WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS

SUBREGIONAL CLIMATE ACTION PLAN

FINAL DRAFT
MAY 2014

Western Riverside County CLIMATE ACTION PLAN

WRCOG WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS

A Letter to the Subregion

It is a pleasure to present the Western Riverside Council of Governments (WRCOG) Subregional Climate Action Plan, the result of over three years of collaborative efforts among community leaders, industry experts, renowned scientists and consultants, and local governments. This plan describes the effects climate change could have on our subregion and suggests ways we can work together to address these challenges and reduce our collective carbon footprint while concurrently growing the economy and improving community livability and public health.

In 2012, WRCOG made a commitment to achieve a sustainable quality of life by adopting a Sustainability Framework, which is a blueprint that serves as a beginning point to establish, implement, and continuously refine a subregional sustainability plan for jurisdictions within WRCOG. This Framework presents a practical, integrated approach to sustainability which consists of six core components: Economic Development, Education, Health, Transportation, Water and Wastewater, and Energy and the Environment. WRCOG continues to demonstrate leadership in implementing programs that are environmentally, economically, and socially beneficial to the subregion including innovative award winning programs such as the HERO Program - an energy efficiency and water conservation financing program, the Transportation Uniform Mitigation Fee (TUMF), the Western Riverside Energy Leader Partnership (WRELP), and the Western Riverside County Clean Cities Coalition.

We believe our efforts demonstrate that implementing sustainable practices creates green jobs and a better economy, and makes our subregion a cleaner, safer, more enjoyable place to live. As you will notice in this report, some of the steps we need to take – such as investing in transportation infrastructure – require the involvement of the state and federal government. But many other important – and simple – steps can be achieved at the local level, such as driving less and walking more, using energy-efficient light bulbs, or turning down the thermostat a few degrees in the winter.

This Climate Action Plan provides a roadmap – a set of ideas – to help expand on our successes to slow the effects of climate change. It's no secret that this will require an enormous amount of hard work and cooperation. It will require the commitment of not only government, but of communities, individuals and businesses in our subregion. Our goal is to make WRCOG a vibrant example of how a subregion can collaborate to achieve climate protection goals and, as a result, enhance quality of life for all its residents and businesses. We are confident that if we can embrace this common challenge with creativity and commitment, WRCOG and its member jurisdictions will continue to lead the effort toward a sustainable future.

Sincerely,

Rick Bishop
Executive Director

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Acknowledgements

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We would like to especially thank the WRCOG Planning Directors' Technical Advisory Committee for their leadership and passion for the project and the communities of Western Riverside County.

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Acronyms

AB – Assembly Bill

AR4 – Fourth Assessment Report

AFV – Alternative Fuel Vehicle

ARRA – American Recovery and Reinvestment Act

BAU – Business-as-Usual

BEU – Banning Electric Utility

BTA – Bicycle Transportation Account

CALGreen – California Green Building Standards Code

CAP – Climate Action Plan

CAPCOA – California Air Pollution Control Officers Association

CARB – California Air Resources Board

CAT – Climate Action Team

CEC – California Energy Commission

CEESP – California Long-Term Energy Efficiency Strategic Plan

CEQA – California Environmental Quality Act

CESA – California Endangered Species Act.

CH_4 – Methane

CIP – Capital Improvement Plan

CO_2 – Carbon Dioxide

CO_2e – Carbon Dioxide Equivalents

EAP – Energy Action Plan

EGPR – Environmental Goals and Policy Report

EIR – Environmental Impact Report

ESA – U.S. Endangered Species Act

EO – Executive Order

FHA – Federal Housing Administration

GHG – Greenhouse Gas

GWP – Global Warming Potential

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HFCs – Hydroflourocarbons

IPCC – International Panel on Climate Change

LGO – Local Government Operations

MPO – Metropolitan Planning Organization

MSCHP – Multiple Species Habitat Conservation Plan

MT – Metric Ton

N_2O – Nitrous Oxide

OPR – Office of Planning and Research

PACE – Property Assessed Clean Energy

PD TAC – Planning Directors' Technical Advisory Committee

PFCs – Perfluorocarbons

RCA – Regional Conservation Authority

RCHC – Riverside County Health Coalition

RCTC – Riverside County Transportation Commission

RPU – Riverside Public Utilities

RTA – Riverside Transit Agency

RTP – Regional Transportation Plan

SAFETEA-LU – Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users

SAR – Second Assessment Report

SB – Senate Bill

SCAG – Southern California Association of Governments

SCE – Southern California Edison

SCG – Southern California Gas Company

SCS – Sustainable Communities Strategy

SGC – Strategic Growth Council

SF_6 – Sulfur Hexafluoride

TAR – Third Assessment Report

TUMF – Transportation Uniform Mitigation Fee

TEA-21 – Transportation Equity Act for the 21st Century

VMT – Vehicle Miles Traveled

WRCOG – Western Riverside Council of Governments

WRELP – Western Riverside Energy Leader Partnership

Executive Summary

Climate change is occurring and needs to be addressed to successfully prepare for a sustainable future in which residents are healthy, businesses thrive, and communities prosper. The Western Riverside Council of Governments (WRCOG) tactic to mitigating climate change is to take a unified, collaborative approach and develop this Subregional Climate Action Plan (CAP). The objectives are to create more livable, equitable, and economically vibrant communities. By using energy more efficiently, harnessing renewable energy to power our buildings, enhancing access to sustainable transportation modes, recycling our waste, conserving water, and building local food systems, we can keep dollars in our local economy, create new green jobs, and improve public health and community quality of life. By integrating these elements, the WRCOG Subregional CAP will:

- **Create Local Jobs:** The technologies, products and services required for the shift to a low-carbon future can be provided by employers in our communities. Dollars currently spent on fossil fuels will no longer leave our economy. They will stay here to pay for home insulation; lighting retrofits; solar panels; bicycles; and engineering, design, and construction of more sustainable communities. WRCOG's adopted Sustainability Framework prioritizes sustainability as a key economic engine of the subregion, and our HERO financing program is a prime example of our success. HERO has created more than 1,000 jobs since its inception in 2011.

- **Promote Healthier Communities:** Walkable and bikeable neighborhoods, fresh foods, and clean air provide healthier, more active lifestyle options for our residents. Healthy communities are areas where public health and climate action policy priorities intersect, creating new active transportation and living options, enhancing access to nutritious foods, and improving our quality of life and environment.

- **Become More Energy Self-Sufficient:** Actions in this CAP will help reduce our reliance on fossil fuels. As energy prices continue to increase and supplies become more uncertain, reduced reliance on volatile oil supplies will diminish risks faced by everyone.

- **Enhance Social Equity:** Disparities among residents can be reduced by ensuring that communities most vulnerable to climate change effects are given priority for green jobs, healthy local food, energy-efficient homes and affordable, efficient transportation. We can also improve equity by ensuring that these communities are enabled to implement the CAP in a meaningful and engaging way.

- **Reduce Emissions, Improve Air Quality, and Protect Natural Systems:** Reducing GHG emissions from major sources helps protect and improve the air we breathe and the environment in which we live. Sustaining the values and functions of our habitat is an essential strategy that can simultaneously reduce emissions, sequester carbon and strengthen our ability to adapt to a changing climate. Healthy watersheds and ecosystems are an integral part of a sustainable Western Riverside County.

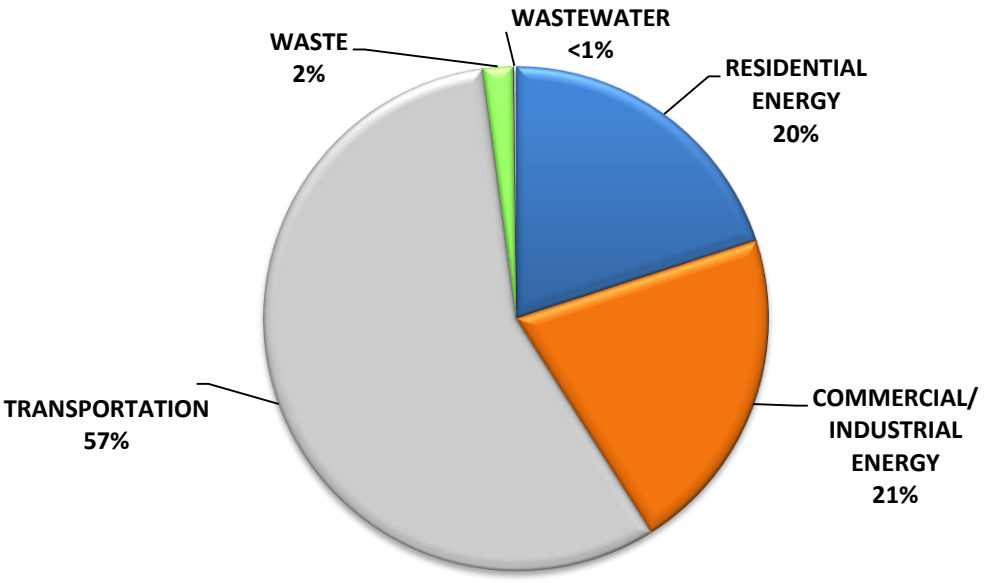
- **Save Money:** Using less energy in our homes, buildings and vehicles means lower energy and transportation bills for residents, business and government. Residents and local governments can also realize health-care cost savings inherent to a healthier, more active community.

Twelve cities in our subregion have joined efforts to develop this Subregional CAP, which sets forth a subregional emissions reduction target, emissions reduction measures, and action steps to assist each community to demonstrate consistency with California's Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32).

MEASURING OUR EMISSIONS

To ensure that the subregion stays on course to meet its greenhouse gas (GHG) reduction target, it is necessary to track our progress by conducting regular, community-wide GHG emissions inventories. It helps to think of an inventory as a "snapshot" of our subregion's GHG emissions for a given year. An inventory identifies the major sources and quantity of GHG emissions produced by residents, businesses, and public institutions. In 2010, Subregional CAP cities emitted approximately 5,834,400 metric tons of GHG emissions. Figure ES-1 below illustrates these emissions by source.

Figure ES-1: Baseline Greenhouse Gas Emissions by Source



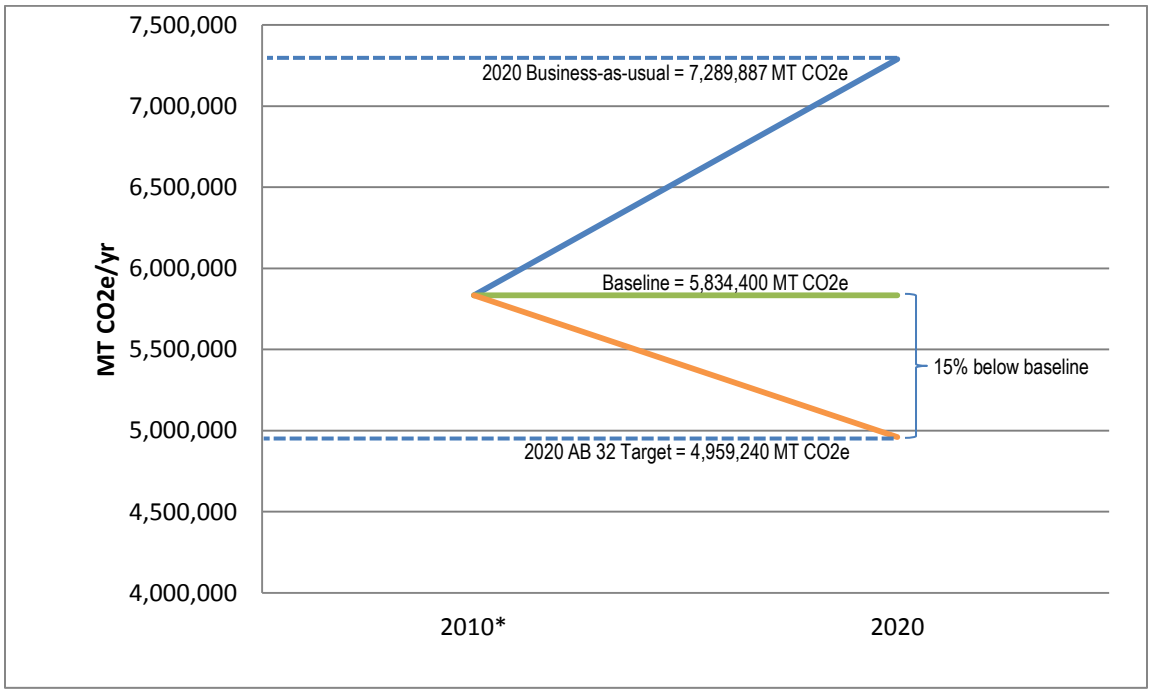
The inventory reflects the emissions that result from motor vehicles driven, electricity and natural gas consumed, waste generated, water consumed, and wastewater treated within participating

jurisdictions' limits. It provides a useful tool to track community and local government emissions over time, and to target climate protection strategies to address the main emissions sources.

REDUCING OUR EMISSIONS

WRCOG's subregional emissions reduction targets are 15% below 2010 levels by 2020, and 49% below 2010 levels by 2035. This plan focuses on feasible actions Western Riverside County communities can and should take between now and 2020, as well as innovative approaches currently beyond our current reach that will be needed to achieve the 2035 target. Based on forecasted emissions levels, a 15% reduction from 2010 levels equates to a GHG emissions reduction of nearly 2,330,647 metric tons below business-as-usual (BAU) conditions by 2020, as shown in Figure ES-2. This CAP identifies objectives and actions in four categories to set the subregion on a path to meet our 2020 GHG emission target.

Figure ES-2: WRCOG Subregion–Community GHG Business as Usual Forecasts and Reduction Target for 2020



*2010 is used as baseline year for all jurisdictions except for the cities of Eastvale and Jurupa Valley, as noted in Chapter 2.

TAKING ACTION

This CAP includes feasible strategies that will help the WRCOG subregion advance toward GHG emissions reduction goals, while affording our communities other economic and environmental benefits. The Plan builds upon existing successes and encompasses a range of strategies from expanding the successful HERO program, to increasing residential and business recycling, to reducing vehicle miles traveled, and increasing energy efficiency. It offers cost-effective strategies that will support our local economy; reduce risks for energy and fuel price increases and volatility; and offer a wide range of other

environmental, social, and economic benefits. Actions that reduce GHG emissions also support other local community goals and contribute to sustaining the WRCOG subregion as a vibrant community.

The CAP contains GHG reduction measures organized into four primary sectors, as follows:

ENERGY

- Energy measures will increase community-wide building and equipment efficiency and renewable energy use, and promote energy efficiency and renewable energy generation use supporting municipal operations in our communities.

TRANSPORTATION AND LAND USE

- Transportation and land use measures will reduce single-occupancy vehicle travel, increase non-motorized travel, improve public transit access, increase motor vehicle efficiency, and promote sustainable growth patterns.

SOLID WASTE

- Solid waste measures will reduce community and municipal solid waste sent to landfills.

WATER

- Water measures will increase community water conservation and reduce water consumed to support municipal operations in our communities.

If fully implemented, the CAP will exceed our 2020 goal by 2.6%, achieving an overall 17.6% reduction in GHG emissions by 2020. Annual progress reports will allow the Plan to evolve along with local budget priorities, carbon markets, and technology.

REALIZING OUR GOALS

While measuring GHG emissions, establishing reduction targets, and developing a CAP are essential steps, the most important work lies ahead: **Implementation.**

Turning this plan into action rests on more than just good ideas and intentions. It requires residents, businesses, municipal governments, and other institutions in our communities to rise to the challenge of change. Infrastructure, technology, workforce development, and our daily decisions must reflect these goals.

The CAP recommends strategies to support individuals' and businesses' efforts to consume less energy, move more efficiently, and produce less waste. Implementing the plan will, for example, increase access to public transit and make it safer to commute by foot or bicycle, provide incentives to make homes and businesses more energy efficient, and increase the convenience of recycling and composting waste.

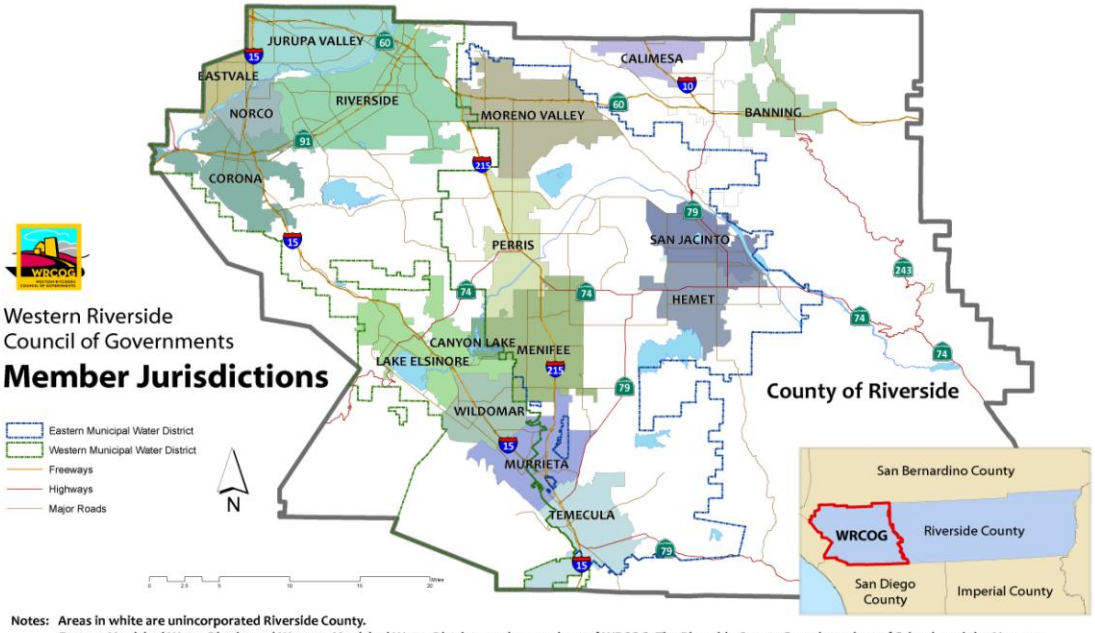
WRCOG is committed to leading the region toward a more sustainable future by realizing the goals set forth in this plan. How can ***you*** contribute?

Chapter 1
Introduction

PURPOSE

The Western Riverside Council of Governments (WRCOG) has a strong legacy of collaboration among its member agencies (see **Figure 1-1**) and innovation in implementing programs that are environmentally, economically, and socially beneficial to the subregion. WRCOG has been a leader in promoting sustainability through its adopted Sustainability Framework, Western Riverside Energy Leader Partnership (WRELP), HERO Program - an energy efficiency and water conservation financing program, and Western Riverside County Clean Cities Coalition. This Climate Action Plan (CAP) is another innovative subregional planning effort, led by WRCOG, to reduce **greenhouse gas (GHG) emissions**.

Figure 1-1: WRCOG Subregion



Notes: Areas in white are unincorporated Riverside County.
Eastern Municipal Water District and Western Municipal Water District are also members of WRCOG. The Riverside County Superintendent of Schools and the Morongo Band of Mission Indians are ex-oficio members.

Western Riverside County is establishing itself as a leader in energy efficiency and sustainability efforts and each of WRCOG's member jurisdictions are addressing climate change through different local programs. Twelve cities in Western Riverside County have joined efforts to develop this Subregional CAP, which sets forth a subregional emissions reduction target, emissions reduction measures, and action steps to assist each community to demonstrate consistency with California's Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32). Several jurisdictions in the WRCOG subregion have already adopted a local CAP, or are in the process of doing so. **Table 1-1** below illustrates which jurisdictions are participating in this Subregional CAP effort, and also lists additional sustainability programs that jurisdictions participate in relevant to the subregional CAP. The WRELP Program is a collaboration between WRCOG Southern California Edison (SCE), and the Southern California Gas Company (SCG), which includes the development of Energy Action Plans for 11 communities. Several jurisdictions are participating in separate partnership efforts with SCE, also targeting energy efficiency. Four of WRCOG's member jurisdictions have municipally-owned utilities, which provide energy and/or water and wastewater services to their communities and pursue individual efficiency and sustainability efforts.

Table 1-1: WRCOG Member Participation in Sustainability Programs

	Participating in Subregional CAP	Locally Adopted, or In-Progress CAP	Participating in WRELP Energy Action Plan	Participating in other SCE Partnership	Municipally-Owned Utility
Banning	✓				✓
Calimesa	✓		✓		
Canyon Lake	✓		✓		
Corona		✓		✓	✓
Eastvale	✓				
Hemet	✓		✓		
Jurupa Valley	✓				
Lake Elsinore		✓	✓		
Menifee		✓	✓		
Moreno Valley		✓		✓	✓
Murrieta		✓	✓		
Norco	✓		✓		
Perris	✓		✓		
Riverside	✓				✓
San Jacinto	✓		✓		
Temecula	✓		✓		
Wildomar	✓		✓		
County of Riverside		✓			

AB 32 directs California to reduce statewide GHG emissions to 1990 levels by 2020. To achieve these reductions, the California Air Resources Board (CARB) recommends that local governments target their 2020 emissions at 15% below "current"[1] levels, consistent with the statewide commitment, to account for emissions growth that has occurred since 1990. Several initiatives at the state level will help the subregion reduce GHG emissions, but they alone will not be sufficient to meet the 2020 target. This CAP provides a roadmap for individual communities in the subregion to reduce GHG emissions through local actions.

