



# City of Winters 2025 Climate Action Plan

Adopted by the Winters City Council, XXXXX, ~~2019~~2020

Contacts:

City of Winters Public Works Department  
Environmental Services  
318 First Street  
Winters, CA 95694  
530-795-4910

City of Winters Community Development Department  
Planning Division  
318 First Street  
Winters, CA 95694  
530-794-6713

~~March 2019~~ 2020

# Acknowledgements

Yolo Energy Watch provided the funding for preparation of Winters' 2020-2025 Climate Action Plan. The Climate Action Plan's foundation is based on the *City of Winters' Climate Action Plan Technical Report*, which was prepared by the Sustainable Design Academy of the University of California, Davis. The CAP was developed with the technical report and with the assistance from City employees and leaders. The following individuals are specifically acknowledged for their time in the creation of this document.

## Members of City Council:

Bill Biasi, Mayor  
Wade Cowan, Mayor Pro-Tempore  
Harold Anderson, Council Member  
Jesse Loren, Council Member  
Pierre Neu, Council Member

## City Manager Office:

John W. Donlevy, Jr., City Manger  
Ethan Walsh, City Attorney  
Tracy Jensen, City Clerk

## Public Works Administration:

Carol Scianna, Environmental Services Manager  
Eric Lucero, Public Works Operations Manager

## Prepared by:

Annie Levan and David Springer



Special thanks are due to John Mott-Smith, Yolo County Climate Change Advisor and Yolo Energy Watch Program Manger, who facilitated the funding arrangements for this project. Another special thanks goes to Dr. Deb Niemeier, whose expertise in climate science provided the technical basis.

# Table of Contents

- Acronyms and Abbreviations..... 1
- Executive Summary ..... 3
- Introduction and Overview..... 4
- Guide to Focus Areas ..... 13
- Mobility ..... 14
- Building and Infrastructure..... 22
- Urban Forest and Open Space ..... 30
- Water and Waste..... 36
- Community Engagement ..... 38
- Municipal Operations ..... 44
- Additional Actions..... 48

# Acronyms and Abbreviations

AB	Assembly Bill
BAU	Business-As-Usual
CAP	Climate Action Plan
CAP Technical Report	Climate Action Plan Technical Report
<u>CCA</u>	<u>Community Choice Aggregation</u>
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CFL	Compact Fluorescent Lamp
CH <sub>4</sub>	Methane
CNG	Compressed Natural Gas
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2e</sub>	Equivalent Carbon Dioxide
EO	Executive Order
EPA	Environmental Protection Agency
EV	Electric Vehicle
FCV	Fuel Cell Vehicle
GHG	Greenhouse Gas
HERO	Home Energy Renovation Opportunity
HFCs	Hydrofluorocarbons
HOV	High Occupancy Vehicles
HVAC	Heating, ventilation, and air conditioning
LCFS	Low Carbon Fuel Standard
LED	Light-Emitting Diode

LEED	Leadership in Energy and Environmental Design
LEVIII	Low Emission Vehicle Regulation
<u>LHMP</u>	<u>Local Hazard Mitigation Plan</u>
MTCO <sub>2e</sub>	Metric Ton of CO <sub>2e</sub>
MW	Megawatts
N <sub>2</sub> O	Nitrous Oxide
PACE	Property-Assessed Clean Energy
PFCs	Perfluorocarbons
PG&E	Pacific Gas and Electric
PV	Photovoltaic
RECs	Renewable Energy Certificates
RPS	Renewable Portfolio Standard
SB	Senate Bill
SF <sub>6</sub>	Sulfur Hexafluoride
TOD	Transit-Oriented Development
UCD	University of California, Davis
UFMP	Urban Forest Management Plan
<u>VCE</u>	<u>Valley Clean Energy</u>
<u>YRC</u>	<u>Yolo Resiliency Collaborative</u>
ZEV	Zero Emission Vehicles

# Executive Summary

Winters' Climate Action Plan (CAP) seeks to identify emissions reduction strategies that are essential to help guide the City, its residents, and local businesses in reducing greenhouse gas GHG emissions. CAPs prepared in California also typically provide a process through which communities can contribute to the state's climate protection efforts, recognizing that cities are the population and business centers where emission are generated, and that local governments can serve as a direct conduit to policies, programs, and infrastructure to reduce these emissions at their source.

In collaboration with the City of Winters, Davis Energy Group developed this CAP as part of a regional effort in reducing GHG emissions consistent with state goals for addressing California's contribution to rapid climate change. The CAP also demonstrates that with environmental leadership the plan can save money promote green jobs, and ensure a sustainable future.

The primary sources of Winters' GHG emissions are:

- Transportation
- Commercial Energy Use
- Residential Energy Use
- Material Consumption and Waste

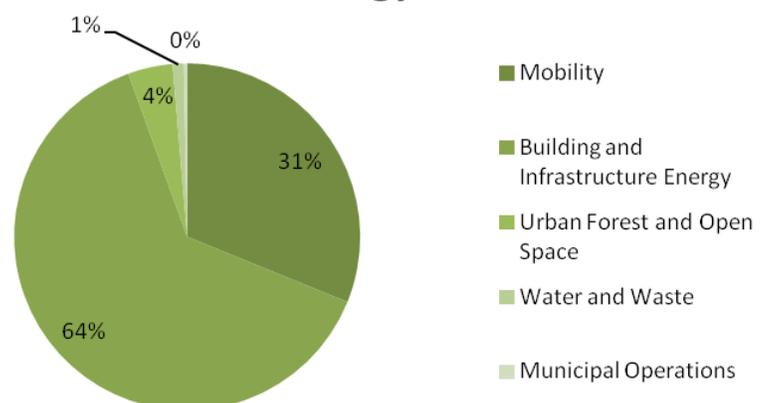
The foundation of the CAP is the *City of Winters' CAP Technical Report*, which was prepared by the Sustainable Design Academy of the University of California, Davis. ~~The CAP Technical Report identified Winters' 2020 GHG reduction target of 5838 metric tons of equivalent carbon dioxide (MT CO<sub>2e</sub>), which is equivalent to 15% below Winters' 2005 baseline. In response to this report the City of Winters worked with the Davis Energy Group to develop the draft City of Winters 2025 Climate Action Plan. In 2019 components of the City of Winters Climate Action Plan Strategy Report and Yolo Resiliency Collaborative (YRC) Resiliency Planning Toolbox were incorporated into the final version of the CAP. Results from a 2016/2017 GHG inventory established reduction targets of \_\_\_\_\_ metric tons carbon dioxide equivalent (MT CO<sub>2e</sub>) by 2030 and \_\_\_\_\_ (MT CO<sub>2e</sub>) by 2050.~~

The CAP outlines a 5 year plan including more than 150 actions that will help Winters achieve their GHG reduction goal. Winters can accomplish this goal by reducing emission in the following focus areas:

- Mobility
- Building and Infrastructure Energy
- Urban Forest and Open Space
- Water and Waste
- Community Engagement
- Municipal Operations

Achieving Winters' GHG reduction goals will require the active participation of the City government as well as community members, businesses, and residential and commercial property owners. . Progress in reducing citywide GHG emissions will be reported annually.

**CAP Strategy Mix**



A mid-term evaluation will take place to evaluate the CAP's progress and additional action items.

# Introduction and Overview

## Purpose of the Climate Action Plan

This CAP outlines a set of strategies created to guide the City, its residents, and businesses in reducing Winters' contributions to GHG emissions to be consistent with state goals. The City of Winters' strategies aim to reduce the community GHG emissions to 15% below the 2005 baseline by 2025. Strategies outlined in the CAP are meant to not only assist in achieving this goal but to also help establish a strong foundation for achieving their 2050 target of 80% below 1990 emissions.

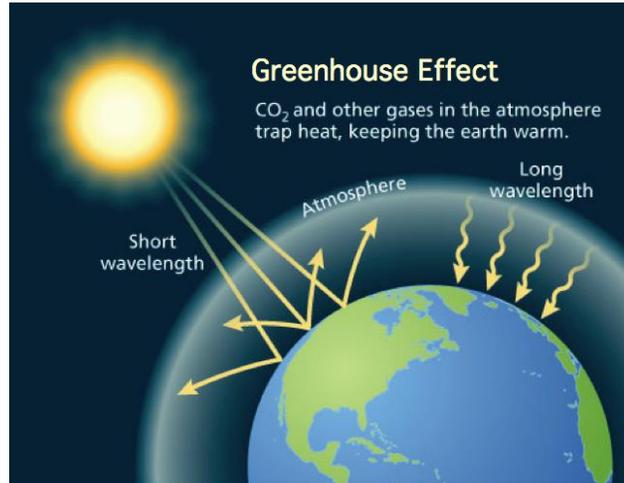
[ 15%  
reduction ]

Climate change is a global issue, and we recognize that many of the sources of GHG emissions can be reduced through local action. Approval of this plan will demonstrate Winters' dedication to doing its part to reduce GHG emissions and mitigate the impacts of climate change. Many local actions to reduce energy use and GHG emissions have the potential to create a range of economic, health, and other quality-of-life benefits in Winters. Actions illustrated in this plan have the potential to attract new green businesses, create new local green jobs and help create a more sustainable and healthy community. The CAP provides a community-based policy framework to address community-wide GHG emissions sources. By reducing fuel consumption, we can also improve public health, as well as reduce fossil fuel dependence and local greenhouse gas pollutants.

The objective of this plan is to:

- Distill high-level objectives and calibrated goals into a realistic, comprehensive set of implementation actions;
- Establish that significant GHG reductions are feasible through local actions;
- Spark collaborative community involvement in these reductions;
- Conform with updated City General Plan policies that are required to address climate change impacts and adaptation; and
- Arrange a predictable method to mitigation strategies for the compliance of future development projects with the California Environmental Quality Act (CEQA).

GHGs are gases in the atmosphere that trap heat, a phenomenon known as the “greenhouse effect.” These gases are from natural sources as well as anthropogenic, human activity. Studies show that an increase in anthropogenic GHGs is causing rapid atmospheric warming, commonly referred to as climate change because it affects different areas of the planet in different ways. Technically, climate change refers to a statistically significant variation in either the mean state of the climate or in its variability, lasting for an extended period of time. The most common effects of climate change are increases in temperature, changing frequencies and intensities of droughts and floods, and rising sea level. Projected local impacts of climate change include decreased potable water supply, increased fire danger, more extreme heat events and public health impacts, higher prices for food and fuels, and other ecological and quality of life impacts. Dependence on fossil fuels creates GHG emissions and establishes risks with energy security, environmental impacts, and vulnerability to energy price volatility.



