Low</b>	<b>\$\$ Low</b>	<b>\$\$\$ Medium</b>	<b>\$\$\$\$ High</b>
<b>Per Residence or Business Community Savings</b>	<b>\$1-%500</b>	<b>\$501-\$1,000</b>	<b>\$1,001-\$5,000</b>	<b>\$5,001+</b>
	<b>\$ Very Low</b>	<b>\$\$ Low</b>	<b>\$\$\$ Medium</b>	<b>\$\$\$\$ High</b>

A printed sample of an individual GHG reduction tool on the Energy Audit and Retrofit Program is provided in Attachment 2. This sample tool print-out demonstrate the information provided for each measure. The information provided includes: the category, name and description of the measure; selection area of whether to make it voluntary or mandatory; a menu of actions (some of which are required to follow through with if the particular measure is selected and others that are optional); the estimated GHG reduction potential; estimated cost and savings (as noted above); potential “co-benefits” that could result from the measure; sample case studies of how the measure has been implemented in other locations; implementation information; and basic key assumptions which can be modified depending on what the City thinks can be achieved (e.g. the number of households that could be expected to have an energy audit during the plan timeframe). Information on calculation assumptions are also shown which are too detailed to describe here but can be explained by staff and the consultants at the workshop. In general, there are numerous assumptions included in the model based on state and local factors, such as the average annual energy use per household used per year, etc.

The model also provides a summary of each measure selected, the associated GHG reduction, and the potential cost and savings. The top 10 most effective GHG emissions reduction measures are as follows.

1. Municipal energy efficiency audits, retrofits and upgrades. (The City has been pursuing this program the last several years.)
2. Installation of renewable energy solar photovoltaic systems by property owners. (There has already been strong support by property owners that have voluntarily installed solar systems – 40 in the last two years.)
3. Electric vehicle network support facilities expansion and alternative fueling stations such as compressed natural gas. (A local service provider is currently pursuing this.)
4. Incentivizing infill development and locating transit, walking and biking paths near development. (The City has been implementing some of these actions through the Uptown/Town Center Specific Plan and other programs.)

5. Bicycle infrastructures network expansion. (The City has been actively expanding the bicycle network.)
4. Transportation Demand Management, working with employers to encourage alternative transportation such as carpooling, transit, etc. (Currently this is only required as an APCD CEQA mitigation.)
5. Construction equipment technology, whereby construction equipment uses alternative fuel. (After installation of the local CNG fueling station, the availability of CNG may enable and encourage equipment changes.)
6. Solid waste diversion, exceeding state requirements and expanding diversion of construction and demolition materials, food waste, etc. (The City has programs in the Landfill Master Plan that could be implemented to achieve this.)
7. Community energy audits (Statewide data indicates that 40% of buildings that are audited follow through with retrofits voluntarily and take advantage of rebate programs.)
8. Implementation of Energy Conservation Ordinances, whereby properties are required to install energy efficiency measures (weatherization) at point-of-sale. (This item can include a maximum cost threshold, and be implemented by either a buyer or seller.)
9. Parking supply management and public parking pricing to encourage alternative transportation. (The downtown Parking Plan includes many of these measures, yet not all may be feasible.)
10. Community Choice Aggregation Program (CCA), whereby a community determines the type and source of energy to be used by the community, and then manages the energy program, similar to other utilities such as water and sewer. (This is a complex program that may merit future study.)

Many of the potential GHG reduction tools are either already in the process of being implemented and/or have been studied for future consideration. Staff prepared a potential toolbox selection for consideration that would be effective in meeting the States' reduction targets and may be feasible to implement. Many of the measures included respond to public input and guidance by the Council Ad Hoc Committee. See Table 2 in Attachment 3.

### **Climate Action Plan Comparisons**

Over 60 percent of all cities and counties in the state have adopted or are in the process of preparing Climate Action Plans to reduce GHG emissions. As mentioned previously, the City of San Luis Obispo and SLO County have adopted Climate Action Plans. Many of the action measures included in the City and County plans are similar to options available to the City of Paso Robles. However, each plan is tailored to reflect local resources, emissions and the ability to implement specific measures, therefore a direct comparison is not always possible. Table 3 in Attachment 4 provides a general comparison of measures included in the County and City of SLO plans and the suggested measures for consideration for the City of Paso Robles.



## Rincon Consultants, Inc.

Environmental Scientists      Planners      Engineers

# M E M O R A N D U M

Date: November 15, 2012

To: Aeron Arlin Genet

Organization: San Luis Obispo County Air Pollution Control District (APCD)

From: Richard Daulton

cc: Melissa Guise, Shauna Callery

Re: City of Paso Robles Gap Analysis and Target Refinement

### SUMMARY

This memorandum evaluates and quantifies the greenhouse gas (GHG) emissions reduction potential of State and local measures that have been implemented, adopted, and/or programmed since the 2005 baseline inventory year. It also estimates the impact that these measures will have on Paso Robles's 2020 business-as-usual forecast, which allows for determining the remaining gap in emissions reductions that will need to come from new local measures to meet the 2020 target. This memorandum identifies a number of additional opportunities to further reduce Paso Robles's GHG emissions to help meet the 2020 target that may be developed into measures and actions as part of the Climate Action Plan.

Based on this evaluation and analysis, State measures will reduce Paso Robles's GHG emissions by 35,585 metric tons of carbon dioxide equivalent (MT CO<sub>2</sub>e) and local measures will reduce GHG emissions by 2,300 MT CO<sub>2</sub>e, for a combined reduction of 37,885 MT CO<sub>2</sub>e. To meet the 2020 reduction target, Paso Robles will need to reduce GHG emissions by an additional **21,440 MT CO<sub>2</sub>e** through new measures that will be detailed in the Climate Action Plan. Based on our review of measures implemented by other jurisdictions in the region, several potential measures in the categories of energy, transportation and land use, waste, water, and trees, parks and open space are identified at the end of this memorandum.

### INTRODUCTION

The *City of Paso Robles Greenhouse Gas Emissions Inventory Update* (July 2012) includes a 2005 baseline greenhouse gas (GHG) emissions and a business-as-usual forecast of how emissions in Paso Robles would change in the year 2020, absent any new policies or actions that would reduce emissions. It also establishes a reduction target consistent with Assembly Bill (AB) 32 for the year 2020.



Since the 2005 baseline inventory year, however, several State and local measures have been implemented, adopted, and/or programmed that will reduce Paso Robles’s GHG emissions and help the City meet its reduction target by 2020. This document estimates the impact that these measures will have on the 2020 business-as-usual forecast. Accounting for these reductions in a “2020 Adjusted Business-as-Usual Forecast” scenario provides a more accurate picture of future emissions growth and the responsibility of Paso Robles in reducing its emissions consistent with AB 32. The difference between the 2020 adjusted business-as-usual forecast and the city’s GHG emissions reduction target represents the “gap” to be closed through further measures identified in this document and to be developed as part of the Climate Action Plan.

## IMPACT OF STATE MEASURES

The AB 32 Climate Change Scoping Plan (2008) identifies several State measures that would reduce GHG emissions within Paso Robles. These measures require no additional local action. A brief description of each of these State measures is provided below and the local reduction in GHG emissions is summarized in **Table 1**.

TABLE 1: SUMMARY OF GHG EMISSIONS  
REDUCTIONS FROM STATE MEASURES IN 2020

State Measure	2020 Reduction (MT CO <sub>2</sub> e)
Clean Car Standards – Pavley, AB 1493	-12,339
Low Carbon Fuel Standard	-8,057
Title 24	-822
Renewable Portfolio Standard	-14,367
<b>Total Reduction from State Measures</b>	<b>-35,585</b>

### CLEAN CAR STANDARDS – PAVLEY, ASSEMBLY BILL 1493

Signed into law in 2002, AB 1493 (Pavley I standard) requires vehicle manufactures to reduce GHG emissions from new passenger vehicles and light trucks from 2009 through 2016. Regulations were adopted by the California Air Resources Board in 2004 and took effect in 2009 when the U.S. EPA issued a waiver confirming California’s right to implement the bill. The California Air Resources Board anticipates that the Pavley I standard will reduce GHG emissions from new California passenger vehicles by about 22% in 2012 and about 30% in 2016, while simultaneously improving fuel efficiency and reducing motorists’ costs.

Reductions in GHG emissions from the Pavley I standard were calculated using the California Air Resources Board’s EMFAC2011 model for San Luis Obispo County. To account for this standard, EMFAC2011 integrates the reductions into the mobile source emissions portion of its model.<sup>1</sup> As shown in **Table 1** above, the Pavley I standard is expected to reduce transportation

<sup>1</sup> Additional details are provided in CARB’s EMFAC2011 Technical Documentation (September 19, 2011), available at <http://www.arb.ca.gov/msei/emfac2011-documentation-final.pdf>

sector emissions in Paso Robles by approximately 13.3% in 2020 compared to business-as-usual levels.

#### LOW CARBON FUEL STANDARD

The Low Carbon Fuel Standard (LCFS) requires a reduction of at least 10% in the carbon intensity of California's transportation fuels by 2020. Measured on a lifecycle basis, the carbon intensity represents the CO<sub>2</sub>e emitted from each stage of producing, transporting, and using the fuel in a motor vehicle. Based on the EMFAC2011 model results, this translates to an approximately 8.7% reduction in Paso Robles's transportation sector GHG emissions in 2020 compared to business-as-usual levels.

#### TITLE 24

Although it was not originally intended specifically to reduce GHG emissions, California Code of Regulations Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption, which in turn reduces fossil fuel consumption and associated GHG emissions. The standards are updated periodically to allow consideration and possible incorporation of new energy-efficient technologies and methods. The updates that have occurred since the 2005 baseline year and, therefore, were not included in the business-as-usual forecast, include the 2008 and 2013 Title 24 Energy Efficiency Standards. The California Energy Commission estimates that the 2008 standards reduce consumption by 10% for residential buildings and 5% for commercial buildings, relative to the previous standards. For projects implemented after January 1, 2014, the California Energy Commission estimates that the 2013 Title 24 energy efficiency standards will reduce consumption by 25% for residential buildings and 30% for commercial buildings, relative to the 2008 standards. These percentage savings relate to heating, cooling, lighting, and water heating only and do not include other appliances, outdoor lighting that is not attached to buildings, plug loads, or other energy uses. Therefore, these percentage savings were applied to the percentage of energy use covered by Title 24.<sup>2</sup>

The calculations and 2020 GHG emissions forecast assume that all growth in the residential and commercial/industrial sectors is from new construction. Please note that 2008 Title 24 Standards were applied to all forecast years, while 2013 Title 24 Standards were additionally applied to new development projected to occur between 2014 and 2020. As shown in **Table 1**, the 2008 and 2013 Title 24 requirements would reduce emissions by approximately 822 MT CO<sub>2</sub>e in 2020.

