

5.7 GREENHOUSE GAS EMISSIONS

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for the Menifee General Plan (Plan) to cumulatively contribute to greenhouse gas (GHG) emissions. Because no single project is large enough to result in a measurable increase in global concentrations of GHG emissions, climate change impacts of a project are considered on a cumulative basis.

The analysis is based on the population and employment projections anticipated within the City of Menifee at full buildout of the proposed General Plan and the alternative General Plan with Expanded Economic Development Corridor (EDC). In addition, an inventory of GHG emissions provided based on the demographic changes anticipated in the City in year 2020 and horizon year 2035. The analysis is based on vehicle miles traveled (VMT) provided by Urban Crossroads utilizing the Riverside County Traffic Analysis Model (RivTAM); electricity use provided by Southern California Edison (SCE); natural gas use provided by the Southern California Gas Company (SoCalGas); solid waste generation in the City of Menifee obtained from the California Department of Resources, Recycling, and Recovery (CalRecycle); and water use and wastewater generation estimated for the City based on the Eastern Municipal Water District's 2010 Urban Water Management Plan (UWMP). GHG emissions modeling is included in Appendix D of this EIR.

5.7.1 Environmental Setting

Greenhouse Gases and Climate Change

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHG, to the atmosphere. Climate change is the variation of earth's climate over time, whether due to natural variability or as a result of human activities. The primary source of these GHG is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHG—water vapor,¹ carbon (CO₂), methane (CH₄), and ozone (O₃)—that are the likely cause of an increase in global average temperatures observed within the 20th and 21st centuries. Other GHG identified by the IPCC that contribute to global warming to a lesser extent include nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001). The major GHG are briefly described below.

Carbon dioxide (CO₂) enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

Methane (CH₄) is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in municipal landfills and water treatment facilities.

Nitrous oxide (N₂O) is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.

Fluorinated gases are synthetic, strong GHGs that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but they are potent GHGs, sometimes referred to as high GWP gases.

¹ Water vapor (H₂O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals); however, water vapor is not considered a pollutant.



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- **Chlorofluorocarbons (CFCs)** are GHGs covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone-depleting gases and are therefore being replaced by other GHG compounds covered under the Kyoto Protocol (USEPA 2009a).
- **Perfluorocarbons (PFCs)** are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential (USEPA 2009a).
- **Sulfur Hexafluoride (SF_6)** is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF_6 is a strong GHG used primarily in electrical transmission and distribution systems as an insulator (USEPA 2009a).
- **Hydrochlorofluorocarbons (HCFCs)** contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also GHGs (USEPA 2009a).
- **Hydrofluorocarbons (HFCs)** contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances to serve many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong GHGs (USEPA 2009a and 2012b, IPCC 2001).

Table 5.7-1, *GHG and Their Relative Global Warming Potential Compared to CO_2* , lists the GHG applicable to the proposed project and their relative global warming potentials (GWP) compared to CO_2 .

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**Table 5.7-1
GHG and Their Relative Global Warming Potential Compared to CO₂**

GHG	Atmospheric Lifetime (years)	Global Warming Potential Relative to CO ₂ ¹
Carbon Dioxide (CO ₂)	50 to 200	1
Methane (CH ₄) ²	12 (±3)	21
Nitrous Oxide (N ₂ O)	120	310
Hydrofluorocarbons:		
HFC-23	264	11,700
HFC-32	5.6	650
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
HFC-152a	1.5	140
HFC-227ea	36.5	2,900
HFC-236fa	209	6,300
HFC-4310mee	17.1	1,300
Perfluoromethane: CF ₄	50,000	6,500
Perfluoroethane: C ₂ F ₆	10,000	9,200
Perfluorobutane: C ₄ F ₁₀	2,600	7,000
Perfluoro-2-methylpentane: C ₆ F ₁₄	3,200	7,400
Sulfur Hexafluoride (SF ₆)	3,200	23,900

Source: IPCC 2001.

¹ Based on 100-Year Time Horizon of the Global Warming Potential (GWP) of the air pollutant relative to CO₂.