The GHGs most responsible for climate change include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O). Others include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>).

## California Climate Change Policies, Regulations, and Legislation

### California Climate Change Policies, Regulations, and Legislation

Due to climate change, California is expected to experience more severe floods, droughts, wild fires, detrimental consequences on habitat, and adverse impacts on agriculture production and food supplies. The State of California has adopted many policies aimed at mitigating climate change. The legislation listed below establishes GHG reduction targets :

- **Executive Order (EO) S-3-05, 2005; Senate Bill (SB) 32, 2015:** Established a GHG reduction target of 80% below 1990 levels by 2050.
- **California Global Warming Solutions Act-Assembly Bill (AB) 32, 2006:** Requires a reduction in statewide GHG emissions to 1990 levels by 2020.
- **EO B-2030-15, 2015:** Established a GHG reduction target of 40% below 1990 levels by 2030.

To help meet the AB 32 goal for GHG reductions, the state encourages local communities to reduce their GHG emissions to 15% below 2005 levels, which is equivalent to 1990 GHG levels. The City has set its GHG reduction target to correspond with this guidance.

Since the passage of AB 32, many other major California legislation and policies have been adopted to mitigate the effects of carbon emissions:

- **California Renewable Portfolio Standard (RPS) – SB 1078, 2002; SB 107, 2006; SB 2, 2011:** Requires electricity providers to procure at least 33% renewable energy resource, such as wind, solar, and geothermal sources, by 2020.
- **Pavley Vehicle Emissions Standards – AB 1493, 2002:** Establishes new standards for motor vehicle GHG emissions, resulting in a 30% reduction of GHG emissions from passenger vehicles by 2016.
- **SB 97, 2007:** Requires analysis of the impacts of projects on climate change under CEQA.
- **Low Carbon Fuel Standard (LCFS) – EO S-01-07, 2007:** Requires that the carbon intensity of California’s passenger vehicle fuels be reduced by at least 10% by 2020.
- **Sustainable Communities and Transportation Planning – SB 375, 2008:** Requires the establishment of regional per capita GHG emissions reduction targets for cars and light-duty trucks for 2020 and 2035 to be implemented through a “sustainable community’s strategy” adopted in each Sacramento Area Council of Governments. The focus of the SCS is to reduce vehicle miles traveled within the region.
- **Contractual Assessments: Energy Efficiency – AB 811, 2008:** Authorizes all California cities and counties to designate areas within which willing property owners could enter into contractual assessments to finance distributed renewable energy generation and energy efficiency improvements, which are permanently fixed to property owner’s property.
- **Mandatory Commercial Recycling, 2012:** Requires recycling requirements for businesses that generate 4 or more cubic yards of commercial solid waste per week and multifamily residential dwellings with 5 or more units, regardless of the amount of waste being generated.
- **Air Resources Board’s Advanced Clean Car Program, 2012:** Requires a reduction in emissions from new vehicles and increase in Zero Emissions Vehicles (ZEV) under the Low Emissions Vehicle (LEVIII) regulation.
- **Green Tariff Shared Renewable Program, 2013:** Grants community members who are unable to install renewable energy systems on their own property the option to purchase clean energy through major utility companies.
- **California Existing Building Energy Efficiency Action Plan – California Energy Commission (CEC) AB 758, 2015:** Provides a 10-year roadmap to activate market forces and transform California’s existing residential, commercial, and public building stock into high performing and energy efficient buildings.
- **General Plans Safety Element: Climate Adaptation and Resiliency, SB 379 2015:** The next revision to city or county Local Hazard Mitigation Plan (LHMP) after January 1, 2017, or alternatively, if a LHMP has not been adopted before January 1, 2022, the

entity must update the safety element of its general plan to include climate adaptation and resiliency strategies.

- **California Public Utilities Commission Strategic Plan, 2015:** Provides for all new residential construction to be zero net energy by 2020 (per the *New Residential Zero Net Energy Action Plan 2015 - 2020*), and all new commercial construction to be zero net energy by 2030. These goals are being anticipated by changes to Title 24 energy efficiency standards.
- **Transportation Funding SB 1, 2017:** Provides funding for transportation and climate mitigation and adaptation planning.
- **General Plans Safety Element SB 1035, 2018:** Safety element in the general plan must be reviewed and updated with new information relating to climate adaptation and resiliency strategies in concurrence with updates to the housing element, but not less than once every 8 years.
- **General Plans Safety Element: Emergency Evacuation Routes SB 99, 2019:** City updates to the housing element on or after January 1, 2020 must also review and update safety element to ensure at least 2 emergency evacuation routes are available for residences in hazard areas.

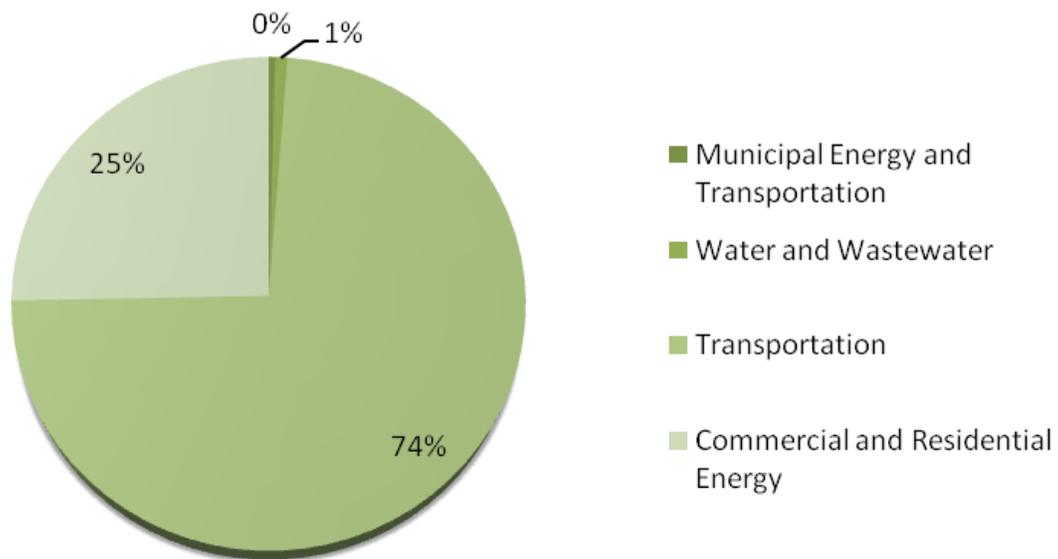
## Development of Winters' Climate Action Plan

The foundation for the CAP is the December 2012 City of Winters *Climate Action Plan Technical Report (CAP Technical Report)*, which was prepared by the Sustainable Design Academy of the University of California, Davis (UCD) under the direction of Dr. Deb Niemeier and funded by the Pacific Gas and Electric Company (PG&E) Green Communities Program. The *CAP Technical Report* provides the calculations and supporting material for the greenhouse gas inventories as well as a detailed summary of actions and strategies that can be used to ensure that the City and its residents reduce energy consumption. In May 2019, the City of Winters *Climate Action Plan Strategy Report (CAP Strategy Report)* was prepared by Ascent Environmental Inc. and funded by Yolo Energy Watch. The *CAP Strategy Report* outlines methods the City may pursue to reduce GHG emissions and provides recommended pathways that fit within the City's capabilities. As part of a collaborative effort to quantify existing sources of GHG emissions in Winters, Ascent Environmental Inc. prepared a regional GHG inventory in March 2020. The inventory established a recent baseline year (2016/2017) to consider when establishing future emissions reductions targets in Winters.

## Greenhouse Gas Calculations

A GHG inventory quantifies the emissions of the main GHGs (CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O) over a given base year. A common unit called equivalent carbon dioxide (CO<sub>2</sub>e) is used to convert the three GHGs, by weighting each gas by its corresponding global warming potential. For example, CH<sub>4</sub> is 21 times more potent than CO<sub>2</sub> in its global warming potential; therefore, a unit of CH<sub>4</sub> had a CO<sub>2</sub>e value of 21 times that of a unit of CO<sub>2</sub>. The common standard for expressing GHG emissions is the metric ton of CO<sub>2</sub>e (MTCO<sub>2</sub>e).

Over 70% of the current and projected emissions from the city of Winters come from transportation emissions and the remaining majority of the City's emissions come from residential and commercial energy consumption. Municipal energy and transportation and water and wastewater make up less than 2% of Winters' current and 2020 projected GHG emissions.



Projected 2020 GHG Sources

Energy-associated GHG emissions are accumulated from GHGs produced during the generation of electricity used by the community and generated in the consumption of natural gas (e.g., for heating buildings).

PG&E provides gas and electricity services-billing and transmission services for Winters. Based on 2012 data, PG&E's energy mix consists of natural gas (27%), nuclear (21%), large hydro (11%), and renewables (19%) such as solar, wind and biomass. Valley Clean Energy (VCE) serves as the entity responsible for electricity generation. 48% of VCE energy production

originates from renewable sources (wind), 37% of production comes from large hydroelectric facilities. The remaining 15% of energy generation is not traceable to specific generation sources. -Different types of power generation emit different levels of GHGs; only renewable energy emits zero emissions. Therefore, if electricity is coming from a source other than renewable energy, it is contributing indirectly to the generation of GHGs at the power plant. In addition, burning natural gas to heat buildings, heat water, and cook produces GHG emissions.

## Winters' 2025 GHG Reduction Target

Winters' GHG reduction target is approximately 5,838 MT CO<sub>2</sub>e. The target was developed through the following steps, which are documented in detail in the *CAP Technical Report*.