The AB 32 Scoping Plan calls for the continuation of ongoing triennial updates to Title 24 that will yield regular increases in the mandatory energy and water savings for new construction.

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<sup>2</sup> Reductions for the 2008 standards are provided in the California Energy Commission's Impact Analysis, 2008 Update to the California Energy Efficiency Standards for Residential and Nonresidential Buildings (2007), available at [http://www.energy.ca.gov/title24/2008standards/rulemaking/documents/2007-11-07\\_Impact\\_Analysis.pdf](http://www.energy.ca.gov/title24/2008standards/rulemaking/documents/2007-11-07_Impact_Analysis.pdf). This calculation follows the methodology detailed in the Statewide Energy Efficiency Collaborative's report, Greenhouse Gas Forecasting Assistant (October 2011).

Future updates to Title 24 standards for residential and non-residential alterations are not taken into consideration due to lack of data and certainty about the magnitude of energy savings that will be realized with each subsequent update.

#### RENEWABLE PORTFOLIO STANDARD

The State of California Renewable Portfolio Standard requires investor-owned utilities, electric service providers, and community choice aggregators to increase the portion of energy that comes from renewable sources to 20% by 2010 and 33% by 2020. Pacific Gas and Electric Company (PG&E) is the electricity provider in Paso Robles. In order to calculate future emissions that take into account the Renewable Portfolio Standard, PG&E's 2020 emissions factor was applied.<sup>3</sup> Therefore, this regulation is expected to result in a 40% reduction in GHG emissions resulting from electricity consumption compared to 2020 business-as-usual levels. As shown in **Table 1**, the Renewable Portfolio Standard would reduce Paso Robles' GHG emissions by approximately by 14,367 MT CO<sub>2</sub>e in 2020.

#### SUSTAINABLE COMMUNITIES AND CLIMATE PROTECTION ACT – SENATE BILL 375

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Action of 2008, enhances California's ability to reach its AB 32 target by aligning regional transportation planning efforts with land use and housing allocations in order to reduce transportation-related GHG emissions. SB 375 requires the ARB to set regional GHG emissions targets for passenger vehicles and light trucks for the years 2020 and 2035 for each of California's 18 metropolitan planning organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of its next Regional Transportation Plan (RTP) that demonstrates how the region will meet its GHG reduction target. The San Luis Obispo Council of Governments (SLOCOG) adopted targets for 2020 and 2035 to achieve an 8% reduction in per capita GHG emissions from passenger vehicles.

While the outcome of SB 375 in terms of a reduction in vehicle miles traveled per capita is specified by the State, achievement of the target is dependent on regional and local actions and activities that are not regulated by the State. Many of these actions and activities will be inextricably linked to the local climate action plans and including them in the adjusted business-as-usual scenario would likely result in the double counting of emissions reductions. Therefore, SB 375 has not been included as a State measure that would reduce GHG emissions within Paso Robles.

#### IMPACT OF LOCAL MEASURES

In addition to the State measures described above, the City of Paso Robles has implemented, adopted, and/or programmed a number of local measures since the 2005 baseline inventory year that will reduce the community's GHG emissions. A brief description of each of these local measures is provided below by topic area and the local reduction in GHG emissions in 2020 is summarized in **Table 2**.

<sup>3</sup> PG&E. (April 8, 2011). *Greenhouse Gas Emission Factor Info Sheet*.

[http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge\\_ghg\\_emission\\_factor\\_info\\_sheet.pdf](http://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf)



Many GHG reduction measures can be readily quantified to determine their GHG reduction potential; however, not all measures can be quantified with the information and/or tools that are currently available. In addition, in some cases a measure may support or strengthen another measure, but not result in additional reductions, in which case it is identified as a “support measure.” When sufficient information and tools were available, the GHG reduction potential of a given measure was quantified to determine its 2020 reduction potential. Quantification followed standardized methods for estimating emissions detailed in the California Air Pollution Control Officers Association’s (CAPCOA) report *Quantifying Greenhouse Gas Mitigation Measures* (August 2010).<sup>4</sup>

TABLE 2: SUMMARY OF GHG EMISSIONS  
REDUCTIONS FROM LOCAL MEASURES IN 2020

Local Measure	2020 Reduction (MT CO <sub>2</sub> e) <sup>1</sup>
<b>Energy</b>	
Solar Energy Installations (Residential, Commercial, Municipal)	-1,239
Energy Efficient Street Lights and Traffic Signals	-38
<b>Transportation and Land Use</b>	
Increase Density and Diversity of Land Uses	Not Quantified <sup>2</sup>
Bicycle Network Improvements	-16
Utilize Electric or Hybrid Vehicles	-2
<b>Waste</b>	
Green Waste Diversion	Not Quantified
Construction and Demolition Debris Diversion	-908
<b>Water</b>	
Water Conservation Programs to Meet SB X7-7 Targets	-97
<b>Total Reduction from Local Measures</b>	<b>-2,300</b>

<sup>1</sup> Supporting information pertaining to the reduction calculations is provided in Attachment A to this document.

<sup>2</sup> The SLOCOG 2010 travel demand model used to estimate 2005 baseline and 2020 vehicle miles traveled (VMT) uses a 2010 base year and its VMT are calculated and calibrated to 2009-2011 traffic counts. As such, year 2020 VMT estimates included SLOCOG travel demand forecast model “4-Ds” adjustments for the built environment (land use Density, Design, Diversity, and access to Destinations).

<sup>4</sup> California Air Pollution Control Officer’s Association’s (CAPCOA) report *Quantifying Greenhouse Gas Mitigation Measures* available at <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

## ENERGY MEASURES

During the last five years, approximately 4,770 kilowatts (kW) of solar photovoltaic systems and solar hot water heaters were installed on or in homes, businesses and municipal buildings in Paso Robles. Residential installation accounted for 1,050 kW of electricity generated, which will reduce GHG emissions by approximately 279 MT CO<sub>2</sub>e in 2020. Commercial installation totaled 3,719 kW, which will reduce GHG emissions by 960 MT CO<sub>2</sub>e in 2020.

Along with renewable energy generation, the City has completed a number of energy efficiency lighting fixtures upgrades. These projects are expected to reduce electricity use by approximately 277,315 kilowatt hours (kWh) annually, and reduce GHG emissions by approximately 38 MT CO<sub>2</sub>e in 2020. Municipal solar installations accounted for 1 kW of electricity generated, which will reduce GHG emissions by less than 1 MT CO<sub>2</sub>e in 2020.

## TRANSPORTATION AND LAND USE MEASURES

Transportation and land use measures, including increased density and diversity of land uses and bicycle network improvements, are expected to reduce vehicle miles traveled (VMT) and enhance non-automobile mobility. Although density and diversity of land uses based on the existing General Plan and Uptown/Town Centre Specific Plan is already captured in the business-as-usual forecast of transportation-related emissions, new bicycle network improvements and the purchase of two hybrid municipal vehicles are projected to reduce emissions by approximately 18 MT CO<sub>2</sub>e in 2020.

## SOLID WASTE MEASURES

As of 2010, the California Green Building Code requires that all local jurisdictions ensure that 50% of all non-hazardous construction and demolition solid waste is diverted from landfills. Within Paso Robles, this is estimated to reduce emissions by 908 MT CO<sub>2</sub>e in 2020. Paso Robles also maintains a “green waste” recycling program with a locally contracted trash hauler; however, the data necessary to estimate the GHG emission reduction potential from this measure is not currently available.

## WATER MEASURES

The City has implemented a number of programs to reduce per capita water consumption by 20%, pursuant to SB X7-7, including programs for plumbing retrofits, turf removal, low-flow fixtures, and smart irrigation systems. Water conservation programs are expected to reduce GHG emissions by 97 MT CO<sub>2</sub>e in 2020.

## ADJUSTED BUSINESS-AS-USUAL FORECAST AND REDUCTION TARGET

As shown in **Table 3**, State and local measures will reduce GHG emissions in Paso Robles by an estimated 37,885 MT CO<sub>2</sub>e by 2020 (19% below the 2020 business-as-usual forecast). **Table 4** and **Figure 1** demonstrate the gap that will need to be closed between the 2020 adjusted business-as-usual forecast and the State-recommended GHG reduction target of 15% below baseline emissions by 2020, which is equivalent to 21,440 MT CO<sub>2</sub>e. As shown in **Table**

4, the City would be responsible for reducing this gap of 21,440 MT CO<sub>2</sub>e by 2020 through measures identified in the Climate Action Plan.

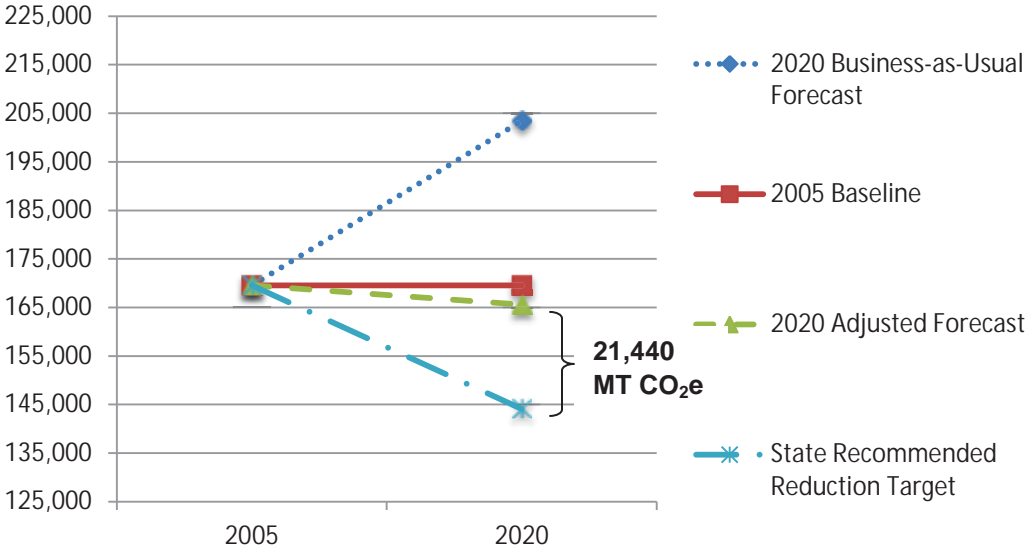
TABLE 3: SUMMARY OF REDUCTIONS FROM STATE AND LOCAL MEASURES AND 2020 GHG EMISSIONS

	GHG Emissions (MT CO <sub>2</sub> e)
2020 Business-as-Usual Forecast	203,448
2020 Reduction from State Measures	-35,585
2020 Reduction from Local Measures	-2,300
<b>Total Reduction from State and Local Measures</b>	<b>-37,885</b>
<b>2020 Adjusted Business-as-Usual Forecast</b>	<b>165,563</b>

TABLE 4: PASO ROBLES'S GHG EMISSIONS, TARGET, AND REDUCTION NECESSARY TO MEET TARGET

	GHG Emissions (MT CO <sub>2</sub> e)
2005 Baseline Emissions	169,557
2020 Adjusted Business-as-Usual Forecast	165,563
Target (15% below 2005 levels by 2020)	144,123
<b>Remaining Gap Necessary to Meet 2020 Target</b>	<b>21,440</b>

FIGURE 1: PASO ROBLES'S 2020 GHG EMISSIONS FORECAST AND REDUCTION TARGET



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## FUTURE OPPORTUNITIES TO MEET TARGET

Based on the review and analysis of local measures implemented to date, this section identifies current policy gaps and additional opportunities in the areas of energy, transportation and land use, water, waste, and trees, parks and open space to help Paso Robles meet its reduction target by 2020.

