

# CLIMATE ACTION PLAN CITY OF STOCKTON



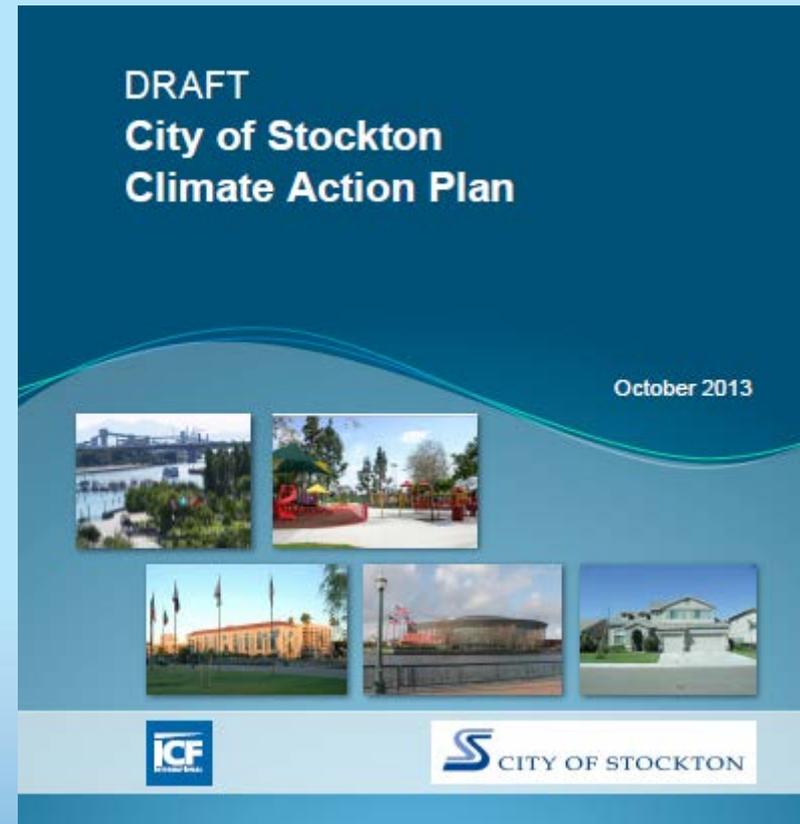
Joint Planning Commission / Climate Action Plan  
Advisory Committee Public Workshop  
December 5, 2013

# Climate Action Plan (CAP) Workshop

## December 5, 2013



1. Background
2. CAP Purpose
3. CAP Development
4. CAP Contents
  - a. Inventory/Forecast
  - b. Reduction measures
  - c. Reduction Target
  - d. Cost/Benefit Analysis
  - e. Implementation
5. Next Steps
6. Q& A



# Background



- 2006 – Global Warming Solutions Act Assembly Bill 32 (AB 32)
- 2007- City Council adopts 2035 General Plan
- GP Policy HS-4.20 Commits City to “Adopt new policies...require new development to reduce GHG...as set forth in AB 32” ...

# Background



- 2008 – City Council approves Settlement Agreement
  - CAP and related Greenhouse Gas (GHG) reduction efforts (e.g. Green Building Ordinance [GBO])
- 2009/10/11 – Climate Action Plan Advisory Committee (CAPAC) established, CAPAC begins monthly meetings, GHG Inventory, GHG Reduction Measures, Original GBO, Transit Plan/Program

# Background

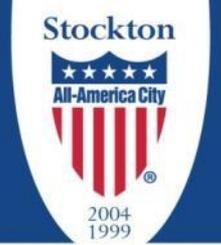


- 2012 – Initial Public Draft CAP is released
- October 2013 – Revised Climate Action Plan Released
- November 2013 – CAPAC Recommends City Council Approval of Revised GBO



# Draft Climate Action Plan

## Purpose



- The purpose of the CAP is to reduce GHG, satisfy the terms of the Settlement Agreement and General Plan Policy HS-4.20 (see CAP Synopsis handout):
  - Development of a GHG emissions inventory and estimates of emissions in 1990 and 2020.
  - Identification of emissions reduction targets, consistent with Assembly Bill 32
  - Identification of a goal to reduce vehicle miles traveled (VMT)
  - Identification of measures to reduce GHG emissions.