The release of GHGs into the atmosphere is the direct and indirect result of everyday activities as residents and businesses use energy in their homes and offices, travel to work, generate waste, and use water. Local governments also emit GHGs as they perform essential services and operate buildings, vehicles, street lights, traffic signals, water systems, and wastewater plants. Strategies in this CAP to reduce such emissions include increasing energy efficiency in buildings and facilities, utilizing renewable energy sources, increasing vehicle fuel efficiency, supporting alternative modes of transportation, reducing waste generation, and reducing water consumption. In addition to addressing climate change, reducing GHG emissions often provides co-benefits such as reducing energy and transportation costs for residents, businesses, and local governments; creating green jobs and supporting advancement of green technologies and industries; improving air quality and the overall health of residents; and making the community a more attractive place to live and locate a business.

The WRCOG Subregional CAP is the result of an analysis of existing GHG reduction programs and policies that have already been implemented in the subregion and of applicable best practices from other regions to assist in meeting the 2020 subregional reduction target. The resulting GHG reduction measures were chosen by the subregion based on their GHG-reduction potential, cost-benefit characteristics, funding availability, and feasibility of implementation. The level of implementation of each measure was determined by each community; however, this CAP presents the results collectively, demonstrating the collaborative effort and partnership that will facilitate implementation.

This CAP is organized into four chapters:

- **Chapter 1, Introduction:** provides the framework for the CAP, places the CAP in the context of current climate change science and policy, describes existing regional and local sustainability efforts and accomplishments, and discusses the CAP's relationship to the California Environmental Quality Act (CEQA).
- **Chapter 2, Emissions Inventory, Projections, and Goals:** describes the emissions inventory process and results, forecasted business-as-usual emissions for the subregion, and the adopted subregional emissions reduction target.
- **Chapter 3, Reduction Measures and Actions:** contains the anticipated State and federal emissions reductions, and the local reduction measures and actions that will be implemented to meet the subregional reduction target.
- **Chapter 4, Implementation and Monitoring:** provides best practices and specific resources for implementing reduction measures, the role for measure-specific evaluations, periodic updates to the inventories, use of indicators to monitor the subregion's progress, and the need for future iterations of the CAP to incorporate new data and reduction measures as they become available.

[1] "Current" is a term used by CARB in its Climate Change Scoping Plan of September 2008, but is undefined. It is generally taken to mean emissions for a year between 2005 and 2008, although other years have been used by local communities.

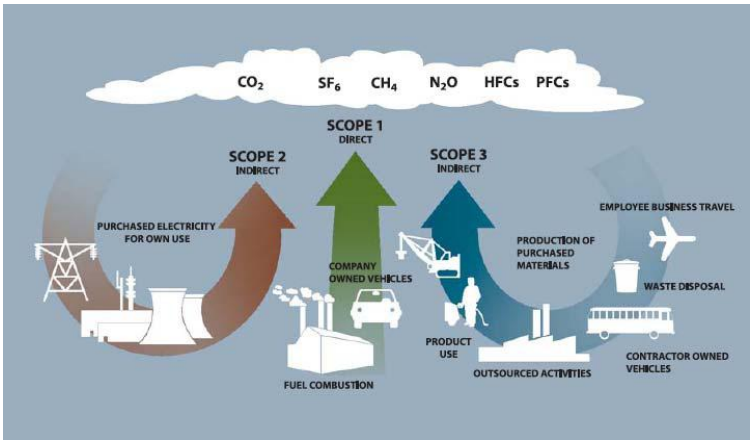
GREENHOUSE GAS EMISSIONS IMPACTS

Naturally occurring gases dispersed in the atmosphere determine the Earth's climate by trapping infrared radiation (heat). This phenomenon is known as the greenhouse effect and without it, the Earth would be about -2°F. Overwhelming evidence shows that human activities are increasing the concentration of GHGs in the atmosphere, trapping more heat, and changing the global climate. The most significant contributor is the burning of fossil fuels for transportation, electricity generation, and other purposes, which introduces large amounts of carbon dioxide and other GHGs into the atmosphere. Collectively, these gases intensify the natural greenhouse effect, causing global average surface and lower atmospheric temperatures to rise, a phenomenon known as global climate change.

The most important GHGs to reduce are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), which constitute over 98% of human-released GHGs in the U.S.[2] Other important GHGs include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These gases are emitted through a variety of natural processes and human activities (see **Figure 1-2**), including:

- Fossil fuel combustion (CO_2, N_2O, and CH_4);
- Agricultural operations, such as fertilization of crops (N_2O), livestock production, and rice cultivation (CH_4);
- Anaerobic composting and landfill off-gassing (CH_4);
- Refrigeration and cooling (HFCs); and
- Industrial manufacturing, including aluminum production (PFCs), semi-conductor manufacturing (SF_6), and cement production (CO_2).

Figure 1-2: Greenhouse Gases Regulated Under AB 32



Global Warming Potential (GWP) is a quantitative measurement that expresses the relative warming potency of each GHG over a specific period of time. CO_2 is assigned a GWP value of 1 and the other GHGs are assigned GWPs relative to CO_2. For GHG emission inventories, the amount of each gas emitted is multiplied by its GWP and presented in units of carbon dioxide equivalents (CO_2e). **Table 1-2** lists the six primary GHGs as defined in AB 32, their chemical formula, the lifetime of the compound, and their

[2] U.S. Environmental Protection Agency, 2011, http://www.epa.gov/climatechange/ghgemissions/gases.html

GWPs relative to CO_2. Although CO_2 has a lower GWP than other GHGs, it is the largest contributor to human-caused global warming, constituting about 84% of U.S. emissions.[3]

Table 1-2: Greenhouse Gases Regulated Under AB 32

Greenhouse Gas	Chemical Formula	Lifetime (years)	Global Warming Potential for 100-year horizon
Carbon Dioxide	CO_2	Variable	1
Methane	CH_4	12	21
Nitrous Oxide	N_2O	114	310
Sulfur Hexafluoride	SF_6	3,200	23,900
Hydrofluorocarbons	HFCs	1.4 – 270	140 – 11,700
Perfluorocarbons	PFCs	1,000 – 50,000	6,500 – 9,200

Source: International Panel on Climate Change (IPCC) Second Assessment Report: Climate Change 1995 (SAR). Available at: http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml

Note: According to the Local Government Operations Protocol (LGO Protocol) and the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (Community Protocol), the GWP values in **Table 1-2** were applied in this CAP. Since the SAR was published in 1995, the IPCC has published updated GWP values in its Third Assessment Report (TAR) and Fourth Assessment Report (AR4) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO_2. However, GWP values from the SAR are still used by international convention to maintain consistency in GHG reporting. For GWP values that were not quantified in the SAR, GWP values from the TAR were used.

While the anticipated effects of climate change are likely to vary regionally, it is anticipated to have the following global effects[4]:

- Higher maximum temperatures and more hot days over most land areas;
- Higher minimum temperatures, fewer cold days, and frost days over most land areas;
- Reduced diurnal temperature range over most land areas;
- Increased heat index over land areas; and
- More intense precipitation events.

Many secondary effects are anticipated to result from climate change in California, including: loss in snow pack; sea level rise and inundation of coastal areas; increased flooding of low-lying areas; more extreme heat days per year; high ozone days; increased incidence of large forest fires; and more frequent and severe drought years.

[3] Ibid.
[4] IPCC Fourth Assessment Report: Climate Change 2007 (AR4). Available at: http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm

REGULATORY CONTEXT

Many strategies for monitoring and addressing climate change have emerged at the international, national, and state levels. California remains a leader in the effort to reduce GHG emissions through mitigation and adaptation strategies. With AB 32, California is the first state in the U.S. to mandate GHG emissions reductions across its entire economy. To support AB 32, California has been developing policy and passing legislation that seeks to control emissions of gases that contribute to climate change. These have included regulatory approaches such as mandatory reporting for significant sources of GHG emissions and caps on emission levels, as well as market-based mechanisms, such as cap-and-trade. Voluntary local actions are also increasing, such as conducting emissions inventories, implementing practices to reduce emissions, and purchasing offsets and renewable energy certificates. While many local actions are currently voluntary, there is more emphasis being placed on monitoring and reporting emissions to demonstrate the effectiveness of policies and local consistency with state reduction goals. The following section highlights the primary state legislation and guidance related to this CAP.

STATE LEGISLATION AND GUIDANCE

AB 32, also known as the Global Warming Solutions Act of 2006, directs public agencies in California to support the statewide goal of reducing GHG emissions to 1990 levels by 2020. Preparing a CAP supports AB 32 at the local level. The CAP provides a policy framework for how the subregion can do its part to reduce emissions. While compliance with AB 32 is not a requirement for local jurisdictions, demonstrating consistency with statewide reduction goals can significantly assist WRCOG jurisdictions to qualify for incentives such as grant funding. Efforts to address climate change, reduce consumption of resources, and improve energy efficiency led by state legislation or programs are briefly described below and identified in **Figure 1-3**.

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05, which established the following GHG emission reduction targets:

- by 2010, California shall reduce GHG emissions to 2000 levels;
- by 2020, California shall reduce GHG emissions to 1990 levels; and
- by 2050, California shall reduce GHG emissions to 80 percent below 1990 levels.

EO-S-3-05 created the California Climate Action Team (CAT), which is tasked with the preparation of biennial science assessment reports on climate changes and adaptation options for California. The first CAT Report to the Governor and Legislature was published in 2006, and contains recommendations and strategies to help meet the targets in EO-S-3-05. These were expanded upon in the 2009 CAT Biennial Report to the Governor and Legislature. The new information includes revised climate and sea-level projections, and an evaluation of climate change within the context of broader social changes, such as land-use changes and demographic shifts[5]. The action items in the report focus on the preparation of the Climate Change Adaptation Strategy, required by EO-S-13-08.

[5] California EPA - Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006. Available at: http://www.climatechange.ca.gov/climate_action_team/reports/index.html

Assembly Bill 32 – California Global Warming Solutions Act of 2006

AB 32 was approved by the legislature and signed by Governor Schwarzenegger in 2006. The landmark legislation requires CARB to develop mechanisms that will reduce GHG emissions to 1990 levels by 2020. Mandatory actions under the legislation to be completed by CARB include:

- Identification of early action items that can be quickly implemented to achieve GHG reductions. These early action items were adopted by CARB in 2007 and include regulations affecting landfill operations, motor vehicle fuels, car refrigerants, and port operations, among other regulations.
- Development of a scoping plan[6] to identify the most technologically feasible and cost-effective measures to achieve the necessary emissions reductions to reach 1990 levels by 2020. The Scoping Plan identifies a variety of GHG reduction measures that include direct regulations, alternative compliance mechanisms, incentives, voluntary actions, and market-based cap-and-trade program. The Plan identifies local governments as strategic partners to achieving the state goal and translates the reduction goal to a 15% reduction of current emissions by 2020.
- Creation and adoption of regulations to require the state's largest industrial emitters of GHGs to report and verify their emissions on an annual basis.

Senate Bill 97 – California Environmental Quality Act Guideline Amendments of 2007

Senate Bill (SB) 97 was adopted in 2007 and directed the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to address GHG emissions. The CEQA Guidelines prepared by OPR were adopted in December 2009 and went into effect March 18, 2010. Local governments may use adopted plans consistent with the CEQA Guidelines to assess the cumulative impacts of projects on climate change, if the plan for the reduction of GHG emissions accomplishes the following:

- Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.
- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.
- Specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Establish a mechanism to monitor the plan's progress toward achieving the level and to require an amendment if the plan is not achieving specified levels.
- Be adopted in a public process following environmental review.

SB 375 – Sustainable Communities and Climate Protection Act of 2008

SB 375, also known as the Sustainable Communities and Climate Protection Act of 2008, builds off of AB 32 and aims to reduce GHG emissions by linking transportation funding to land use planning. It requires the state's metropolitan planning organizations (MPO) to create a sustainable communities strategy (SCS) in their regional transportation plans (RTP) for the purpose

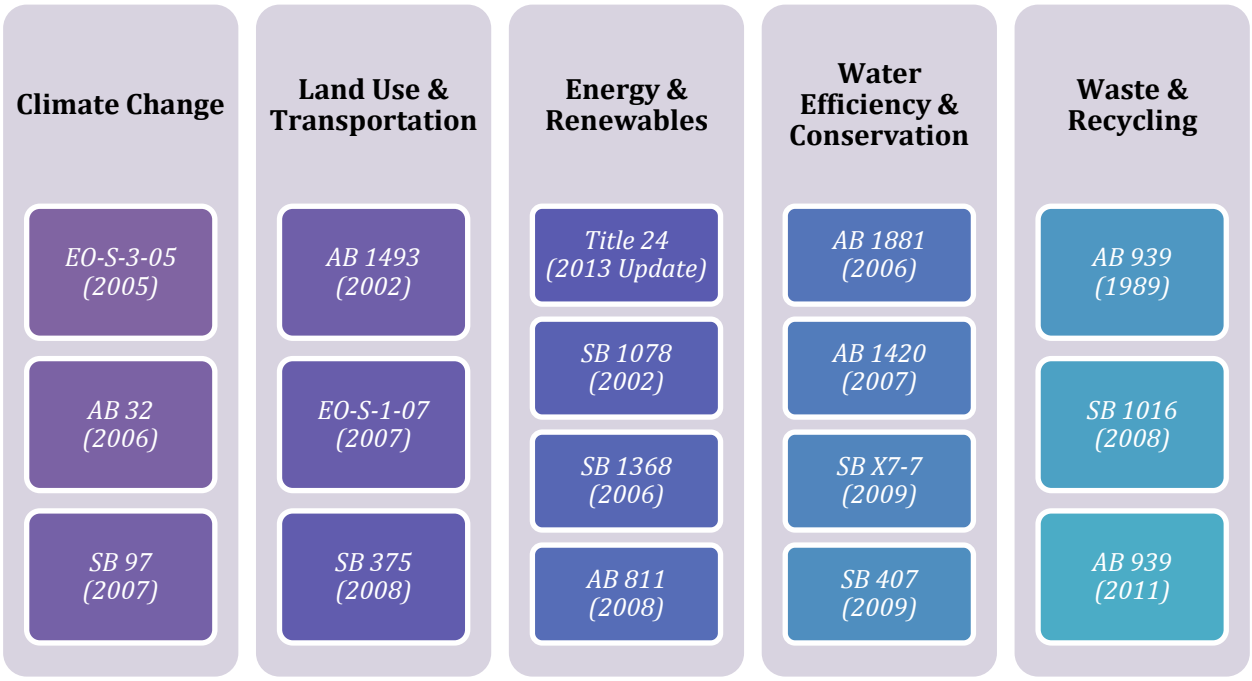
e of reducing urban sprawl. Under SB 375, CARB established regional targets for GHG emissions reductions from passenger vehicle use for each MPO. The regional reduction targets for the Southern California Association of Governments (SCAG) region, which is the MPO with jurisdiction over the

[6] CARB 2008 Scoping Plan. Available at http://arb.ca.gov/cc/scopingplan/scopingplan.htm

WRCOG subregion, are 8% per capita by 2020, and a conditional target of 13% per capita by 2035 from 2005 levels. In April 2012, SCAG adopted its first SCS, which demonstrates how the region will achieve the GHG emissions reduction targets set by CARB.

Figure 1-3 categorizes the applicable state regulations that provide a policy framework for addressing climate change. A more detailed description of these regulations is included in the jurisdictional Greenhouse Gas Inventory Reports (Appendix X).

Figure 1-3: Regulatory Framework for Climate Change



REGIONAL PROGRAMS

The regional initiatives described below contribute to the development and success of this CAP. Many of these programs are administered by WRCOG and several are conducted by other regional entities in partnership with WRCOG.

Southern California Association of Governments Regional Transportation Plan and Sustainable Communities Strategy

SCAG is the regional planning agency for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated MPO for the Southern California region and is the largest MPO in the U.S. With respect to air quality planning, SCAG has prepared the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (2012 RTP/SCS): Towards a Sustainable Future, to fulfill federal planning requirements contained in the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which calls for regions to consider urban form and natural resources as part of the transportation planning process. Under SB 375, all of California's MPOs must prepare an SCS as a component of their RTP. The RTP serves as a long-range transportation plan that is developed and updated by SCAG every four years. The RTP provides a vision for the development of transportation

facilities throughout the region based on growth forecasts and economic trends that project over a 20-year period. The SCS expands upon transportation strategies in the RTP to analyze growth patterns and establish future land use strategies that aid the region in meeting its GHG reduction targets. The SCS does not mandate future land use policies for local jurisdictions, but rather provides a foundation of regional policy upon which local governments can build. WRCOG and its member jurisdictions partner with SCAG and are active members in the development and implementation of the RTP/SCS.

HERO Program

Established under the guidance of AB 811 (2008) and AB 474 (2009), WRCOG's HERO Program is a Property Assessed Clean Energy (PACE) program that provides financing to residential and commercial property owners for the installation of energy efficient, renewable energy, and water conservation improvements on existing properties. Financing provided through the HERO Program is repaid through an assessment on property tax bills over 5-, 10-, 15-, 20-, and 25-year terms, based on the useful life of the products, and upon sale of the property, the balance generally stays with the property.

Sustainability Framework for Western Riverside County

WRCOG's Sustainability Framework (Framework) is a subregional planning effort that establishes, implements, and continuously refines an overarching sustainability plan for the communities in Western Riverside County. The Framework aims to: initiate a dialogue about the importance of sustainability in the region; provide a vision and goals to guide local action and regional collaboration; define more immediate short-term goals that can contribute to the longer-term vision of the Framework; and define indicators, benchmarks, and targets that provide a measure of the effectiveness of Framework programs and policies. The Framework acts as a "living" document and contains goals and actions applying to economic development, education, public health, transportation, water and wastewater, energy, and the environment.

Western Riverside County Clean Cities Coalition

The Western Riverside County Clean Cities Coalition (Coalition) is a voluntary local government and industry partnership that aims to reduce the consumption of petroleum fuels and improve air quality in the WRCOG subregion. The Coalition works to mobilize local stakeholders toward expanding the use of alternative fuel vehicles (AFV) and advanced technology vehicles, promoting local idle reduction measures, and strengthening local AFV fueling infrastructure. The governments of Western Riverside County have taken leadership roles in the Coalition, coordinating efforts between government and industry to recognize the value of partnership in achieving air quality, energy efficiency, economic development, and transportation goals, while advancing the clean air and energy efficiency goals of the national Clean Cities program administered by the U.S. Department of Energy.

Healthy Communities

WRCOG and its member jurisdictions are engaged in numerous efforts and initiatives to promote healthy communities, including participating in the Riverside County Health Coalition (RCHC). The RCHC is a collaboration of public and private sectors, school districts, community businesses, local and regional organizations and community members committed to policy development and advocacy, environmental change and community empowerment for healthy lifestyles in Riverside County. This initiative includes a focused partnership effort with local governments to integrate healthy communities into the local planning and policy-making process.

Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) is a comprehensive, multi-jurisdictional plan to conserve sensitive species and their associated habitats in the subregion. Created in 2004 by the Western Riverside County Regional Conservation Authority (RCA), the MSHCP provides subregional transportation and green infrastructure benefits to local agencies and allows WRCOG jurisdictions to make land use decisions and maintain a strong economy in a context that comprehensively addresses federal and state Endangered Species Acts (ESA and CESA) requirements.

Transportation Uniform Mitigation Fee

WRCOG's Transportation Uniform Mitigation Fee (TUMF) was implemented in 2003 as one of the largest multi-jurisdictional fee programs in the nation. TUMF makes improvements to the regional transportation system and provides transportation demand management through funds from new development, ensuring that development mitigates for increases in traffic volumes. TUMF is a 32-year program that provides subregional transportation and infrastructure benefits to local agencies in Western Riverside County. The program is expected to raise $4.2 billion, and 1.64% is allocated to the Riverside Transit Agency (RTA) for transit improvements. To mitigate the impacts of transportation construction projects, WRCOG allocates 1.59% of TUMF funds collected to the RCA to purchase habitat for the MSCHP.

EXISTING LOCAL SUSTAINABILITY ACCOMPLISHMENTS

Several jurisdictions within the WRCOG subregion have already adopted, or are in the process of adopting, GHG emissions reduction policies or entire CAPs independent of the Subregional CAP process. Existing policies and programs were identified that reduce GHGs through energy conservation, renewable energy development, solid waste reduction, commute reduction, and the expansion of the urban forest. Several energy programs are available throughout the subregion, which are managed by WRCOG, SCE, Southern California Gas Company (SCG), Riverside Public Utilities (RPU), Banning Electric Utility (BEU), and the County of Riverside. These programs include financing for building energy retrofits and renewable energy projects, energy efficiency retrofit rebates, smart metering and smart grid technologies, and various energy efficiency education and outreach campaigns.

Some jurisdictions have building code requirements to implement and expand upon the California Green Building Standards Code (CALGreen), or policies to streamline energy efficiency and renewable energy permitting. Many are improving the efficiency of public realm lighting, including street lights, traffic lights, parking lot lighting and outdoor commercial lighting, and their water and wastewater conveyance and treatment facilities.

Policies to reduce solid waste include waste collection billing policies through municipalities or their contracted waste haulers, food scrap and compostable paper diversion outreach, lumber scrap diversion ordinances and outreach, yard waste collection, recycling outreach campaigns and voluntary waste audits, landfill methane capture, and food waste biodigestion programs in Norco and Riverside.