Calculation	Results (MT CO <sub>2</sub> e)
<b>2005-2016 baseline:</b> Inventory of <u>2005-2016</u> community wide GHG emissions.	57,290
<b>2025 emissions target:</b> 15% reduction from 2005 baseline (-XX MT CO <sub>2</sub> e).	48,696
<b>2025 business-as-usual (BAU) forecast:</b> Estimate of 2025 GHG emissions based on a "business-as-usual" (BAU) scenario in which 2005 policies and trends are assumed to continue to 2025 but the reductions mandated by the RPS. The Pavley Vehicle Emissions Standards and the LCFS will be achieved.	54,534
<b>2025 GHG Reduction Target:</b> Calculated difference between the 2025 BAU forecast GHG level (54,535 MT CO <sub>2</sub> e) and the 2025 target level (48,696 MT CO <sub>2</sub> e).	5,838

Population growth projections used from the Sacramento Area Council of Governments (SACOG) data was a key component in deriving the BAU forecast and the 2025 emissions reduction target. SACOG data were used to verify accuracy with regional estimates, specifically for transportation emissions, and for consistency with the approach used in other community planning documents.

There is no single category of GHG reduction measures that will be able to meet Winters' GHG reduction target of 5,838 MT CO<sub>2</sub>e. For example, to meet this target, over 11 megawatts (MW) of electricity use would need to be supplied from a renewable energy source such as solar power, or more than 980 gas-fueled vehicles would need to be replaced with electric vehicles. Therefore, the CAP consists of a mix of strategies.

## Winters' Greenhouse Gas Reduction Strategies

Over 70% of the emissions calculated in the 2020-2025 BAU projection for Winters are accumulated from transportation, as depicted in the chart above.

Local transportation paths and methods can depend extensively on the physical layout of the community. Land use and zoning policies can therefore be used to reduce the GHG emissions related to transportation. However, land use and zoning policies are long term strategies that will not be able to be completed within the short 2015-2019-2020-2025

(5-6 year) timeframe. Consequently, the CAP will focus primarily on short term action items that can be completed within this time frame, including energy conservation, conversion to alternative-fueled and human-powered vehicles, and renewable energy generation.

The CAP strategies are organized in the following focus areas:

- Mobility
- Building and Infrastructure Energy
- Urban Forest and Open Space
- Water and Waste
- Community Engagement
- Municipal Operations

Each focus area incorporates overarching objectives, along with implementation actions corresponding with each strategy. The CAP is meant to be a guide to an evolving plan of action since targets are subject at change due to changes in the City as well as changes in technologies and policies. Step-by-step implementation of some strategies will need to be addressed in more detail over the course of its implementation.

The CAP working group reduced the strategies and implementation actions to those that focus on a set of objectives that are easily achievable in terms of time and economic viability. A vital section of the CAP is a mid-point (~~2018~~2022) assessment of progress. If the assessment concludes that progress needs to be made at a faster pace and larger magnitude, then a set of additional actions will be required. These actions are located in the Additional Actions section.

## References

- City of Winters' Climate Action Plan Technical Report
- [City of Winters' Climate Action Plan Strategy Report](#)
- City of Winters' Official Site
- CoolCalifornia.org
- California Building Standards Commission
- California Energy Commission
- California Public Utilities Commission
- [Valley Clean Energy](#)
- [Yolo Resiliency Collaborative Resiliency Planning Toolbox](#)

This page is intentionally left blank.

# Guide to Focus Areas

Mobility (M)

Water and Waste (W/W)

Building and Infrastructure Energy (BIE)

Community Engagement (CE)

Urban Forest and Open Space (UF/OS)

Municipal Operations (MO)

Each focus area consists of a set of objectives, supporting strategies, and suggested actions. Addition terms and definitions are provided below:

Term	Term Definition
Objective	Overall goal.
Strategy	The primary approaches to reaching the objective. Each objective will have at least one strategy that is to be implemented. Each strategy corresponds with the focus area letter, as shown above, and a number.
UCD Bundle	The <i>CAP Technical Report</i> prepared by the UCD Sustainable Design Academy provided many potential GHG reduction measures, each measure corresponding with a "bundle". Each measure used from the report has been documented in Winters' CAP and the corresponding "bundle" numbering is included here to help CAP users locate the corresponding background information in the <i>CAP Technical Report</i> .
GHG Reduction	The estimated amount of GHG reductions that each strategy will gain, in MT CO <sub>2</sub> e. Calculating these emissions reductions requires making some assumptions about the length of implementation, costs, and the community's behavior. Therefore, actually GHG Reductions will slightly vary due to uncertainties.
Percentage of GHG Reduction Target	The percentage of Winters' GHG reduction goal that will be achieved after the strategy implementation. (Note that the total of all percentages shown in the CAP may not add up to exactly 100% because of rounding.)
Goals	The quantified results or implementing each strategy.
Action	<b>Implementation activities that will contribute to achieving Winters' GHG reduction goal for each strategy. A maximum of 10 action items have been selected for each strategy.</b>

# Mobility

Combustion of fossil fuels for transportation is a major source of GHG emissions, including people going to and from home, work, school, shopping, etc. About three-fourths of Winters' GHG emissions come solely from transportation. Addressing mobility and transportation presents an opportunity to reduce GHG emissions as well as improve the health of the City's residents. This can be accomplished by investing in and increasing efforts to create and maintain a larger variety of transportation options for residents.

Greater transportation options are intended to enhance the effects of the City's land use policies that bring housing closer to businesses, schools, services, and recreation in order to reduce travel mileage and time while increasing walking, biking and public transit. The two main objectives will include: (1) reducing motor vehicle use and (2) replacing gas and diesel vehicles with vehicles with lower and/or zero GHG emissions, including electric vehicles (EVs), hybrid cars, trucks, and buses, smaller vehicle models, and biofuel and compressed natural gas (CNG) vehicles.

Practices and infrastructure that increase pedestrian, bike, and transit travel mobility and convenience are essential to reducing motor vehicle travel mileage and frequency. Transportation and land use strategies directly correlate when developing GHG strategies due to the influence land use policies have on community travel distance, growth, and level of convenience for different modes of transportation. Therefore, land use and transportation strategies are incorporated in this section.

## Strategy Summary

<b>Objective 1: Implement Land Use Policies to Support Reduced Motor Vehicle Use</b>	
M-1	Complete Streets Concept Plan
M-2	Infill Development, Redevelopment, and Repurposing
M-3	Smart Growth in New Development
<b>Objective 2: Reduce Vehicle Trip Mileage and Equipment Idling Emissions by 1%</b>	
M-4	Reducing Motor Vehicle Trips
M-5	Increased Mass Transit Use, Walking, and Biking
M-6	Reduced Emissions from Vehicle Idling and Other Equipment
<b>Objective 3: Replace Gas and Diesel Vehicles with Alternative-Fuel Vehicles</b>	
M-7	Increased Use of Alternative-Fuel Vehicles
<i>Portion of Total GHG Reduction Target:</i>	
	<b>30%</b>

The mobility strategies, if properly and adequately implemented, could reduce GHG emissions by an estimated 1,763 MT CO<sub>2</sub>e or 30% of Winters' GHG- reduction target.

*Although land use policies are essential to the accomplishment of mobility-related GHG-reduction, quantified reductions are only included in Objectives 2 and 3 in order to avoid double-counting of total GHG reductions.*

## **Objective 1: Implement Land Use Policies to Support Reduced Motor Vehicle Use**

### **Strategy M-1: Complete Streets Concept Plan**

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 9 and 11

#### **Description:**

Use of land use policies to improve infrastructure designs and measures that will encourage and provide safe walking, biking and public transit use.

Implementing more of the Winters' complete streets concept plan will encourage and help implement strategies to increase convenient walking, biking, and public transit use; including:

- Streets with sidewalks and lighting
- Bike lanes
- Affordable and accessible public transportation
- Safe crossing arrangements
- Curb extensions
- Drinking fountains

The City Bike Pedestrian Masterplan was updated in 2013. The City's Pubic Improvement Standards have also been modified to include bulbouts and curb extentions to provide safer street crossings.

*See the Urban and Forest and Open Space section for actions that address reducing the heat island effect on streets.*

#### **Actions:**

- Increase walking and biking travel through the city by improving alleys (Residential)
- Create a community program that encourages walking, biking and public transportation (Education)
- Implement more of Winter's Bike Master Plan and create a "Safe Routes to School" program for students (Legislation/Policy)

- Provide safer environments for pedestrian by increasing **number of** speed bumps, stop signs, **roundabouts** and cross walks (Legislation/Policy)
- **Install enough water foundations/drinking stations such that pedestrian would not need to travel more than ½ mile to access drinking water (Construction, Policy)**

**Strategy M-2: Infill Development, Redevelopment, and Repurposing**

- Important to overall CAP success, however is not quantifiable
- *UCD Bundle 11*

**Description:**

Implementation of land use policies and regulations in order to increase infill development, redevelopment, and repurposing. Locate housing near transit stops, pedestrian and bicycle facilities and other services in order to reduce motor vehicle travel.

**Actions:**

- Encourage policies and legislation that promote transit-oriented development and implement more of Winters’ Bike Master Plan (Legislation/Policy)
- Promote smart growth, high density, mixed use development in and outside downtown to provide essential services to all residents with minimal travel. (Legislation/Policy)
- Participate in regional planning to reduce commuting and GHG emissions through SACOG as part of SB 375. (Legislation/Policy)
- Establish neighborhood design standards to minimize GHG emissions from transportation, including locating homes within walking/biking distance of essential services. (Legislation/Policy)



- Establish and implement the City’s Urban Limit Line ordinance by reevaluating residential land use densities, housing polices, and zoning to determine the potential for increased residential densities for infill sites, undeveloped land, and land zoned for commercial uses within the permanent ULL. (Legislation/Policy)

- Promote mixed use for vacant lots and new development and redevelopment projects, such as using upstairs spaces in the downtown area for retail, office and other uses.
- Encourage the use of designated public area or other City land for community gardens (Residential, Policy, Commercial)
- Encourage pedestrian and bicycle oriented design in terms of space, building size and placement allocation (Legislation/Policy)
- Increase allowable residential density and building height standards (Legislation/Policy, Construction)



### Strategy M-3: Smart Growth in New Development

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 11

#### Description:

Implementation of land use policies and regulations in order to increase new development that generally includes the following:

- Higher-density development
- Primary services closer to communitiesneighborhoods
- Mixed commercial and residential uses
- Transit-oriented, walk-able, and bicycle-friendly land uses
- “Smart growth” concept that include transit-oriented development (TOD), encouraging public transportation and maximizing residential and commercial areas.