# Draft Climate Action Plan Development



- Climate Action Plan developed by City Staff, Public, Stakeholders, and Consultants in concert with the Climate Action Plan Advisory Committee (CAPAC).
- CAPAC members appointed by the City Council to be broadly representative of diverse interests in the City
  - Business
  - Developer
  - Labor
  - Non-Profit
  - Environmental
- CAPAC meets monthly and meetings are open to public.
- Key documents posted on the web at:  
<http://www.stocktongov.com/government/boardcom/clim.html>

# Draft Climate Action Plan Contents



- Executive Summary
- Introduction
- City of Stockton's Greenhouse Gas Emissions Inventory and Forecast
- Emissions Reduction Measures and Cost/Benefit Analysis
- Implementation Strategies
- Appendices



# Draft Climate Action Plan

## Greenhouse Gas Inventory and Forecast

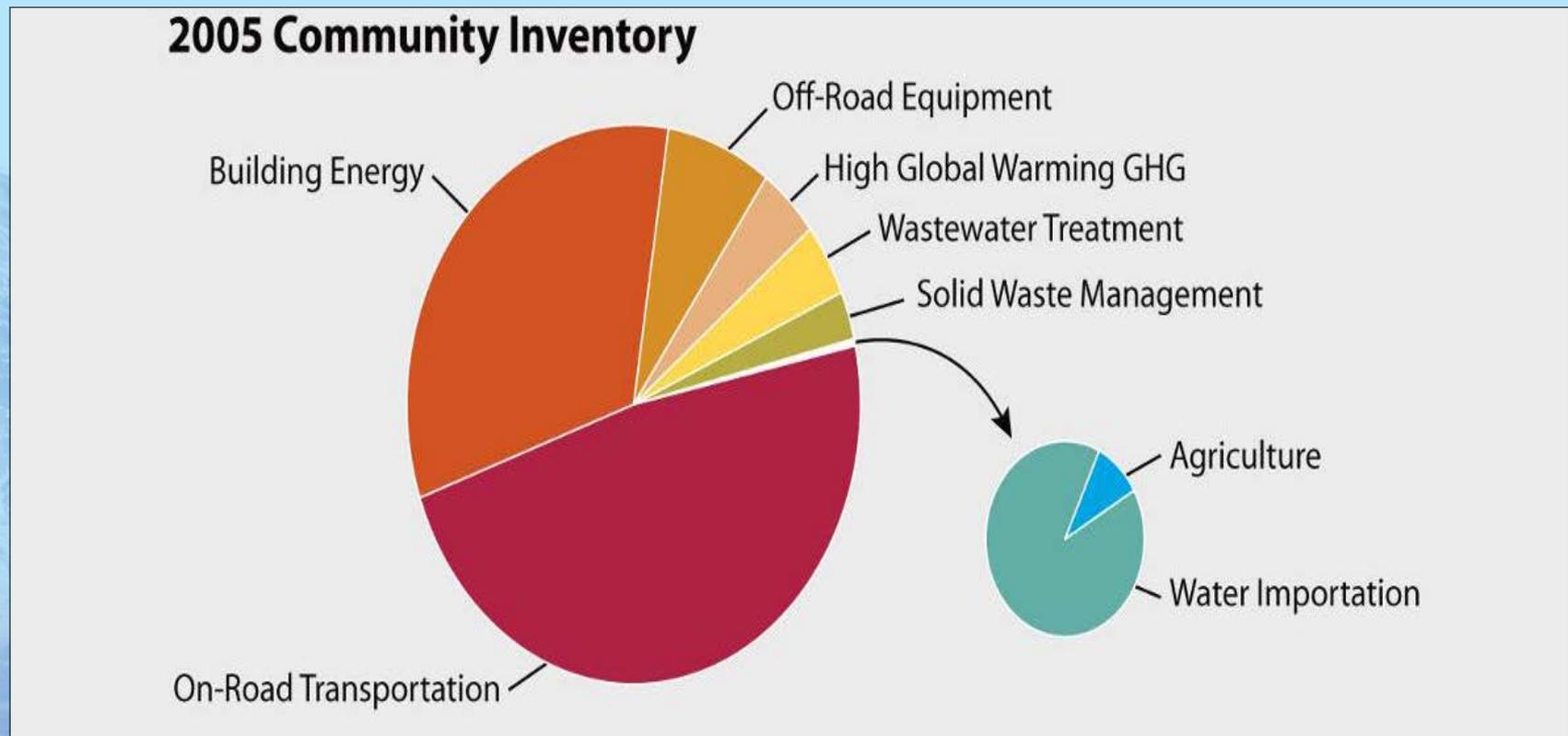


- Inventory of 2005 GHG emissions
- Forecasted 2020 GHG emissions
- GHG emissions from “community activities”
  - Energy consumed in houses and businesses
  - Emissions from vehicles (onroad/offroad)
  - Landfill emissions from waste generated in the City
  - Emissions associated with transporting water to City
  - Emissions associated with wastewater treatment
  - Several minor sector (chemical product use, agriculture)