² The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.



California's GHG Sources and Relative Contribution

California is the second largest emitter of GHG in the United States, only surpassed by Texas, and the tenth largest GHG emitter in the world. However, California also has over 12 million more people than the state of Texas. Because of more stringent air emission regulations, in 2001 California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO₂ emissions from fossil fuel consumption per unit of Gross State Product (total economic output of goods and services) (CEC 2006a).

CARB's latest update to the statewide GHG emissions inventory was conducted in 2012 for year 2009 emissions.² In 2009, California produced 457 million metric tons (MMT CO₂e) of CO₂-equivalent (CO₂e) GHG emissions.³ California's transportation sector is the single largest generator of GHG emissions, producing 37.9 percent of the state's total emissions. Electricity consumption is the second largest source, comprising 22.7 percent. Industrial activities are California's third largest source of GHG emissions, comprising 17.8 percent of the state's total emissions. Other major sources of GHG emissions include commercial and residential, recycling and waste, high global warming potential GHGs, agriculture, and forestry (CARB 2012b).

² Methodology for determining the statewide GHG inventory is not the same as the methodology used to determine statewide GHG emissions under Assembly Bill 32 (AB 32).

³ CO₂-equivalence is used to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

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Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHG in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and climate change pollutants that are attributable to human activities. The amount of CO₂ has increased by more than 35 percent since preindustrial times and has increased at an average rate of 1.4 parts per million (ppm) per year since 1960, mainly due to combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006).

Climate change scenarios are affected by varying degrees of uncertainty. IPCC's 2007 Fourth Assessment Report projects that the global mean temperature increase from 1990 to 2100, under different climate-change scenarios, will range from 1.4 to 5.8°C (2.5 to 10.4°F). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic timeframe but within a human lifetime (CAT 2006).

Potential Climate Change Impacts for California

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are also hard to predict. In California and western North America, observations of the climate have shown: 1) a trend toward warmer winter and spring temperatures, 2) a smaller fraction of precipitation is falling as snow, 3) a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones, 4) an advance snowmelt of 5 to 30 days earlier in spring, and 5) a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CAT 2006). According to the California Climate Action Team (CAT), even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.7-2, *Summary of Global Climate Change Risks to California*), and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now considered unavoidable. Global climate change risks are shown in Table 5.7-2 and include impacts to public health, water resources, agriculture, sea level, forest and biological resources, and electricity impacts. Specific climate change impacts that could affect the project include health impacts from a reduction in air quality, water resources impacts from a reduction in water supply, and increased energy demand.

**Table 5.7-2
Summary of Global Climate Change Risks to California**

<i>Impact Category</i>	<i>Potential Risk</i>
Public Health Impacts	<ul style="list-style-type: none"> • Poor air quality made worse • More severe heat
Water Resources Impacts	<ul style="list-style-type: none"> • Decreasing Sierra Nevada snow pack • Challenges in securing adequate water supply • Potential reduction in hydropower • Loss of winter recreation
Agricultural Impacts	<ul style="list-style-type: none"> • Increasing temperature • Increasing threats from pests and pathogens • Expanded ranges of agricultural weeds • Declining productivity • Irregular blooms and harvests
Coastal Sea Level Impacts	<ul style="list-style-type: none"> • Accelerated sea level rise • Increasing coastal floods • Shrinking beaches • Worsened impacts on infrastructure
Forest and Biological Resource Impacts	<ul style="list-style-type: none"> • Increasing risk and severity of wildfires • Lengthening of the wildfire season • Movement of forest areas • Conversion of forest to grassland • Increasing threats from pest and pathogens • Declining forest productivity • Shifting vegetation and species distribution • Altered timing of migration and mating habits • Loss of sensitive or slow-moving species
Electricity	<ul style="list-style-type: none"> • Potential reduction in hydropower • Increased energy demand

Sources: CEC 2006b; CEC 2008.



Regulatory Setting

Federal

The United States Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA’s final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements, but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009b).

The EPA’s endangerment finding covers emissions of six key GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and SF₆—which have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world (the first three are applicable to the proposed project).