Policies that reduce GHG emissions from potable water conveyance focus on reducing water demand through consumer behavior pricing, water conservation education, and landscape irrigation efficiency. Some jurisdictions have adopted ordinances requiring the installation of certain water conservation measures at properties before selling or renovating properties. While many jurisdictions are seeking to expand recycled water deliveries, fewer promote rainwater collection or graywater system use at this time.

Existing transportation policies focus on enhancing pedestrian and bicycle amenities and facilities alongside the expansion and improvement of transit systems, but also include various transportation demand management programs to reduce single-occupancy vehicle miles traveled (VMT) during commute hours. Several jurisdictions have policies supporting the expansion of the urban forest, and some have mandatory shade tree planting requirements that also reduce building energy. Finally, many jurisdictions are actively expanding mixed-use developments and transit-oriented developments to encourage people to drive less, and enrich the character and economic vitality of their communities.

WESTERN RIVERSIDE ENERGY LEADER PARTNERSHIP

The WRELP Program builds upon the existing policies and programs in the region to analyze energy-sector emissions and propose energy conservation and renewable energy measures that reduce GHG emissions within Energy Action Plans (EAPs) for 11 WRCOG jurisdictions served by SCE. The WRELP partners include Calimesa, Canyon Lake, Hemet, Lake Elsinore, Menifee, Murrieta, Norco, Perris, Temecula, San Jacinto, and Wildomar (see **Table 1-1**). The WRELP effort uses funding provided by SCE to implement within the region the California Long-Term Energy Efficiency Strategic Plan (CEESP), developed by the California Energy Commission (CEC) as a collaborative effort in response to California's need for a long-term strategic energy efficiency plan. Following CEESP Goal 4, individual EAPs were developed for each participating jurisdiction, creating a comprehensive program to address energy efficiency, sustainability, and climate change through the years 2020 and 2035. The EAPs informed the development of the energy efficiency measures in this CAP.

RELATIONSHIP TO THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

In 2007, state lawmakers identified the need to analyze GHG emissions in the CEQA process through the adoption of SB 97. The bill required OPR to develop, for adoption by the Natural Resources Agency, amendments to the CEQA Guidelines that clarified several points about the analysis and mitigation of GHG emissions. Aside from establishing the need for lead agencies to analyze and mitigate for a project's potentially significant impacts relating to GHG emissions, the amendments also provided that a lead agency may streamline the analysis of GHG emissions for projects that follow a programmatic GHG emissions reduction plan, or climate action plan, meeting certain criteria. The amendments to the CEQA Guidelines became effective on March 18, 2010. OPR is currently developing a Technical Advisory that will further describe, among other climate action planning topics, how plans for reducing GHGs can be used in CEQA analyses.

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Chapter 2
Emissions Inventory

A jurisdiction's greenhouse gas (GHG) inventory serves multiple purposes. It quantifies the GHG emissions resulting from activities taking place throughout the community by residents, businesses, and local governments, and creates an emissions baseline against which the jurisdiction can set emissions reduction targets and measure future progress. It also provides an understanding of where GHG emissions originate and allows a jurisdiction to develop effective policies, strategies, and programs to reduce emissions.

As part of the Subregional Climate Action Plan (CAP) process for Western Riverside County, baseline inventories were prepared for each participating jurisdiction to quantify GHG emissions resulting from the community and government operations (Appendix X). Community-wide inventories encompass the GHG emissions resulting from activities taking place within each jurisdiction's boundaries, where the local government has jurisdictional authority, in addition to some activities taking place outside the boundaries that support activities in the jurisdiction (for example, solid waste sent to landfill areas outside the boundaries). The baseline inventories include emissions from the following sectors: residential energy, commercial/industrial energy, transportation, waste, and wastewater.

2010 is the inventory base year for 10 of the 12 participating jurisdictions within the WRCOG subregion (the cities of Banning, Calimesa, Canyon Lake, Hemet, Norco, Perris, Riverside, San Jacinto, Temecula, and Wildomar). For the cities of Eastvale and Jurupa Valley, which incorporated in October 2010 and July 2011, respectively, the most recent available data were used. The baseline inventory summary presented in this chapter describes the cumulative GHG emissions generated by the jurisdictions participating in the WRCOG Subregional CAP effort, as determined from individual jurisdictional inventories.

BASELINE EMISSIONS INVENTORY

INVENTORY PROCESS

The emissions inventory for each participating jurisdiction was developed using guidance from two standards for emissions accounting and reporting: the Local Government Operations Protocol (LGO Protocol) and the U.S. Community Protocol for Accounting and Reporting of GHG Emissions (Community

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Protocol). The LGO Protocol was developed through a partnership between CARB, The Climate Registry, and ICLEI USA. The Community Protocol was released by ICLEI USA in October 2012 and represents the first comprehensive U.S. standard for community-wide inventories.

The emissions inventory is intended to represent emissions sources in each jurisdiction with greatest influence on community-wide activities and government operations. As communities provide different services to their residents and businesses, the scale of the services and resulting emissions are highly dependent upon the size and purview of the local government. For these reasons, comparisons among community or local government inventories should not be made without also describing the municipal services provided by each jurisdiction or presenting community-level indicators such as population or socioeconomic factors.

Furthermore, the inventory estimates current emissions using the best available data and methods at the time the inventory was completed. As data collection and estimation methodologies evolve, future inventories may incorporate emission sources that were not captured previously, or may use newer approaches to estimating emissions.

INVENTORY CATEGORIES

In the community inventory, baseline emissions are categorized into sectors based on their source(s), as follows:

- Residential Energy: Residences consume electricity and natural gas for daily operations and heating/cooling.
- Commercial/Industrial Energy: Commercial and industrial buildings consume electricity and natural gas for daily operations and heating/cooling. This sector includes all non-residential building energy use, including municipal government buildings, industrial buildings, and commercial buildings.
- Transportation: On-road passenger and freight vehicle use results in combustion of gasoline and diesel fuels.
- Waste: Disposal of solid waste in landfills causes anaerobic decomposition, which results in GHG emissions (CH_4).
- Wastewater: Emissions in this sector are associated with the treatment of community industrial, residential, and commercial wastewater.

The LGO inventory is a subset of the community inventory, and represents what the municipality owns or operates and has operational control over, such as government buildings, vehicles, and other municipally-owned equipment and services. While the overall community inventory is important to focus GHG reduction efforts, the LGO inventory provides a closer look at what changes a local jurisdiction can make to improve efficiency and reduce emissions.

INVENTORY RESULTS

The baseline GHG inventory for the 12 WRCOG subregion jurisdictions participating in the CAP totals 5,834,400 metric tons (MT) of carbon dioxide equivalents (CO_2e). **Figure 2-1** and **Table 2-1** provide a breakdown of these emissions by sector. Emissions from the transportation sector accounted for 3,317,387 MT CO_2e, or 57% of the total emissions in the subregion, followed by the commercial/industrial energy sector, which generated 1,226,479 MT CO2e, or 21% of the total. The residential energy sector produced 1,167,843 MT CO2e, or 20% of the total.

Figure 2-1: WRCOG Subregion – Baseline Community Emissions by Sector

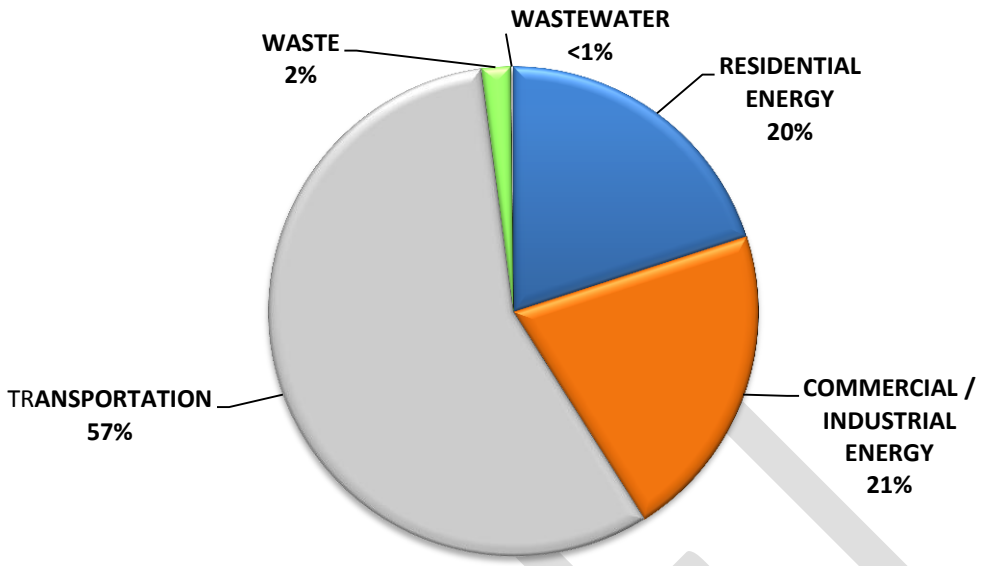


Table 2-1: WRCOG Subregion – Baseline Community Emissions by Sector (MT CO_2e)

Sector	Total Emissions (MT CO_2e)	% of Total
Transportation	3,317,387	56.9%
Commercial/Industrial Energy	1,226,479	21.0%
Residential Energy	1,167,843	20.0%
Waste	112,161	1.9%
Wastewater	10,531	0.2%
TOTAL INVENTORY	**5,834,400**	**100%**

Note: Totals may not add up due to rounding.

The baseline total GHG inventory for each participating jurisdiction is shown in **Figure 2-2** below, sorted by greatest to smallest total emissions. **Figure 2-3** shows baseline community emissions by service population for each jurisdiction. Service population is the number of residents and jobs in each community, and can be useful for measuring progress per-unit reduction of GHGs and comparing emissions between jurisdictions. Per capita emissions ranged from 3.6 MT CO_2e emissions per service population in Eastvale to 7.2 MT CO_2e in Calimesa.

Figure 2-2: Baseline Total Community Emissions by Jurisdiction (MT CO_2e)

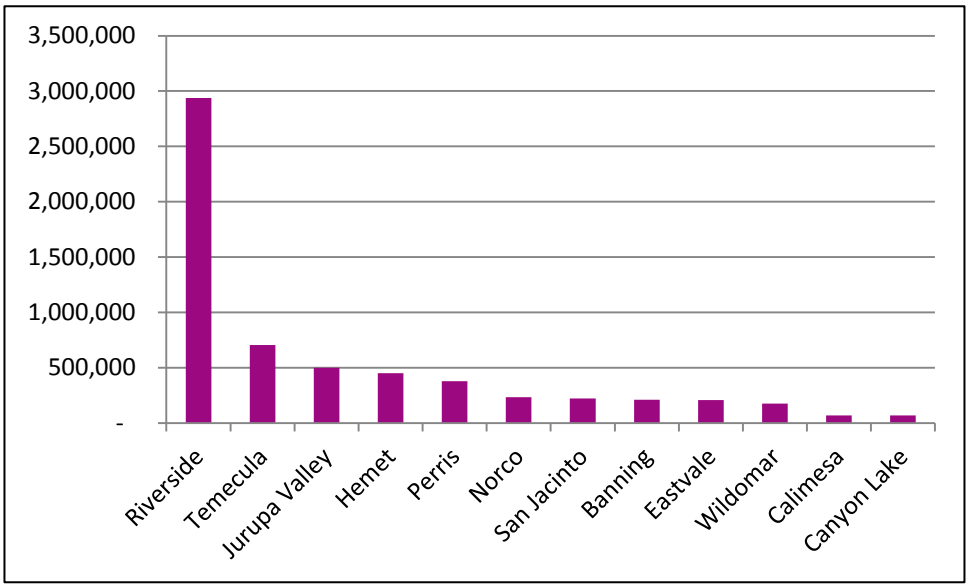
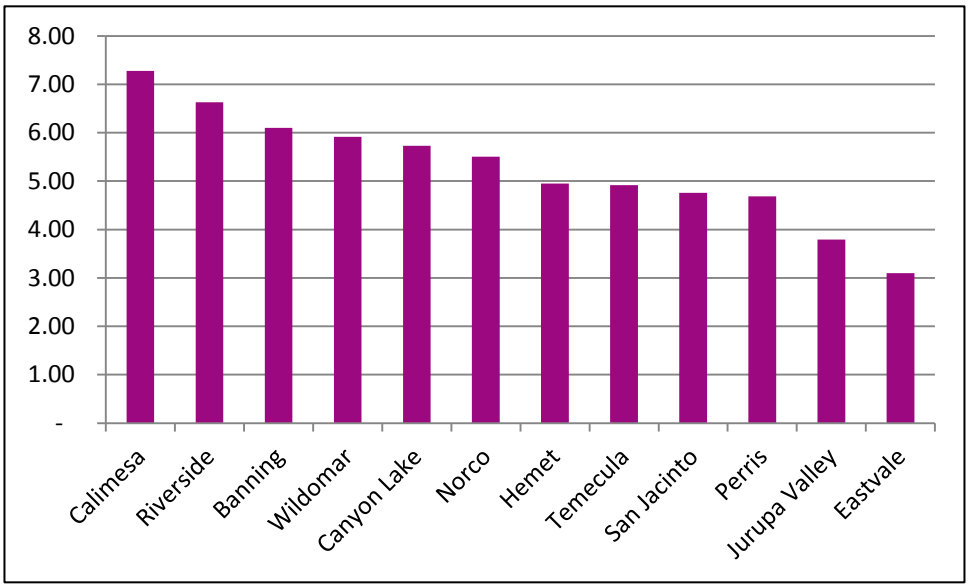
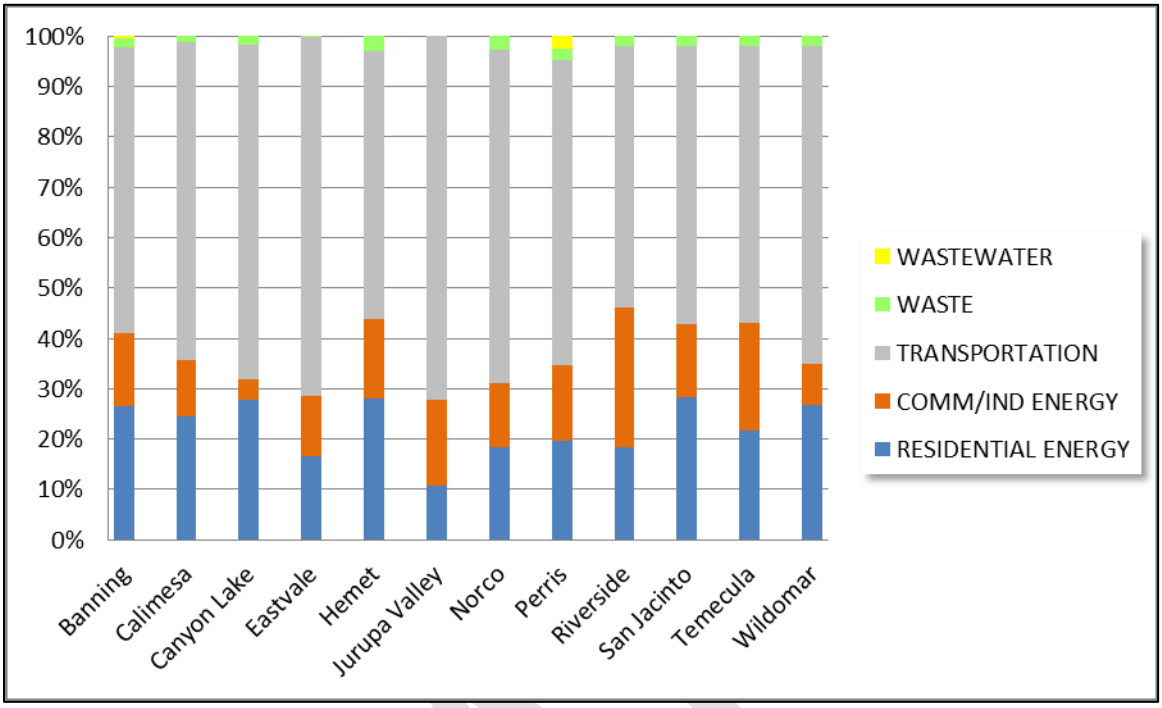


Figure 2-3: Baseline Community Emissions per Service Population by Jurisdiction (MT CO_2e/SP)



The baseline GHG Inventory by sector for each participating region is shown in **Figure 2-4** below. The transportation sector is the largest emissions source in each jurisdiction, followed by residential energy, commercial/industrial energy, and waste for most jurisdictions. For the communities of Jurupa Valley and Riverside, commercial/industrial energy takes up a larger share of emissions than residential energy, due to a more developed commercial and industrial building infrastructure. Perris is the only jurisdiction for which wastewater emissions are included, because they are the only community containing a wastewater treatment plant within its boundaries for which emissions data could be calculated, and they make up a larger share of the Perris inventory than waste-related emissions.

Figure 2-4: Baseline Community Emissions by Jurisdiction by Sector



EMISSIONS FORECASTS

The emissions forecasts establish projections for future-year 2020 and 2035 emissions under "business-as-usual" (BAU) conditions. If the WRCOG subregion were to continue historic patterns of vehicular travel, energy consumption, and waste/wastewater generation and disposal, the resulting emissions would be considered business-as-usual. BAU emissions are GHG emissions that would take place in the absence of state, regional, and local strategies designed to reduce emissions over time.

Future BAU emissions projections have been developed using regionally-adopted estimates for population and employment growth within each city under BAU conditions. Reduction goals were established for 2020 and 2035 using guidance from the California Air Resources Board (CARB).

Annual community emissions in participating WRCOG subregion jurisdictions are projected to increase over time. In 2020, subregional emissions are expected to be approximately 7,289,887 MT CO_2e, which represents an approximate 25% increase from baseline conditions. In 2035, subregional emissions are projected to increase to about 9,113,087 MT CO_2e, which represents an increase of approximately 56% from baseline conditions.

Table 2-2 presents community GHG emissions BAU forecasts by sector for 2020 and 2035. Transportation is expected to contribute the largest share of emissions through 2035. **Figure 2-5** illustrates 2020 BAU community emissions by sector. The percentage contributions from each sector in 2035 are expected to be similar to those in 2020. **Figure 2-6** shows community emissions BAU forecasts by jurisdiction for 2020 and 2035.

Table 2-2: WRCOG Subregion – Projected Business-As-Usual Community Emissions by Sector (MT CO_2e)

Sector	2020 Emissions (MT CO_2e)	% of Total	2035 Emissions (MT CO_2e)	% of Total
Transportation	4,057,626	55.7%	5,399,600	59.3%
Commercial/Industrial Energy	1,655,925	22.7%	1,953,137	21.4%
Residential Energy	1,368,126	18.8%	1,729,452	19.0%
Waste	138,326	1.9%	169,107	1.9%
Wastewater	13,740	0.2%	18,797	0.2%
TOTAL INVENTORY	**7,289,887**	**100%**	**9,113,087**	**100%**

Note: Totals may not add up due to rounding.