### ENERGY

Energy emissions result from the combustion of fossil fuels, primarily coal, oil and natural gas, which are used to heat, cool and provide power to residential, commercial and industrial buildings and other facilities. Factors affecting energy related emission in buildings include building design and the efficiency of technology and electronics in buildings. Energy emissions reductions can be achieved by changes to both energy supplies and energy demand. Future policy opportunities to reduce energy emissions may include the following:

- Incentivize or mandate energy efficiency upgrades for existing residential and non-residential buildings
- For municipal operations, pursue energy efficiency measures as outlined in the original CED EECBG application
- Install solar or other renewable energy systems on municipal buildings
- Promote incentives and financing programs (e.g., California Solar Initiative, Single Family Affordable Solar) for renewable energy installations
- Promote incentives and financing programs for (e.g., PG&E incentives and Energy Upgrade California) for energy efficiency improvements
- Educate the community about the PG&E Smart Meter program
- Replace all traffic and street lights with LED or other energy efficient lighting
- Implement strategies to reduce the urban heat-island effect, such as establishing “cool-roof” requirements or incentives
- Continue to improve the efficiency of municipal buildings, facilities, and lighting
- Work with local green building organizations, such as SLO Green Build, to promote education and outreach programs.

### TRANSPORTATION AND LAND USE

Transportation-related emissions comprise the largest portion of emissions. Factors affecting GHG emissions from transportation include the number vehicle miles traveled, fuel economy, and the type of fuel used. The number of vehicle miles traveled is also influenced by the geographic distribution of land uses, people, and the density of development and zoning. Future policy opportunities for transportation and land use include the following:

- Fully implement the 2009 Bike Master Plan
- Implement the recommendations within the Downtown Parking Management Plan
- Develop a commute trip reduction program that encourages and incentivizes the use of public transit
- Develop and offer incentives for high density and/or mixed use development such as reduced parking requirements or expedited permitting processes

- Implement a transportation demand management program for City employees
- Replace older municipal vehicles with zero or low emissions vehicles
- Establish maximum rather than minimum parking requirements
- Implement or expand on-street public parking pricing

#### SOLID WASTE

As solid waste decomposes in landfills, it releases methane, a GHG 21 times more potent than carbon dioxide. As such, waste management is an important action that can reduce GHG emissions. Waste management can be achieved by reducing the amount of trash and other waste that is sent to landfills by recycling containers, products, building materials, and construction materials. Future policy opportunities for solid waste include the following:

- Institute or extend recycling and/or composting programs
- Mandate higher diversion rates for construction activities
- Increase the city-wide solid waste diversion rate (e.g., work to achieve consistency with the State's goal of 75% by 2020 identified in AB 341)
- Create an environmentally responsible City purchasing policy
- Provide recycling receptacles at all City facilities
- Require recycling at public events

#### WATER

Water conveyance and treatment consumes electricity and natural gas. Reducing water demand can be an effective way to reduce emissions associated with water treatment and conveyance. Future policy opportunities for water include the following:

- Expand reclaimed water infrastructure and distribution
- Expand the use of grey water systems
- Adopt CalGreen Tier 1 standards for water efficiency and conservation in new development
- Continue to implement and promote water conservation programs to comply with SB X7-7

#### TREES AND OTHER VEGETATION

Vegetation, such as trees sequester GHGs. Planting native, drought tolerant trees within the City can increase the sequestration potential of the urban forest, while supporting the water conservation measures listed above. Future policy opportunities for vegetation include the following:

- Develop a program to facilitate voluntary tree planting within the community, working with local non-profit organizations and community partners.
- Develop and adopt tree planting guidelines that address tree and site selection.
- Plant additional trees on City property.

## REGIONAL

Partnering with other neighboring jurisdictions within the County and community organizations is an important aspect of reducing GHG emissions, as it can increase the effectiveness of a measure and reduce costs by leveraging resources. Listed below are existing and potential regional programs, partnerships, and measures that may be expanded upon or implemented to reduce emissions.

- Expand participation in and promotion of San Luis Obispo Energy Watch to reduce community-wide and municipal energy use
- Support the County's *EnergyWise* Plan to provide renewable funding and financing which calls for the formation of a countywide energy collaborative that includes cities, the County, and state and local agencies
- Work with other jurisdictions in the region to evaluate the feasibility of a regional Community Choice Aggregation program to procure electricity from renewable resources<sup>5</sup>
- Support the Renewable Energy Secure Communities for San Luis Obispo County (SLO-RESCO) project. SLO-RESCO is a regional partnership working to identify the best mix of resources for clean, secure and affordable energy.
- Continue participation in Electric Vehicle Community Readiness planning and implementation
- Expand participation in and promotion of Central Coast Clean Cities Coalition (C5)
- Collaborate with regional organizations, such as SLOCOG's Regional Rideshare and San Luis Obispo County's Bicycle Coalition on outreach and education events, and to expand programs and projects, such as Safe Routes to School
- Coordinate with SLOCOG to implement the RTP/SCS
- Partner with regional organizations to create volunteer opportunities for native tree planting, trail work, habitat restoration, and open space maintenance

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<sup>5</sup> Assembly Bill 117 (2002) enables California cities and counties, either individually or collectively, to supply electricity to customers within their jurisdiction by establishing a community choice aggregation (CCA) program. Unlike a municipal utility, a CCA does not own transmission and delivery systems, but is responsible for providing electricity to residents and businesses. The CCA may own electric generating facilities, but more often, it purchases electricity from private electricity generators. The primary benefits offered by a CCA are local control over the energy sources used within the community, the ability to provide electricity to customers at lower overall cost, and greater use of renewable energy. Through a CCA, a jurisdiction can choose to structure a supply portfolio that achieves cost efficiencies, fuel and technological diversity, environmental improvements, and/or cost stability. A CCA would facilitate implementation of a program to increase use of renewable energy resources and promote improved energy efficiency.

Appendix A: City of Paso Robles Measure Details

Emissions Category	Measure Title	Detailed Description	Actual Measure or Commitment	Annual Emissions Reduction in 2020 (MTCO2e)	Measure Source	GHG Calculation Methodology Source	Incremental Reduction (%) - Including Range	Activity Data	Units	Assumptions	Data Sources
Energy (Community)	Solar Energy Installations (Commercial)	Since 2005, 3,719 kW of solar photovoltaic and hot water systems have been installed on commercial properties in Paso Robles. Many of these installations utilized rebates offered through the California Solar Initiative (CSI), a solar rebate program for California consumers that are customers of the investor-owned utilities, such as PG&E. The CSI program is a key component of the Go Solar California campaign for California. The City also participates in the CaliforniaFIRST AB 811 Solar and Energy Efficiency Financing Program (commercial and multi-family residential financing only).	3,719 kW of solar installed	-960	California Solar Initiative	CAPCOA AE-2	0%-100%	7,066,100	kWh	Use 1,900 to convert CEC rating to kWh	Solar Capacity from CA Solar (CEC PTC Rating); Conversion factor from US DOE
Energy (Community)	Solar Energy Installations (Residential)	Since 2005, 1,082 kW of solar photovoltaic and hot water systems have been installed on residential properties in Paso Robles. Many of these installations utilized rebates offered through the California Solar Initiative (CSI), a solar rebate program for California consumers that are customers of the investor-owned utilities, such as PG&E. The CSI program is a key component of the Go Solar California campaign for California. The City also participates in the CaliforniaFIRST AB 811 Solar and Energy Efficiency Financing Program (commercial and multi-family residential financing only). The City also collaborates with GRID Alternatives on outreach and eligibility to promote the Single-family Affordable Solar Homes (SASH) Program.	1,050 kW of solar installed on residential; 32 kW from SASH program = 1,082 kW total	-279	California Solar Initiative	CAPCOA AE-2	0%-100%	2,055,800	kWh	Use 1,900 to convert CEC rating to kWh	Solar Capacity from CA Solar (CEC PTC Rating); Conversion factor from US DOE
Energy (Community)	Solar Energy Installations (Municipal)	Since 2005, 1 kW of solar installations	1 kW of solar installed	-0.3	California Solar Initiative	CAPCOA AE-2	0%-100%	2,242	kWh	Use 1,900 to convert CEC rating to kWh	Solar Capacity from CA Solar (CEC PTC Rating); Conversion factor from US DOE
Energy (Municipal)	Energy Efficient Street Lights	This project involved removing existing 150 watt Metal Halide lamps and ballasts from approximately 313 decorative light fixtures and replacing them with 50 watt electrodes Metal Halide lamps, associated generators and internal reflector kits (induction retrofit kit). The City also has a lights-out-at-night policy.	173,246 kWh savings	-24	PG&E Project Application	CAPCOA LE-1	16%-40%	173,246	kWh		
Energy (Municipal)	Energy Efficient Traffic Signal Lights	The City has 24 signalized intersections. Of those 24, 22 started out as incandescent lights and were converted to LED.	88 LED lights (4 signals per intersection)	-14	Capital Improvement Program	CAPCOA LE-3	0%-90%	104,069	kWh	Assumes Watt rating of bulbs fell from 150 to 15. Assumes 4 signals per intersection. Assumes traffic signals operate 8,760 hrs/yr.	U.S. Department of Energy U.S. Lighting Market Characterization.