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions

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data. Facilities that emit 25,000 metric tons (MTCO₂e) or more per year are required to submit an annual report.

State

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order S-03-05, Assembly Bill 32, and Senate Bill 375.

Executive Order S-03-05

Executive Order S-3-05, signed June 1, 2005, set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act (2006)

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Assembly Bill 32 (AB 32), the Global Warming Solutions Act. AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in Executive Order S-3-05.

AB 32 directed CARB to adopt discrete early action measures to reduce GHG emissions and outline additional reduction measures to meet the 2020 target. Based on the GHG emissions inventory conducted for the Scoping Plan by CARB, GHG emissions in California by 2020 are anticipated to be approximately 596 MMTCO₂e. In December 2007, CARB approved a 2020 emissions limit of 427 MMTCO₂e (471 million tons) for the state. The 2020 target requires a total emissions reduction of 169 MMTCO₂e, 28.5 percent from the projected emissions of the business-as-usual (BAU) scenario for the year 2020 (i.e., 28.5 percent of 596 MMTCO₂e) (CARB 2008)⁴.

In order to effectively implement the emissions cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor GHG emissions levels for large stationary sources that generate more than 25,000 MT of CO₂e per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012. The Climate Action Registry Reporting Online Tool was established through the Climate Action Registry to track GHG emissions.

CARB 2008 Scoping Plan

The final Scoping Plan was adopted by CARB on December 11, 2008. Key elements of CARB's GHG reduction plan that may be applicable to the proposed project include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards (adopted and cycle updates in progress).

⁴ CARB defines BAU in its Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as was typical from 2002 through 2004.

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- Achieving a mix of 33 percent for energy generation from renewable sources (anticipated by 2020).
- A California cap-and-trade program that links with other Western Climate Initiative (WCI) partner programs to create a regional market system for large stationary sources (adopted 2011).
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets (several Sustainable Communities Strategies have been adopted).
- Adopting and implementing measures pursuant to state laws and policies, including California's clean car standards (amendments to the Pavley Standards adopted 2009; Advanced Clean Car standard adopted 2012), goods movement measures, and the Low Carbon Fuel Standard (LCFS)(adopted 2009).⁵
- Creating target fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation (in progress).

Table 5.7-3, *Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target*, shows the proposed reductions from regulations and programs outlined in the Scoping Plan. Though local government operations were not accounted for in achieving the 2020 emissions reduction, CARB estimates that land use changes implemented by local governments that integrate jobs, housing, and services result in a reduction of 5 MMTCO₂e, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments play in successful implementation of AB 32, in 2008 CARB recommended GHG reduction goals of 15 percent of today's levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target.⁶ Pursuant to the Scoping Plan Appendix C, "The Role of Local Government," and Table C, local governments are encouraged to take a number of potential actions to reduce local GHG emissions, which include shifts in land use patterns to emphasize compact, low-impact growth over development in greenfields, resulting in fewer VMT (CARB 2008).



⁵ On December 29, 2011, the U.S. District Court for the Eastern District of California issued several rulings in the federal lawsuits challenging the LCFS. One of the court's rulings preliminarily enjoins the CARB from enforcing the regulation during the pendency of the litigation. In January 2012, CARB appealed the decision and on April 23, 2012, the Ninth Circuit Court granted CARB's motion for a stay of the injunction while it continues to consider CARB's appeal of the lower court's decision. In a separate case, on July 15, 2013, the State of California Court of Appeal, Fifth Appellate District issued its opinion in POET, LLC v. California Air Resources Board. The Court held that the LCFS would remain in effect and that the CARB can continue to implement and enforce the 2013 regulatory standards while it corrects certain aspects of the procedures by which the LCFS was originally adopted.

⁶ While the Scoping Plan references a goal for local governments to reduce community GHG emissions by 15 percent from current (interpreted as 2008) levels by 2020, the Scoping Plan does not rely on local GHG reduction targets established by local governments to meet the state's GHG reduction target of AB 32. Table 5.7-3 lists the recommended reduction measures, which do not include additional reductions from local measures.