#### Actions:

- Encourage mix uses in new residential and commercial spaces (Construction)
- Require that all new commercial development include bike racks, EV charging stations, and other incentives for no fossil fuel transportation (Legislation/Policy)

- Implement Winters' Bike Master Plan in order to design communities that can easily access essential services by walking or biking (Construction)
- Implement policies that encourage building denser and higher residential buildings (Construction, Legislation/Policy)



## Objective 2: Reduce Vehicle Trip Mileage and Equipment Idling Emissions by 1%

### Strategy M-4: Reduced Motor Vehicle Trips

- Percentage of GHG Reduction Target: 1.5%
- GHG Reduction: 89 MT CO<sub>2</sub>e
- UCD Bundle 5 and 12

#### Description:

Reducing the amount of passenger and delivery vehicle trips by:

- Increasing carpooling and car sharing
- Increasing work opportunities in the city of Winters
- Increasing local produce production and sales
- Reducing work commute time and travel



### Goals:

- 675 residents regularly carpooling, ride sharing, biking or telecommuting (89 MT CO<sub>2</sub>e)

### Actions:

- Implement more of Winters' Bikeway System Master Plan (Legislation/Policy)
- Work with the YOLO-Solano Air Quality Management District and other organizations to promote employers to provide opportunities for telecommuting and alternative work hours (Commercial)

### Strategy M-5: Increased Mass Transit Use, Walking, and Bicycling

- Percentage of GHG Reduction Target: 2.5%
- GHG Reduction: 146 MT CO<sub>2</sub>e
- UCD Bundle 9

### Description:

Increase opportunity and incentives for mass transit use, walking and bicycling in order to reduce motor vehicle trips.

### Goals:

- Increase quantity of schoolchildren bicycling and walking by 40 (3 MT CO<sub>2</sub>e)
- Increase quantity of employee bicycle and walking trips by 80 (139 MT CO<sub>2</sub>e)

### Actions:

- Require that new multi-family developments provide secure bicycle parking or storage options and/or bicycle share program (Legislation/Policy)
- ~~Create~~ Encourage a bike lending/rental program (Residential)
- ~~Install bicycle parking at all City owned public spaces and encourage installation at other points of interest (Construction, Policy)~~
- Create a "Safe Routes to School" program by partnering with schools and YOLO County Health Department (Legislation/Policy)
- ~~Increase shade along transit routes: Increase shade coverage near access points for public and active transportation options (Legislation/Policy)~~
- ~~\_\_\_\_\_~~

# SafeRoutes



## Strategy M-6: Reduced Emissions from Vehicle Idling and Other Equipment

- Percentage of GHG Reduction Target: 1%
- GHG Reduction: 57 MT CO<sub>2</sub>e
- UCD Bundle 5, 6, and 8

### Description:

Implementing measures to reduce the use of gas powered equipment and vehicle idling, including compliance with state law restricting idling times for trucks and other heavy equipment.

### Goals:

- Reduce idling of 25 trucks or heavy equipment (57 MT CO<sub>2</sub>e)

### Actions:

- Educate community members and businesses on engine idling myths and facts (Education)
- Educate local transit and school bus management officials on the effectiveness of reducing idling (Education)
- Encourage gasoline lawnmower replacement through exchange programs or other incentives (Rebate/funding)



## Objective 3: Replace Gas and Diesel Vehicles with Alternative-Fuel Vehicles

### Strategy M-7: Increased Use of Alternative-Fuel Vehicles

- Percentage of GHG Reduction Target: 25%
- GHG Reduction: 1,500 MT CO<sub>2</sub>e
- UCD Bundle 7, 10, 13

#### Description:

Replacement of gas and diesel vehicles with alternative fuel vehicles that are more fuel efficient or have zero GHG emissions.

#### Goals:

- Replace 200 vehicles with EVs (1,150 MT CO<sub>2</sub>e)
- Replace 75 vehicles with hybrids (247 MT CO<sub>2</sub>e)
- Replace 50 vehicles with CNGs (78 MT CO<sub>2</sub>e)

#### Actions:

- Support regulations that require new homes to be wired with electric vehicle charging hardware (Legislation/Policy)
- Educate community members and businesses about alternative fuel vehicles, including benefits and funding options (Legislation and Rebate/Funding)
- Support legislation that increases EV charging stations around the city (Legislation)
- Provide parking spots for fuel efficient vehicles (Legislation/Policy)



# Building and Infrastructure Energy

Energy used to heat, light, and power Winters' buildings and for outdoor lighting is a major direct source of GHG emissions. There are many methods available to help reduce building and infrastructure energy, including: optimizing energy efficiency in new construction, promoting energy and water conservation and efficiency, advancing the use of renewable energy, etc.

The 2020 Predicted GHG Emission Sources chart shows that only about 25% of Winters' GHG emissions are expected to be from community electricity and gas usage. Although this is only a quarter of Winters' predicted emissions, this section will play a huge role in reaching the City's GHG reduction target. The two main objectives will include: (1) reducing energy demand and (2) increasing renewable energy generation. Many of the action items listed have a significant shorter-term reduction in GHG emissions due to improving technologies and financing options providing easier affordability.

The energy strategies, if properly and adequately implemented, could reduce GHG emissions by an estimated 3,547 MTCO<sub>2e</sub> or 61% of Winters' GHG- reduction target.

## Strategy Summary

**Objective 1: Reduce Energy Use by 35% (1700 MtCO<sub>2e</sub>)**

BIE-1 Lighting Upgrades

BIE-2 Appliance/Office Equipment Upgrades

BIE-3 Comprehensive Building Efficiency

BIE-4 Improved Building Temperature Controls

BIE-5 Energy Conservation Education

**Objective 2: Obtain 4.0 MW of Electricity from Renewable Sources**

BIE-6 Renewable Energy Generation and Procurement

*Portion of Total GHG Reduction Target:*

**61%**

## **Objective 1: Reduce Building and Infrastructure Energy Use by 35% (1700 MT CO<sub>2</sub>e)**

### **Strategy BIE-1: Lighting Upgrades:**

- Percentage of GHG Reduction Target: 11%
- GHG Reduction: 646 MT CO<sub>2</sub>e
- UCD Bundle 1A

### **Description:**

Installation of high-efficiency lighting. One-fourth of residential electricity use and one-third of commercial electricity use generally go towards lighting.

- Incandescent bulbs use 75% more energy than compact fluorescent lamps (CFL) and up to 90% more electricity than light-emitting diode (LED) bulbs.
- Solar tubes and lamps use solar energy to produce outdoor and indoor lighting while using net zero-emission energy.
- The use of motion and day-lighting sensors can increase the amount of avoided/wasted emissions in commercial building operations.

### **Goals:**

- Replace 600 new and existing home lighting from incandescent to CFL or LED bulbs (175 MT CO<sub>2</sub>e)
- Improve three-fourths of commercial sectors lighting efficiency by 75% (370 MT CO<sub>2</sub>e)
- Replace 100 old exit signs with LED exit signs (10 MT CO<sub>2</sub>e)
- Replace 1,500 homes' incandescent bulbs for improved incandescent bulbs (100 MT CO<sub>2</sub>e)

### **Actions:**

- Encourage the replacement of school, park, and street lighting with LED lights (Legislation/Policy)
- Educate businesses on lighting upgrade benefits, rebates, and financial assistance from programs such as Yolo Energy Watch and California Flex Your Power as part of the business license renewable process. (Education and Commercial)
- Require that new construction and major retrofits include the installation of LED lights, solar tubes, or skylights in windowless internal rooms, as well as consider room orientation to maximize natural day-lighting (Construction)



### **Strategy BIE-2: Appliance/Office Equipment Upgrades: UCD Bundle 1B**

- Percentage of GHG Reduction Target: 1.5%
- GHG Reduction: 87 MT CO<sub>2</sub>e
- UCD Bundle 1B

#### **Description:**

Upgrade appliances and office equipment with Energy Star-rated models or better. Energy Star is an international standard for energy efficient consumer products created by the U.S. Environmental Protection Agency (EPA). Energy Star appliances use roughly 20% less energy than traditional appliance and come with two price tags: (1) the cost to take the appliance home and (2) the costs to operate and maintain the product each month. Although some Energy Star appliances have a higher upfront cost than it's conventional counterpart, it would recover the additional cost through utility bill savings.

#### **Goal:**

- Businesses upgrade a total of 45 vending machines, 50 refrigerators, and 50 office equipment (e.g., computers, printers, photocopiers) with more energy efficient models (40 MT CO<sub>2</sub>e)
- Residential homes replace a total of 50 refrigerators, 40 water heaters, 40 washers, 40 dryers and 45 computer equipment with a more energy-efficient model (47 MT CO<sub>2</sub>e)

#### **Actions:**

- Promote residential programs such as PG&E's Energy Savings Assistance Program to help low-income residents reduce their energy usage and costs by providing free or low-cost upgrades to more energy-efficient appliances. (Funding/Rebates and Residential)
- Conduct outreach programs to update and educate the community on current and new rebate and incentive programs. (Funding/Rebates and Education)

Educate businesses on equipment upgrade benefits, rebates, and financial assistance from programs such as Yolo Energy Watch and California Flex Your Power as part of the business license renewable process. (Education and Commercial)



**Strategy BIE-3: Comprehensive Building Efficiency:**

- Percentage of GHG Reduction Target: 12%
- GHG Reduction: 702 MT CO<sub>2</sub>e
- UCD Bundle 1C



**Description:**

Buildings use nearly half of the energy produced in the United States. Because buildings consume such a large quantity of energy, it is vital to improve the energy-efficiency of all new and retrofitted buildings in order to reduce GHG emissions. Titles 24, Part 6 of the California Code of Regulations provide energy-efficiency standards that all new buildings must comply with, including CalGreen standards for energy efficiency and water conservation. Common building energy-efficiency strategies are:

- Properly insulating the walls, floors, and roof
- Reducing heat loss through windows and doors
- Upgrading or insulating hot water heaters
- Reducing infiltration through the building
- Sealing or replacing duct to increase efficiency