Emissions Category	Measure Title	Detailed Description	Actual Measure or Commitment	Annual Emissions Reduction in 2020 (MTCO2e)	Measure Source	GHG Calculation Methodology Source	Incremental Reduction (%) - Including Range	Activity Data	Units	Assumptions	Data Sources
Transportation and Land Use	Increase Density and Diversity of Land Use	Specific Plan provides a road map for growth and change for the plan area for at least the next 25 years. The 25-year build-out projection includes the addition of up to: 1,649 residential units (unit counts over 989 would require a General Plan amendment), 228,000 square feet of retail space, 223,000 square feet of office space, 275,000 square feet of industrial space, and 20 acres of usable open space.	Specific Plan provides a road map for growth, projecting up to 1,649 new residential units and more than 725,000 square feet of non-residential area.	Not quantified - included in regional travel demand forecast model	Specific Plan	CAPCOA LUT-1	A 1% increase in density results in a -0.7 reduction in VMT	28,400	VMT		The SLOCOG 2010 travel demand model used to estimate 2005 baseline and 2020 vehicle miles traveled (VMT) uses a 2010 base year and its VMT are calculated and calibrated to 2009-2011 traffic counts. As such, results for transit and transportation demand management are inherent to the 2009 results. In addition, year 2020 VMT estimates included SLOCOG travel demand forecast model "4-Ds" adjustments for the built environment (land use Density, Design, Diversity, and access to Destinations). Thus, applying additional reductions off-model would double count reductions.
Transportation and Land Use	Bicycle Network Improvements	Constructed 4-miles of bike lanes since 2006; Class 2 - 2 miles new "red" paved bike lanes / major road repair traffic calming and class 1 - 2 miles new multipurpose trail.	4 miles new bike lanes	Not quantified - included in regional travel demand forecast model	Bike Master Plan, completed before 2011	CAPCOA SDT-5	1% increase in share of workers commuting by bike for each additional mile of bike lane per square mile	67,940	VMT	Already captured in the VMT forecast.	The SLOCOG regional travel demand model used to estimate 2005 baseline and 2020 vehicle miles traveled (VMT) uses a 2010 base year and its VMT are calculated and calibrated to 2009-2011 traffic counts. As such, results from this action are inherent to the model results.
Transportation and Land Use	South River Road Bike path	The City has State Transit Enhancement Act (TEA) funding to install a bike path from Navajo to the 13th Street Bridge. The project is being designed by Rick Engineering. The project has completed its environmental phase and is now in final design. It will be advertised for bids in early 2012.	1.3 miles	-16	CIP	CAPCOA SDT-5	1% increase in share of workers commuting by bike for each additional mile of bike lane per square mile	44,161	VMT	Assumes 1% bike share mode. Average reduction in trip length is 20 miles (round trip). Average working days per year is 260.	CAPCOA SDT-5
Transportation (Municipal)	Utilize Electric or Hybrid Vehicles	Purchased two hybrid SUVs in 2009.	10,721 miles, 320.20 gallons used in 2011	-2	Fuel records from the City	CAPCOA VT-3	0.4%-20.3%	10,721 miles; 320.20 gallons used	N/A	Assumes replaced vehicles 21 MPG; light truck WY 1984-1993	Local Government Operations Protocol 1.1
Waste (Community)	Green Waste Diversion	The City collects greenwaste	Unknown commitment	Not quantified		CAPCOA SW-1	BMP				



Emissions Category	Measure Title	Detailed Description	Actual Measure or Commitment	Annual Emissions Reduction in 2020 (MTCO2e)	Measure Source	GHG Calculation Methodology Source	Incremental Reduction (%) - Including Range	Activity Data	Units	Assumptions	Data Sources
Waste (Community)	Construction and Demolition Debris Diversion	As of 2010, the California Green Building Standards Code (CalGreen) requires that 50% of non-hazardous construction and demolition debris be recycled or reused.	50% diversion of construction and demolition debris	-908	California Green Building Standards Code	CAPCOA p. 43; SW-2	Varies			According to the California 2008 Statewide Waste Characterization Study, construction and demolition debris makes up 29% of the waste stream and 40% of that is non-hazardous and recyclable.	California 2008 Statewide Waste Characterization Study
Water	Water Conservation Programs to Meet SB 7 Target	Implementation of programs identified in the City's 2010 Urban Water Master Plan to reduce per capita water consumption by 20% consistent with SBx7-7. A	563,040,240 gallons water savings	-97	2010 Urban Water Management Plan	CAPCOA WSW-2	Varies	563,040,240	Gallons	Assumes 1,300 kWh/million gallons electricity required to supply, treat, and distribute water. Assumes 0.133 MT CO2e/MWh electricity.	Urban Water Management Plan (June, 2011), CAPCOA WSW-2 (pg. 337), California Energy Commission Refining Estimates of Water-Related Energy Use in California (December 2006)

Future Opportunities to be included in Climate Action Plan:

Emissions Category	Measure Title	Detailed Description	Actual Measure or Commitment	Annual Emissions Reduction in 2020 (MTCO2e)	Measure Source	GHG Calculation Methodology Source	Incremental Reduction (%) - Including Range	Activity Data	Units	Assumptions	Data Sources
Transportation and Land Use	Riverside Avenue Improvements	The City is using a Community Development Block Grant (CDBG) to improve Riverside Avenue access from the Paso Robles Event Center. Work includes: - installation of concrete sidewalk - installation of ornamental light fixtures - installation of street trees.	Unknown commitment by 2020 - may be quantified during the toolbox process	Not quantified	CIP						
Transportation and Land Use	Bike master plan	The Paso Robles Bicycle Master Plan is a comprehensive plan to address the needs of both recreational and commuter cyclists. The plan provides direction for City bike planning and improvements over the next 10 years.	Unknown commitment by 2020 - may be quantified during the toolbox process	Not quantified	Bike Master Plan						

Transportation and Land Use	Parking Policies	Developed Downtown Parking Management Plan in 2008, strategies not yet implemented	Unknown commitment by 2020 - may be quantified during the toolbox process	Not quantified					
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## Energy Conservation Ordinance

<b>Measure Name</b>	Energy Conservation Ordinance
<b>Description of Measure</b>	Require through a new City ordinance that cost-effective energy efficiency upgrades in existing buildings be implemented at point of sale or during major renovation of residential units. A maximum cost ceiling would be established to protect owners from excessive fees.

<b>Category</b>	Energy
<b>Community or Municipal?</b>	Community
<b>Voluntary or Mandatory?</b>	Voluntary
<b>Selected?</b>	No

Menu of Actions	Existing and/or Completed Action? Yes or No	Selected? Yes or No
Coordinate with the other local jurisdictions in the region to develop a local energy conservation ordinance.	No	No
Develop and adopt a local residential energy conservation ordinance.	No	Required
Enforce existing commercial energy disclosure rules, pursuant to (AB 531) that require commercial businesses to provide twelve months of energy-use information using the U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager.	No	no

### Estimated GHG Reduction Potential

GHG Reduction Potential from Calculations Below (Metric Tons CO <sub>2</sub> e)	2,718
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### Estimated Costs & Savings

	Select				
1. Aggregated Municipal Cost	Low	\$1-\$10,000	\$10,001-\$50,000	\$50,001-\$100,000	\$100,001+
		Very Low	Low	Medium	High
2. Aggregated Municipal Savings	None	\$1-\$10,000	\$10,001-\$50,000	\$50,001-\$100,000	\$100,001+
		Very Low	Low	Medium	High
3. Per Unit Community Cost	Very Low to Medium	\$1-\$500	\$501-\$1,000	\$1,001-\$5,000	\$5,001+
		Very Low	Low	Medium	High
4. Per Unit Community Savings	Very Low to Medium	\$1-\$500	\$501-\$1,000	\$1,001-\$5,000	\$5,001+
		Very Low	Low	Medium	High

### Co-Benefits

Co-Benefits	Yes/No	Notes
Reduce Costs	Yes	From reduced energy use with average payback periods ranging from 1 to 6 years depending on upgrades.
Improve Public Health	Yes	Reduced energy use would contribute to reductions in regional air pollution (from reduced generation of electricity).
Improve Air Quality	Yes	Reduced energy use would contribute to reductions in regional air pollution (from reduced generation of electricity).
Improve Water Quality	No	
Improve Equity	No	
Reduce Water Consumption	Yes	Depending on the upgrade/improvement.
Reduce Energy Consumption	Yes	

Increases property value	Yes	Efficient buildings have higher property values and resale prices than less efficient buildings.
Adaptation	Yes	

**Case Studies**

City of Berkeley	<a href="http://www.ci.berkeley.ca.us/reco/">http://www.ci.berkeley.ca.us/reco/</a> <a href="http://aceee.org/sector/local-policy/case-studies/berkeley-california-residential-energy">http://aceee.org/sector/local-policy/case-studies/berkeley-california-residential-energy</a>
City of Chico	<a href="http://www.chico.ca.us/building_development_services/building_services/home_page.asp">http://www.chico.ca.us/building_development_services/building_services/home_page.asp</a>

**Implementation**

Responsible Department/Agency	Building Services, Community Development and Planning
Actual Measure or Commitment	Number of residential and non-residential buildings retrofitted by 2020; percent energy (electricity and natural gas) savings
Implementation Mechanism	Codes and Standards
Implementation Time Frame	Mid-Term
Outside Funding Available?	Yes
Synergies with Existing Initiatives/Partnerships	Yes

**Calculation Methodology and Equations**

**Key Assumptions for Calculations:**

Number of residential units retrofitted by 2020	700	Units
Number of non-residential buildings retrofitted by 2020	400	Units
Target percentage of energy savings	30%	Percent
Staff time needed for this measure	0.15	Full Time Equivalent (FTE)

**Calculations:**

Resource Savings Calculations	Residential Square Feet (Rsf) = $Ru \times 1,545$	
	Residential Electricity Energy Savings (kWh) = $E \times Rsf \times 4.1$	
	Residential Natural Gas Savings (therms) = $E \times Rsf \times 0.3$	
	Ru=	700 # residential units affected by ordinance by 2020
	Average residential unit size=	1,545 Square feet/dwelling unit (California Energy Commission [CEC] 2010 Residential Appliance Saturation Survey [RASS])
	Rsf=	1,081,500 # square feet of residential space retrofitted by 2020
	E=	30% Target percentage of energy savings
	Residential electricity use intensity=	4.1 kWh/square foot/year (Average electric use intensity for residential buildings in kWh/square foot/year [RASS]).
	Residential natural gas use intensity=	0.3 Therms/square foot/year (Average natural gas usage intensity for residential buildings in therms/square foot/year [RASS]).
	Commercial Square Feet (Csf) = $Cu \times 4,500$	
Commercial Electricity Energy Savings (kWh) = $E \times Csf \times 12.95$		
Commercial Natural Gas Savings (therms) = $E \times Csf \times 0.3$		
Where:		
Cu=	400 # of commercial units or buildings audited by 2020	