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**Table 5.7-3
Scoping Plan GHG Reduction Measures and Reductions toward 2020 Target**

<i>Recommended Reduction Measures</i>	<i>Reductions Counted toward 2020 Target of 169 MMTCO_{2e}</i>	<i>Percentage of Statewide 2020 Target</i>
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets ¹	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	146.7	87%
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	27.3	16%
Total Reductions Counted toward 2020 Target	174	100%
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	42.8	NA

Source: CARB 2008.

Notes: The percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 MMTCO_{2e} and the Scoping Plan identifies 174 MMTCO_{2e} of emissions reductions strategies.

MMTCO_{2e}: million metric tons of CO_{2e}

¹ Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.

² According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO_{2e} (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.

Since the Scoping Plan was adopted, CARB implemented and continues to implement of the reduction measures. The legislature has also passed legislation implementing the reduction measures. For example, the cap-and-trade regulations became effective January 2, 2012, and the compliance obligation for GHG emissions began on January 1, 2013. The legislature also passed Senate Bill X1-2 (SBX1-2) in 2011, increasing the amount of electricity generated from eligible renewable energy resources to at least 33 percent per year by December 31, 2020.

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Senate Bill 375

In 2008, SB 375 was adopted to achieve the GHG reduction targets in the Scoping Plan for the transportation sector through local land use decisions that affect travel behavior. Implementation is intended to reduce VMT and GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations with local land use planning. Specifically, SB 375 requires CARB to establish GHG emissions reduction targets for each of the 17 regions in California managed by a metropolitan planning organization (MPO). Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

Southern California Association of Governments (SCAG) is the MPO for the southern California region, which includes the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035. The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's existing transportation network. The targets would result in 3 MMTCO₂e of GHG reductions by 2020 and 15 MMTCO₂e of GHG reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

SB 375 requires the MPOs to prepare a Sustainable Communities Strategy (SCS) in their regional transportation plan (RTP). For the SCAG region, the 2012 RTP/SCS was adopted in April 2012 (SCAG 2012). The SCS sets forth a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers.



Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles.

Executive Order S-01-07

On January 18, 2007, the state set a new Low Carbon Fuel Standard for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO₂ egram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The LCFS applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the fuel cycle using the most economically feasible methods.

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Senate Bills 1078 and 107, and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewable portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. Executive Order S-14-08 was signed in November 2008, which expands the state's renewable energy standard to 33 percent renewable power by 2020. In 2011, the state legislature adopted this higher standard in SBX1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.

California Building Code

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and updated triannually (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the California Energy Commission (CEC) adopted the 2013 Building and Energy Efficiency Standards, which go into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (CALGreen) was adopted as part of the California Building Standards Code (Part 11, Title 24, California Code of Regulations). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and nonfederally regulated appliances.

Regional

2012 Regional Transportation Plan/Sustainable Communities Strategy

In 2008, SB 375 was adopted and as the implementation mechanism necessary to achieve the GHG emissions reductions targets established in the Scoping Plan for the transportation sector as it relates to local land use decisions that affect travel behavior. Implementation is intended to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations with local land use planning to reduce vehicle miles traveled and vehicle trips. Specifically, SB 375 requires CARB to establish GHG emissions reduction targets for each of the 17 regions in California managed by a MPO. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction

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targets for each of the MPOs rather than a total magnitude reduction target. SCAG is the MPO for the southern California region, which includes the counties of Los Angeles, Orange, San Bernardino County, Riverside, Ventura, and Imperial. SCAG's targets are an 8 percent per capita reduction from 2005 GHG emission levels by 2020 and a 13 percent per capita reduction from 2005 GHG emission levels by 2035.

The 2020 targets are smaller than the 2035 targets because a significant portion of the built environment in 2020 has been defined by decisions that have already been made. In general, the 2020 scenarios reflect that more time is needed for large land use and transportation infrastructure changes. Most of the reductions in the interim are anticipated to come from improving the efficiency of the region's existing transportation network. The proposed targets would result in 3 MMTCO₂e of reductions by 2020 and 15 MMTCO₂e of reductions by 2035. Based on these reductions, the passenger vehicle target in CARB's Scoping Plan (for AB 32) would be met (CARB 2010).