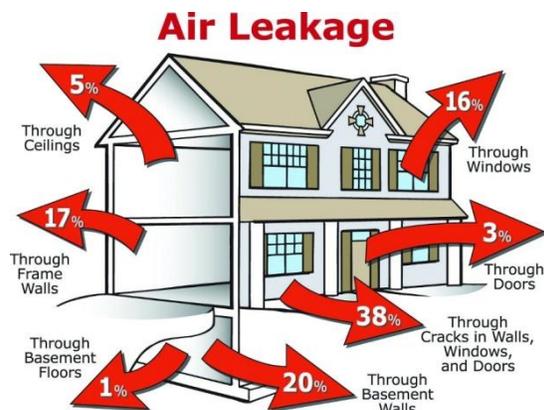
**Goals:**

- Weatherization upgrades for 200-50 low-income homes (200-50 MT CO<sub>2</sub>e)
- Energy-efficiency retrofits for 150,000 square feet of residential buildings (110 MT CO<sub>2</sub>e)
- Energy-efficiency retrofits and retro-commissioning for 340,000 square feet of commercial (260 MT CO<sub>2</sub>e)

- Construction of 10 energy-efficient affordable housing units (15 MT CO<sub>2</sub>e)

#### Actions:

- Promote sustainable construction and practices that correspond to CalGreen codes. (Construction)
- Promote programs such as the property-assessed clean energy (PACE) and the Home Energy Renovation Opportunity (HERO) program to help property owners afford residential energy efficiency retrofits (Funding/Rebate, Residential)
- Promote state, federal and utility incentive programs for home and business energy efficiency retrofits (Funding/Rebate)
- Encourage installment of smart meters to all homes and make smart meter data available to costumers
- Promote free or low-cost weatherization programs such as the state Weatherization Assistance Program to residents (Residents, Funding/Rebate)
- Support regulations that require new homes to be solar ready and be wire with electric vehicle charging hardware (Legislation/Policy)



*Drawing courtesy of  
Touch 'n Foam Insulating Sealants*

## Strategy BIE-4: Improved Building Temperature Controls

- Percentage of GHG Reduction Target: 2%
- GHG Reduction: 116 MT CO<sub>2</sub>e
- UCD Bundle 1D

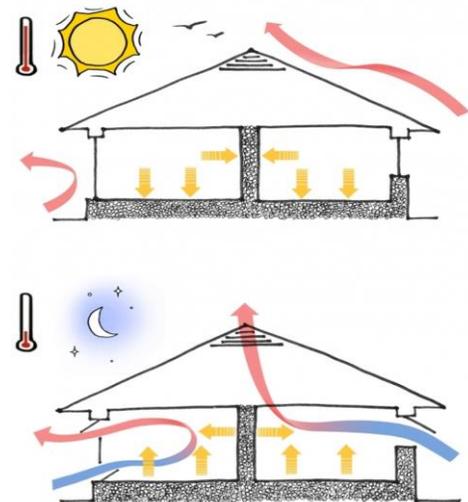
### Description:

Improve climate control in residential and commercial buildings through measures such as:

- Repair or replace inefficient heating and cooling systems
- Using building orientation, location and construction to increase natural factors that maintain comfortable space conditions
- Installing cool roofs/reflective roofing

### Goals:

- For residential buildings, upgrade 50 air conditioning units (2 MT CO<sub>2</sub>e)
- For commercial buildings, upgrade ~~150,000~~75,000 square feet of heating, ventilation, and air conditioning (HVAC) units, 50 air conditioning units, and ~~150,000~~75,000 square feet of chiller units (~~22-11~~ MT CO<sub>2</sub>e)
- Install ~~150,000~~75,000 square feet of cool residential roofs (~~46-23~~ MT CO<sub>2</sub>e)
- Install ~~150,000~~75,000 square feet of cool commercial roofs (~~46-23~~ MT CO<sub>2</sub>e)



### Actions:

- Educate community and businesses on energy conservation (HVAC temperature controls, smart thermostats, etc.) and the benefits of energy-efficiency upgrades, rebates as assistance from Yolo Energy Watch, California Flex Your Power, and other programs. (Education, Commercial, Residential)
- Encourage and/or require innovative site design that increases natural air ventilation and cooling techniques, such as shade, cross ventilation, and green roofing, and include passive and active solar design for heating. (Construction)
- Promote residential programs such as PG&E's Energy Savings Assistance Program to help low-income residents reduce their energy usage and costs by providing free or low-cost upgrades to more energy-efficient appliances. (Funding/Rebates and Residential)
- Promote programs such as the property-assessed clean energy (PACE) program to help property owners afford climate control buildings and equipment upgrades (Funding/Rebate, Residential)
- Promote a Energy Star window air conditioner replacement rebate program that replaces window air conditioners with Energy Star rated models (Funding/Rebates)

### Strategy BIE-5: Energy Conservation Education

- Percentage of GHG Reduction Target: 3%
- GHG Reduction: 147 MT CO<sub>2</sub>e
- UCD Bundle 1C

#### Description:

Educational services and outreach to permanently increase energy awareness and reduce energy use through conservation techniques, such as:

- Turning off lights and unplugging appliances when not in use
- Turning off heating and air conditioning when buildings are unoccupied
- Modifying thermostat temperatures by a few degrees up in the summer and down in the winter
- Opening shades during the winter to increase solar heat gain and closing shades during the winter to increase solar heat gain
- Opening windows for natural ventilation
- Maintaining clean air filters to ensure heating and cooling systems run efficiently

#### Goals:

- Attain permanent reductions in home energy conservation in the equivalent to 40 homes through energy-conservation campaigns (27 MT CO<sub>2</sub>e)
- Attain permanent reductions in 20 businesses through energy-conservation campaigns (120 MT CO<sub>2</sub>e)

#### Actions:

- Promote energy conservation through campaigns targeted at businesses and residential homes. (Education, Residential, Commercial)
- Partner with groups such as Yolo Energy Watch and PG&E to conduct community outreach and educational campaigns to promote energy conservation (Education)



## Objective 2: Obtain 4.0 MW of Electricity from Renewable Sources

### Strategy BIE-6: Renewable Energy Generation and Procurement

- Percentage of GHG Reduction Target: 32%
- GHG Reduction: 1,850 MT CO<sub>2</sub>e

## Description:

Electricity production or procurement for the city through renewable sources. Since YOLO County has a high potential for both photovoltaic and solar hot water heating systems, the City of Winters' will focus primarily on those two renewable sources. Major renewable energy options are as followed:

- Residential solar PV installations – Rooftop PV systems and PV parking shade structures are available to the public as cost have gone down tremendously, technology has advanced and rebates and incentives have increased.
- Community solar – A PG&E program that allows community members to purchase shares of clean energy and in return get a credit on their utility bills. Community solar was implemented through SB 43 (2013) to grant community members who are unable to install renewable energy systems on their own property the option to purchase clean energy through major utility companies.
- Renewable Energy Certificates (RECs) – Environmental commodities that represent the added value, environmental benefits and cost of renewable energy above GHG emitting methods of producing electricity, such as burning coal. These commodities can be traded, sold and bought amongst entities.
- Community Choice Aggregation (CCA) – A system that allows California cities and counties to aggregate the buying power of individual consumers within a specific jurisdiction in order to secure alternative energy supply contracts on a community-wide basis. Although this system is free of charge to the consumer, they have the right to opt out if they wish to. With a small fee, an option for a higher percentage of renewable power or 100% renewable will be available as well.

## Goals:

- Increase amount of residential homes with PV systems with an average system size of 2.7 kW by 1050 (1,418 MT CO<sub>2</sub>e)
- Increase amount of homes with solar hot water systems by 600 (432 MT CO<sub>2</sub>e)

## Actions:

- Support incentives to reduce the cost of solar hot water systems (Legislation/Policy and Funding/Rebate)
- Promote programs such as the property-assessed clean energy (PACE) program to help property owners afford renewable energy systems (Funding/Rebate, Residential)
- Promote programs such as Yolo Energy Watch and Energy Upgrade California for improving building efficiency, including the installment of renewable systems (Funding/Rebate)
- Support policy mandating that all new home development be ~~solar ready, as well as~~ equipped with EV charging hardware (Construction, Legislation/Policy)
- Increase dual-use on existing structures for solar systems, such as parking lots and building roofs (Legislation/Policy)

- Promote increases in community solar to allow consumers to purchase cleaner energy (Legislation/Policy)
- Support legislation and incentives for distributed renewable energy generation to increase local access to renewable energy (Legislation/Policy)
- Provide information to the community on incentives and benefits of clean energy as well as rebates, such as the Hero Program (Education)
- Promote on-farm renewable energy facilities, such as biomass, and provide information for funding such as grants and rebates (Legislation/Policy, Education)



## Strategy Summary

# Urban Forest

Urban trees can help reduce GHG emissions when selected and placed properly, by providing the following:

- Building shade: Trees can provide shade to buildings during the summer months to help reduce solar

### Objective 1: *Increase Tree Canopy*

UF/OS-1 Urban Forest Management Plan

UF/OS-2 Increased Tree Planting

UF/OS-3 Maintenance of Existing Trees

UF/OS-4 Public Education

### Objective 2: *Maintain and Enhance Open Space Environment Values*

UF/OS-5 Open Space Preservation

Portion of Total GHG Reduction Target:

4%

heat gain through the building envelope, reducing the need to cool the building.

- Insulation: Trees can provide an extra layer of insulation to buildings, helping to reduce infiltration rates by blocking outside wind.
- Pavement shade: The “heat island” effect is when solar radiation is absorbed by asphalt, buildings, etc. Trees can help shade pavements, reducing the “heat island” effect, prolonging the pavements lifespan, and promote more comfortable walking and biking conditions.
- Transpiration: Tree transpiration is when plants convert moisture into water vapor, which in turn cools the air.
- Carbon sequestration: Through carbon sequestration, trees can collect and store CO<sub>2</sub> from the atmosphere, which in turn reduces the GHG effect caused by anthropogenic CO<sub>2</sub> emissions.

The urban forest and open space strategies, if properly and adequately implemented, could reduce GHG emissions by an estimated 236 MTCO<sub>2</sub>e or 4% of Winters’ GHG- reduction target.