	Average commercial unit size=	4,500	Average square feet for all commercial buildings
	Csf=	1,800,000	Square feet of commercial space upgraded by 2020
	E=	30%	Target percentage of energy savings
	Commercial electricity use intensity=	12.95	kWh/square foot/year (Average electric use intensity for commercial buildings in kWh/square feet/year(California Energy Commission [CEC] 2005 California End Use Survey [CEUS])).
	Commercial natural gas use intensity=	0.3	therms/square foot/year (Average natural gas usage intensity for commercial buildings in therms/square feet/year (CEC 2005 CEUS)).
Resource Savings	1,330,245	Residential electricity saved (kWh)	
	113,557	Residential natural gas saved (therms)	
	6,995,700	Commercial electricity saved (kWh)	
	189,000	Commercial natural gas saved (therms)	
GHG Emission Reduction Calculations	GHG Savings (MT CO2e) = (Se/1,000 × 0.133) + (Sg/10 × 53.20/1,000)		
	Where:		
	Se=	electricity savings	
	Sg=	natural gas savings	
	1,000	= conversion factor for kWh to MWh (electricity equation) or from kg to metric tons (natural gas equation)	
	10	= conversion factor for therm to MMBtu	
	0.133	= average projected 2020 electricity emissions factor (MT CO2e/MWh)	
GHG Emission Reduction	782	Residential Reduction (MT CO2e) in 2020	
	1,937	Commercial Reduction (MT CO2e) in 2020	
Municipal Cost and Savings Calculations	Staff time developing and administering program.		
	FTE =	0.15	Staff time needed for this measure
	\$/FTE=	\$100,000	Cost associated with staff time
Municipal Cost and Savings	Municipal Cost=	\$15,000	Dollars
	Municipal Savings =	\$0	Dollars
Community Costs and Savings Calculations	Total Savings = [Electricity Savings x \$/kWh] + [Natural Gas Savings x \$/therms]		
	Where:		
	Residential \$/kWh=	\$0.19	California Energy Commission, California Energy Demand 2010-2020, Adopted Forecast
	Residential \$/therm=	\$0.92	California Energy Commission, California Energy Demand 2010-2020, Adopted Forecast
	Commercial \$/kWh=	\$0.19	California Energy Commission, California Energy Demand 2010-2020, Adopted Forecast
	Commercial \$/therm=	\$0.81	California Energy Commission, California Energy Demand 2010-2020, Adopted Forecast
	\$357,219	Total Residential Savings (\$/year)	
	\$1,454,290	Total Commercial Savings (\$/year)	
	Total cost of residential upgrades =	\$3,000	Cost per home can ranges from approximately \$800 to 1% of sale price (ACEEE)
	Available residential rebates =	\$3,000	Energy Upgrade California offers rebates ranging from \$2,000-\$4,000 (% energy savings*1,000)
Total cost of commercial upgrades =	\$4,545	Cost per commercial unit (average \$1.01 per square foot - from LBNL in SPUR)	

	Available commercial rebates =	\$2,273	PG&E offers \$0.09/kWh (PG&E Customized Retrofit Incentives) and SCE offers \$1.00/therm (SCE Financial Incentives for Energy Efficiency) for retrofit projects, with the total incentive capped at 50% of the measure cost
Community Costs and Savings	Residential Cost =	\$0	Dollars per household
	Commercial Cost =	\$2,273	Dollars per business
	Residential Savings =	\$510	Dollars per household
	Commercial Savings =	\$3,636	Dollars per business

**Notes**

Energy savings depends on the stringency of requirements. San Francisco estimates a 15% reduction in energy use as a result of their RECO (Eco Leader). Similarly, an evaluation of RECO ordinance options in Boulder found a range of 10%-20% reductions in energy use (Boulder).

When combining energy measures, the City should be aware of double-counting emission reductions. Some actions in this measure overlap with actions in Measures 3a and 3b, and this overlay diminishes the overall effectiveness of the measure and its actions. If the City selects both measures, it should lower the commitment established in terms of units or percent reduction in order to address the issue of double-counting.

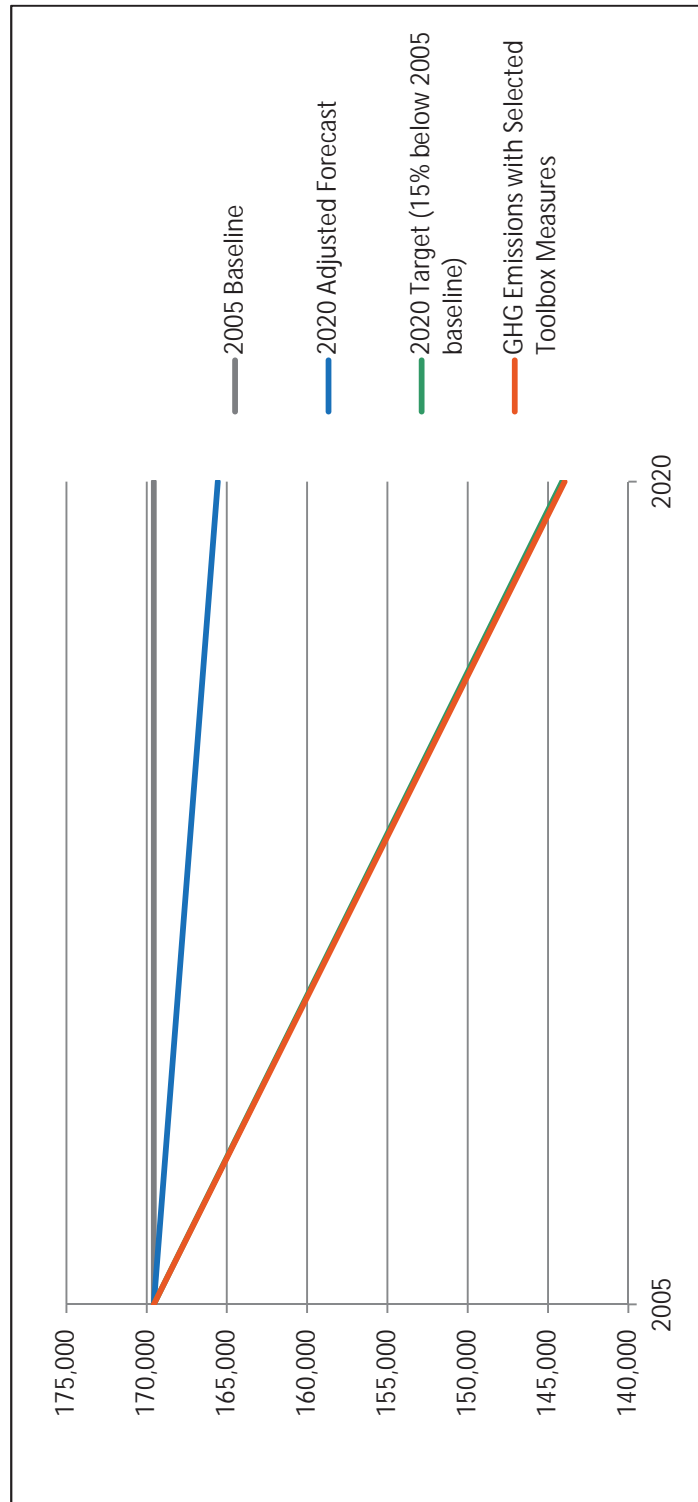
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2. Eco Leader - Residential Energy Conservation Ordinance Factsheet [http://ecoleader.org/assets/downloads/RECO/RECO\\_factsheet.pdf](http://ecoleader.org/assets/downloads/RECO/RECO_factsheet.pdf)
3. City of Boulder RECO Report (page 4) -[http://www.bouldercolorado.gov/files/reco\\_report\\_boulder.pdf](http://www.bouldercolorado.gov/files/reco_report_boulder.pdf).
4. American Council for an Energy-Efficient Economy (ACEEE), Berkeley RECO Case Study - <http://aceee.org/sector/local-policy/case-studies/berkeley-california-residential-energy>
5. SPUR - Reinstate the Commercial Energy Conservation Ordinance (CECO) - [http://www.spur.org/publications/library/report/critical\\_cooling/option4](http://www.spur.org/publications/library/report/critical_cooling/option4)  
[http://www.spur.org/publications/library/report/critical\\_cooling/option3](http://www.spur.org/publications/library/report/critical_cooling/option3)

# SUMMARY OF GHG TARGET AND MEASURE REDUCTIONS

	MT CO <sub>2</sub> e
2005 Baseline	169,557
2020 Adjusted Forecast	165,563
2020 Target (15% below 2005 baseline)	144,123
Targeted Reduction from CAP Measures	21,439

Total Reduction from Selected Toolbox Measures	21,599
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# SUMMARY OF MEASURES

Category	Measure Name	Measure Description	Applicability or (Community or Municipal Measure)	GHG Reduction Potential in 2020 (MT CO <sub>2</sub> e)	Actual Measure or Commitment	Voluntary or Mandated	Implementation Mechanism	Aggregated Municipal Costs	Aggregated Municipal Savings	Per Unit Community Costs	Per Unit Community Savings	Was this Strategy Selected? (Yes = 1, No = 0)
Energy	<a href="#">Energy Efficiency Outreach and Incentive Programs</a>	Expand participation in and the promotion of existing programs, such as Energy Upgrade California and San Luis Obispo County Energy Watch, to increase community awareness of existing energy efficiency rebates and financial incentives, and no- and low-cost actions community members can take to increase energy efficiency.	Community	397	Percent of households and businesses participating; percent energy (electricity and natural gas) savings	Voluntary	Incentives	Very Low	None	Very Low	Low	1
Energy	<a href="#">Energy Audit and Retrofit Program</a>	Collaborate with San Luis Obispo County Energy Watch, local utility providers, local businesses and organizations to develop and promote a residential and commercial educational energy audit program with direct installation of no- and low-cost measures, leveraging existing rebates.	Community	1,087	Number of residential and non-residential buildings retrofitted by 2020; percent energy (electricity and natural gas) savings	Voluntary	Incentives	Very Low	None	Very Low to Medium	Very Low to Medium	1
Energy	<a href="#">Income-Qualified Energy Efficient Weatherization Programs</a>	Facilitate energy efficient weatherization of low- and middle-income housing through promotion of existing programs.	Community	130	Residential units upgraded by 2020; percent energy (electricity and natural gas) savings	Voluntary	Incentives	Very Low	None	None	Very Low	1
Energy	<a href="#">Energy Conservation Ordinance</a>	Require through a new City ordinance that cost-effective energy efficiency upgrades in existing buildings be implemented at point of sale or during major renovation of residential units. A maximum cost ceiling would be established to protect owners from excessive fees.	Community	2,718	Number of residential and non-residential buildings retrofitted by 2020; percent energy (electricity and natural gas) savings	Voluntary	Codes and Standards	Low	None	Very Low to Medium	Very Low to Medium	0
Energy	<a href="#">Incentives for Exceeding Title 24 Building Energy Efficiency Standards</a>	Provide incentives (e.g., priority permitting, reduced permit fees, etc.) for new development and/or major remodels that voluntarily exceed State energy efficiency standards by an identified percentage.	Community	30	New residential and commercial units that exceed State standards by 2020; percentage of energy (electricity and natural gas) savings	Voluntary	Incentives	Very Low	None	Medium	Very Low to Low	1
Energy	<a href="#">Energy Efficient Public Realm Lighting Requirements</a>	Require through a new City ordinance that new development utilize high efficiency lights in parking lots, streets, and other public areas.	Community	105	Number of LED or CFL public realm lights installed by 2020	Mandatory	Codes and Standards	Very Low	Very Low	Very Low	Very Low	1