SB 375 requires the MPOs to prepare a Sustainable Communities Strategy in their regional transportation plan. For the SCAG region, the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was adopted April 2012 (SCAG 2012). The 2012 RTP/SCS integrates the Orange County Transportation Authority's (OCTA) SCS, which was adopted separately in 2011 (Orange County SCS). The SCS sets forth a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide growth strategies that will achieve the regional GHG emissions reduction targets. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS, but provides incentives for consistency for governments and developers.

Existing Setting

2010 Greenhouse Gas Emissions Inventory

An existing emissions inventory of the City of Menifee was conducted based on the existing land uses and is shown in Table 5.7-4, *2010 City of Menifee Greenhouse Gas Emissions Inventory*. The existing GHG emissions were calculated using OFFROAD2007, EMFAC2011, and emission factors identified in CalEEMod.



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**Table 5.7-4
2010 City of Menifee Greenhouse Gas Emissions Inventory**

Sector	Existing, 2010, GHG Emissions	
	MTCO ₂ e/year	Percent of Total
Transportation ¹	685,320	77%
Energy – Residential ²	104,710	10%
Energy – Nonresidential ²	33,100	4%
Energy – City/Municipal ²	752	<1%
Waste ³	830	<1%
Water/Wastewater ⁴	22,950	3%
Other – Off-road Equipment ⁵	39,070	4%
Existing Community-wide Emissions Total	886,730	100%
MTCO ₂ e/Service Population (SP) ⁶	86,295	NA

Notes: Emissions may not total to 100% due to rounding.

¹ EMFAC2011. Model runs were based on daily per capita VMT data provided by Urban Crossroads.

² Electricity use was modeled using data provided by Southern California Edison (SCE). Natural gas use was modeled using data provided by SoCal Gas. The carbon intensity of SCE's purchased electricity is based on the average CO₂ intensity factor as reported in SCE's 2006 and 2007 Annual Emissions report submitted to the California Climate Action Registry in addition to the intensity factors for CH₄ and N₂O provided by the USEPA e-GRID data for year 2009.

³ CARB Landfill Emissions Tool model, version 1.3, based on waste disposal (municipal solid waste and alternative daily cover) and waste characterization data from CalRecycle (CalRecycle 2013). Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's gas capture system.

⁴ LGOP, version 1.1, based on the Eastern Municipal Water District's 2010 UWMP.

⁵ OFFROAD2007 for Riverside County proportioned based on the City of Menifee as a percentage of Riverside County based on data from the US Census. Area sources exclude emissions from fireplaces and consumer products in the City.

⁶ Based on a service population of existing: 86,295 people (77,519 residents and 8,776 employees).

5.7.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
- GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

South Coast Air Quality Management District

SCAQMD has adopted a significance threshold of 10,000 metric tons (MTCO₂e) per year for permitted (stationary) sources of GHG emissions for which SCAQMD is the designated lead agency. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD has convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) in September 2010, SCAQMD is proposing to adopt a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency:

- **Tier 1.** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

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- **Tier 2.** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. SCAQMD is proposing a "bright-line" screening-level threshold of 3,000 MTCO₂e annually for all land use types or the following land-use-specific thresholds: 1,400 MTCO₂e for commercial projects, 3,500 MTCO₂e for residential projects, or 3,000 MTCO₂e for mixed-use projects. This bright-line threshold is based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their review of 711 CEQA projects, 90 percent of CEQA projects would exceed the bright-line thresholds identified above. Therefore, projects that do not exceed the bright-line threshold would have a nominal, and therefore, less than cumulatively considerable impact on GHG emissions:

- **Tier 3.** If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.
- **Tier 4.** If emissions exceed the screening threshold, a more detailed review of the project's GHG emissions is warranted.