Figure 2-5: WRCOG Subregion – 2020 Community Emissions Business as Usual Forecast by Sector

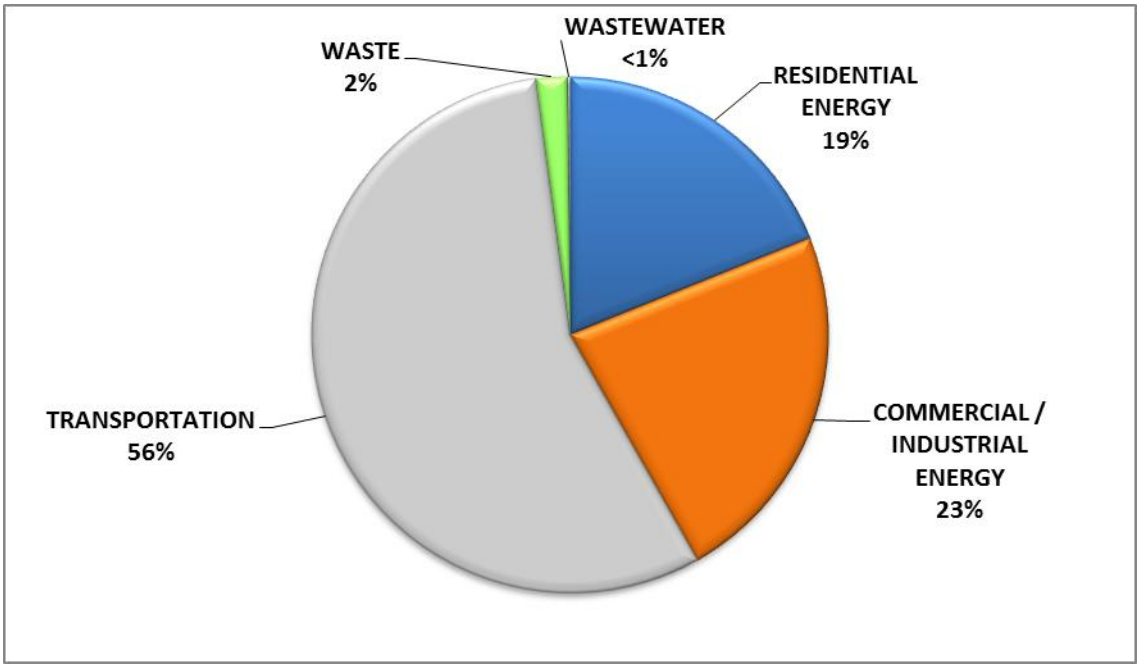
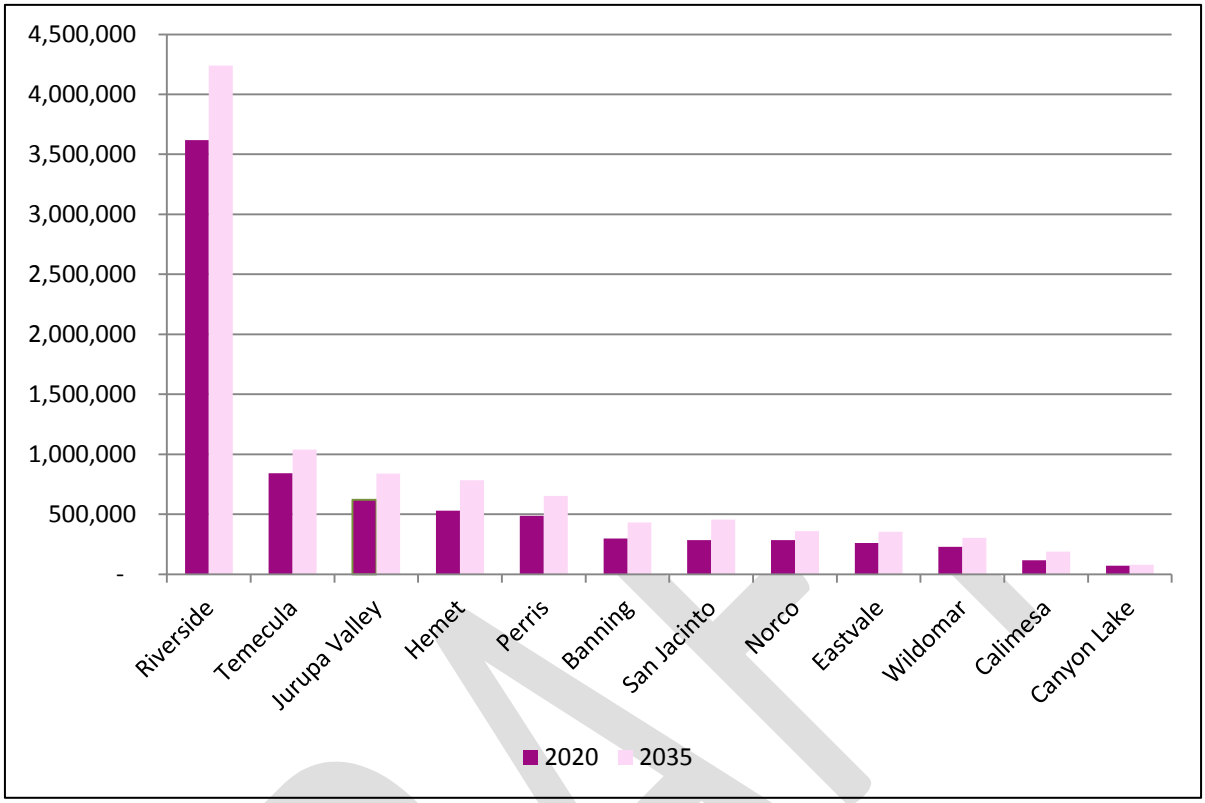


Figure 2-6: 2020 and 2035 Community Emissions Business as Usual Forecast by Jurisdiction (MT CO_2e)



EMISSIONS REDUCTION TARGET

The WRCOG Subregional CAP establishes a community-wide emissions reduction target of 15% below 2010, following guidance from CARB and the Governor's Office of Planning and Research. CARB and the California Attorney General have determined this approach to be consistent with the state-wide AB 32 goal of reducing emissions to 1990 levels.[1] The Subregional CAP does not establish a reduction target for 2035 or future years; however the CAP identifies a reduction goal of 49% below baseline emissions levels to set the WRCOG subregion on a trajectory to meet targets identified in SB 375 and Executive Order (EO) S-3-05, recognizing that information, methodologies, and data availability may change between now and 2035.

As further described in Chapter 4, progress toward achieving the 2020 emissions reduction target will be monitored over time through preparation of an annual memorandum documenting program implementation and performance. Following each annual report, WRCOG and the participating jurisdictions may adjust or otherwise modify the strategies to achieve the reductions needed to reach the target. Such adjustments could include more prescriptive measures, reallocation of funding to more

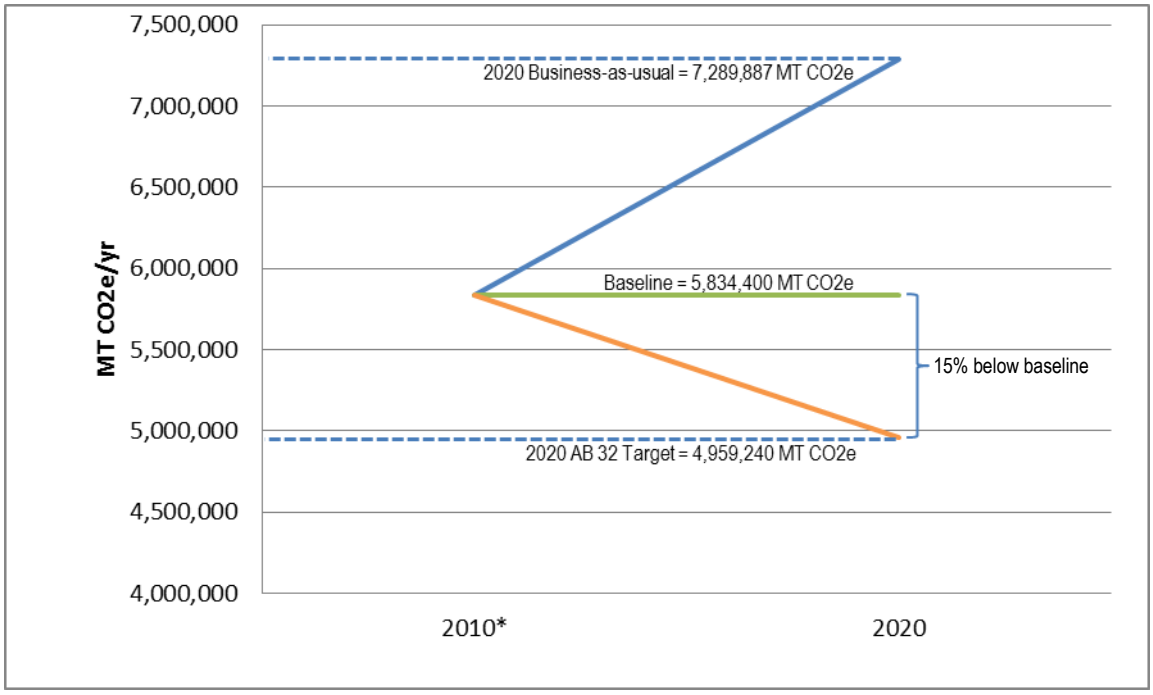
[1] In its Climate Change Scoping Plan of September 2008, CARB recommends that local governments adopt a GHG reduction target consistent with the State's commitment to reach 1990 levels by 2020. This is identified as equivalent to either 15% below 2005 levels by 2020 or a 28% reduction below BAU forecasts by 2020.

successful programs, and modifications to the 2020 BAU emissions projection and reduction target based on revised population, housing, and employment growth estimates. Additionally, there will be a comprehensive inventory update prior to 2020 to track overall progress toward meeting the GHG reduction target.

COMMUNITY EMISSIONS TARGET

The Subregional CAP target for community emissions in 2020 is 4,959,240 MT CO_2e equivalent to a 15% reduction from 2010 baseline emissions of 5,834,400 MT CO_2e. This is a net a reduction of 2,330,647 MT CO_2e from the 2020 BAU emissions forecast of 7,289,887 MT CO_2e. The community-wide emissions reduction target is shown in **Figure 2-7**. As outlined in the next chapter, CAP strategies are expected to reduce community-wide emissions by 2,480,559 MT CO_2e by 2020, exceeding the target by approximately 2.6% (for a total 17.6% reduction).

Figure 2-7: WRCOG Subregion–Community GHG Business as Usual Forecasts and Reduction Target for 2020



*2010 is used as baseline year for all jurisdictions except for the cities of Eastvale and Jurupa Valley, as noted previously.

Chapter 3
Reduction Measures

The emissions projections described in Chapter 2 illustrate the need for the subregion to implement strategies to reduce greenhouse gas (GHG) emissions by 2020 and beyond. Western Riverside County jurisdictions have a long history of working collectively through WRCOG toward common objectives, and have successfully demonstrated commitment to reduce energy and water consumption, solid waste, and vehicle miles traveled (VMT) through existing programs like the HERO Program, the Western Riverside County Clean Cities Coalition, and the Transportation Unified Mitigation Fee (TUMF).

This chapter discusses how participating jurisdictions are uniting to meet shared GHG emissions reduction goals. The approach offers flexibility to jurisdictions to participate at a level that is feasible and practical for each community.

PROCESS AND OVERVIEW

The process of developing this Subregional Climate Action Plan (CAP) included ongoing coordination and information sharing among participating jurisdictions. The WRCOG Planning Directors' Technical Advisory Committee (PD TAC) served as the primary technical working group. The PD TAC met regularly over the course of three years to discuss the CAP and provide feedback. Perspectives from jurisdictions participating in this CAP and those in the subregion who had already prepared a CAP were shared. In addition, WRCOG staff met individually with each participating jurisdiction to review emissions inventories, discuss potential emissions reduction measures and participation levels, and review the Draft CAP. Regular presentations were made to the WRCOG Public Works Committee, Technical Advisory Committee, and Executive Committee to keep jurisdictional staff, management officials, and elected leaders informed.

The following stakeholder agencies and organizations served as advisors throughout the process:

- American Lung Association
- Building Industry Association – Riverside County Chapter
- California Apartment Association – Apartment Association of the Greater Inland Empire
- California Air Resources Board

- Caltrans, District 8
- The Governor's Office of Planning & Research
- Riverside County Department of Public Health
- Riverside County Transportation Commission
- Riverside Transit Agency
- Safe Routes to School – Southern California Regional Network
- Southern California Edison
- South Coast Air Quality Management District
- Southern California Association Governments
- Southern California Gas Company
- TransForm

Why a "subregional" Climate Action Plan?

Developing a subregional CAP encourages input and coordination among participating jurisdictions. A subregional CAP uses consistent methodologies and allows jurisdictions to collaboratively implement regionally-effective measures. This creates economies of scale and may lead to lower administrative costs and greater publicity of incentives. It also demonstrates that WRCOG member jurisdictions can continue to work effectively towards common goals.

REDUCTIONS ACHIEVED

To meet emissions reduction targets, the CAP considers existing programs and policies in the subregion that achieve GHG emissions reductions in addition to new GHG reduction measures. Several proposed measures apply to participating jurisdictions uniformly, because they respond to adoption of a state law (e.g., the Low Carbon Fuel Standard) or result from programs administered at the discretion of a utility serving multiple jurisdictions (e.g. utility rebates). For other, more discretionary measures, participating jurisdictions have voluntarily committed to a participation level that could be implemented in their community. These levels—categorized and referred to for the purposes of this CAP as Silver, Gold, and Platinum—generally range from programs that a jurisdiction may promote through its website or outreach campaigns (Silver level), to programs that could be codified through local ordinances (Platinum level). Gold and Platinum levels have the benefit of achieving higher GHG reductions using fewer programs and often with less administrative burden to the jurisdiction. However, Silver level programs offer greater flexibility to determine how GHG reduction measures best fit individual projects.

MEASURE DEVELOPMENT

The GHG emissions reduction potential of each measure was estimated for jurisdictions participating at each level. Maximum participation in GHG reduction measures was encouraged, but jurisdictions were also encouraged to participate at a level that could be realistically achieved by 2020. As a result of the subregion's efforts, the 2020 reduction goal is achieved through implementation of the measures described below. Implementation of the CAP will result in a 15% reduction from the subregion's baseline (2010) emissions, consistent with State-recommended goals for local jurisdictions. Considering the large amount of anticipated growth in Western Riverside County, this equates to a 32% reduction below a business-as-usual (BAU) scenario. The CAP also looks beyond 2020 and demonstrates an ongoing commitment to reducing GHG emissions aligned with State-established goals included in SB 375 and Executive Order (EO) S-3-05. Continued implementation of the CAP beyond 2020 will place the subregion on a trajectory to reduce GHG emissions 49% below baseline emissions by 2035.

FEDERAL, STATE, AND REGIONAL EMISSIONS REDUCTIONS

Emissions reductions are achieved through the efforts of federal, State, and regional programs, in addition to local measures that jurisdictions will implement in their community. State and federal emissions reductions are primarily achieved through regulations, such as efficiency standards for passenger vehicles (e.g., the Corporate Average Fuel Economy standards), reduction in carbon content of transportation fuels (e.g., the Low Carbon Fuel Standard), and minimum renewable energy supply requirements for utilities (e.g., the Renewables Portfolio Standard). Measures regulated and implemented by the State and federal government achieve reductions without additional action by local communities. That is, even if vehicle miles traveled within the subregion remain constant over time, resulting GHG emissions would decrease because as new vehicles are purchased, they would in general be more GHG-efficient than those they replace.

Some State and federal programs also require local action within communities. The California Green Building Standards Code (CALGreen) requires, at a minimum, that new buildings and renovations in California meet certain design standards. New residential and commercial buildings must meet certain baseline efficiency and sustainability standards. These baselines are established through locally-adopted building codes and will result in GHG reductions. Additional voluntary building code provisions, known as Tier 1 and Tier 2 requirements, can be adopted locally, providing even greater energy savings and emissions reductions.

The Water Conservation Bill, known as SB X7-7, requires the State to reduce urban per capita water use 20% by 2020. Regional Urban Water Management Plans provide strategies and create incentives to achieve these targets, but local implementation strategies vary, and consumer participation is necessary to realize water use reductions. Local implementation strategies typically include tiered pricing or water budget-based (i.e., pricing water according to the amount consumed); water-efficient landscape requirements for water and irrigation management, planting location, and plant materials; and incentives where some utilities pay for turf grass removal and replacement with efficiently-irrigated landscaping.

Regional programs are those developed or administered at a level of government above the local jurisdiction but below the State. These programs often are more responsive to local context than statewide programs. They require local participation but do not require local administration to achieve GHG reductions.

The WRCOG HERO Program, described in Chapter 1, is a regionally-administered program that offers financing options for home and business owners to retrofit or install energy-efficient, water conservation, and/or renewable energy generating products. This program is voluntary and therefore also up to individuals to implement, but regional administration lowers the burden to local governments and has already led to demonstrable reductions in the subregion since the HERO Program's inception in 2011.

WRCOG also administers the TUMF Program. The TUMF Program establishes a funding source to mitigate the cumulative regional transportation impacts of new development on regional arterials. TUMF fees are collected locally, and WRCOG works with its member agencies to identify priority projects to fund using fee revenues in order to reduce subregional transportation impacts caused by development. Facilitating movement on roads, by encouraging non-motorized transportation, increasing access to transit, or easing congestion on critical roadways may lead to GHG reductions. Therefore,

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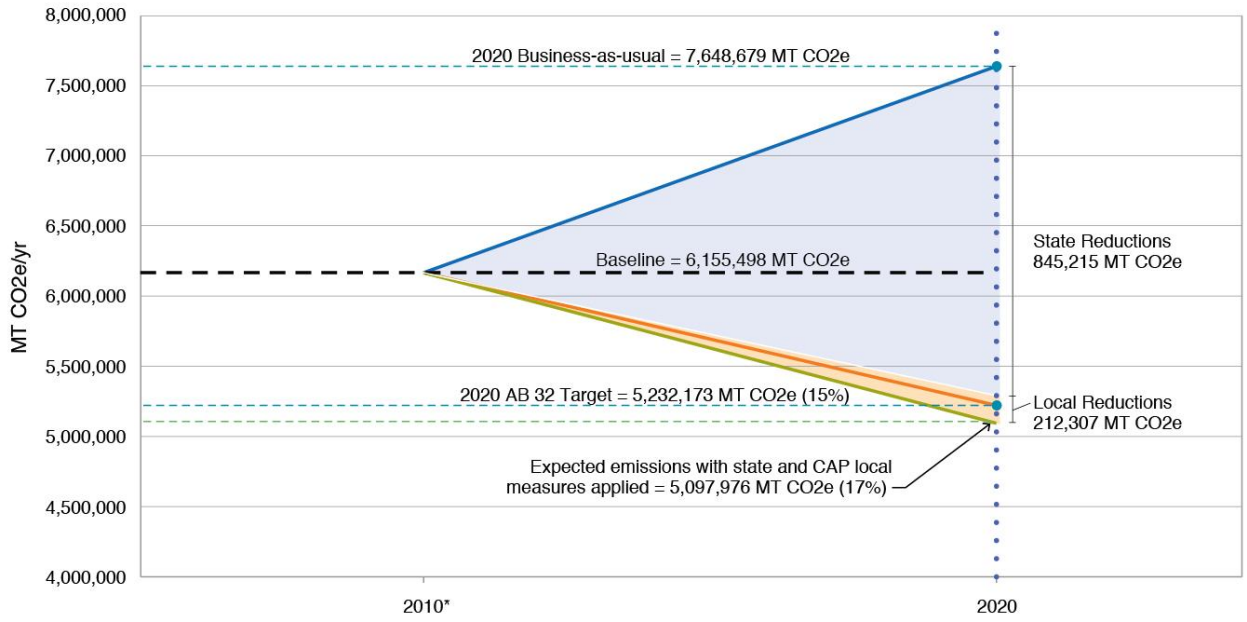
TUMF can fund projects that meet this objective. Because the project relies on locally-collected fees, available funding depends on the economic vitality and development opportunities in the region.

A number of other transportation-related programs and projects under the primary control of the Riverside Transit Agency (RTA), Riverside County Transportation Commission (RCTC), California Department of Transportation (Caltrans), and other transportation entities can be implemented to reduce GHG emissions. The long-term planning of major transportation infrastructure is not under the participating jurisdictions' direct control; however, subregional jurisdictions participate in transportation planning decisions in a way that benefits the subregion. Local jurisdictions are in direct control of land uses, which can dictate how future transit is shaped. Individuals also play an important role in how they choose to move throughout the subregion; therefore, while individual jurisdictions do not implement these programs, local input is critical to the success of these programs. Additional projects anticipated to result in GHG reductions include California High Speed Rail, Metrolink expansion, express lanes, congestion pricing, goods movement, high frequency transit service, and electric vehicle infrastructure implementation.

Through federal, state, and regional measures implemented at the subregion level, participating jurisdictions can reduce 2020 emissions by 1,980,815 $MTCO_2e$, representing 78% of the subregion's 2020 reductions, as illustrated in **Figure 3-1**.

Figure 3-1: WRCOG Subregion–GHG Reductions Achieved through State, Regional, and Local Measures



*2010 is used as baseline year for all jurisdictions except for the cities of Eastvale and Jurupa Valley, as noted previously.

LOCAL EMISSIONS REDUCTIONS

While federal, state, and regional measures are critical to meet emission reduction goals, choices made by each local government, resident, and business owner will determine the subregion's ability to

achieve the overall emissions reduction target. Through outreach campaigns, incentives, zoning changes, and ordinances, local communities can achieve additional reductions identified in this CAP.

Reduction measures are organized into major economic sectors, similar to the emissions inventory:

- Energy – including electricity and natural gas consumption
- Transportation and Land Use
- Water
- Waste

Each measure is described using the following information.

MEASURE DESCRIPTION

A general description of each measure is provided along with the implementing actions that constitute the Silver, Gold, or Platinum level that each participating jurisdiction will take to implement the measure. Jurisdictions are listed by level of participation.

What is a metric ton of CO_2e?

GHG emissions are reported as metric tons (MT) of CO_2e. Emitting 1 MT CO_2e is equal to the following:

- **102 gallons of gasoline**
- **41 propane cylinders used for home barbecues**
- **One month's worth of energy used in a house**

In contrast, reducing 1 MT CO_2e would require:

- **Growing 25 tree seedlings for 10 years**
- **Recycling 600 pounds of waste instead of throwing it away**

Note: Equivalencies are approximate and are adapted from: http://www.epa.gov/cleanenergy/energy-resources/calculator.html

GHG REDUCTIONS

The GHG reduction potential of each measure is quantified based on the assumption that past trends would continue into the future (e.g., energy consumption, VMT) and standard methods and assumptions recommended by the State (e.g., CAPCOA 2010)[1]. For voluntary programs, the level of participation anticipated by each jurisdiction was developed using case studies and evidence of success with similar programs.

PROGRESS METRICS

Monitoring emissions and reporting reductions will be necessary to validate the success of the measures or to identify measures that are not achieving anticipated reductions. Metrics for monitoring progress are provided for individual measures, although jurisdictions are also encouraged to work with WRCOG to re-inventory local government and community-wide emissions to demonstrate progress.