Energy	<a href="#">Small Solar Photovoltaic (PV) Incentive Program</a>	Facilitate the voluntary installation of small solar PV systems and solar hot water heaters in the community through expanded promotion of existing financial incentives, rebates, and financing programs, and by helping the average resident and business overcome common regulatory barriers and upfront capital costs.	Community	2,713	kW of residential and commercial solar PV installations and number of solar hot water heaters installed	Voluntary	Incentives	Very Low	None	High	Low to High	1
Energy	<a href="#">Income-Qualified Solar PV Program</a>	Facilitate the installation of solar PV systems on and solar hot water heaters in income-qualified housing units by promoting existing programs offered through the California Solar Initiative and New Solar Homes Partnership and by collaborating with organizations, such as Grid Alternatives, on outreach and eligibility.	Community	207	kW of PV and solar hot water heaters installed	Voluntary	Incentives	Very Low	None	None	Medium	1
Energy	<a href="#">Community Choice Aggregation Program (CCA)</a>	Assembly Bill 117 (2002) enables California cities and counties, either individually or collectively, to supply electricity to customers within their jurisdiction by establishing a community choice aggregation (CCA) program. Unlike a municipal utility, a CCA does not own transmission and delivery systems, but is responsible for providing electricity to residents and businesses. The CCA may own electric generating facilities, but more often, it purchases electricity from private electricity generators. The City would either individually or through a regional partnership develop a CCA program and ensure that the energy generation portfolio of the electricity supplied has a higher percentage of clean energy than that mandated by the State Renewable Portfolio Standard (RPS).	Community	2710	Percent reduction in carbon intensity of electricity above RPS	Voluntary	City Program	Low	Low	None	Very Low - Low	0
Energy	<a href="#">Municipal Energy Efficiency Retrofits and Upgrades</a>	Establish a target to reduce municipal energy use by a certain percent by 2020 and implement cost-effective improvements and upgrades to achieve that target.	Municipal	746	Percent energy (electricity and natural gas) savings	Mandatory	City Program	Varies	Medium	None	None	1
Energy	<a href="#">Municipal Energy Efficient Public Realm Lighting</a>	The City would continue to replace city-owned or -operated street, traffic signal, park, and parking lot lights with higher efficiency lamp technologies.	Municipal	29	Number of LED or CFL lights installed	Mandatory	Capital Improvement	Low	Very Low	None	None	1
Energy	<a href="#">Energy Efficiency Requirements for New Municipal Buildings</a>	Adopt a policy to exceed minimum Title 24 Building Energy Efficiency Standards by a certain percentage for the construction of new City buildings and facilities.	Municipal	17	New municipal building square feet by 2020; percent energy (electricity and natural gas) savings	Mandatory	Capital Improvement	High	Very Low	None	None	0

Energy	<a href="#">Renewable Energy Systems on City Property</a>	The City would pursue municipally-owned renewable energy generation facilities.	Municipal	563	kw of municipal solar PV and number of solar water heaters installed	Voluntary	Capital Improvement	High	Low	None	None	1
Transportation and Land Use	<a href="#">Bicycle Network</a>	Continue to improve and expand the city's bicycle network and infrastructure.	Community	771	Miles of new bike lanes, routes, and paths by 2020	Mandatory	Codes and Standards	Low	None	None	Varies	1
Transportation and Land Use	<a href="#">Pedestrian Network</a>	Continue to improve and expand the city's pedestrian network.	Community	544	Miles of added sidewalk by 2020	Mandatory	Capital Improvement	Low	None	None	Varies	1
Transportation and Land Use	<a href="#">Expand Transit Network</a>	Work with the Regional Transit Authority (RTA) and transit service providers to expand the local transit network (i.e., additional routes or stops, and/or expanded hours of operation) based on the greatest demand for service.	Community	64	Percent increase in transit service	Mandatory	Policy	Very Low	None	Very Low	Medium	1
Transportation and Land Use	<a href="#">Increase Transit Service Frequency/Speed</a>	Work with the Regional Transit Authority (RTA) and transit services providers to increase transit service frequency (i.e., reducing headways) by identifying routes where increased bus frequency would improve service.	Community	27	Percentage reduction in transit headways	Mandatory	Policy	Very Low	None	Very Low	Medium	1
Transportation and Land Use	<a href="#">Employer-Based Transportation Demand Management (TDM) Program</a>	Require through a new City ordinance that employers with 25 or more employees develop a TDM program that provides encouragement, incentives, and support for employees to reduce their single occupancy vehicle trips. Some examples of resources and incentives include telecommuting, alternative scheduling (e.g., 9/80 or 4/40 work schedules), rideshare matching, and walking, cycling and transit incentives.	Community	883	Percent of businesses with more than 25 employees	Mandatory	Codes and Standards	Very Low	None	None	Very Low	1
Transportation and Land Use	<a href="#">Transportation Demand Management - Voluntary</a>	Work with San Luis Obispo Regional Ride Share and Ride-On to conduct additional outreach and marketing of existing TDM programs and incentives to discourage single-occupancy vehicle trips and encourage alternative modes of transportation, such as carpooling, taking transit, walking, and biking.	Community	368	Percent of employees participating	Voluntary	Policy	Very Low	None	None	Very Low	1
Transportation and Land Use	<a href="#">Parking Supply Management</a>	Amend the Municipal Code to reduce parking requirements in areas such as the downtown where a variety of uses and services are planned in close proximity to each other and to transit.	Community	641	Net reduction in parking spaces, new parking spaced by 2020 forecast under existing regulations	Mandatory	Codes and Standards	Very Low	None	None	Very Low	1
Transportation and Land Use	<a href="#">Public Parking Pricing</a>	Establish market-based pricing for public parking spaces, where appropriate.	Community	343	Number of public parking spaces where parking pricing would apply; percentage increase in parking prices	Voluntary	Capital Improvement	Low	High	Medium	Very Low	0

Transportation and Land Use	<a href="#">Electric Vehicle Network and Alternative Fueling Stations</a>	The City would continue to work with the San Luis Obispo County Air Pollution Control District (APCD), Central Coast Clean Cities Coalition, and neighboring jurisdictions to create and implement the electric vehicle readiness plan. The City would continue to pursue funding for plug-in electric vehicle charging stations.	Community	2,907	Percent adoption of electric vehicles based on implementation of comprehensive EV Network	Voluntary	Policy	Very Low	None	None	None	1
Transportation and Land Use	<a href="#">Incentives for Infill and Transit Oriented Development</a>	The City would identify and implement additional incentives to encourage mixed-use, higher density, and infill development near transit routes, in existing community centers/downtowns, and in other designated areas. Incentives may include, but are not limited to, priority permitting, lower permit fees, density bonuses, or reduced parking requirements.	Community	3,788	Number of new homes and/or businesses within 0.25 miles of transit	Mandatory	Policy	Low	None	Varies	Medium	1
Transportation and Land Use	<a href="#">Service Nodes</a>	Work with private developers to encourage the development of convenient commercial and shopping opportunities near existing employment and/or residential areas, through incentives or the removal of existing regulatory barriers, as a means of shortening the distance between origins and destinations, and increasing the potential for walking or biking to obtain services.	Community	Not calculated	Percent of new homes within walking distance of retail and services.	Voluntary	Policy	Very Low to Low	None	Varies	Varies	0
Transportation and Land Use	<a href="#">Transportation Demand Management (TDM) Program for Municipal Employees</a>	The City would implement a Transportation Demand Management (TDM) program for its own employees. Reduced single-occupant vehicle commuting would reduce GHG emissions.	Municipal	49	Percent City employee participation	Voluntary	Codes and Standards	Very Low	Low	None	None	1
Transportation and Land Use	<a href="#">Zero and Low Emission Municipal Fleet Vehicles</a>	Continue to replace official City vehicles and equipment with low-emission and zero-emission vehicles, including smaller, hybrid, electric, compressed natural gas, biodiesel, and neighborhood electric vehicles.	Municipal	251	Number of municipal vehicles replaced by 2020	Mandatory	Policy	Medium	Very Low	None	None	1
Off-Road	<a href="#">Construction Equipment Techniques</a>	Reduce GHG emissions from construction equipment by requiring various actions as appropriate to the construction project.	Community	2,173	Percent of construction equipment replaced with electric equipment/alternatively fueled equipment	Voluntary	Codes and Standards	Very Low	None	Varies	Varies	1
Off-Road	<a href="#">Equipment Upgrades, Retrofits, and Replacements</a>	The City would support the APCD programs that fund equipment upgrades, retrofits, and replacement through the Carl Moyer heavy-duty vehicle and equipment program or other funding mechanisms.	Community	19	Percent of off-road equipment replaced with electric equipment/alternative fuel vehicles	Voluntary	Incentives	Low	None	None	Varies	1