## **Objective 1: Increase Tree Canopy**

### **Strategy UF/OS-1: Urban Forest Management Plan**

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 4

#### **Description:**

Adoption of a policy that focuses on planting native trees and maintaining the City’s existing trees through the development of an urban forest management plan (UFMP). An UFMP is based on recent tree inventory data and analysis and is used to ensure that a community will enjoy the benefits of trees. Urban forest management plan benefits include:

- Increased public safety
- Prevent disease and pest infestations
- Increased maintenance efficiency
- Improve energy savings
- Justify planning budgets
- Enhance recreational opportunities
- Improve aesthetic appeal of streetscapes

Implementation of this plan is a critical aspect of reaching Winters’ GHG reduction goal. However, to avoid double counting these reductions, they are only quantified in Strategy UF/OS-2.

### Actions:

- *In the UFMP, include planting mediums, planting techniques, and soil amendments that have multiple benefits; for example, biochar as a soil amendment with potential carbon sequestration capacity. (Legislation/Policy)*
- Develop a funding strategy for the UFMP and include funding opportunities (Legislation/Policy, Rebate/Funding)



## **Winters' Urban Forest Management Plan**

### Strategy UF/OS -2: Increased Tree Planting

- Percentage of GHG Reduction Target: 4%
- GHG Reduction: 236 MT CO<sub>2</sub>e
  - UCD Bundle 4

### **Description:**

Implementations geared towards increasing tree canopy within the city in order to increase building shade, building insulation, pavement shade, carbon sequestration, and reduce the heat-island effect.

### **Goals:**

- Plant 825 trees along street, parking lots, and open space areas within the city (208 MT CO<sub>2</sub>e)
- Plant 400 trees that are intended to increase building shade (28 MT CO<sub>2</sub>e)

### **Actions:**

- Require all new construction homes to have at least two shade trees on the west, east, or south side of the building, strategically locating trees so that they don't interfere with solar PV systems (Construction)
- Education homeowners on tree planting, maintenance, and tree selection (Education)
- Promote the planting of native trees with the highest potential for carbon sequestration (Legislation)
- Adjust any future City design in order to maximize the potential for tree growth/planting; including parking strips, medians, sidewalks, etc. (Legislation/Policy)
- For redeveloped or newly developed areas, mandate an increase in the requirement for trees planted in order to increase pavement shade (Legislation/Policy)

- Use census and neighborhood level data to determine which communities are most vulnerable to heat, then focus urban greening projects in these communities (Policy/Equity)



### Strategy UF/OS -3: Maintenance of Existing Trees

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 4

#### **Description:**

Actions that will best help maintain and care for existing trees. Keeping existing trees in good health will prolong the benefits of the existing mature trees, expand canopy growth, promote longer growth, and maintain the health of future planting.

Adequate staking, irrigation, training and pest management of trees in the first year of their establishment is required for maximizing tree growth. After the first year maintenance is required throughout its lifetime, including pruning, removal of disease or insect infection, and branch support or trimming. Caution must also be taken to prevent the damage of utility lines and street signs, as well as to prevent any safety hazards to the community.

#### **Actions:**

- Prioritize the maintenance and care of older trees that already have high carbon sequestration rates through community organizations (Legislation/Policy)



### Strategy UF/OS -4: Public Education

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 4

#### **Description:**

Educating community members on proper tree maintenance in order to increase the care for Winters' trees and the overall appreciation of them. This awareness is necessary to successfully help expand and sustain Winters' tree canopy. Focus areas include:

- Environmental and economic benefits
- Tree species identification
- Planting guide
- Care and maintenance
- Proper species selection
- Diagnosis and treatment of pest and disease
- Historical significance



#### **Goals:**

- Increase community participation in public tree events
- Increase residential and commercial property owners and renters efforts to maintain and plant trees
- Create support for the UFMP
- Increase the overall tree canopy of the City

#### **Actions:**

- Support community outreach programs, events, and efforts through school and community service outreach programs to educate the community on the benefits and importance of tree maintenance and planting (Education)
- Use the UFMP to create a citywide tree planting and care program/campaign (Education)

## Objective 2: Maintain and Enhance Open Space Environmental Values

### Strategy UF/OS -5: Open Space Preservation

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 4

#### Description:

Maintain and enhance the community's appreciation for open space areas in order to decrease unnecessary developmental extensions and preserve natural/agricultural lands.

#### Actions:

- Promote public education and appreciate of natural habitats and open space through community outreach programs, materials, and campaigning (Education)
- Maintain or reduce Winters' Urban Limit Line in order to preserve open space land and agricultural land (Legislation/Policy)
- Preserve open space by installing solar arrays on rooftops, developed land, and where solar would be with the areas existing and intended use (Legislation)



# Water and Waste

On September 30, 2014, California ended one of the driest water years on record (note: California's water years run October 1 through September 30). The length of this ongoing drought is unpredictable; and although water and wastewater treatment makes up less than 1% of the City's total GHG emissions, it is critical that water conservation efforts be enhanced to sustain this scarce resource.

GHG emissions related to water use are primarily from the energy used to pump, transport, and treat potable water and wastewater. Winters' wastewater treatment center is located just two miles outside of the City. The recycled wastewater is sold back to the City which saves energy and reduces GHG emissions.

Large amounts of energy are also used for everyday uses such as heating water for showering and washing dishes and clothes. By reducing the City's water usage we can help conserve this scarce resource as well as reduce energy use and the City's total GHG emissions.

From a climate protection perspective, it is ideal to reach "zero waste" where nothing is land filled and no fossil fuel is used to manage or transport the waste. Collecting, processing, and putting municipal solid waste in landfills requires a significant amount of energy. Solid waste also contributes to GHG emissions through the decomposition at the landfills.

The GHG emissions associated with solid waste were not included in the CAP Technical Report because the City does not control local landfill operations. However, the emissions are counted for in the Yolo County's climate action planning documents. Although there are no solid waste related GHG emissions reductions related to Winters' CAP, solid waste reduction strategies are still included to address Winters' concern for reducing regional GHG emissions.

The water and waste strategies, if properly and adequately implemented, could reduce GHG emissions by an estimated 69 MTCO<sub>2</sub>e or 1% of Winters' GHG- reduction target.

## Strategy Summary

**Objective 1:** *Reduce Per Capita Water Demand 25-30%*

WW-1 Increased Water Conservation

**Objective 2:** *Achieve 75% Landfill Waste Diversion*

WW-2 Waste Diversion and Recycling

*Portion of Total GHG Reduction Target:* **0.3%**

## Objective 1: Reduce Per Capita Water Demand 25-30%

### Strategy W/W-1: Increased Water Conservation

- Percentage of GHG Reduction Target: 1%
- GHG Reduction: 69 MT CO<sub>2</sub>e
- UCD Bundle 23

#### Description:

Actions to promote and increase water conservation through education, techniques and use of water efficient measures. Water conservation includes:

- Improving water use efficiency, such as setting irrigation systems to water plants in the morning to reduce evaporation
- Upgrading appliances to more water efficient models
- Implementing behavioral changes to reduce wasted water, such as turning off the faucet while doing dishes
- Replacing plants with high water needs with plants with low water needs
- Reducing wasted water, such as capturing rainwater

#### Goals:

- 15% reduction in energy use associated with water and wastewater production, delivery and treatment (69 Mt CO<sub>2</sub>e)

### Low-Flow Shower Heads



#### Actions:

- Encourage voluntary programs that partner with PG&E and Winters' water utility that train personnel to perform home visits and install free or low-cost energy-efficiency measures, including low-flow showerheads and faucet aerators, hot water heater pipe insulation, and reducing thermostats on hot water heaters. These trained personnel will also educate community members on energy and water conservation (Education, Funding/Rebate, Legislation/Policy)
- Educate community members on water conservation, such as setting irrigation systems to run in the early morning, and provide information on rebate/funding programs for replacing appliances with higher water efficient models (Education, Funding/Rebate)
- Encourage the conversion of turf to low-water plantings and weather-based irrigation systems in residential and commercial landscapes through workshops, tours, and online handouts (Education)
- Work with Yolo Energy Watch and other programs to educate the community on the connection between water use and energy use (Education)

## Objective 2: Achieve 75% Landfill Waste Diversion

### Strategy W/W-2: Waste Diversion and Recycling

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 5



#### Description:

Implementations and actions to reduce landfill waste through reduction, reuse, recycling and composting.

State law requires each jurisdiction to reduce waste going into landfills by 50% through reuse, recycling and composting. Legislation passed in 2013 requires the state to achieve a 75% reduction by 2020. The primary methods of reducing waste are as followed:

- Reduce the amount of waste created through efficient use of resources, more durable products, less packaging, buying less stuff, etc.
- Reuse products and packaging as much as possible. For example, using coffee mugs instead of single use cups or using reusable shopping bags instead of paper or plastic bags.
- Recycle discards, including products and packaging.
- Compost organic waste.

#### Actions:

- Educate community members on composting and encourage them to take advantage of the free compost bins that the county provides as well as their free backyard composting workshops. [Encourage use of organics totes for food waste and other organics](#) (Education)
- Track progress on waste management and educate the community on waste management strategies (Education)
- Encourage curbside green waste collection (Legislation/Policy)
- Create residential and commercial programs that collect food waste for large scale processing as compost or into biofuels (Legislation/Policy)

# Community Engagement

While the City can put Winters in position to reduce GHG emissions, Winters' success in meeting its goal will ultimately depend on the day-to-day actions of its community members. For example, in order to achieve Winters' GHG reduction goal, the city as a whole will need to have to reduce its energy use by 35%, reduce its per capita water demand by 25-30%, reduce its landfill waste by 75% and so forth. Local organizations will have to play a big role in motivating interest and action throughout the community.

Winters' CAP GHG-reduction target is an ambitious one that will need as much community effort as possible to achieve. The majority of action items listed in the CAP will only be successful with the combined actions of Winters' community members and the education and inspiration from community members on other community members.

Although community engagement is a critical aspect of reaching Winters' GHG reduction goal, no GHG-reduction totals are presented with the suggested strategies identified in this section to avoid double counting.

## Objective 1: Build Community Engagement in CAP Implementation

### Strategy PI-1: Citizen-Led Outreach

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 1C

#### Description:

Development of a citizen-led outreach organization that will educate the community on climate change and the City's efforts on climate change and CAP implementation strategies.