[1] California Air Pollution Control Officers Association Report titled Quantifying Greenhouse Gas Mitigation Measures (CAPCOA), 2010

COMMUNITY BENEFITS

CAP measures often have benefits that go beyond reducing GHG emissions. Many measures will improve public health by encouraging walking and biking or reducing air pollution; increase economic potential of the subregion by providing development and retrofitting incentives; reduce energy use and lower utility bills; preserve natural resources by consuming and wasting less; and increase mobility through alternative transportation measures. The following icons are used to identify co-benefits that jurisdictions can achieve by implementing local GHG reduction measures.

STATE AND REGIONAL MEASURES

Table 3-1 lists the state and regional measures included in the Subregional CAP and provides a breakdown of the GHG reduction potential for these measures.

Table 3-1: 2020 Reductions Achieved Through State and Regional Measures

State and Regional Measures by Sector		2020 (MT CO_2e/yr)
SR-1	Renewables Portfolio Standard	434,606
SR-2	2013 California Building Energy Efficiency Standards (Title 24, Part 6)	30,923
SR-3	HERO Residential Program	71,649
SR-4	HERO Commercial Program	10,079
SR-5	Utility Programs	9,182
SR-6	Pavley & Low Carbon Fuel Standard	1,095,555
SR-7	Metrolink Expansions	23,074
SR-8	Express Lanes	60,864
SR-9	Congestion Pricing	3,246
SR-10	Telecommuting	40,576
SR-11	Goods Movement	22,688
SR-12	Electric Vehicle Plan and Infrastructure	81,152
SR-13	Construction and Demolition Waste Diversion	3,574
SR-14	Water Conservation and Efficiency	23,192
TOTAL STATE AND REGIONAL REDUCTIONS		**1,910,361**

Note: Total may not add up due to rounding.

STATE AND REGIONAL ENERGY MEASURES

The following are state and regional measures that are expected to reduce GHG emissions associated with the energy sector.

Measure SR-1: Renewables Portfolio Standard

Utilities must secure 33% of their power from renewable sources.

2020 GHG Reduction Potential: 434,606 MT CO_2e/yr

Through a series of increasingly stringent bills first enacted in 2002, California has placed requirements on electric utilities to procure a portion of their energy from renewable sources. The standard, known as the Renewables Portfolio Standard (RPS), applies to investor-owned utilities, publicly-owned utilities, electricity service providers, and community choice aggregators. Therefore, all electricity-providing utilities in Western Riverside (SCE, Riverside Utility and Banning Utility) must meet these targets:

- 20% of retail sales from renewables by 2013
- 25% of retail sales from renewables by 2016
- 33% of retail sales from renewables by 2020

Meeting these goals will likely lead to reduced emissions associated with electricity, as more electricity will be generated by less carbon-intensive sources.

Community Benefits

DRAFT

Measure SR-2: 2013 California Building Energy Efficiency Standards (Title 24, Part 6)

Mandatory energy efficiency standards for buildings.

2020 GHG Reduction Potential: 30,923 MT CO_2e/yr

Building energy efficiency standards are designed to ensure new and existing buildings achieve energy efficiency and preserve outdoor and indoor environmental quality. These measures (Title 24, Part 6) are listed in the California Code of Regulations. These standards began in 1978 and are updated every 5 years. The 2013 standards differ from the 2008 standards by requiring usage of less energy for lighting, heating, cooling, ventilation, and water heating. Buildings are also required to be solar-ready, allowing for easier and less expensive installation of photovoltaic or solar thermal panels in the future. The California Energy Commission estimates that the 2013 standards will result in residential construction that is 25% more efficient and nonresidential construction that is 30% more efficient than the 2008 standards. The new standards go into effect on July 1, 2014 and as the industry moves toward the goal of net-zero energy, even greater energy and GHG savings may be achieved over time.

Community Benefits

Measure SR-3: HERO Residential Program

Financing for homeowners to make energy efficient, renewable energy, and water conservation improvements.

2020 GHG Reduction Potential: 71,649 MT CO_2e/yr

The HERO Program is a public-private partnership administered by WRCOG, offering financing to homeowners in the subregion for the installation of energy efficient, renewable energy, and water conservation improvements. This property assessed clean energy (PACE) financing program offers a continually expanding list of eligible products for financing and an ever-growing cadre of trained contractors who can assist property owners with selecting and installing eligible products. Products eligible for HERO Financing include, but are not limited to:

- Energy audits
- Insulation of attics, floors, walls, and home perimeter
- Lighting upgrades
- Drip and weather-based irrigation systems
- Rainwater catchment systems
- Pool pumps and heaters
- Energy-efficient windows
- Solar PV panels
- Air sealing and weatherization
- Cool roof system
- Cool wall coatings

This award-winning program is offered to eligible property owners in the WRCOG subregion who wish to participate.

WRCOG's Residential Program partner, Renovate America, collects data regarding participation, energy savings, renewable energy installation, job creation, and economic development by jurisdiction in the subregion. WRCOG will continue to partner with Renovate America to track ongoing participation and energy savings on a monthly or annual basis. Emissions reduction estimates for this CAP were calculated based on program participation assumptions developed by Renovate America. Since its inception in 2011, the HERO program has funded more than $135 million worth of eligible projects, and created more than 1,000 jobs. The program's growth has led to energy savings, GHG reductions, water conservation, and local job creation in each of its participating communities. The HERO program has also been an award-winning model for other PACE programs, earning recognition from various industry organizations including the Southern California Association of Governments, the U.S. Green Building Council, the Urban Land Institute, and the Governor of California.

Community Benefits

DRAFT

Measure SR-4: HERO Commercial Program

Financing for business owners to make energy efficient, renewable energy, and water conservation improvements.

2020 GHG Reduction Potential: 10,079 MT CO_2e/yr

The HERO Program is a public-private partnership administered by WRCOG, offering financing to business owners in the subregion for the installation of energy efficient, renewable energy, and water conservation improvements. This PACE financing program offers a continually expanding list of eligible products for financing and an ever-growing cadre of trained contractors who can assist property owners with selecting and installing eligible products. Products eligible for HERO Financing include, but are not limited to:

- Energy audits
- Insulation of attics, floors, walls, and home perimeter
- Lighting upgrades
- Drip and weather-based irrigation systems
- Rainwater catchment systems
- Pool pumps and heaters
- Energy-efficient windows
- Solar PV panels
- Air sealing and weatherization
- Cool roof system
- Cool wall coatings

This award-winning program is offered to eligible property owners in the WRCOG subregion who wish to participate.

Community Benefits

Measure SR-5: Utility Programs

Financing for business owners to make energy efficient, renewable energy, and water conservation improvements.

2020 GHG Reduction Potential: 9,182 MT CO_2e/yr

Southern California Edison (SCE), Southern California Gas Company (SCG), Riverside Public Utilities (RPU), and the Banning Electric Utility (BEU) provide energy to customers in the subregion. Each utility offers rebate programs to reduce energy consumption, which in turn, reduces local GHG emissions. The utilities offer a selection of rebates and other incentives to assist property owners (residential and commercial) with the installation of energy- and water-saving products. The following list provides a sample of programs and indicates which utilities are currently offering:

- ENERGY STAR™ appliance rebates – SCE, SCG, RPU, BEU
- Light bulb discounts – SCE
- Solar rebates – SCE, RPU
- Low-income programs – SCE, SCG, RPU, BEU
- Shade trees – RPU, BEU

Note: Some programs may have funding cycle and annual rebate limits; check with your local utility for up-to-date information regarding specific rebates.

These utility programs are provided to customers throughout the subregion and are managed at the discretion of each participating utility. Therefore, they do not have tiered implementation actions.

Community Benefits

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STATE AND REGIONAL TRANSPORTATION MEASURES

The following are state and regional measures that are expected to reduce GHG emissions associated with the transportation sector.

Measure SR-6: Pavley and Low Carbon Fuel Standard

Requirements for vehicles to use cleaner fuels.

2020 GHG Reduction Potential: 1,095,555 MT CO_2e/yr

In 2002, California adopted AB 1493, referred to as "Pavley I", which directed CARB to develop fuel-efficiency standards for passenger vehicles in California by 2005. Through a series of rulings, CARB and the federal government agreed on federal standards that began in 2009 and increase through 2016. CARB and the federal government are currently finalizing fuel-efficiency standards that continue to become increasingly-stringent from 2017 through 2025. Building from Pavley 1, Executive Order S-1-07, known as the Low Carbon Fuel Standard (LCFS), requires the carbon-intensity of California's transportation fuel to be reduced by at least 10% by 2020.

Community Benefits

Measure SR-7: Metrolink Expansion

Additional Metrolink transit service provided to Western Riverside County.

2020 GHG Reduction Potential: 23,074 MT CO_2e/yr

Identified in SCAG's 2012 RTP/SCS, the Metrolink Perris Valley Line will be extended from Riverside to Perris in Western Riverside County, allowing for alternative transportation, reducing VMT and GHG emissions in Western Riverside County. Service along this route is expected to begin in 2015.

Community Benefits

DRAFT

Measure SR-8: Express Lanes

Additional express lanes added along major freeways in Western Riverside County.

2020 GHG Reduction Potential: 60,864 MT CO_2e/yr

SCAG's analysis of critical corridors found inter-county trips account for over 50% of all trips. Ongoing congestion issues—and therefore increased idle time and GHG emissions—have led to SCAG proposing increasing the network of express lanes that connect counties, including Riverside County. Extension of express lanes along State Route-91 (SR-91) and Interstate-15 (I-15) would be operational by 2017 and 2020 respectively, and would lead to reduced congestion according to regional transportation modeling. The SR-91 extension project is currently under construction. The I-15 Toll Express Lanes from State Route-60 (SR-60) to Cajalco Road has entered the preliminary engineering phase, and the anticipated opening year is 2020.

Community Benefits

Measure SR-9: Congestion Pricing

Additional express lanes added along major freeways in Western Riverside County.

2020 GHG Reduction Potential: 3,246 MT CO_2e/yr

Transportation demand management (TDM) consists of methods used to encourage transportation other than single-occupancy vehicle travel at peak traffic times. TDM strategies and are generally categorized as "soft" or "hard" strategies. Soft mechanisms are incentive-based and include:

- Increasing the availability and use of carpooling, vanpooling, transit, bicycling, and walking;
- Shifting work schedules to non-peak periods or locations; and
- Using telecommuting.

Congestion pricing is a TDM tool examined by SCAG through its Express Travel Choices Study. Pricing mechanisms may include toll lanes/roads or mileage-based user fees, which discourage automobile traveling by increasing travel costs. Currently an expansion of the toll lanes on SR-91 is planned to continue these toll lanes through Corona and into Riverside.

The effectiveness of congestion pricing reflects the regional share of VMT reduction associated with this strategy, in addition to local actions. This approach accounts for the high degree of out-commuting that currently occurs in Western Riverside County as residents travel to jobs in Los Angeles, San Bernardino, and Orange Counties. Since many TDM strategies will be implemented at employment locations instead of residential locations, a separate accounting is needed in addition to the jurisdiction-specific TDM strategies identified in this Subregional CAP.

Community Benefits

DRAFT

Measure SR-10: Telecommuting

Additional express lanes added along major freeways in Western Riverside County.

2020 GHG Reduction Potential: 40,576 MT CO_2e/yr

Telecommuting is a soft TDM mechanism that has increased considerably over the past decade. According to SCAG, telecommuting could increase even more by 2020 (to 5% of workers in the region) and 2035 (to 10% of workers), from the current 2.6% that currently telecommute. By telecommuting, GHG emissions associated with vehicles no longer on the road are reduced, as are idling or congestion-related emissions from vehicles remaining on the road. Similar to **Measure SR-9: Congestion Pricing**, this strategy reflects the regional share of TDM strategies that may be implemented on a regional level given the high degree of out-commuting that occurs in Western Riverside County.

Community Benefits

Measure SR-11: Goods Movement

Efficient movement of goods through inland Southern California.

2020 GHG Reduction Potential: 22,688 MT CO_2e/yr

Southern California is a major hub for importing and exporting goods. SCAG estimates that over $2 trillion in cargo was moved across the region in 2010 alone, much of which travels through inland Southern California, including Western Riverside County. However, the many warehouses and distribution facilities employ non-passenger vehicles that contribute to GHG emissions. At the state level, more standards are being implemented to increase vehicle efficiencies and the 2012 RTP/SCS and AQMD are supporting greater penetration of low-emission trucks in the region. While goods will continue to be moved to support local and regional economies, electrification and other low-emission technologies installed in vehicles can reduce the GHG emissions of goods movement. The GHG reductions estimated here account for the region's "share" of SCAG and AQMD's anticipated investments and the effect of the investment on GHG emissions. These investments include both policies as well as physical improvements such as "truck climbing" lanes on State Route-60 (SR-60), funded by RCTC.

Community Benefits

DRAFT

Measure SR-12: Electric Vehicle Plan and Infrastructure

Facilitate electric vehicle use by providing necessary infrastructure.

2020 GHG Reduction Potential: 81,152 MT CO_2e/yr

SCAG has developed a regional plug-in electric vehicle (PEV) readiness plan, and WRCOG has a similar subregional plan for PEV readiness. Together, these plans identify viable locations for charging stations, changes to development codes, and other strategies to encourage the purchase and use of electric vehicles. PEV chargers are already being installed in the WRCOG subregion. Through these plans and outreach efforts, alternative-fuel vehicles will be promoted as one strategy to reduce GHG emissions associated with passenger vehicles. This measure is anticipated to reduce nearly 82,000 MT CO_2e in participating jurisdictions by 2020.

Community Benefits

STATE SOLID WASTE MEASURE

The following state measure is expected to reduce GHG emissions associated with the solid waste sector.

Measure SR-13: Construction & Demolition Waste Diversion

Mandatory requirement to divert 50% of construction and demolition waste from the landfill waste stream.

2020 GHG Reduction Potential: 3,574 MT CO_2e/yr

Recycling construction and demolition materials reduces GHG emissions by removing material from landfills that would otherwise generate methane. Construction and demolition (C&D) waste recycling also may reduce the need to harvest and transport new raw construction materials, as recycled materials can be locally repurposed and reused. For growing areas like the WRCOG subregion, C&D waste accounts for a significant portion of the waste stream.

Effective July 1, 2012, CALGreen, the state's Green Building Standards Code, requires jurisdictions to divert a minimum of 50% of their nonhazardous C&D waste from landfills.

Community Benefits

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STATE AND REGIONAL WATER MEASURES

The following state measure is expected to reduce GHG emissions associated with the water sector.

Measure SR-14: Water Conservation and Efficiency

State requirement to reduce urban per capita water use.

2020 GHG Reduction Potential: 23,192 MT CO_2e/yr

SB X7-7 is part of a California legislative package passed in 2009 that requires urban retail water suppliers to reduce per-capita water use by 10% from a baseline level by 2015, and to reduce per-capita water use by 20% by 2020. In Southern California, energy costs and GHG emissions associated with the transport, treatment, and delivery of water from outlying regions are high. Therefore, the region has extra incentive to reduce water consumption. While this is considered a state measure, it will be up to the local water retailers, jurisdictions, and water users to meet these targets. A number of policies have been established at the local level within the subregion requiring more efficient use of water, including landscape ordinances that require native or low-irrigation landscaping. Water retailers also offer resources that incentivize purchase of high-efficiency appliances and provide information on best management practices, landscaping, and the use of recycled and gray water systems.

Community Benefits

LOCAL REDUCTION MEASURES

Table 3-2 lists the local measures included in the Subregional CAP and provides a breakdown of the GHG reduction potential for these local measures.

Table 3-2: 2020 Reductions Achieved from Local Measures

Local Measures by Sector		2020 Reductions Achieved (MT CO_2e/yr)
E-1	Energy Action Plans	357,581
E-2	Traffic and Street Lights	4,697
E-3	Shade Trees	2,014
Energy Subtotal		***364,292***
T-1	Bicycle Infrastructure Improvements	29,255
T-2	Bicycle Parking	6,290
T-3	End of Trip Facilities	1,836
T-4	Promotional Transportation Demand Management	1,831
T-5	Transit Service Expansion	704
T-6	Transit Frequency Expansion	2,723
T-7	Traffic Signal Coordination	94,600
T-8	Density	2,857
T-9	Mixed-Use Development	4,069
T-10	Design/Site-Planning	912
T-11	Pedestrian Only Areas	2,812
T-12	Limited Parking Requirements for New Development	28,423
T-13	High Frequency Transit Services	1,801
T-14	Voluntary Transportation Demand Management	2,464
T-15	Accelerated Bike Plan Implementation	5,340
T-16	Fixed Guideway Transit	10,489
T-17	Neighborhood Electric Vehicle Programs	4,707
T-18	Subsidized Transit	3,628
Transportation Subtotal		***204,744***
SW-1	Yard Waste Collection	1,007
SW-2	Food Scrap and Paper Diversion	155
Solid Waste Subtotal		***1,162***
TOTAL LOCAL ACTION REDUCTIONS		**570,199**

LOCAL ENERGY MEASURES

The following are local measures that can be implemented to reduce GHG emissions associated with the energy sector. As described in Chapter 1, at the time this CAP was developed 11 jurisdictions were participating in the Western Riverside Energy Leader Partnership (WRELP) Program, which includes the development of municipal and community-wide Energy Action Plans (EAPs) for these jurisdictions (**Table 1-1**). Measure E-1 includes the aggregate total GHG reduction potential for the 11 WRELP jurisdictions implementing the EAPs, while Measures E-2 and E-3 describe the GHG reduction potential from energy strategies implemented by the 4 jurisdictions included in this Subregional CAP that were not WRELP jurisdictions at the time of this CAP development.

Measure E-1: Energy Action Plans

Improve municipal and community-wide energy efficiency and reduce energy consumption through the adoption of local Energy Action Plans (EAP).

2020 GHG Reduction Potential: 357,581 MT CO_2e/yr

In 2011, Southern California Edison (SCE) provided funding to WRCOG to implement the California Long-Term Energy Efficiency Strategic Plan (CEESP) developed by the California Energy Commission. WRCOG and 11 participating jurisdictions established the WRELP Program and adopted energy efficiency targets and programs to meet those targets, which will reduce utility costs and GHG emissions associated with the energy use at the municipal and community level (**Table 1-1**). These targets and actions are captured in each jurisdiction's EAP. The EAPs use a similar approach to that described in this CAP, but only address emissions and GHG reductions associated with the energy sector. The CAP contains similar energy-efficiency actions for non-EAP jurisdictions.

By implementing the proposed efficiency measures, jurisdictions demonstrate the potential economic, social, and environmental benefits of increasing energy efficiency and providing environmental stewardship within the community.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
This measure does not include tiered implementation actions. Each WRELP jurisdiction has individual energy-conserving measures and actions in its EAP. Energy sector reductions anticipated in each jurisdiction's EAP are captured within this local CAP measure, and will be tracked and reported in conjunction with the measures proposed within the CAP for non-WRELP jurisdictions.		357,581

	PROGRESS INDICATORS	YEAR
1	Each WRELP jurisdiction has received a tracking and monitoring tool, which identifies the jurisdiction's energy usage projections and goals, and provides a user-friendly workbook to evaluate emissions annually. Each jurisdiction has its own monitoring tool, but the assumptions used are consistent across all tools in the subregion and can be aggregated for subregional monitoring and reporting.	2020

Measure E-2: Traffic and Street Lights

Replace traffic and street lights with high-efficiency bulbs.

2020 GHG Reduction Potential: 4,697 MT CO_2e/yr

Similar to many household light fixtures, traffic lights are typically illuminated with inefficient incandescent bulbs. Street lights commonly use high-pressure sodium (HPS) bulbs, which also produce light inefficiently. Newer lighting technology, such as light-emitting diodes (LEDs), last significantly longer than traditional incandescent or HPS bulbs, and use much less energy to perform the same task. Jurisdictions can install LEDs in their traffic signals and upgrade street light fixtures to accommodate LEDs or other high-efficiency bulbs to lower municipal utility costs and reduce maintenance costs associated with bulb replacement.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	100% of traffic and street lights converted to high-efficiency bulbs by 2020. Banning, Jurupa Valley, Riverside	4,697
GOLD LEVEL	75% of traffic and street lights converted to high-efficiency bulbs by 2020. No jurisdictions participating at this level.	0
SILVER LEVEL	50% of traffic and street lights converted to high-efficiency bulbs by 2020. No jurisdictions participating at this level.	0

PROGRESS INDICATORS		YEAR
1	Banning: 1.02 million kWh/year in savings from Freeway Lighting and Streetlights subsectors of Local Government GHG Inventory. (Appendix X)	2020
2	Jurupa Valley: 11,000 kWh/year in savings from Streetlights subsector of Local Government GHG Inventory. (Appendix X)	2020
3	Riverside: 1.26 million kWh/year in savings from Streetlights and Traffic Signals/Controllers subsector of Local Government GHG Inventory. (Appendix X)	2020

Community Benefits

Measure E-3: Shade Trees

Strategically plant trees to reduce the urban heat island effect.