# Draft Climate Action Plan

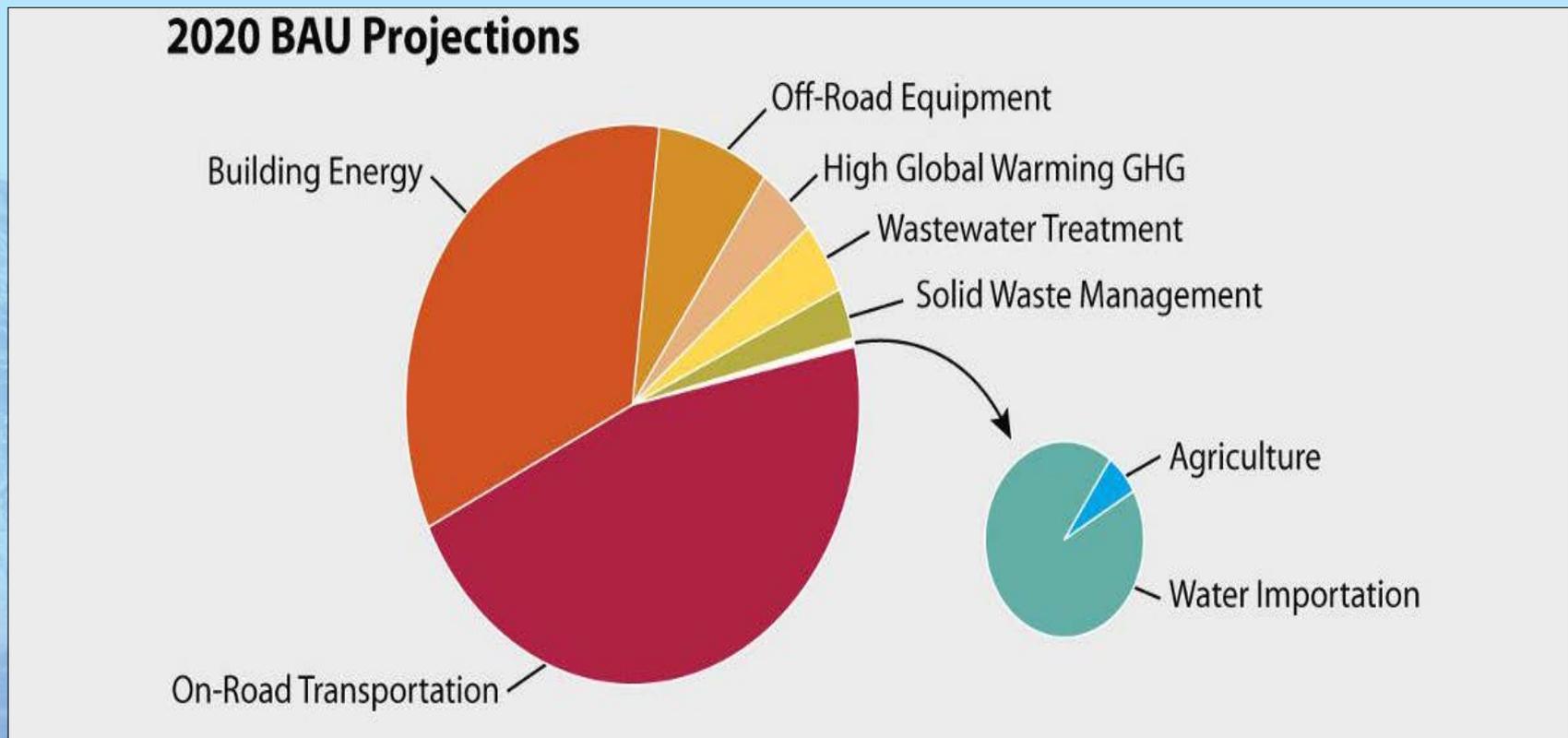
## 2005 Greenhouse Gas Inventory



2005 Inventory = ~2.4 million metric tons  
of carbon dioxide equivalent (MTCO<sub>2</sub>e)

# Draft Climate Action Plan

## 2020 Greenhouse Gas Forecast



2020 Business as Usual Forecast = ~2.7 million MT CO<sub>2</sub>e  
Approximately 13% increase over 2005 emission levels

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## Greenhouse Gas Emission Reduction Target