Water	<a href="#">Exceed SB X77 Water Conservation Act of 2009</a>	The City would adopt a water conservation target that exceeds the SB X77* (Water Conservation Act of 2009), target and identify and implement additional water efficiency and conservation measures to meet that target by 2020.	Community	41		Percent water savings above SBx7-7	Voluntary	Codes and Standards	Low	None	Varies	Varies	1
Solid Waste	<a href="#">Solid Waste Diversion Rate</a>	The City would adopt a specified solid waste diversion rate that exceeds the state-mandated rate of 50% and identify programs to meet the identified rate by 2020.	Community	3,012		Percent waste diversion beyond State-mandated 50% (2020)	Mandatory	Policy	Low	None	None	None	1
Solid Waste	<a href="#">Organic Waste Diversion Program</a>	The City would develop a combined or separate organic waste (yard trimming, food scraps, and food-soiled paper) collection system and encourage residents and businesses to divert these materials from landfills. The City would develop a marketing campaign to educate the community and facilitate composting.	Community	401		Percent diversion of organic waste	Voluntary	Incentives	Very Low	None	None	None	0
Solid Waste	<a href="#">Construction and Demolition Debris Diversion Requirements</a>	Require the reuse or recycling of construction and demolition materials from development projects beyond the state-mandated 50% requirement.	Community	257		Percent waste diversion beyond State-mandated 50% (2020)	Mandatory	Codes and Standards	Very Low	None	None	None	0
Solid Waste	<a href="#">Recycling at Public Events</a>	The City would adopt an ordinance requiring the provision of recycling receptacles at all events requiring a permit or held on City-owned or -operated property.	Community	2		Percentage of waste recycled at public events	Mandatory	Codes and Standards	Very Low	None	None	None	0
Solid Waste	<a href="#">Municipal Solid Waste Reduction</a>	Adopt a specified solid waste diversion rate and identify steps to meet that rate by 2020.	Municipal	28		Percent waste diversion beyond State-mandated 50% (2020); number of new recycling receptacles	Mandatory	Policy	Low	None	None	None	1
Trees and Open Space	<a href="#">Tree Planting Program</a>	Develop a program to facilitate tree planting within the community, working with local non-profit organizations and community partners. Develop and adopt tree planting guidelines that address tree and site selection.	Community	18		Number of trees planted (net new trees)	Voluntary	Capital Improvement	Low	None	Very Low	None	1
Trees and Open Space	<a href="#">Municipal Tree Planting Program</a>	Establish a tree planting program to increase the number of native, drought-tolerant trees on City-owned property, parks and streetscapes.	Municipal	6		Number of net new trees planted on City-owned property	Mandatory	City Program	Low	None	None	None	1

Table 3 GHG Reduction – Climate Action Plan Toolbox Comparison				
GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
<b>1. Energy: Energy Efficiency and Incentive Outreach</b>				
a. Collaborate with San Luis Obispo County Energy Watch to conduct <u>additional</u> outreach and promotional activities targeting specific groups or sectors within the community (e.g., homeowners, renters, businesses, etc.).	X	X	X	SLO City also has a "Green Business" certification program to recognize businesses that make special effort to reduce energy and use GHG emissions.
b. Designate one week per year to conduct an energy efficiency outreach campaign targeting a specific group. The campaign week can also be used to recognize and encourage programs and educational outreach conducted by industry organizations, non-governmental entities, government agencies, and other community groups.	X			SLO Co. program includes integrating Energy Watch Programs into the General Plan, Capital Improvement Program, and department budgets.
c. Direct community members to existing program websites, such as Energy Upgrade California and San Luis Obispo County Energy Watch.	X	X	X	
<b>2. Energy: Energy Audit and Retrofit Program</b>				
a. Collaborate with San Luis Obispo County Energy Watch, local utilities, and local jurisdictions to develop and promote a residential and commercial energy audit program with direct installation of no- and low-cost measures by qualified contractors, leveraging existing rebates.	X	X	X	
b. Collaborate with San Luis Obispo County Energy Watch to conduct outreach and promotional activities targeting specific groups (e.g., owners of buildings built prior to Title 24 [1980]).	X	X	X	
c. As part of the business licensing and renewal process, encourage businesses to participate in the program and receive an energy audit.	X			
d. Participate in and promote a single-family residential energy efficiency financing program, such as a Property Assessed Clean Energy (PACE) program, to encourage investment in energy efficiency upgrades.	X	X	X	
e. Continue to participate in and promote the CaliforniaFIRST energy efficiency financing program for multi-family residential and commercial buildings.	X	X	X	
f. Work with Energy Upgrade California, local utilities, and/or community businesses and organizations, to annually conduct a "do-it-yourself" workshop for building energy retrofits.	X	X	X	
g. Highlight the effectiveness of energy audits and retrofits by showcasing the success of retrofits on the City's website or in its newsletter.	X	X	X	
<b>3. Energy: Income-Qualified Energy Efficient Weatherization Programs</b>				
a. Establish partnership with CAPSLO related to income-qualified weatherization programs, such as PG&E's Middle Income Direct Install program.		X	X	
b. Collaborate with CAPSLO to identify and promote program to additional income-qualified households using additional sources of data available to the City. (e.g., water bills, housing records, etc.).		X	X	

Table 3 GHG Reduction – Climate Action Plan Toolbox Comparison				
GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
<b>4. Energy: Energy Conservation Ordinance</b>				
a. Coordinate with the other local jurisdictions in the region to develop a local energy conservation ordinance.	X	X		
b. Develop and adopt a local residential energy conservation ordinance.	X	X		
c. Enforce existing commercial energy disclosure rules, pursuant to (AB 531) that require commercial businesses to provide twelve months of energy-use information using the U.S. Environmental Protection Agency's ENERGY STAR Portfolio Manager.	X		X	
<b>5. Energy: Incentives for Exceeding Title 24 Building Energy Efficiency Standards</b>				
a. Collaborate with community organizations and businesses, local utilities, and other local jurisdictions in the region to develop and promote a technical assistance and best practices program that aids developers in selecting and implementing energy efficiency measures that exceed State standards.	X	X	X	
b. Identify and provide incentives (e.g., expedited or streamlined permitting, reduced fees, public recognition, etc.) for applicants whose project exceeds State requirements by a specified percent.	X	X	X	SLO City requires installation of energy efficient appliances, cool roof and parking surfaces.
c. Update building permit process to incentivize higher building performance.	X	X	X	
d. Launch an educational campaign for builders, permit applicants, and the general public to promote best practices and incentive program; provide information and assistance about energy efficiency options online and at permit counter.	X	X	X	SLO City includes program to assist energy efficiency upgrades for historic structures.
<b>6. Energy: Energy Efficient Public Realm Lighting Requirements</b>				
Develop and adopt an ordinance that requires new development to utilize high efficiency lights in parking lots, streets, and other public areas.	X	X	X	
<b>7. Energy: Small Solar Photovoltaic (PV) Incentive Program</b>				
a. Conduct a comprehensive review of the City's solar permitting process based on the Governor's Office of Planning and Research's (OPR) California Solar Permitting Guidebook (June 2012), identifying any existing barriers.	X	X		Slo City and SLO Co. includes low-interest loan program for home/businesses that install renewable energy systems.
b. Improve the permit review and approval process for small solar PV systems by implementing recommendations for streamlined permitting identified in the California Solar Permitting Guidebook (e.g., use standardized forms, provide clear written instructions on the permitting process and a checklist of required application materials, make information available on the City's website and at the permit counter, etc.).	X	X	X	SLO City and SLO Co. includes "feed-in" tariff/buyback program.
c. Collaborate with other local jurisdictions in the region to standardize requirements across jurisdiction, by using common permit materials, such as checklists and standard plans, to reduce permit submittal errors among contractors working throughout a region.	X	X	X	

Table 3 GHG Reduction – Climate Action Plan Toolbox Comparison				
GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
d. Participate in and promote a residential and commercial renewable energy financing program (through a Property Assessed Clean Energy [PACE] program, CaliforniaIRST, a joint powers authority with neighboring jurisdictions, or other mechanisms) allowing residential and commercial property owners to voluntarily invest in renewable energy upgrades for their buildings.	X	X		
e. Expand education on and promotion of existing incentive, rebate, and financing programs for solar PV systems and solar hot water heaters targeting specific groups or sectors within the community.	X	X		
f. Designate one week per year to conduct a renewable energy outreach campaign targeting a specific group. The campaign week can also be used to recognize community members that have implemented noteworthy or unique renewable energy projects.	X			
<b>8. Energy: Income-Qualified Solar PV Program</b>				
a. Collaborate with Grid Alternatives and other community organizations to provide targeted education and outreach to developers and homeowners about incentives offered through the Single Family Affordable Solar Homes (SASH) Program and the Multifamily Affordable Solar Homes Program (MASH).	X			
b. Provide targeted outreach to homeowners about solar water heating incentives offered through the California Solar Initiative.	X			
<b>9. Energy: Community Choice Aggregation Program (CCA)</b>				
a. Participate in and consider the results of the Renewable Energy Secure Communities project for San Luis Obispo County (SLO-RESCO), a regional partnership working to identify the best mix of resources for clean, secure and affordable energy.				
b. Develop a CCA program and purchase a portfolio comprised of cleaner generation sources above the 33% RPS by 2020.	X	X	X	
<b>10. Energy: Municipal Efficiency Retrofits and Upgrades</b>				
a. Adopt a municipal energy target.	X	X	X	
b. Complete energy audits and benchmarking of all municipal facilities, leveraging existing programs, such as PG&E's Automated Benchmarking Service or the U.S. Environmental Protection Agency's ENERGY STAR Challenge program.	X		X	
c. Maintain a regular maintenance schedule for heating and cooling, ventilation and other building functions.	X	X	X	
d. Establish a prioritized list of energy efficiency upgrade project and implement as funding becomes available.	X	X	X	
e. Install an energy management system that monitors energy use and controls heating, cooling, and ventilation to increase efficiency.		X		
<b>11. Energy: Municipal Energy Efficient Public Realm Lighting</b>				
a. Conduct an inventory of existing outdoor public light fixtures.	X	X		
b. Identify and secure funding to replace inefficient city-owned or -operated public lighting.	X	X		

Table 3 GHG Reduction – Climate Action Plan Toolbox Comparison				
GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
<b>12. Energy: Energy Efficiency Requirements for New Municipal Buildings</b>				
a. Review existing municipal building policies and standards.	X	X		
b. Adopt a policy to exceed Title 24 building efficiency standards by a certain percent.				
<b>13. Energy: Renewable Energy Systems on City Property</b>				
a. Complete a feasibility study on the installation of solar or other renewable energy projects at select City facilities and install where feasible.	X	X		
b. Identify funding sources and opportunities for municipal renewable energy generation.	X			
c. Replace inefficient hot water heaters with those powered by solar energy.	X			
<b>14. Transportation and Land Use: Bicycle Network</b>				
a. Continue to pursue public and private funding to expand and link the city's bicycle network in accordance with its General Plan and Bicycle Plan.	X			SLO City includes "complete streets" program, developing funding for Bicycle Transportation Plan staffing, goal to have 20% transportation by bicycles, develop a "bike program" and install additional bike signage.
b. Annually identify and schedule street improvement and maintenance projects to preserve and enhance the bicycle network.	X		X	
c. Incorporate bicycle facility improvements into pavement resurfacing, restriping, and signalization operations where the safety and convenience of users can be improved within the scope of work.	X	X	X	
d. Coordinate with and support SLOCOG in the implementation of bicycle plans to facilitate non-auto travel within and between communities.	X	X	X	
e. Collaborate with the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month.	X		X	
f. Through conditions of approval, require new subdivisions and large developments to incorporate bicycle lanes, routes, and/or shared-use paths into street systems to provide a continuous network of routes, facilitated with markings, signage, and bicycle parking.	X		X	
g. Continue to enforce mandatory California Green Building Standards Code bicycle parking standards for non-residential development.	X			
<b>15. Transportation and Land Use: Pedestrian Network</b>				
a. Continue to pursue public and private funding to expand and link the City's pedestrian network.	X	X	X	SLO City includes development of a Pedestrian Master Plan.
b. Annually identify and schedule sidewalk improvement and maintenance projects to preserve and enhance the pedestrian circulation network.	X			
c. Incorporate pedestrian-facilities improvements into pavement resurfacing, restriping, and signalization operations where the safety and convenience of users can be improved within the scope of work.	X			
d. Expand and promote the Safe Routes to School program.	X	X	X	