2020 GHG Reduction Potential: 2,014 MT CO_2e/yr

Planting additional trees in urban environments has a number of benefits, including lowering peak-load energy demands during the hottest months, enhancing the visual aesthetic of a community, and naturally sequestering carbon dioxide. Properly selected and located shade trees can help keep indoor temperatures low, thereby reducing air conditioner demands and utility costs. Trees can also provide shade for parking lots and other paved areas, reducing the urban heat island effect communitywide.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Shade trees are required for all new development or redevelopment. Eastvale, Jurupa Valley	638
GOLD LEVEL	Subsidized program to support planting jurisdiction-identified shade tree species. Banning, Riverside	1,376
SILVER LEVEL	Outreach program to promote the benefits of planting additional trees in urban environments. No jurisdictions participating at this level.	0

	PROGRESS INDICATORS	YEAR
1	Banning: 4,300 new shade trees by 2020	2020
2	Eastvale: 12,400 new shade trees by 2020	2020
3	Jurupa Valley: 20,000 new shade trees by 2020	2020
4	Riverside: 62,900 new shade trees by 2020	2020

Community Benefits

LOCAL TRANSPORTATION MEASURES

The following are local measures that can be implemented to reduce GHG emissions associated with the transportation sector.

Measure T-1: Bicycle Infrastructure Improvements

Expand on-street and off-street bicycle infrastructure, including bicycle lanes and bicycle trails.

2020 GHG Reduction Potential: 29,255 MT CO_2e/yr

By providing more bicycle lanes and better connections between existing bicycle lanes, WRCOG jurisdictions can increase the viability of bicycling as an emission-free commute option. Several WRCOG jurisdictions have adopted or are preparing bicycle master plans. Implementing these plans will increase alternative transportation options in the sub-region and can reduce vehicle miles traveled and congestion for vehicles. Community health benefits from increased bicycling include improved air quality and exercise.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Implement a 50% increase in bicycle lane mileage from baseline levels. Riverside	15,905
GOLD LEVEL	Implement a 25% increase in bicycle lane mileage from baseline levels. No participating jurisdictions at this level.	0
SILVER LEVEL	Implement a 10% increase in bicycle lane mileage from baseline levels. Banning, Canyon Lake, Eastvale, Hemet, Jurupa Valley, Norco, Perris, San Jacinto, Temecula, Wildomar	13,350

PROGRESS INDICATORS		YEAR
1	Annual percentage increase in bicycle lane mileage from baseline levels.	2020

Community Benefits

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Measure T-2: Bicycle Parking

Provide additional options for bicycle parking.

2020 GHG Reduction Potential: 6,290 MT CO_2e/yr

Safe and convenient bicycle parking is a relatively low-cost action that leads to a demonstrated shift from automobile use to bicycle use. Helping business owners understand the potential benefits of bicycle parking and requiring new development projects to include bike racks as a condition of approval can facilitate implementation of this measure.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Amend zoning to require provision of bike parking for all multi-family or mixed-use projects consisting of a mix of residential, retail, and office space. Calimesa, Canyon Lake, Eastvale, Hemet, Jurupa Valley, Norco, Perris, Riverside, San Jacinto, Temecula, Wildomar	6,152
GOLD LEVEL	Amend zoning to require provision of bike parking for multi-family projects consisting of more than 50 dwelling units, and mixed-use projects greater than 50,000 square feet consisting of a mix of residential, retail, and office space. Banning	138
SILVER LEVEL	Provide information to applicants for large development projects describing the benefits of bike parking. No jurisdictions participating at this level.	0

PROGRESS INDICATORS	YEAR
1 Annual number of new bike parking spaces installed.	2020

Community Benefits

Measure T-3: End of Trip Facilities

Encourage use of non-motorized transportation modes by providing appropriate facilities and amenities for commuters.

2020 GHG Reduction Potential: 1,836 MT CO_2e/yr

End-of-trip commuter facilities further incentivize alternative transportation modes, such as walking and biking. Such facilities commonly include showers, changing rooms, lockers, and bike racks.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Amend zoning to require installation of end-of-trip facilities for new commercial buildings greater than 50,000 square feet. Riverside	1,119
GOLD LEVEL	Amend zoning to require installation of end-of-trip facilities for new commercial buildings greater than 100,000 square feet. Banning, Jurupa Valley, Perris	391
SILVER LEVEL	Provide information to commercial project applicants describing the benefits of installing end-of-trip facilities. Calimesa, Canyon Lake, Eastvale, Hemet, San Jacinto, Temecula, Wildomar	326

PROGRESS INDICATORS		YEAR
1	Annual number of development projects installing end-of-trip facilities.	2020

Community Benefits

DRAFT

Measure T-4: Promotional Transportation Demand Management

Encourage Transportation Demand Management strategies.

2020 GHG Reduction Potential: 1,831 MT CO_2e/yr

Transportation demand management (TDM) describes strategies to reduce demand for roadway travel, particularly in single-occupancy vehicles. TDM strategies can include both "carrot" and "stick" approaches to change travel behavior patterns. Specific examples include preferential parking for carpoolers and parking pricing.

While SCAG offers regional approaches such as high-occupancy vehicle lanes, this measure focuses on efforts by individual existing business owners in the WRCOG sub-region to develop TDM strategies, such as parking "cash out" programs and allowing telecommuting. Several TDM strategies can be offered; often, multiple programs can enhance one another rather than being redundant. In addition to reducing GHG emissions, TDM strategies often ease congestion and improve air quality.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Allocate a full-time staff person to promote TDM strategies to existing businesses. No jurisdictions participating at this level.	0
GOLD LEVEL	Allocate the equivalent of ½ of a full- time staff person to promote TDM strategies to existing businesses. No jurisdictions participating at this level.	0
SILVER LEVEL	Train an existing staff person to promote TDM strategies to existing business. Eastvale, Hemet, Jurupa Valley, Norco, Riverside	1,831

PROGRESS INDICATORS	YEAR
1 Number of jurisdictions with full-time or part-time staff promoting TDM programs to be established through an annual survey conducted by WRCOG.	2020

Community Benefits

Measure T-5: Transit Service Expansion

Collaborate with local and regional transit providers to increase transit service provided in the subregion.

2020 GHG Reduction Potential: 704 MT CO_2e/yr

It will be crucial for jurisdictions anticipating growth to coordinate with the Riverside Transit Agency (RTA) and Banning Pass Transit to appropriately expand service. Several jurisdictions have identified a need for additional transit service and are working with RTA to identify critical investments to maximize ridership. Increased transit ridership improves air quality as fewer single-occupancy vehicles use the roadways, improves traffic flow for remaining vehicles, and offers mobility to low-income and other disadvantaged communities. Information related to this measure may be updated upon completion of the RTA Forward 10-Year Transit Plan, a comprehensive operational analysis that will guide RTA's bus route and service decisions in future years.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Work with RTA to increase fixed-route service miles by 20% by 2020. No jurisdictions participating at this level.	0
GOLD LEVEL	Work with RTA to increase fixed-route service miles by 10% by 2020. Eastvale, Norco	324
SILVER LEVEL	Work with RTA to increase fixed-route service miles by 5% by 2020. Banning, Jurupa Valley, Temecula, Wildomar	380

PROGRESS INDICATORS	YEAR
1 Annual miles of fixed-route service provided by RTA	2020

Community Benefits

Measure T-6: Transit Frequency Expansion

Collaborate with local and regional transit providers to provide more frequent transit in the subregion.

2020 GHG Reduction Potential: 2,723 MT CO_2e/yr

Future annual transit ridership is expected to grow by 3.5% across the nation, and many transportation systems are already operating beyond their capacity (APTA 2010). In addition to expanding service, transit agencies will need to increase service frequency by reducing headways or the time between buses on existing routes. . WRCOG jurisdictions are working with RTA and Banning Pass Transit to share information regarding anticipated land development patterns and to maximize service frequency investments. Similar to transit service expansion, this measure provides air quality and mobility co-benefits by reducing the number of single-occupancy vehicles on the road. Information related to this measure may be updated upon completion of the RTA Forward 10-Year Transit Plan, a comprehensive operational analysis that will guide RTA's bus route and service decisions in future years. This measure differs from T-5 in that it considers service improvements along existing routes.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Work with RTA to increase fixed-route service frequency by 20% over baseline levels in transit priority areas as defined by SCAG in the RTP/SCS. Perris	698
GOLD LEVEL	Work with RTA to increase fixed-route service frequency by 10% over baseline levels in transit priority areas as defined by SCAG in the RTP/SCS. Eastvale	241
SILVER LEVEL	Work with RTA to increase fixed-route service frequency by 5% over 2010 levels in transit priority areas as defined by SCAG in the RTP/SCS. Banning, Jurupa Valley, Norco, Temecula, Wildomar	1,784

PROGRESS INDICATORS	YEAR
1 Percentage change in average annual fixed-route service frequency in transit priority areas compared to baseline levels.	2020

Community Benefits

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Measure T-7: Traffic Signal Coordination

Incorporate technology to synchronize and coordinate traffic signals along local arterials.

2020 GHG Reduction Potential: 94,600 MT CO_2e/yr

Traffic signal coordination describes a method of timing groups of traffic signals along an arterial to provide smooth movement of traffic with minimal stops. This technique reduces motorist stops and delays, lowers the amount of fuel need to move a certain distance, and reduces GHG emissions. Signal coordination also lessens congestion and resulting tail pipe emissions, which reduces GHG emissions and improves air quality.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Coordinate traffic signals on an additional 50% of arterial roads which were not coordinated in the base year. Canyon Lake, Perris, Riverside, Temecula	78,318
GOLD LEVEL	Coordinate traffic signals on an additional 25% of arterial roads which were not coordinated in the base year. Banning, Hemet, San Jacinto	10,131
SILVER LEVEL	Coordinate traffic signals on an additional 10% of arterial roads which were not coordinated in the base year. Eastvale, Jurupa Valley, Wildomar	6,151

PROGRESS INDICATORS	YEAR
1 Annual percentage of arterial roads with signal coordination which were not coordinated in the base year.	2020

Community Benefits

Measure T-8: Density

Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities.

2020 GHG Reduction Potential: 2,857 MT CO_2e/yr

Density describes the number of people, jobs, or housing units in a given area. Increasing density generally results in shorter distances between locations, making transit and non-motorized transportation options such as walking and biking more viable. GHG emissions associated with vehicle miles traveled (VMT) are reduced as more individuals choose alternative transportation modes. Increases in density must generally fit within assumptions of a jurisdiction's General Plan, although amendments can be made to increase density in certain areas.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Achieve a 25% increase in community-wide household and employment density over baseline conditions by 2020. No jurisdictions participating at this level.	0
GOLD LEVEL	Achieve a 10% increase in community-wide household and employment density over baseline conditions by 2020. Perris, Riverside, Temecula	2,054
SILVER LEVEL	Achieve a 5% increase in community-wide household and employment density over baseline conditions by 2020. Eastvale, Hemet, Jurupa Valley, Norco, San Jacinto, Wildomar	803

PROGRESS INDICATORS	YEAR
1 Annual percentage change in community-wide household and employment density compared to baseline conditions	2020

Community Benefits

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Measure T-9: Mixed-Use Development

Provide for a variety of development types and uses.

2020 GHG Reduction Potential: 4,069 MT CO_2e/yr

Development can occur in many forms, ranging from single-family homes on large plots of land to multi-family housing with high vertical construction for residential areas, and single-use to multi-use zoning for commercial properties. While land development choices are typically made at the household or business level, recent studies show that individuals are more frequently demanding higher-density, multi-use regions that are more walkable. Most WRCOG jurisdictions have identified portions of their communities where future higher-density development is desirable. Such development reduces both VMT and GHGs, as individuals can accomplish many tasks in a single mixed-use area. This also can improve community health by encouraging bicycling and walking, improve air quality by reducing tailpipe emissions, and increase the community's sense of place.

For the WRCOG subregion, mixed-use development is classified as having at least three of the following features either on-site or within ¼ mile:

- Residential development;
- Retail development;
- Park;
- Open space; or
- Office.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Achieve a 25% jobs/housing ratio improvement over baseline conditions. Eastvale, Jurupa Valley	1,897
GOLD LEVEL	Achieve a 10% jobs/housing ratio improvement over baseline conditions. Hemet, Perris	764
SILVER LEVEL	Achieve a 5% jobs/housing ratio improvement over baseline conditions Banning, Norco, Riverside, Temecula, Wildomar	1,408

PROGRESS INDICATORS	YEAR
1 Annual percentage change in jobs/housing ratio within new development areas compared to baseline conditions.	2020

Community Benefits

Measure T-10: Design/Site Planning

Design neighborhoods and sites to reduce VMT.

2020 GHG Reduction Potential: 912 MT CO_2e/yr

The design of projects affects travel behavior. Typical suburban development patterns feature longer blocks which often discourage walking and biking. Conversely, projects with shorter blocks and more frequent intersections have higher levels of walking, biking, and transit use. This higher use of non-motorized and alternative modes leads to a reduction in automobile use, VMT, and GHG emissions.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	25% increase in intersection density and reduction in block length in new development compared to the baseline countywide average. No jurisdictions participating at this level.	0
GOLD LEVEL	10% increase in intersection density and reduction in block length in new development compared to the baseline countywide average. No jurisdictions participating at this level.	0
SILVER LEVEL	5% increase in intersection density and reduction in block length in new development compared to the baseline countywide average. Hemet, Perris, Temecula	912

PROGRESS INDICATORS	YEAR
1 Annual percentage of neighborhood streets with traffic calming treatments installed.	2020

Community Benefits

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Measure T-11: Pedestrian-Only Areas

Encourage walking by providing pedestrian-only community areas.

2020 GHG Reduction Potential: 2,812 MT CO_2e/yr

Also referred to as an urban non-motorized zone, a pedestrian-only area restricts certain portions of a central business district or major activity center to non-motorized transportation.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Designate one additional major activity center in the community as a permanent pedestrian-only area over baseline conditions. Perris, Riverside	1,747
GOLD LEVEL	Designate one additional pedestrian-only area during weekends over baseline conditions. No jurisdictions participating at this level.	0
SILVER LEVEL	Designate one additional pedestrian-only area during weekends tied to a special event (e.g. farmer's market) over baseline conditions. Banning, Hemet, Jurupa Valley, Norco, San Jacinto, Temecula	1,065

PROGRESS INDICATORS	YEAR
1 Annual number of temporary or permanent pedestrian-only zones compared to baseline conditions.	2020

Community Benefits

Measure T-12: Limit Parking Requirements for New Development

Reduce requirements for vehicle parking in new development projects.

2020 GHG Reduction Potential: 28,423 MT CO_2e/yr

Limiting parking requirements for new development in certain areas may encourage alternative individual transportation choices, but caution should be taken to minimize the resulting incentive to travel to more distant locations with plenty of parking. This can be accomplished by:

- Eliminating (or reducing) minimum parking requirements;
- Creating maximum parking requirements; and
- Implementing shared parking.

Limiting parking requirements would encourage modes of transportation other than single-occupancy vehicles, thereby reducing VMT and GHG emissions. If these alternative transportation modes include walking and biking, mobility and health benefits would also be realized.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Amend zoning to reduce parking requirements for new non-residential development by 25% over baseline conditions. Riverside	17,482
GOLD LEVEL	Amend zoning to reduce parking requirements for new non-residential development by 10% over baseline conditions Jurupa Valley, Perris	6,093
SILVER LEVEL	Amend zoning to reduce parking requirements for new non-residential development by 5% over baseline conditions. Canyon Lake, Hemet, Norco, Temecula, Wildomar	4,848

PROGRESS INDICATORS	YEAR
1 Number of jurisdictions which have amended their parking requirements to reduce parking spaces required within new development or redevelopment areas.	2020

Community Benefits

Measure T-13: High Frequency Transit Service

Implement high frequency transit service in the subregion to provide alternative transportation options.

2020 GHG Reduction Potential: 1,801 MT CO_2e/yr

The WRCOG subregion is one of the fastest growing areas in California. As more residents and employees occupy the area, there will be increased need to move people efficiently in and out of the area. A high frequency transit system such as bus rapid transit (BRT) would provide an alternative to constructing more roadways and allow commuters and residents additional transportation options. Jurisdictions participating in this measure have an objective to work with RTA to identify corridors where BRT service would provide an effective and logical transportation option.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Work with RTA to offer high frequency transit service within three (3) corridors No jurisdictions participating at this level.	0
GOLD LEVEL	Work with RTA to offer high frequency transit service within two (2) corridors Eastvale, Riverside	1,640
SILVER LEVEL	Work with RTA to offer high frequency transit service within one (1) corridor Hemet	161

PROGRESS INDICATORS		YEAR
1	Number of corridors in which high frequency transit service has been implemented.	2020

Community Benefits

Measure T-14: Voluntary Transportation Demand Management

TDM describes strategies to reduce demand for roadway travel, particularly in single-occupancy vehicles. TDM strategies can include both "carrot" and "stick" approaches to change travel behavior patterns. Specific examples include preferential parking for carpoolers and parking pricing.

While SCAG offers regional approaches such as high-occupancy vehicle lanes, this measure focuses on efforts by individual existing business owners in the WRCOG subregion to develop TDM strategies, such as parking "cash out" programs and allowing telecommuting. Several TDM strategies can be offered; often, multiple programs can enhance one other rather than being redundant. In addition to reducing GHG emissions, TDM strategies often ease congestion and improve air quality.

2020 GHG Reduction Potential: 2,464 MT CO_2e/yr

Body text.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	50% of employees within the jurisdiction participate in voluntary TDM programs No jurisdictions participating at this level.	0
GOLD LEVEL	25% of employees within the jurisdiction participate in voluntary TDM programs Riverside	2,185
SILVER LEVEL	12.5% of employees within the jurisdiction participate in voluntary TDM programs Perris	279

PROGRESS INDICATORS	YEAR
1 Percentage of employees in each jurisdiction participating in voluntary TDM programs.	2020

Community Benefits

Measure T-15: Accelerated Bike Plan Implementation

Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan.

2020 GHG Reduction Potential: 5,340 MT CO_2e/yr

Several jurisdictions within WRCOG are currently implementing existing Bicycle Master Plans and/or Trails Plans. These plans outline a series of on-street and off-street facilities to increase bicycle use within the community. This measure addresses accelerated implementation of these Master Plans to provide additional facilities by 2020 beyond those identified in Measure T-1.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Install 75% of all bicycle facility miles identified in jurisdiction's Bike Plan by 2020 Riverside	3,496
GOLD LEVEL	Install 50% of all bicycle facility miles identified in jurisdiction's Bike Plan by 2020 No jurisdictions participating at this level.	0
SILVER LEVEL	Install 25% of all bicycle facility miles identified in jurisdiction's Bike Plan by 2020 Hemet, Perris, Temecula, Wildomar	1,844

NOTE: Reductions are assumed to be 1/2 of total reduction for bicycle infrastructure measure.

PROGRESS INDICATORS	YEAR
1 Annual % of bicycle facility miles identified in jurisdiction's Bike Plan installed	2020

Community Benefits

Measure T-16: Fixed Guideway Transit

Introduce a fixed-route transit service in the jurisdiction.

2020 GHG Reduction Potential: 10,489 MT CO_2e/yr

This measure applies specifically to the City of Riverside's efforts to conduct a preliminary engineering and economic study for a proposed Streetcar. This Streetcar would provide fixed-route transit service through the City of Riverside, providing access to major destinations such as the University of California, Riverside, Downtown Riverside, and other major destinations throughout the city. The City would plan, design, construct, and operate the streetcar.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Implement a fixed-guideway transit system. Riverside	10,489
GOLD LEVEL	N/a No jurisdictions participating at this level.	0
SILVER LEVEL	N/a No jurisdictions participating at this level.	0

PROGRESS INDICATORS	YEAR
1 Annual community-wide fixed guideway transit ridership.	2020

Community Benefits

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Measure T-17: Neighborhood Electric Vehicle Programs

Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure.

2020 GHG Reduction Potential: 4,707 MT CO_2e/yr

Neighborhood electric vehicles (NEVs) emit fewer GHGs than traditional passenger vehicles and reduce local air pollution. NEVs generally are used in areas with speed limits of 35 miles per hour or less for relatively short (less than 30 miles) trips. This measure introduces development requirements for signage and educational programs related to the use of NEVs consistent with state regulations.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Provide dedicated NEV facilities within the community. No jurisdictions participating at this level.	0
GOLD LEVEL	Adopt a comprehensive NEV program including signage for NEVs and an educational program related to the use of NEVs. Riverside	3,496
SILVER LEVEL	Adopt an educational program related to the use of NEVs. Hemet	1,211

PROGRESS INDICATORS	YEAR
1 Number of jurisdictions which have implemented NEV plans.	2020

Community Benefits

Measure T-18: Subsidized Transit

Increase access to transit by providing free or reduced passes.

2020 GHG Reduction Potential: 3,628 MT CO_2e/yr

One approach to increase transit use within a jurisdiction is lowering the cost of using transit. Within Western Riverside County, the typical approach has been to provide reduced cost transit passes such as those provided by several universities. This approach is generally targeted at groups such as students or seniors who may lack access to vehicles.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Provide subsidized or discounted transit passes to 3% of residents, students, and employees living, working, or going to school in the community. Riverside	3,496
GOLD LEVEL	Provide subsidized or discounted transit passes to 2% of residents, students, and employees living, working, or going to school in the community. No jurisdictions participating at this level.	0
SILVER LEVEL	Provide subsidized or discounted transit passes to 1% of residents, students, and employees living, working, or going to school in the community. Norco	132

PROGRESS INDICATORS	YEAR
1 Annual number of discounted transit passes provided per total of residents, students, and employees living, working, or going to school in the community.	2020

Community Benefits

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LOCAL SOLID WASTE MEASURES

The following are local measures that can be implemented to reduce GHG emissions associated with the solid waste sector.