- Settlement Agreement requires the City to adopt a GHG reduction goal...
  - *"in accordance with reduction targets in AB 32, other state laws, or applicable local or regional enactments addressing GHG emissions, and with Air Resources Board regulations and strategies adopted to carry out AB32..."*
- CAP identifies a reduction target that is feasible given current economic conditions.
  - 10% below 2005 levels.
  - Consistent with required statewide reductions.
  - Equates to a reduction of ~550,000 metric tons.

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## Vehicle Miles Travelled Reduction Goal



- **Vehicle Miles Travelled Reduction Goal**
  - Settlement Agreement requires the growth in VMT be no more than the growth in population
  - 11% growth in City population between 2005 and 2020
  - Implementation of the CAP limits citywide VMT growth to 9% (2% below population growth)



# Draft Climate Action Plan

## Greenhouse Gas Reduction Measures



- Broad list of potential measures to reduce greenhouse gas emissions
- Measures consider technical, economic, financial, and institutional feasibility
- Measures and programs apply to existing building and new development



# Draft Climate Action Plan

## Reduction Emission Sectors



- CAP addresses eight primary emissions sectors



Building Energy Use



Transportation and Land Use



Waste Generation



Water Consumption



Wastewater Treatment



Urban Forestry



High Global Warming Potential GHGs



Off-Road Vehicle Use



# Draft Climate Action Plan

## Greenhouse Gas Reduction Measures

### GHG Reductions Achieved through State Programs (MT CO<sub>2</sub>e)



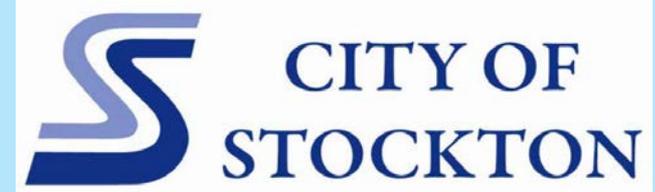
State Actions to Reduce GHG Emissions	MT CO <sub>2</sub> e
State-1: Senate Bills 1078/107/X 1-2 (Renewable Portfolio Standard)	101,000
State-2: Title 24 Standards for Non-Residential and Residential Buildings	26,000
State-3: AB 1109 (Huffman) Lighting Efficiency and Toxics Reduction Act	23,000
State-4: AB 32 Solar Water Heaters	<1,000
State-5: AB 1493 (Pavley I)	116,000
State-6: Advanced Clean Cars <sup>b</sup>	17,000
State-7: Executive Order S-1-07 (Low Carbon Fuel Standard)	113,000
State-8: AB 32 Transportation Reduction Strategies <sup>c</sup>	23,000
State-9: AB 32 High Global Warming Potential GHG Reduction Strategies	19,000
State-10: AB 32 Landfill Methane Program	34,000
<b>Total Reductions from State Programs</b>	<b>473,000</b>

# Draft Climate Action Plan

## Local Greenhouse Gas Reduction Measures



- City of Stockton Measures
  - Local voluntary measures
    - Incentive based (e.g., rebates)
  - Local mandatory measures
    - Required by State law (e.g., Senate Bill X7-7)
  - Development Review Process (DRP)
    - Project applicants choose the most appropriate GHG reduction measures for their projects
    - 29% reduction compared to Business as Usual
    - No change from current CEQA practice
  - Actions directly undertaken by the City municipal government



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## Local Reduction Measures



- Energy Sector Measures
  - Increasing energy efficiency
  - Increasing use of renewable energy
  - Improving City lighting energy efficiency
  - All private sector measures are voluntary
  - Measures in this sector would result in
    - Long-term net savings to the City government
    - Long-term net savings for participating residences and businesses.