**Table 3  
GHG Reduction – Climate Action Plan Toolbox Comparison**

GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
e. Require through conditions of approval that new development projects provide a pedestrian access network that internally links all uses and connects all existing or planned external streets and pedestrian facilities contiguous with the project site. It would also require that the project minimize barriers to pedestrian access and interconnectivity.	X	X		
f. Require new development to implement traffic calming improvements as appropriate (e.g., marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, median islands, mini-circles, tight corner radii, etc.) through conditions of approval.	X	X	X	

Table 3 GHG Reduction – Climate Action Plan Toolbox Comparison				
GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
<b>16. Transportation and Land Use: Expand Transit Network</b>				
a. Work with RTA and transit service providers to implement the Short Range Transit Plan.	X			SLO City offers free and/or discounted bus passes to downtown workers, seniors and students.
b. Work with the San Luis Obispo Regional Transit Authority and local transit agency to identify and map existing and future bus lines (routes) and transit corridors.				
c. Support the County's EnergyWise Plan strategy to add transit routes that provide intercity express services.	X		X	
d. Continue to research federal and local funding for transit service upgrade projects.				
e. Require new development to provide safe and convenient access to alternative transportation within the project area and safe access to public transportation as feasible.				
<b>17. Transportation and Land Use: Enhance Transit Frequency</b>				
a. Work with RTA and transit service providers to implement the Short Range Transit Plan.	X	X		
b. Work with RTA and transit service providers to shorten regional service headways to 30 minutes or shorter at commute peaks subject to passenger load demand.	X		X	
c. Support streamlined transit services and infrastructure that create a Bus Rapid Transit (BRT) network on main commute corridors.	X			SLO City includes distributing transit info and bus passes in new resident "welcome" gifts.
<b>18. Transportation and Land Use: TDM Ordinance</b>				
a. Develop and adopt a TDM ordinance for employees with 25 or more employees.	X		X	
b. Establish performance standards (e.g., trip reduction requirements).	X		X	
c. Set up system to require regular monitoring and reporting to assess the employer's status in meeting the ordinance goals (e.g., as part of the business licensing and renewal process).	X			
<b>19. Transportation and Land Use: TDM Ordinance</b>				
a. Collaborate with San Luis Obispo Ride Share and Ride-On to conduct additional outreach through event promotions and publications, targeting specific groups or sectors within the community (e.g., employers, employees, students, seniors, etc.).	X			SLO City program includes focus on congestion management relief such as traffic light synchro.
b. Provide information on and promote existing employer based TDM programs as part of the business licensing and renewal process.	X		X	
c. Collaborate with San Luis Obispo Ride Share and the San Luis Obispo Bicycle Coalition to assist with event promotions and publications to increase awareness and ridership during Bike Month and Rideshare month.	X	X	X	SLO City focus on VMT reduction, jobs/housing balance, infill.
d. Direct community members to existing program websites.	X	X		
<b>20. Transportation and Land Use: Parking Supply Management</b>				
a. Amend the Municipal Code to reduce parking requirements (e.g., eliminate or reduce minimum parking requirements, create maximum parking requirements, and/or provide shared parking).	X	X	X	SLO City increase shared parking allowance to 30%, increase meter fees to encourage use of parking structures
b. Establish optional in-lieu fees in place of minimum parking requirements where appropriate.	X			

Table 3 GHG Reduction – Climate Action Plan Toolbox Comparison				
GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
<b>21. Transportation and Land Use: Public Parking Pricing</b>				
a. Decouple parking and housing and commercial development in order to allocate the true cost of parking directly to users.		X	X	spaces to include minimum of 8% parking for clean air vehicles and 2% for EV wired spaces, and car-sharing spaces in public parking lots
b. Add meters to public parking spaces, where appropriate, and charge market prices.		X		
c. Set prices to achieve an 85% utilization on each block face and 90% utilization in each off-street lot.				
d. Conduct parking occupancy studies to consider priority areas for price increases.		X		
<b>22. Transportation and Land Use: EV Readiness Stations</b>				
a. Work with the San Luis Obispo County Air Pollution Control District (APCD), Central Coast Clean Cities Coalition, and neighboring jurisdictions to create and implement the electric vehicle readiness plan through expanding the use of alternative fuel vehicles and fueling stations in the community.	X	X		
b. Provide streamlined installation and permitting procedures for vehicle charging facilities.	X	X		
<b>23. Transportation and Land Use: Transit Oriented Uses</b>				
a. Update land use and zoning code to allow new development in the mixed-use and medium- and high-density land use categories located within ¼-mile of a transit node, existing bus route, or park and ride facility with regularly scheduled, daily service at a minimum density of 20 dwelling units per acre.	X	X	X	
b. Provide and promote incentives (e.g., parking reductions, priority permitting, etc.) for mixed-use and medium- and high-density land use categories located within ¼-mile of a transit node, existing bus route, or park and ride facility with regularly scheduled, daily service at a minimum density of 20 dwelling units per acre.	X		X	
c. Develop a form-based zoning code for the central business district/downtown. Form-based codes emphasize building form rather than use. This increases flexibility for a variety of complementary uses to be permitted in the same area, and the potential for mixed-use development, which helps to reduce vehicle miles traveled.	X			
d. Develop and adopt incentives for live/work developments, such as reduced permit fees, expedited permits, or waiving business license fees for residents in live/work units. Live/work developments allow residents to live at their place of work and thereby reduce vehicle miles traveled and associated GHG emissions.	X		X	
<b>24. Transportation and Land Use: Service Nodes</b>				
a. Conduct a study of key underserved areas of demand for retail and services.	X		X	SLO Co. focused on implementation of Strategic Growth programs.
b. Adjust zoning and regulations as necessary to encourage and incentivize the development of service nodes.	X		X	

Table 3 GHG Reduction – Climate Action Plan Toolbox Comparison				
GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
<b>25. Transportation and Land Use: Muni TDM</b>				
a. Establish an ordinance that requires the City to meet employee commute trip VMT reduction targets by offering one or more services from a menu of options, including: Encourage the use of the carpools; Provide ride matching services and assistance; Allow flexible work schedules and telecommuting; Provide end of trip facilities (parking, showers, lockers); Providing subsidized transit passes; hiring a transportation coordinator to manage TDM programs; or others at the employer's discretion.				
b. Hire a transportation coordinator to manage TDM programs.				
c. Require parking cash-out (a requirement that City employers who subsidize employee parking costs provide an equivalent cash reimbursement for employees who choose not to drive).	X		X	
<b>26. Transportation and Land Use: Muni Fleet</b>				
a. Develop and adopt a low- and zero- emissions replacement/purchasing policy for official City vehicles and equipment.	X	X	X	
b. Work with the Central Coast Clean Cities Coalition to obtain funding for low-emission and zero-emission fleet vehicles.	X	X	X	
c. Identify fleet vehicles near replacement and options for lower emission vehicles.	X	X		
<b>27. Construction Equipment Techniques</b>				
a. Require a percentage of construction equipment to be electrically-powered or use alternative fuels such as compressed natural gas (CNG).	X		X	
b. Limit heavy-duty equipment idling time to a period of three minutes or less, exceeding the California Air Resources Board's standard of five minutes.	X		X	
<b>28. Equipment Upgrades</b>				
a. Continue to support the APCD through the Carl Moyer program.				SLO City includes program to install water pumping and left station energy upgrades.
b. Conduct additional outreach and promotional activities targeting specific groups (e.g., agricultural operations, construction companies, homeowners, etc.).	X		X	
c. Direct community members to existing program websites (e.g., San Luis Obispo Air Pollution Control District, Carl Moyer Grant page).				
<b>29. Water Conservation</b>				
a. Adopt a water conservation ordinance to exceed SB X7-7 by a specified percentage.				SLO Co. program requires retrofitting upon sale
b. Enhance retrofit programs for existing residences and commercial buildings.	X	X		
c. Adopt CALGreen Tier 1 or Tier 2 standards for water efficiency and conservation in new development.		X	X	SLO City requires drought tolerant landscaping, water use graphs in water bills, and water reuse plan.

Table 3 GHG Reduction – Climate Action Plan Toolbox Comparison				
GHG Reduction Measures	Paso Robles	SLO City	SLO County	Comments
d. Expand the use of grey water or recycled water infrastructure.	X	X	X	
<b>30. Solid Waste</b>				
a. Adopt a solid waste diversion rate that exceeds the state-mandated rate by a certain percentage.	X		X	SLO City includes "hard to recycle" pick up program, backyard composting program and MF & Com'l recycling service.
b. Identify programs to meet the identified diversion rate.	X	X	X	
c. Develop an education and outreach program in support of the measure.	X	X	X	
<b>31. Organic Waste</b>				
a. Develop a program for the expanded collection of organic waste.	X	X	X	SLO City includes cooling oil waste collection, feasibility study on food packaging ordinance and food waste program.
b. Establish a community-wide organics composting program.	X	X	X	
c. Develop a marketing campaign to educate the community about the program.	X	X		
<b>32. Construction and Demolition Diversion</b>				
Adopt an ordinance requiring that a specified percentage of construction and demolition debris from development projects be diverted from landfills.	X		X	
<b>33. Public Event Recycling</b>				
Develop and adopt an event recycling ordinance.	X	X	X	
<b>34. Municipal Waste Diversion</b>				
a. Develop and adopt a City purchasing policy that emphasizes recycled and recyclable materials.	X	X	X	
b. Install recycling receptacles at municipal buildings and facilities.				
<b>35. Tree Planting Program</b>				
a. Develop a tree planting assistance program.	X	X	X	partner with organizations for trail
b. Develop and adopt tree planting guidelines that address tree and site selection. Emphasis should be placed on native, drought-tolerant trees.	X	X	X	
c. Track the number of trees planted annually.	X			
<b>36. Muni Tree Planting</b>				
a. Develop and adopt a formal tree planting policy and program.	X	X	X	SLO Co. develop local food programs
b. Identify and secure grant funding for tree planting.	X		X	SLO City advertise green waste program and availability, Arbor day events