The City of Winters can foster additional voluntary community action by setting a positive example and educating the community on our current climate change issue. This can be accomplished by presenting a vision of needed community action and collaborating with local

## Strategy Summary

<b>Objective 1: Build Community Engagement in CAP Implementation</b>	
CE-1	Citizen-Led Outreach
CE-2	Outreach Materials and Activities
CE-3	Recognition of Business Sustainability Efforts
<b>Objective 2: Measure CAP Implementation Progress and Adjust Actions as Needed</b>	
CE-4	Mid-point Check and Recommendations
<i>Portion of Total GHG Reduction Target:</i>	n/a

organizations where appropriate to accelerate progress. Public engagement from early adopters and harder to reach residents will play equally important roles in helping Winters' reach its GHG reduction goal. Local organizations and participants that can help to educate and motivate the City of Winters' community to take part in and benefit from local climate action include:

- Community-based organizations
- Business
- Educational institutions
- Labor
- Faith-based groups
- Youth organizations
- Non-profit environmental organizations
- Others



#### Actions:

- Establish a self-motivated citizen committee/group-commission that will lead the development and implementation of public education and outreach efforts to support the implementation of selected CAP strategies in coordination with the city (Legislation/Policy)
- Integrate the citizen committee-commission with City events and activities to expand outreach efforts (Legislation/Policy)
- Support quarterly community climate forums held by the citizen committee-commission (Legislation/Policy)
- Establish-Encourage a team within the citizen committee to focus on social network connections and social media for sharing ideas about community sustainability (Legislation/Policy)
- Provide-Seek funding for the citizen committee to support efforts related to achieving Winters' CAP goal (Legislation/Policy, Funding)

#### Strategy PI-2: Outreach Materials and Activities

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 1C

#### Description:

Create and disperse materials that provide an overview of climate change, GHG-reduction guidance, and CAP implementation information.

Related background information may be found from the following:

- Intergovernmental Panel on Climate Change
- National Climate Assessment
- California Climate Change Portal
- Institute for Local Government Sustainable Communities program
- Winters' City web pages

#### Actions:

- ~~Create-Intergrate~~ and maintain an informational elements to City website that provides tools and resources related to climate change science and related technologies, the CAP and CAP Technical Report, regularly updated information on CAP implementation progress, and Winters' annual climate progress report (Education)
- ~~Create-Encourage~~ a community discussion forum on the web page for community members to voice their concerns and ask questions regarding Winters' efforts to reaching their GHG reduction goal and community sustainability (Education)
- Provide and distribute information about the CAP at city facilities and community groups and schools (Education)
- Provide a community sustainability assembly to all local schools (Education)
- Partner with community groups to hold forums, fairs, and/or workshops focused on climate change and CAP implementation. Hold workshops during hours and at locations convenient for community members, provide childcare and food, and provide translation services. (Education, Equity)

### Strategy PI-3: Recognition of Business Sustainability Efforts

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 1C

#### Description:

Recognition of sustainability efforts by businesses to increase sustainability practices and implementations.

Businesses can have a large impact on community awareness and implementation of climate action goals, strategies and benefits by setting an example through their own practices. There are many activities that can promote CAP implementation, including:

- Implementing actions that will reduce energy use, transportation emissions, water consumption, or waste generation
- Providing incentives for workers and consumers to reduce GHG emissions or implement conservation measures
- Investing in green technologies and energy efficient measures
- Educating employees on conservation
- Participating in certification programs that highlight sustainable practices
- Supporting and/or purchasing from green businesses

#### Actions:

- ~~• Work with PG&E, service clubs and other organizations to promote participation in the Sacramento Area Sustainable Business program and other similar green practices certification programs (Commercial)~~
- ~~• Create a local rewards program for sustainable practices (Commercial)~~
- Support local green jobs programs (Legislation/Policy)



## Objective 2: Measure CAP Implementation Progress and Adjust Actions as Needed

### Strategy PI-4: Mid-point Check and Recommendations

- Important to overall CAP success, however is not quantifiable
- UCD Bundle N/A

#### Description:

Evaluation of CAP progress and adjustment of implementations as needed.

Assessing the progress towards Winters' GHG reduction goals and altering implementation actions as needed are necessary in assuring the success of the CAP. Some implementations may need to be altered due to the lack of progress, change in technologies, etc. Components of the evaluation will include:

- Periodically monitoring plan implementations and consistently using the same methods for evaluation
- Setting benchmarks for measuring progress
- Confirming set goals for each implementation so expectations can be met
- Identifying the approach for plan adjustments and schedule for verification if plan needs adjusting or not

#### Actions:

- Conduct a mid-point check on progress toward the CAP goals and overall GHG reduction goal with community stakeholders (Legislation/Policy)
- Develop set of additional actions to be implemented from the Additional Actions menu if sufficient progress is not being made (Legislation/Policy)



# Municipal Operations

Implementing a variety of actions across city organizations can help reduce GHG emissions immensely and help achieve a long-term cost savings, including lower energy, water, and fuel costs.

Aggressive action by the City provides leadership in the community and an example for other organizations to follow. Municipal operations that result in GHG emissions include energy and fuel used for powering government buildings, facilities, and vehicle fleet. The strategies and actions in this section address these main sources as well as the establishment of City policies related to GHG reductions. Although these policies are important to the success of other actions in the CAP, to avoid double-counting of GHG-reduction benefits, no GHG reductions are directly attributed to them here.

The municipal operations strategies, if properly and adequately implemented, could reduce GHG emissions by an estimated 201 MTCO<sub>2e</sub> or 3% of Winters' GHG- reduction target.

## Strategy Summary

**Objective 1:** *Incorporate Sustainable Practices Into All City Operations*

MO-1 Internal Policies

MO-2 Purchasing and Contracting

**Objective 2:** *Reduce Emissions from Municipal Electricity Use By 80% or More*

MO-3 Increased Energy Efficiency and Use of Renewable Energy

**Objective 3:** *Reduce Vehicle and Equipment Emissions*

MO-4 Increased Use of Alternative-Fuel and Fuel-Efficient Vehicles

MO-5 Reduced Motor Vehicle Use

*Portion of Total GHG Reduction Target:*

**3%**



## **Objective 1: Incorporate Sustainable Practices into All City Operations**

### **Strategy MO-1: Internal Policies**

- Important to overall CAP success, however is not quantifiable
- UCD Bundle N/A

#### **Description:**

Integration of CAP implementations into City operations.

Although municipal operations make up less than 1% of the total community-wide GHG emissions, the City has a responsibility to lead by example and reduce its emissions in all of its operations. It is important to integrate CAP implementations in municipal activities in order to reach Winters' GHG reduction goals.

#### **Actions:**

- Educate City staff on the CAP goals and teach them how to encourage and promote public interest and involvement (Education)
- Ensure that all City projects incorporate energy efficiency strategies (Legislation/Policy)
- Evaluate all current and new policies and revise them as needed to ensure that CAP implementations are being considered (Legislation/Policy)

### **Strategy MO-2: Purchasing and Contracting**

- Important to overall CAP success, however is not quantifiable
- UCD Bundle 14

#### **Description:**

Integration of CAP goals during purchasing and contracting procedures.

The City has many third party companies that are contracted by them for regular operations and maintenance functions. The City can assist in reducing Winters' total GHG emissions by ensuring that their contracted companies incorporate CAP implementations when feasible.

## Objective 2: Reduce Emissions from Municipal Electricity use by 80% or more

### Strategy MO-3: Increased Energy Efficiency and Use of Renewable Energy

- Percentage of GHG Reduction Target: 3%
- GHG Reduction: 177 MT CO<sub>2</sub>e
- UCD Bundle 15 and 16

#### Description:

Implementation of energy efficiency measures, energy efficiency technologies, and renewable energy projects.

Strategies used to reducing GHG emissions from energy use may include:

- Upgrading public realm lighting efficiency (street lighting, park lighting, parking lot lighting, and traffic signal retrofits)
- Using renewable energy (solar, wind, geothermal, etc)
- Landscape water conservation (water conservation for public parks, climate sensitive and water efficient irrigation technology, and advanced irrigation training for parks)
- Conserve/energy management through behavior (energy consumption data collected per building and facility and employment education)

#### Goals:

- 70% reduction in electricity use from the 2020 projection of 253 MT CO<sub>2</sub>e (177 MT CO<sub>2</sub>e)

#### Actions:

- Convert all City owned lighting to LED lights where possible (Legislation/Policy)
- Conduct energy and water efficiency audits for all City buildings and facilities and provide retrofits and upgrades where feasible (Legislation/Policy)
- Upgrade irrigation systems for public landscapes, such as parks, with more efficiency systems (Legislation/Policy)

## Objective 3: Reduce Vehicle and Equipment Emissions

### Strategy MO-4: Increased Use of Alternative-Fuel and Fuel-Efficient Vehicles

- Percentage of GHG Reduction Target: 0.3%
- GHG Reduction: 18 MT CO<sub>2</sub>e
- UCD Bundle 18 and 21

#### Description:



Converting part of the City's fleet to vehicles with lower or net zero GHG emissions. Alternative-fuel vehicles that have reduced emissions or net zero emissions include:

- Hybrid or plug-in hybrid vehicles that are powered by both gasoline and electricity
- Electric Vehicles that are powered by electricity
- Flexible fuel vehicles that use either gasoline or E85, which is a mixture of 85% ethanol and 15% gasoline
- Compressed natural gas (CNG) vehicles which run on compressed natural gas
- Fuel cell vehicles (FCV) which uses pressurized hydrogen to power a fuel cell which then generates electricity to run the vehicle

#### Goals:

- Replace 3 gasoline vehicles with 1 EV and 2 hybrids (13 MT CO<sub>2</sub>e)
- Replace 1 diesel vehicle with 1 biodiesel (5 MT CO<sub>2</sub>e)

#### Actions:

- Educate City field crews and equipment operators about heavy equipment idling limitations in state law, and ensure that those limitations are followed (Education)
- ~~Establish an anti-idling driver policy (Legislation/Policy)~~
- Promote fuel efficient vehicle procurement policy and the addition of EV charging stations around the City (Legislation/Policy)
- Replace City vehicle fleet with more efficient alternatives where feasible (Legislation/Policy)

#### Strategy MO-5: Reduced Motor Vehicle Use

- Percentage of GHG Reduction Target: 0.1%
- GHG Reduction: 6 MT CO<sub>2</sub>e
- UCD Bundle 9 and 12

#### Description:

Implementations that will reduce commute and work trips for employees.