# Draft Climate Action Plan

## Local Reduction Measures



- Transportation Sector Measures
  - Supporting downtown residential growth
  - Supporting other infill along transportation corridors
  - Maintaining transit use in the City
  - Expanding bike and pedestrian paths
  - Improving goods movement
  - Measures in this section fulfill multiple purposes of mobility, balanced growth, air pollution reduction.
  - Cost-effectiveness varies by measure



# Draft Climate Action Plan

## Local Reduction Measures



### ■ Other Sector Measures

- Continue ongoing efforts to reduce waste generation and promote recycling
- Continue ongoing efforts to conserve and use water efficiently to meet state mandates
- Energy-efficiency upgrades at City's wastewater treatment plant
- Supporting incentives for alternative fuel use for the offroad sector
- Planting to expand City's urban forest
- Responsible disposal of consumer products





# Draft Climate Action Plan

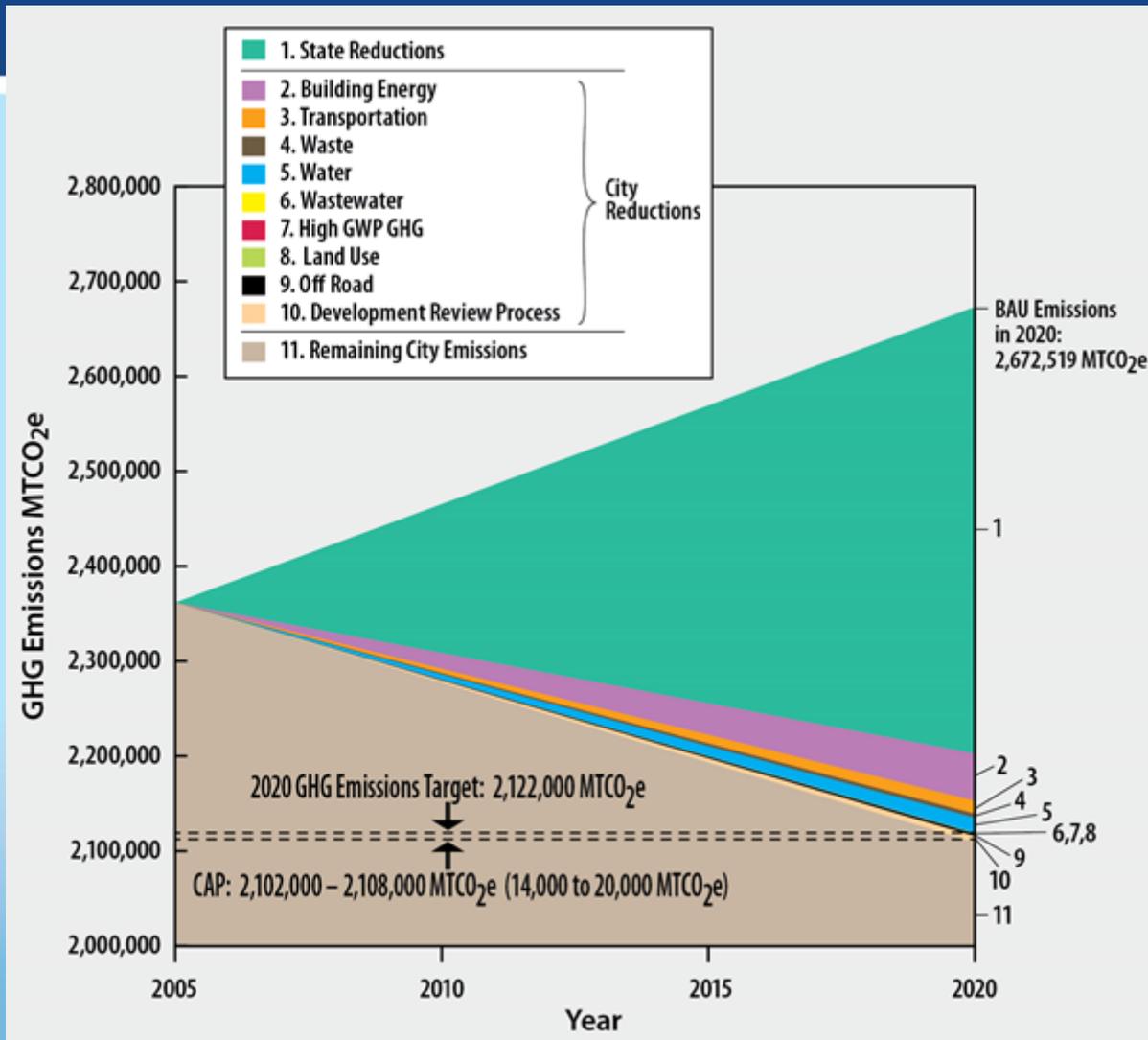
## Greenhouse Gas Reductions Overall

### GHG Emissions Reductions by Sector

GHG Emissions	MT CO <sub>2</sub> e	Percent of Total Reduction (%)
<b>State Programs</b>	<b>473,000</b>	<b>83%</b>
<b>Local Programs</b>		
Development Review Process	5,000	1%
Building Energy Use Measures	49,000	9%
Land Use and Transportation Measures	14,000 – 19,000	2 to 3%
Waste Generation Measures	4,000	1%
Water Consumption Measures	16,000	3%
Wastewater Treatment Measures	300	0.1%
Urban Forestry Measures	<100	0.01%
High GWP GHG Measures	300	0.05%
Off-Road Vehicle Measures	3,000	0.5%
<b>Subtotal for Local programs</b>	<b>92,000 – 97,000</b>	<b>16 to 17%</b>
<b>Total Reductions</b>	<b>565,000 – 570,000</b>	<b>100%</b>



# Draft Climate Action Plan Reductions



Note: The GHG Inventory and BAU Forecast are snapshots of years 2005 and 2020. Individual forecasts were not performed for the years 2006–2019. The emissions path may not necessarily be linear over this range.

# Draft Climate Action Plan

## Cost/Benefit Analysis



- Based on data from the CA Public Utilities Commission, CA Energy Commission, EPA, DOE, and PG&E
- Costs and savings estimated
  - Initial capital costs
  - Operations and maintenance costs
  - Operational savings
  - Implementation costs
  - Payback period
  - Cost per metric ton CO<sub>2</sub>e
- Cost and savings incurred by the City, private residents, and businesses