Measure SW-1: Yard Waste Collection

Provide green waste collection bins community-wide.

2020 GHG Reduction Potential: 1,007 MT CO_2e/yr

All jurisdictions in the subregion offer green waste collection bins for residential yard waste. Diverting yard waste from landfills helps to extend the life of area landfills. In addition, grass clippings and leaves can be composted into nutrient-rich topsoil amendments, and branches can be chipped into mulch for reuse in landscaping. Removing beneficial organic materials from landfills also helps avoid the creation of landfill methane, a potent GHG.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Adopt an ordinance prohibiting deposit of yard waste in the solid waste stream. No jurisdictions participating at this level.	0
GOLD LEVEL	Provide residential green waste bins for collection and transport to an organic waste processing facility. Banning, Calimesa, Canyon Lake, Eastvale, Hemet, Jurupa Valley*, Norco, Perris, Riverside, San Jacinto, Temecula, Wildomar	1,007
SILVER LEVEL	Conduct an outreach campaign promoting the benefits of yard waste collection, without provision of green waste bins. No jurisdictions participating at this level.	0

*Jurupa Valley offers yard waste collection bins, however waste emissions were not quantified within the jurisdiction's inventory due to lack of available data. Therefore, yard waste reductions for Jurupa Valley are not included within this CAP.

PROGRESS INDICATORS	YEAR
1 Achievement of 95% diversion of residential yard waste from landfill waste stream.	2020

Community Benefits

Measure SW-2: Food Scrap and Compostable Paper Diversion

Divert food and paper waste from landfills by implementing collection system.

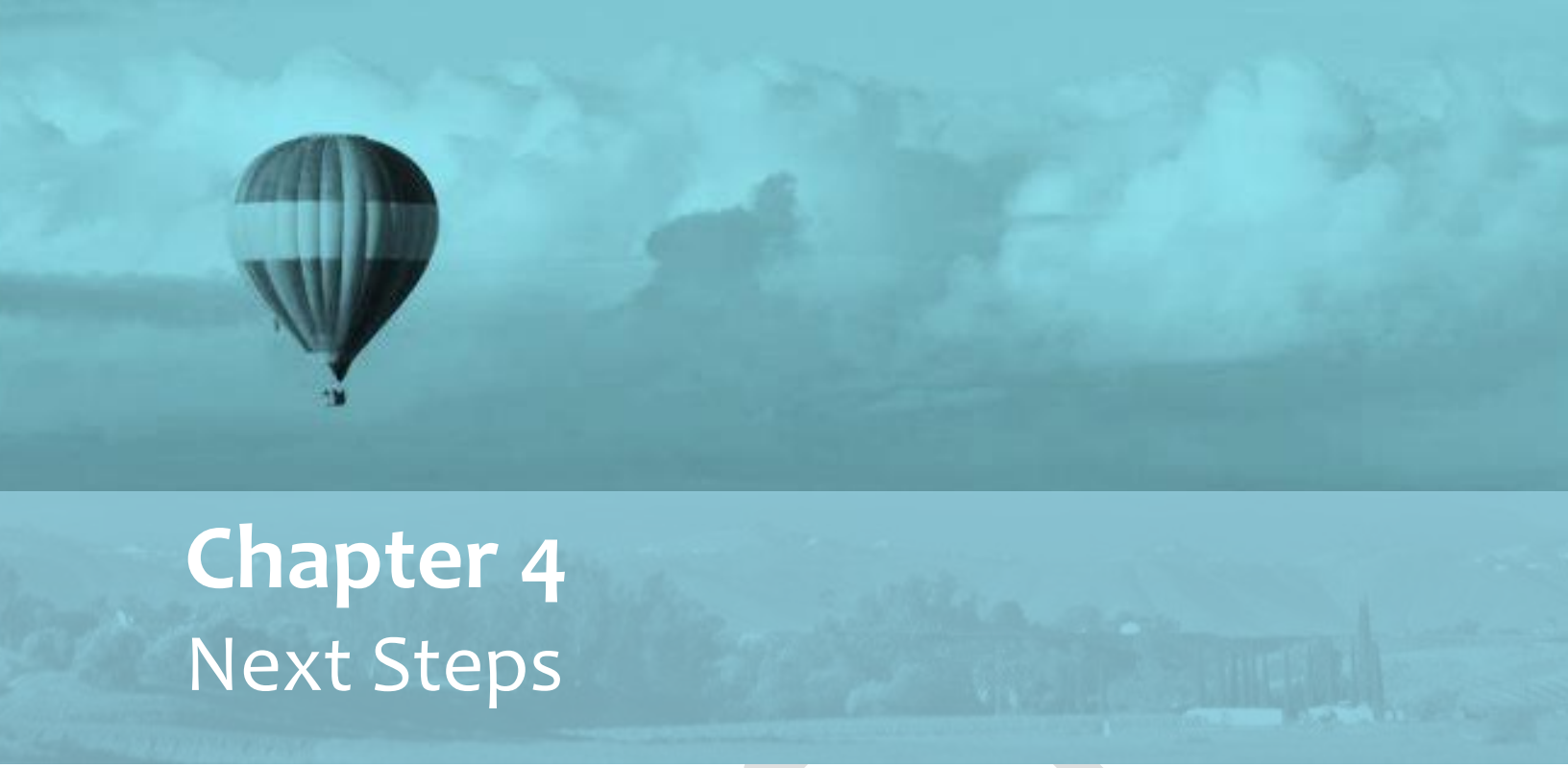
2020 GHG Reduction Potential: 155 MT CO_2e/yr

Food scraps are unwanted cooking preparation and table scraps, such as banana peels, apple cores, vegetable trimmings, bones, egg shells, meat, and pizza crusts. Compostable paper, sometimes called food-soiled paper, usually comes from the kitchen and is not appropriate for paper recycling due to contamination. Materials such as stained pizza boxes, uncoated paper cups and plates, used coffee filters, paper food cartons, napkins, and paper towels are all compostable paper. Food scraps alone represent nearly 20% of total landfilled solid waste statewide. Diverting these organic items from landfills helps to reduce landfill methane gas generation, and can help prolong the lifespan of area landfills.

PARTICIPATION LEVEL	ACTIONS + PARTICIPATING CITIES	GHG REDUCTION POTENTIAL (MT CO_2e/yr)
PLATINUM LEVEL	Accept food scraps and compostable paper within residential green waste bins; establish a commercial food scrap collection program. No jurisdictions participating at this level.	0
GOLD LEVEL	Accept food scraps and compostable paper within residential green waste bins or provide separate food scrap collection bins. Riverside, Temecula	155
SILVER LEVEL	Provide community outreach about benefits of food scrap and compostable paper collection with information about at-home composting. Banning, Calimesa, Canyon Lake, Eastvale, Jurupa Valley, Norco, Perris	0

PROGRESS INDICATORS	YEAR
1 Temecula - 20% of commercial businesses divert 90% of their waste	2020

Community Benefits



Chapter 4
Next Steps

PREPARING THE SUBREGION FOR CLIMATE CHANGE

A key next step, and important to the success of WRCOG's sustainability planning efforts including the Subregional Climate Action Plan (CAP), is the evaluation, analysis, and integration of climate adaptation and resiliency strategies. The WRCOG subregion is expected to experience impacts due to projected changes in the climate, and jurisdictions should begin preparing for them. The effects of climate change will cumulatively affect all sectors, including: water supply and wastewater management, agriculture, public infrastructure (pipelines, wastewater treatment plants, bridges, and roads), public health and public services (fire protection, emergency preparedness), and ecosystem health (diversity and connectivity of habitats), among others.

Despite significant efforts by the subregion and the State of California to reduce GHG emissions, changes in our climate cannot be avoided entirely over the long term. Even if GHG emissions were reduced to pre-industrial levels today, the GHG emissions that have already been added to the atmosphere will continue to warm the planet for centuries. While mitigation is still the most cost-effective approach to preventing long-term catastrophic impacts of climate change, adaptation efforts are needed to increase the resilience of communities and natural resources to changes expected over the next few decades.

In California, anticipated climate change impacts include sea level rise; increased periods of drought; and more frequent extreme weather events, including heat waves and severe storms. Secondary effects include projected inundation of the shoreline; more frequent and severe flooding; more frequent and severe wildfires on the urban fringe; a less reliable water supply; altered agricultural productivity, increased incidence of disease and mortality (both from effects of heat waves and from changing patterns of disease distribution); and disruption of local ecosystems.

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The *California Planning Adaptation Planning Guide: Understanding Regional Characteristics (July 2012)*[1] designates climate impact regions based on county boundaries in combination with projected climate impacts, existing environmental setting, socioeconomic factors, and regional designations. The WRCOG subregion falls within the Desert climate impact region, which includes Imperial, Riverside, and San Bernardino Counties, and the *Adaptation Planning Guide* identifies the following climate change impacts to this area:

- Temperature increases
- Reduced precipitation
- Flooding
- Reduced agricultural productivity
- Reduced water supply
- Wildfires
- Public health and heat

ADAPTATION PLANNING APPROACH

Effective adaptation planning and management entails dealing with uncertainty. Adaptation is likely to be a long-term process, including immediate action when necessary and allowing adjustments to changing conditions and new knowledge. Effective public engagement and education is critical, along with an inclusive planning process that ensures the resulting actions are feasible and widely accepted. Five important steps to effective adaptation planning are summarized below:

- **Increase Public Awareness; Engage and Educate the Community:** Local outreach campaigns to build awareness of the dangers of heat exposure and to promote low-cost and low-GHG emitting adaptation strategies. It is critical that the public understand the magnitude of the challenge and why action is needed. The planning process should be inclusive of all stakeholders. These efforts should leverage similar efforts undertaken at the regional, state, and federal levels.
- **Assess Vulnerability:** Perform a detailed vulnerability analysis to assess potential climate change impacts to infrastructure and natural systems. Both short-term and long-term adaptation strategies should be identified. Level of risk can be categorized in terms of likelihood of damage within the forecasting period and the severity of the damages. Understanding vulnerability to climate change impacts is critical to developing effective adaptation strategies. The vulnerability assessment can also provide a framework for agency and community education and participation, inform other planning documents, and identify funding needs. WRCOG intends to initiate a vulnerability/risk assessment in Spring 2014 that will inform not only the CAP, but member jurisdictions' General Plan Safety Elements and Local Hazard Mitigation Plans. It will incorporate the diversity of needs and integrate climate adaptation strategies with existing and proposed programs and initiatives to make the best use of limited resources.
- **Establish Goals, Criteria and Planning Principles:** Engage with stakeholders to establish planning priorities, decision criteria, and build community support for taking action. Rank physical and natural assets for preservation efforts. Where possible, look for situations where a mitigation

[1] California Climate Planning Adaptation Guide, July 2012. Available at http://resources.ca.gov/climate_adaptation/docs/1APG_Planning_for_Adaptive_Communities.pdf

action has adaptation co-benefits (e.g., planting trees to reduce urban heat islands while sequestering carbon and providing habitat).

- **Develop Adaptation Plan:** Identify specific strategies, develop cost estimates, and prioritize actions to increase local resilience of public infrastructure and critical assets, including natural systems like wetlands and urban forests. Look for synergies between natural processes and engineering solutions. An adaptation plan should include a prioritized list of actions (e.g. projects), with a timeline, capital expenditure plan, and a framework for monitoring and adaptive management.
- **Ongoing Monitoring and Adaptive Management:** Reassess climate change vulnerabilities on a regular basis and modify actions accordingly. This includes monitoring the effectiveness of current policies, strategies and actions, and keeping up with changing science, funding opportunities, and regulatory actions.

IMPLEMENTATION OF THE SUBREGIONAL CLIMATE ACTION PLAN

Implementation of the Subregional CAP, including meeting the subregional reduction targets and achieving GHG reduction benefits, will require collaboration between WRCOG, local governments, and the communities at large. Meaningful implementation of the CAP would require the following components, described in more detail below:

- Administration
- Schedule of implementation
- Potential funding sources
- Monitoring and reporting

These steps are not specific to WRCOG or any individual jurisdiction, but are basic steps that WRCOG or any jurisdiction might take, or that other California communities have taken to implement a CAP. These are suggested, not required, and are intended to guide WRCOG and its members in implementation planning for the future.

ADMINISTRATION

WRCOG will continue to provide staffing and administrative support at the subregional level, particularly in implementing subregional programs such as the Transportation Uniform Mitigation Fee (TUMF), HERO Program, Western Riverside Energy Leader Partnership (WRELP) and Clean Cities Coalition. WRCOG will also work to align these programs, and future subregional initiatives, with the goals established in this CAP, where applicable. WRCOG recommends that participating jurisdictions appoint a "CAP coordinator" to oversee the successful implementation and tracking of local GHG reduction strategies. The local CAP coordinator would primarily be responsible for coordinating across municipal departments to gather data, report on progress, track completed projects, and ensure that scheduling and funding of upcoming projects is discussed at key meetings. Some jurisdictions may wish to have the coordinator work primarily as part of the development review process for new projects (i.e., Planning Department staff). The coordinator may be existing staff and does not necessarily require a dedicated full-time position. **Table 4-1** describes the potential responsibilities for WRCOG staff and local CAP coordinators.

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In general, the goal in implementing the CAP is not to create new administrative tasks or new staff positions, but rather to leverage existing programs and staff to the maximum extent feasible. Local governments should seek to incorporate GHG planning and long-term reductions into their existing procedures, institutional organization, reporting and long-term planning; this is a process that will be unique to each jurisdiction.

Table 4-1: Climate Action Plan Implementation Responsibilities

WRCOG	Jurisdictions/CAP Coordinators
Secure financing to implement GHG reduction measures (i.e., grants)	Secure long-term financing to implement GHG reduction measures
Coordinate meetings among member jurisdictions, regional partners and stakeholders	Coordinate meetings amongst local community stakeholders
Serve as the external communication hub to regional climate action organizations including California Air Resources Board (CARB), South Coast Air Quality Management District (SCAQMD), Southern California Association of Governments (SCAG)	Serve as the communication hub to the community and local stakeholders
Conduct public outreach to inform the community of the subregion's reduction planning efforts	Submit annual reports to governing bodies
Develop a protocol for monitoring the effectiveness of emissions reduction programs	Utilize tool developed by WRCOG to report and document emission reduction progress
Establish guidelines and develop a tool for reporting and documenting emissions reduction progress	
Submit annual reports to the WRCOG Executive Committee and member agency governing bodies	
Develop a protocol for utilizing the real-time information collected through the verification process to modify and revise existing reduction programs	
Track state and federal legislation and its applicability to member jurisdictions	

SCHEDULE OF IMPLEMENTATION

WRCOG will track State measures, facilitate implementation of the regional measures and will coordinate with each participating jurisdiction to implement local measures. When feasible, WRCOG will act as the convener and assist in identifying funding, establishing partnerships, and track and monitor progress. Ultimately, each participating jurisdiction will be responsible for initiating the local actions to reduce emissions, but success for many measures will ultimately depend on public participation. Tasks that require active promotion may require updates to the WRCOG and jurisdictions' websites, distribution of physical promotional materials, and other active outreach activities. WRCOG and its

members will develop programs to reach the public, including public forums, workshops, and meetings; these programs will be administered with the intent to foster an open public input and commenting process. Collaboration and coordination with transportation agencies (e.g., Riverside Transit Agency [RTA], Banning Pass Transit, and Riverside County Transportation Commission [RCTC]) will be essential to improving and increasing transit ridership, and enhancing mobility and transportation efficiency through better planning.

Further, coordination with external agencies and the private sector is critical for the success of many strategies, including utility companies for energy conservation and renewable energy programs, waste haulers for waste reduction actions, local water purveyors for water saving actions, and other local jurisdictions for work-sharing partnerships designed to take advantage of the common goals across Western Riverside County. Dependence on outside agency participation is mentioned explicitly in the strategy descriptions; WRCOG, its member jurisdictions, and partner stakeholders will continue to explore strategies for collaboration.

Table 4-2 provides a summary of the state, regional, and local measures included in this Subregional CAP and the emissions reductions associated with these measures anticipated by 2020. Chapter 3 provides a detailed description of each measure, jurisdictional participation, progress indicators, and community benefits.

Table 4-2: Implementation Summary

Measure	2020 Annual GHG Reductions (MT CO_2e/yr)	Objectives
SR-1: Renewables Portfolio Standard	434,606	• 20% of retail sales from renewables by 2013. • 25% of retail sales from renewables by 2016. • 33% of retail sales from renewables by 2020.
SR-2: 2013 California Building Energy Efficiency Standards (Title 24, Part 6)	30,923	• Residential construction 25% more efficient and nonresidential construction 30% more efficient than the 2008 standards.
SR-3: HERO Residential Program	71,649	• Expanding list of eligible products for financing. • Increase in funded applications and completed projects. • Increased energy savings, renewable energy installation, job creation, and economic development.
SR-4: HERO Commercial Program	10,079	• Expanding list of eligible products for financing. • Increase in funded applications and completed projects. • Increased energy savings, renewable energy installation, job creation, and economic development.
SR-5: Utility Programs	9,182	• Increased participation in programs.

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Measure	2020 Annual GHG Reductions ($MT CO_2e/yr$)	Objectives
SR-6: Pavley & Low Carbon Fuel Standards	1,095,555	• Increasingly-stringent fuel-efficiency standards for passenger vehicles 2017 through 2025. • The carbon-intensity of California's transportation fuel to be reduced by at least 10% by 2020.
SR-7: Metrolink Expansion	23,074	• Extension of service to Perris by 2015.
SR-8: Express Lanes	60,864	• Extended express lanes along SR-91 and I-15 operational by 2020.
SR-9: Congestion Pricing	3,246	• Congestion pricing on the SR-91 and I-15 by 2020.
SR-10: Telecommuting	40,576	• Increasing the availability and use of carpooling, vanpooling, transit, bicycling, and walking. • Shifting work schedules to non-peak periods or locations. • Using telecommuting. • 5% of workers in the region telecommuting by 2020.
SR-11: Goods Movement	22,688	• Penetration of electric and low-emission trucks. • Physical improvements on freeways such as truck climbing lanes.
SR-12: E-Vehicle Plan and Infrastructure	81,152	• Charging stations, changes to development codes, and other strategies to encourage purchase and use of electric vehicles.
SR-13: Construction and Demolition Waste Diversion	3,574	• 50% of scrap lumber diverted from landfill waste stream.
SR-14: Water Conservation	23,192	• Urban retail water suppliers to reduce per-capita water use by 10% from a baseline level by 2015. • Reduce per-capita water use by 20% by 2020.
E-1: Energy Action Plans	357,581	• Implement programs to meet energy efficiency targets.
E-2: Traffic & Street Lights	4,697	• Platinum Level: 100% of traffic & street lights converted to high-efficiency bulbs by 2020. • Gold Level: 75% of traffic & street lights converted to high-efficiency bulbs by 2020. • Silver Level: 50% of traffic & street lights converted to high-efficiency bulbs by 2020.

Measure	2020 Annual GHG Reductions (MT CO_2e/yr)	Objectives
E-3: Shade Trees	2,014	• Platinum Level: Shade trees required for all new developments. • Gold Level: Subsidized program to support planting city-identified tree species. • Silver Level: Outreach program promoting the benefits of planting additional trees in urban environments.
T-1: Bicycle Infrastructure	29,255	• Platinum Level: 50% increase in bicycle lane mileage from 2010 levels. • Gold Level: 25% increase in bicycle lane mileage from 2010 levels. • Silver Level: 10% increase in bicycle lane mileage from 2010 levels.
T-2: Bicycle Parking	6,290	• Platinum Level: Amend zoning to require provision of bike parking for all multi-family or mixed-use projects. • Gold Level: Amend zoning to require provision of bike parking for multi-family projects consisting of more than 50 dwelling units, and mixed-use projects greater than 50,000 sf. • Silver Level: Provide information to applicants for large development projects describing the benefits of bike parking.
T-3: End of Trip Facilities	1,836	• Platinum Level: Amend zoning code to require installation of end-of-trip facilities for new commercial buildings greater than 50,000 sf. • Gold Level: Amend zoning to require installation of end-of-trip facilities for new commercial buildings greater than 100,000 sf. • Silver Level: Provide information to commercial project applicants describing the benefits of installing end-of-trip facilities.
T-4: Promotional Transportation Demand Management	1,831	• Platinum Level: Allocate a full-time staff person to promote TDM strategies to existing businesses. • Gold Level: Allocate the equivalent of ½ of a full-time staff person to promote TDM strategies to existing businesses. • Silver Level: Train an existing staff person to promote TDM strategies to existing businesses.

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Measure	2020 Annual GHG Reductions (MT CO_2e/yr)	Objectives
T-5: Transit Service Expansion	704	• Platinum Level: 20% increase in fixed-route service miles. • Gold Level: 10% increase in fixed-route service miles. • Silver Level: 5% increase in fixed-route service miles.
T-6: Transit Frequency Expansion	2,723	• Platinum Level: 20% increase in fixed-route service frequency over 2010 levels in transit priority areas (TPAs) as determined by the latest available SCAG SCS/RTP. • Gold Level: 10% increase in fixed-route service frequency over 2010 levels in TPAs. • Silver Level: 5% increase in fixed-route service frequency over 2010 levels in TPAs.
T-7: Traffic Signal Coordination	94,600	• Platinum Level: Coordinate traffic signals on an additional 50% of arterial roads. • Gold Level: Coordinate signals on an additional 25% of arterial roads. • Silver Level: Coordinate signals on an additional 10% of arterial roads.
T-8: Density	2,857	• Platinum Level: Achieve a 25% increase in community-wide household and employment density over 2010 baseline conditions by 2020. • Gold Level: Achieve a 10% increase in density by 2020. • Silver Level: Achieve a 5% increase in density by 2020.
T-9: Mixed-Use Development	4,069	• Platinum Level: Achieve a 25% jobs/housing ratio improvement Citywide over 2010 baseline conditions. • Gold Level: Achieve a 10% jobs/housing ratio improvement. • Silver Level: Achieve a 5% jobs/housing ratio improvement.