#### Goals:

- 12 employees switch to ride sharing (2 MT CO<sub>2</sub>e)
- 2 employees switch to riding their bicycles to and/or from work (3 MT CO<sub>2</sub>e)

#### Actions:

- Use web conferencing when possible to reduce travel time and mileage (Legislation/Policy)

# Additional Actions

This section provides a list of potential action items that may be implemented in that case that the mid-point check on the CAP's progress shows insufficient in reaching Winters' GHG reduction goal.

## Transportation and Land Use

- ~~Require that all businesses with 20 or more employees participate in Yolo Transportation Management Association.~~
- ~~Require that all businesses provide incentives for their employees to carpool or ride their bikes to work.~~
- ~~Prohibit the construction of new drive-through restaurants and services.~~
- ~~Partner with UCD and Yolo County to develop convenient bicycle and/or public transit routes from Winters' to UCD (Residential)~~
- ~~Encourage policies that allow having bikes on public transportation units such as buses and trains (Legislations/Policy)~~
- Create a bike lending/rental program (Residential)
- ~~Coordinate new residential construction with transit services (Construction and Legislation/Policy)~~
- ~~Partner with YOLO Farm to Fork, farmers market, and other local produce organizations to promote local agriculture and produce sales (Commercial)~~
- ~~Partner with business groups that incentivize reducing commute trips (Commercial)~~
- ~~Create a program that promotes the reduction of vehicle travel time and miles (Education)~~
- ~~Implement policies that promote telecommuting and work arrangements that allow employees to work remotely (Legislation/Policy)~~
- ~~Create low interest or interest free loans for businesses setting up vanpool programs (Legislation)~~
- ~~Create a car sharing program and high occupancy vehicle (HOV) lanes (Legislation/Policy)~~
  
- ~~Provide low carbon transportation and safe pedestrian and bicycling education to community members (Education)~~
- ~~Require high school students to purchase parking passes to park on campus~~
- ~~Encourage/incentivize employers to provide bike lockers, showers, and other amenities that encourage employees to bike or walk to and from work (Commercial)~~
- ~~Promote YOLO-Solano Air Quality Management District rebates for reducing the use of gas-powered landscape equipment (Rebate/Funding)~~
- ~~Identify businesses with fleet vehicles that do not comply with state idling restrictions and provide information/enforce those requirements (Legislation/Policy, Commercial)~~
- ~~Encourage drive through services such as pharmacies and drive-through restaurants to remind drivers to turn their engine off during long wait times (Legislation/Policy)~~
- ~~Develop a neighborhood electric vehicle program/plan (Legislation/Policy)~~

- ~~Support expansion of the West Coast Green Highway through the installation of EV fast-charging infrastructure along I-5 and other major highways (Legislation/Policy)~~
- ~~Create a local incentives and financing opportunities for the purchase of high efficiency vehicles by creating a local “Cash-for-Clunkers” program (Legislation/Policy, Rebate/Funding)~~

## **BUILDING AND INFRASTRUCTURE ENERGY**

- Implement building standards that exceed Title 24 through the listed actions:
  - Require that all new development meet CalGreen Tier 1 reach codes
  - Provide priority permit processing and reduced fees for projects that meet CalGreen Tier 2 reach codes
- ~~Require that all new construction and development include a minimum amount of renewable energy production based on the size and type of building.~~
- Distribute information about PG&E incentives in City utility bills
- ~~Using bulk purchasing power, acquire household energy monitors (such as the Canary) and offer them to residents at a discounted price~~
- Explore opportunities to engage in Community Aggregation (similar to the Sonoma model)
- ~~Create an outreach and education program that encourages and teaches community members about lighting efficiency and available financing programs (Education and Funding/Rebates and Residential)~~
- ~~Encourage the development of an energy efficiency program that trains community members to perform home energy assessments and educate clients on free and/or low cost energy saving measures such as installing energy efficiency light bulbs and adding insulation to hot water heater pipes, as well as a halogen torchiere lamp exchange to more efficient fixtures (Education and Funding/Rebate and Residential)~~
- ~~Encourage the development of a holiday program that exchanges traditional light strings for LED light strings (residential)~~
- ~~Provide rebates for replacing incandescent bulbs for LED bulbs (Funding/Rebate)~~
- ~~Institute a lights-out-at-night policy (Residential and Commercial)~~
- ~~Promote or coordinate a behavioral change program that promotes energy conservation (Education)~~
- ~~Adopt a voluntary building efficiency rating system that provides efficiency data upon property resale. (Education)~~
- ~~Promote retro commissioning for energy efficiency performance (Education, Commercial, Residential)~~
- ~~Support regulations and legislation that enforce a 41% GHG reduction for existing facilities and new construction, through programs and rating systems such as CalGreen Tier 1 or Leadership in Energy and Environmental Design (LEED) (Legislation/Policy)~~
- Support policies and legislation that enforce all new homes to be ZNE (Legislation/Policy)

- Offer low cost permits and expedited processing for HVAC equipment replacements
- Support residential sizing of 3 kW or larger solar PV systems for EV charging and achieving net zero energy (Construction, Legislation/Policy)

## **URBAN FOREST AND OPEN SPACE**

- ~~Develop a Winters' tree foundation in order to create and adopt an UFMP by June 2017 aimed at expanding canopy cover by 20% by 2035. Objectives of this plan will include reducing GHG emissions, improving air quality, increasing energy conservation, reducing utility line interference, increasing streetscape aesthetics, and increasing storm water runoff management. (Legislation/Policy)~~
- ~~Distinguish all potential areas within the city for tree planting, including parking lots, medians, etc. In this analysis, include the appropriate tree size, type(s), and prioritization. (Legislation/Policy)~~
- Establish an annual net canopy gain for the city, including an annual strategy and schedule. (Legislation/Policy)

- ~~Promote or coordinate rewards and competitions for reducing residential and commercial building energy use (Residential, Commercial, Education)~~
- ~~Promote or coordinate rewards to buildings that exceed CalGreen or meet LEED, Green Building Challenge, or Net Zero Energy standards (Residential, Commercial, Education)~~
- ~~Provide information on water and energy conservation, such as what vampire loads and peak hours are, and when to irrigate yards (Education)~~
- ~~Partner with PG&E on a tree planting program that will help reduce energy consumptions of residential buildings. (Residential)~~
- ~~Educate property owners, renters, business property owners and landscaping professionals on proper tree maintenance and its importance. (Education, Residential, Commercial)~~
- ~~Establish a policy that requires the City to have a positive net value on trees. For every tree that is cut down or lost due to disease, it must to replaced with a new tree of equivalent carbon sequestration rates within the year (Legislation/Policy)~~
- ~~Establish a policy that requires property owners, renters and business property owners to properly maintain their trees (Legislation/Policy)~~
- ~~Support policies that provide incentives, rebates and other credits to those who preserve agriculture and open space land (Legislation/Policy)~~
- ~~Accelerate the target deadline and amount for increasing Winters' tree canopy to 25% by 2030.~~

## **WATER AND WASTE**

- ~~Work with multifamily complex managers to educate tenants about recycling and composting (Education)~~
- ~~Educate consumers about product life cycles so that they can consider it before purchasing products (Education)~~  
~~Encourage local retailers, manufactures, and construction contractors to donate unused surplus material or slightly damaged goods to charities such as Habitat for Humanity ReStores (Education)~~
- ~~Support policies that ban plastic bags and charge 10 cents for paper bags (Legislation/Policy)~~
- ~~Support policies to require reductions in packaging materials used for consumer products (Legislation/Policy)~~

## **COMMUNITY ENGAGEMENT**

- ~~Create a “guide to low-carbon living in Winters” for the City website. This guide should give information on lowering energy use and cost, alternative transportation options, and health and safety benefits from community sustainability (Education)~~

- ~~Create a “Frequently Asked Questions” documents on CAP implementations and update as needed (Education)~~
- ~~Maintain a mailing list and social media feed that alert subscribers to updated information (Education)~~

## **MUNICIPAL OPERATIONS**

- ~~Ensure that all City employees consider the goals of the CAP in their activities, decisions and recommendations (Legislation/Policy)~~
- ~~Favor contracts with sustainable companies (Legislation/Policy)~~
- ~~Provide incentives for proposals or firms submitting bids that reduce overall GHG emissions through design, materials, operation, or maintenance of infrastructure (Legislation/Policy)~~
- ~~Energy and water retrofits for existing buildings (building energy benchmarking, building energy audits, indoor building lighting retrofits, exterior building lighting retrofit, advanced lighting controls/monitoring systems, building system retrofit, building envelope retrofits, and low flow fixtures and low flow toilets)~~
- ~~Invest in renewable energy for all major and/or new City facilities (Legislation/Policy)~~
- ~~Establish a behavioral change awareness guide/meeting for all City employees (Education)~~
- ~~Upgrade all water and wastewater treatment equipment where feasible, as well as reduce the use of potable water and increase the use of recycled water (Legislation/Policy)~~
- ~~Create a behavioral change committee that educates City staff and provides information on vehicle and fossil fuel use conservation (Education)~~
- ~~Participate in the Yolo Transportation Management Association in order to give incentives to employees for reducing their motor vehicle use (Legislation/Policy)~~
- ~~Establish a bicycle sharing or free bike rental program from employees to use for work related travel (Legislation/Policy)~~
- ~~Allow telecommuting and alternative work schedules for employees (Legislation/Policy)~~
- ~~Establish a secure bike parking system for employee use (Legislation/Policy)~~
- ~~Purchase green certificates or GHG credits~~

# Appendix: Community Suggestions

## Appendix: Community Suggestions

---

### Energy

- New Construction
- Energy audits and retrofits
- Alternative building energy
- New construction – solar
- Solar water heaters
- Large solar arrays
- City facilities and operations
- Lighting
- Landscape equipment
- Permits and fees
- Other

### Transportation

- Biking and walking
- Mass transportation
- Other vehicle trip reduction
- Public fleets
- Idling reduction
- Electric vehicles

## Land Use

Compact and mixed-use development

Commercial

Infill/redevelopment/centralization

Transit-oriented development

Energy-efficiency policies

Non-building land uses

## Other

Increased tree canopy

Water-efficient landscaping

Other water conservation and reuse

Reduced storm water pumping

Incentives for energy- and water-efficient practices

Waste reduction

Buy local