# Draft Climate Action Plan – Cost/Benefit Analysis



## Costs and Savings for Private Entities

- Voluntary energy measures make up vast majority of capital cost but many have long-term returns through energy savings (depending on financing approaches).
- Additional O&M Costs primarily reflect waste diversion costs that may be offset through recycled material sales (not presumed in current analysis).
- Mandatory measures with net costs limited to state mandates for water conservation and local idling ordinance.
- Cost analysis revised to examine several items:
  - Financing options, incentives, and lifetimes for voluntary renewable energy measures
  - Waste diversion costs
  - Revised cost analysis included in Draft CAP

# Draft Climate Action Plan – Cost/Benefit Analysis

## Costs and Savings for City Government

Metric	Value
Additional Capital Costs	\$28.5 million
Other Upfront Costs	\$1.4 million
Net Operations and Maintenance Cost/year	-\$151,000
Annual staff cost	\$140,000
Net annual cost to City	-\$11,000

- Energy Programs
- Transportation Programs
- Waste Programs
- Water Programs
- Urban Forestry
- Other Programs

- ✓ **Three measures make up 95% of upfront cost for City: bike paths, safe routes to school, and outdoor lighting.**
- ✓ **City has successfully obtained state and federal funds for both bike paths/safe routes to school in past.**
- ✓ **City lighting improvements reduce City's energy bill.**

# Draft Climate Action Plan

## Co-Benefits of Reduction Measures

- Reduced energy use
- Reduced waste generation
- Resource conservation
- Energy diversification/security
- Reduced air pollution
- Increased property values
- Reduced energy price volatility
- Economic growth
- Public health improvements
- Increased quality of life
- Reduced urban heat island effect
- Smart growth



# Draft Climate Action Plan Implementation



- Administration and staffing
- Long term financing
- Phased Implementation from 2014 to 2020
- Supporting strategies
- Community outreach and education



# Draft Climate Action Plan Next Steps



- Public Review of Draft CAP and Subsequent Environmental Impact Report
  - First Quarter 2014
- 3rd Community Meeting
  - First Quarter 2014
- 4th Community Meeting
  - Second Quarter 2014
- P.C./City Council Consideration/Approval
  - Third/Fourth Quarters 2014



# CLIMATE ACTION PLAN CITY OF STOCKTON



## Questions and Answers