Measure	2020 Annual GHG Reductions (MT CO_2e/yr)	Objectives
T-10: Design/Site Planning	912	• Platinum Level: 25% increase in intersection density and reduction in block-length in new development. • Gold Level: 10% increase in intersection density and reduction in block-length in new development. • Silver Level: 5% increase in intersection density and reduction in block-length in new development.
T-11: Pedestrian Only Areas	2,812	• Platinum Level: Designate one additional major activity center in the community as a permanent pedestrian-only area. • Gold Level: Designate one additional pedestrian-only area during weekends. • Silver Level: Designate one additional pedestrian-only area during weekends tied to a special event such as a Farmer's market.
T-12: Limiting Parking Requirements for New Development	28,423	• Platinum Level: Amend zoning to reduce parking requirements for new non-residential development by 25%. • Gold Level: Reduce parking requirements for new non-residential development by 10%. • Silver Level: Reduce parking requirements for new non-residential development by 5%.
T-13: High Frequency Transit Service	1,801	• Platinum Level: Work with RTA to offer high frequency transit service within 3 corridors • Gold Level: Offer high frequency transit service within 2 corridors • Silver Level: Offer high frequency transit service within 1 corridor
T-14: Voluntary Transportation Demand Management	2,464	• Platinum Level: 50% of employees within the jurisdiction participation in voluntary TDM programs. • Gold Level: 25% of employees within jurisdiction participate in voluntary TDM programs. • Silver Level: 12.5% of employees within the jurisdiction participate in voluntary TDM programs.
T-15: Accelerated Bike Plan Implementation	5,340	• Install 75% of all bicycle facility miles identified in City's Bike Plan by 2020 • Install 50% of all bicycle facility miles • Install 25% of all bicycle facility miles

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Measure	2020 Annual GHG Reductions (MT CO_2e/yr)	Objectives
T-16: Fixed Guideway Transit	10,489	• Implementation of streetcar could potentially double existing transit mode split within City, which equates to 1.5% reduction in VMT.
T-17: Neighborhood Electric Vehicle Programs	4,707	• Adopt comprehensive NEV programs including signage and designated facilities.
T-18: Subsidized Transit	3,628	• Platinum Level: Provide subsidized or discounted transit passes to 3% of residents, students, and employees living, working, or going to school in the community. • Gold Level: Provide subsidized or discounted transit passes to 2%. • Silver Level: Provide subsidized or discounted transit passes to 1%.
SW-1: Yard Waste Collection	1,007	• Platinum Level: Adopt an ordinance prohibiting deposit of yard waste in the solid waste stream. • Gold Level: Provide residential green waste bins for collection and transport to organic waste processing facility. • Silver Level: Conduct an outreach campaign promoting the benefits of yard waste collection, without provision of green waste bins.
SW-2: Food Scrap and Paper Diversion	155	• Platinum Level: Accept food scraps and compostable paper within residential green waste bins; establish a commercial food scrap collection program • Gold Level: Accept food scraps and compostable paper within residential green waste bins or provide separate food scrap collection bins • Silver Level: Provide community outreach about benefits of food scrap and compostable paper collection with information about at-home composting

POTENTIAL FUNDING SOURCES

Funding Mechanisms

The GHG reduction strategies in this document were formulated with an understanding that WRCOG and member jurisdictions have limited staff time and financial resources to implement them. The costs for implementation include the creation or promotion of voluntary programs, continuing administration of those programs, coordination and outreach with other government agencies and businesses, and—in some cases—exploration or study of potential legislative or regulatory mechanisms not yet codified. A few strategies require up-front capital expenditures by local agencies. WRCOG and member jurisdictions will use a combination of staff time, grant funding, direct spending, and collaboration with other agencies and organizations to achieve CAP goals. This section presents a summary of funding and financing options (Table 4-3) available at the time this document was prepared.

Some funding sources are not necessarily directed towards a jurisdiction, but to a larger regional agency such as WRCOG, SCAG, a Joint Powers Authority (JPA), or a waste services provider serving multiple jurisdictions. WRCOG and its members should continually monitor private and public funding sources for new grant and rebate opportunities and to better understand how larger agencies are accessing funds that can be used for GHG reductions at the local level. Leveraging financing sources is one of the most important roles WRCOG and a local government can play in helping the community to implement many of the GHG reduction measures.

Table 4-3: Potential Funding Sources to Support CAP Implementation

Federal Funds	
Energy Efficient Mortgages	▪ The Federal Housing Administration (FHA) offers an Energy Efficient Mortgage Loan program that assists current or future homeowners with lowering their utility bills. This would be accomplished by enabling homeowners to incorporate the cost of adding energy-efficient improvements into their home mortgage. Energy efficient upgrades could be chosen that would allow owners to realize net monthly savings. The goal is to provide owners additional financing for energy efficiency upgrades at a discounted interest rate.
Moving Ahead for Progress in the 21st Century (MAP-21)	▪ Federal funding through the MAP-21 program is administered through the state and regional governments. MAP-21 funding is administered through Caltrans, MPOs (SCAG in Southern California) and RTPAs (RCTC in Riverside County). Most of the funding programs are transportation versus recreation oriented, with an emphasis on reducing auto trips and providing an intermodal connection. In most cases, MAP-21 provides matching grants of 50 to 100%.
Safe Routes to Schools	▪ Safe Routes to Schools is an international movement focused on increasing the number of children who walk or bike to school by funding projects that remove barriers to doing so. These barriers include a lack of infrastructure and non-infrastructure projects, safety, and limited programs that promote walking and bicycling. In California, two separate Safe Routes to School programs are available at both the state and federal level, and both programs fund qualifying infrastructure projects.

American Recovery and Reinvestment Act (ARRA) Community Partnerships	▪ Federal funding for local energy efficiency programs is available. Funding for energy efficiency has been provided to the California Department of Community Services and Development, which has dispersed funds locally through the Community Action Partnership of Riverside County. The Partnership provides free home weatherization and other energy assistance resources to low-income and elderly citizens of Riverside County. Programs include the Low-Income Home Energy Assistance Program and the Weatherization Assistance Program.
State Funds	
California Air Resources Board (CARB)	▪ CARB offers several grants, incentives, and credits programs to reduce on-road and off-road transportation emissions. Residents, businesses, and fleet operators can receive funds or incentives depending on the program. ○ The following programs can be utilized to fund local measures: ○ Air Quality Improvement Program (AB 118) ○ Carl Moyer Program – Voucher Incentive Program ○ Goods Movement Emission Reduction Program (Prop 1B Incentives) ○ Loan Incentives Program ○ Lower-Emission School Bus Program/School Bus Retrofit and ○ Replacement Account (Prop 1B and EPA Incentives)
California Energy Efficiency Financing	▪ For years, the California Energy Commission (CEC) has provided a loan program that supports local government energy retrofits and some new construction projects. Since 1979, more than $272 million has been allocated to more than 773 recipients, as of 2012. The program provides low interest loans for feasibility studies and the installation of cost-effective energy projects in schools, hospitals, and local government facilities. The loans are repaid out of the energy cost savings and the program will finance lighting, motors, drives and pumps, building insulation, heating and air conditioning modifications, streetlights and traffic signal efficiency projects, and certain energy generation projects, including renewable energy projects and cogeneration. Loans can cover up to 100% of project costs and there is a maximum loan amount of $3 million.
California Department of Resources Recycling and Recovery (CalRecycle)	▪ CalRecycle grant programs allow jurisdictions to assist public and private entities in management of waste streams. ▪ Incorporated cities and counties in California are eligible for funds. ▪ Program funds are intended to: ○ Reduce, reuse, and recycle all waste. ○ Encourage development of recycled-content products and markets. ○ Protect public health and safety and foster environmental sustainability.
Strategic Growth Council (SGC)	▪ In September 2008, California Senate Bill 732 created the Strategic Growth Council, which is a cabinet level committee whose tasks include coordinating the activities of member state agencies to assist state and local entities in the planning of sustainable communities and meeting AB 32 goals, including coordination of Planning Grants and Urban Greening Grants.

State Funding for Infrastructure	▪ The state's Infill Infrastructure Grant Program may potentially be used to help fund measures that promote infill housing development. ▪ Grants can be used for gap funding for infrastructure improvements necessary for specific residential or mixed-use infill development projects.
Existing Capital Improvement Program	▪ State and federal funds would most likely continue to local governments, builders, and homeowners in the following forms: ○ Grants ○ Transportation and transit funding ○ Tax credit and rebate programs ○ The Capital Improvement Program can be utilized for measures relating to traffic or transit.
Private and Non-Governmental Support	
▪ Community-based non-profits, local businesses, and investor owned utilities should be considered as resources for direct and indirect support, including funding, for program activation and operations. ▪ Private investors may provide funding to local governments. For example, energy service companies can finance the up-front investments in energy efficiency, reimbursed by the local government over a contract period. Private companies may finance solar power installations, and then recoup their investment by selling the resulting power to the building owner.	

Additional Considerations

In addition to pursuing the funding options above and monitoring the availability of others, WRCOG and its member jurisdictions may take the following steps to inform decisions related to the cost of GHG reduction measures.

- **Perform and refine cost estimates:** Cost estimates for local reduction measures should be performed to identify the cost-effectiveness of each measure to inform and guide the implementation process. This analysis will likely be based on a variety of participation, per-unit and other assumptions. As programs are developed, cost estimates should be refined an updated over time with more precise implementation-level data.
- **Integrate GHG measures into existing city budget and Capital Improvement Plan (CIP):** Certain capital improvements, particularly those identified in Energy and Land Use/Transportation Measures, may need to be added to the city's CIP and facility master plan programs, as well as those of the city utility enterprises and other public agencies (such as transit agencies) that have control for project implementation. For CIPs completely under the city's control, new projects would need to be assessed for consistency with a city's local CAP or adherence to some minimum energy efficiency standard similar to that achieved by the local plan.
- **Adopt or update ordinances and/or codes:** Some local reduction measures may represent a continuation of recently enacted ordinances, while others would require new ordinances. WRCOG will develop a "plug and play" implementation toolkit of model general plan, zoning and building code amendments and other programs to help facilitate the GHG reduction and climate adaptation measures outlined in the Subregional CAP. The model "best practices and programs" aspect of the toolkit will include, but not be limited to, those related to energy, water, land use, transportation, stormwater management, building reuse, and waste reduction. The policies and model codes of the toolkit will be drafted so they can be easily integrated into a jurisdiction's planning process.
- **Pursue outside funding sources:** A range of funding from state and federal agencies has been identified. WRCOG and local jurisdictions should pursue these and other emerging funding sources as a part of implementation efforts.

- **Implement and direct preferred city funding sources.** While city funding sources are limited in most cities, the city, when financially able, as a part of its budget process, could appropriate funding from general sources or make changes in its fee schedules, utility rates, and other sources as needed to support funding the implementation of the GHG reduction measures.
- **Create monitoring/tracking processes:** Local reduction measures will usually require program development, tracking, and/or monitoring. WRCOG will develop a tool to enable member jurisdictions to report their progress on a regular basis. GHG emissions reduction and adaptation measures could be sorted based on implementation timing, responsible agency, and level of success/completion. By allowing specific tasks to be checked off once each phase of the CAP is completed, jurisdictions will be able to save time reviewing reports, tracking data manually, and verifying that measures are fully completed. Each proposed measure included in the CAP will be built-in the database with information such as:
  - Program;
  - Responsibility;
  - Cost;
  - Potential Funding Sources;
  - Priority; and
  - Time Frame
- **Identify economic and health indicators to consider future funding options:** Identification and monitoring of economic and health indicators and trends, such as home prices, energy prices cost per kWh on solar installations, unemployment rates, or real wage increases, can guide the potential for funding local reduction measures through different financing mechanisms. WRCOG will work with the County of Riverside and other regional agencies to identify and develop measurable health outcome indicators for each CAP measure. Indicators will be used to identify health co-benefits of the CAP, establish priorities, develop target resources, create benchmarks, and track progress towards community objectives.

MONITORING AND REPORTING

Regular monitoring is important to ensure programs are functioning as they were originally intended. Early identification of effective strategies and potential issues would enable WRCOG and its member jurisdictions to make informed decisions on future priorities, funding, and scheduling. Moreover, monitoring provides concrete data to document the subregion's progress in reducing GHG emissions. WRCOG will work with local jurisdictions to develop a protocol for monitoring the effectiveness of emissions reduction programs as well as for undertaking emissions inventory updates.

- **Update GHG Inventory**: It is recommended that emissions be inventoried on a regular basis, including regular data collection in each of the primary inventory sectors (utility, regional VMT, waste, wastewater, and water), and compare to the baseline GHG emissions in 2010. A combined inventory effort could be conducted through WRCOG similar to the inventory preparation that was done for this Subregional CAP.
- **Track State Progress**: The Subregional CAP relies heavily on state-level measures. WRCOG may be responsible for tracking the state's progress on implementing state-level programs. Close monitoring of the real gains being achieved by state programs would allow WRCOG and participating jurisdictions to adjust its CAP, if needed.
- **Track Completion of GHG Reduction Measures**: Tracking of measures implemented as scheduled in the CAP, including progress reports on each measure, funding, and Savings will allow at least a rough attribution of gains when combined with regular GHG inventory updates.

- **Regular Progress Reports**: WRCOG will develop a formal framework for monitoring performance and tracking the progress of CAP implementation, including health and economic indicators. The framework may take the form of an annual report card, progress report, or similar type of tool that will help monitor the achievements, effectiveness and appropriateness of each performance measure. If annual reports, periodic inventories, or other information indicates that the GHG reduction measures are not as effective as originally anticipated, the CAP may need to be adjusted, amended, or supplemented. The report card (or similar) will be periodically (i.e., annually) presented to WRCOG's Executive Committee and various technical committees (Technical Advisory Committee, Planning Directors' Technical Advisory Committee, and Public Works Committee) as well as member jurisdictions and will focus on the status of agreed upon performance measures.

REDUCING GHG EMISSIONS AFTER 2020

In order to assess whether implementing this CAP achieves the state's long-term climate goals, one must look beyond 2020 to see whether the emissions reduction measures included for the 2020 milestone set the subregion on the trajectory toward future greater reductions in the post-2020 period. To date, there is no state or federal mandate requiring local action to reduce GHG emissions after 2020. AB 32 contains no post-2020 reduction target nor provides CARB with the authority to mandate compliance with a post-2020 target. SB 375, while it contains requirements for SCAG to promote reductions in the passenger and light duty vehicle sector, does not contain mandatory requirements for local jurisdictions to reduce their GHG emissions overall.

Governor Schwarzenegger's Executive Order (EO) S-3-05 calls for an 80% reduction below 1990 GHG emissions levels by 2050. However, an executive order is only binding on state agencies, and does not represent a legal mandate for local governments or the private sector. Nevertheless, S-03-05 contains a 2050 reduction target that is based on current scientific understanding of the reductions needed to avoid the effects of climate change that could result from unabated rise in anthropogenic GHG emissions. The 2050 target in EO-S-03-05 is equivalent to a 2050 statewide target of about 85 million metric tons of carbon dioxide equivalent (MT CO_2e) (total emissions), as compared to the 1990 level of 427 million MT CO2e.

The state is on track to achieve significant reductions by 2020 and has made some advancement towards deeper reductions by 2050, however, it is clear that our energy-intensive economy cannot achieve long-term growth unless we find greater efficiencies and low-carbon alternatives to powering our industries, homes, businesses, and transportation systems.Climate protection must be compatible with economic growth for successful implementation of GHG reduction strategies in California. The AB 32 Scoping Plan emphasizes clean energy, end-use efficiencies and clean vehicle standards to lower the state's emissions, outlining a mix of incentives and programs designed to smooth California's transition to a low-carbon economy. The 2013 update to the Scoping Plan points to the critical need for rapid market penetration of new technologies that reduce energy demand, electrify our vehicle fleets, and decarbonize electricity and fuel supplies.

Meanwhile, the Governor's Office of Planning and Research (OPR) recently released its first draft Environmental Goals and Policy Report (EGPR) in almost 35 years, entitled *California @ 50 Million:*

California's Climate Future[2] The central theme of that document is "growth in the context of climate change," emphasizing the massive challenge the state faces in meeting its long-term (2050) GHG emissions goal. As the report states, achieving the 2020 target is just one step toward long-term stabilization of the climate. Significant GHG reductions by 2050 can only be achieved through a low-carbon transformation of our economy and its supporting infrastructure and mobility systems, which in turn must be driven by focused investments and strong policy signals. This is the direction the state is headed, calling for commitments that will "send a strong signal of support for the innovators and entrepreneurs to drive technology and development to tackle the challenge of climate change." The EGPR indicates that climate change will influence nearly every aspect of the state's next phase of planning and investment for the future.

Full implementation and expansion of CARB's Scoping Plan to increase efforts beyond 2020 and expansion of the strategies studied in this CAP could put the subregion on a path toward achieving these required long-term reductions. While the specific measures needed to meet the 2050 goal are too far in the future to define in detail, one can examine the level of achievement that would be needed to keep the region on track through 2035. The measures needed to achieve longer-term targets are logical extensions of the programs recommended in the CARB Scoping Plan at the state level and the measures included in this CAP at the local level. By building on planned state efforts during this period and ramped up efforts in the local building energy and transportation (and other) sectors on the part of local governments, the subregion can be on track to reach a 2035 goal.

This CAP has not assumed any benefit from a cap-and-trade system by 2020, but when implemented, such a system may result in reductions beyond those currently anticipated in the CAP for 2020, and in additional reductions for 2030. The California Cap-and-Trade Program will particularly affect large stationary sources, which are excluded from local measures in this CAP to avoid duplication of state and federal regulatory efforts. In addition, the Cap-and-Trade Program will also affect electricity generation and transportation fuels, which may change energy prices, in turn potentially altering energy use and transportation behavior beyond that assumed for the various local measures included in this CAP.

WRCOG will continue to monitor developments at the national and state levels regarding implementation of GHG emissions reductions beyond 2020.

CEQA PROJECT REVIEW

Under the California Environmental Quality Act (CEQA), the effects of GHG emissions are considered a potentially significant environmental impact. In addressing climate change, CEQA provides a useful mechanism for local agencies to evaluate the environmental effects of new development, but may also create inefficiencies for both agency staff and applicants through repetitive assessments of small projects on an individual basis, rather than considering cumulative effects of future development and determining needed mitigation up front. The CEQA Guidelines recognize this, and include a provision for streamlining the analysis of projects that are consistent with a comprehensive plan for the reduction of GHG emissions (CEQA Guidelines, Section 15183.5).

[2] California @ $50 Million, September 2013. Available at opr.ca.gov/docs/EGPR_ReviewDraft.pdf.

To meet the requirements of CEQA Guidelines Section 15183.5(b)(1) a qualified CAP must:

1. Quantify existing and projected GHG emissions within the plan area
2. Establish a reduction target based on AB 32's provisions (a level where GHG emission are not cumulatively considerable)
3. Identify and analyze sector specific GHG emissions from Plan activities
4. Specify policies and actions (measures) that local jurisdictions will enact and implement over time to achieve specified reduction target
5. Establish a tool to monitor progress and amend if necessary
6. Adopt in a public process following environmental review

WRCOG is seeking funding to prepare the required environmental document in order for jurisdictions to adopt the Subregional CAP and utilize streamlining benefits. A Program EIR specifically for the Subregional CAP will be prepared explicitly with tiering in mind, by developing mitigation measures that are tailored to the WRCOG subregion environment, and will set performance metrics for future project impacts that cannot be analyzed at the program level.

A development project would demonstrate consistency with the CAP if it is consistent with the CAP assumptions regarding the amount and type of future development, and is consistent with the GHG reduction measures identified in the CAP. Projects consistent with the CAP, including conformance with any performance measures applicable to the project, would not require additional GHG emissions analysis and mitigation under CEQA Guidelines Sections 15064(h) and 1513.5(b)(2).[3] However, a project applicant can always choose to demonstrate compliance with the AB 32 target by preparing an individual project analysis that calculates GHG emissions as part of their CEQA documentation.

In a future phase of the work program, WRCOG will develop a checklist to assist with determining project consistency with the CAP. The checklist is intended to provide individual projects the opportunity to demonstrate that they are minimizing GHG emissions, while ensuring that new development achieves a proportion of emissions reduction consistent with what is assumed in the CAP. The project review checklist will screen projects for important GHG reduction measures that, when implemented, will facilitate and not impede the subregion's ability to meet its 2020 GHG emissions target. The checklist will apply to all projects subject to CEQA.

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[3] If there is substantial evidence that the effects of a particular project may be cumulatively considerable, notwithstanding the project's compliance with the CAP, CEQA requires that an EIR be prepared.