SCAQMD has proposed an efficiency target for projects that exceed the screening threshold. The current recommended approach is per capita efficiency targets. SCAQMD is not recommending use of a percent emissions reduction target. Instead, SCAQMD proposes a 2020 efficiency target of 4.8 MTCO₂e per year per service population (MTCO₂e/year/SP) for project-level analyses and 6.6 MTCO₂e/year/SP for plan level projects (e.g., program-level projects such as general plans). Service population is defined as the sum of the residential and employment populations provided by a project. The per capita efficiency targets are based on the AB 32 GHG reduction target and 2020 GHG emissions inventory prepared for CARB's 2008 Scoping Plan.⁷ For the purpose of this project, project emissions are compared to the SCAQMD's plan-level efficiency threshold of 6.6 MTCO₂e/year/SP, for year 2020. Year 2035 emissions are compared to the efficiency threshold of 4.0 MTCO₂e/year/SP which is based on the long-term GHG reduction target for 2050 (i.e., 80 percent below 1990 levels) interpolated from Executive Order S-03-05. If projects exceed this per capita efficiency target, GHG emissions would be considered potentially significant in the absence of mitigation measures.



5.7.3 Environmental Impacts

Methodology

This GHG evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG impacts are likely to occur in conjunction with future development that would be accommodated by the proposed General Plan.⁸ The City's GHG emissions inventory includes the following sectors:

- **Transportation:** Transportation emissions forecasts were modeled using CARB's EMFAC2011. Model runs were based on daily per capita VMT data provided by Urban Crossroads using the

⁷ SCAQMD took the 2020 statewide GHG reduction target for land use only GHG emissions sectors and divided it by the 2020 statewide employment for the land use sectors to derive a per capita GHG efficiency metric that coincides with the GHG reduction targets of AB 32 for year 2020.

⁸ The methodology utilized in completing the GHG inventory was employed for purposes of fulfilling the requirements of CEQA and may differ from the methodology utilized in completing the GHG inventory found in the City's Climate Action Plan.

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Riverside County Traffic Analysis Model (RivTAM) and 2010, 2020, and 2035 emission rates. The VMT provided in the model includes the full trip length for land uses in the City (origin-destination approach) and for external-internal/internal-external trips (i.e., trips that either start or end within the City limits). Adjusted daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to estimate annual emissions. This assumption is consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement. Modeling was conducted for both a BAU scenario, which does not include GHG emissions reduction from the Pavley Fuel Efficiency Standard, LCFS, and local VMT reduction measures (for post-2035 scenarios only), and a scenario that accounts for these regulations as well as reductions associated with land use and transportation measures included in the General Plan.

- **Residential:** Natural gas and electricity use for residential land uses in the City were modeled using data provided by SoCal Gas and SCE, respectively. Natural gas and electricity use are based on a three-year average to account for fluctuation in annual natural use as a result of natural variations in climate. Forecasts are adjusted for increases in population in the City. The carbon intensity of SCE's purchased electricity is based on the average CO₂ intensity factor as reported in SCE's 2006 and 2007 Annual Emissions report submitted to the California Climate Action Registry in addition to the year 2009 intensity factors for CH₄ and N₂O provided by the USEPA e-GRID data for the Western Electricity Coordinating Council (WECC) Region. Reductions from BAU for residential electricity use include a reduction in carbon intensity of SCE's energy supply required under the 33 percent RPS (CEC 2012), an increase in building energy efficiency as a result of changes to the Building and Energy Efficiency Standards, and energy conservation measures.
- **Nonresidential:** Natural gas and electricity use for nonresidential land uses in the City, including City facilities, were modeled using data provided by SoCal Gas and SCE, respectively. Natural gas and electricity use for non-residential land uses are based on a three-year average to account for fluctuation in annual natural use as a result of natural variations in climate. Municipal natural gas use is based on a two-year average (2010 and 2011) while electricity use is based on 2010 data. Forecasts for non-residential land uses are adjusted for increases in employment in the City while forecasts for municipal uses are adjusted for increase in service population (residents plus employees) in the City. The carbon intensity of SCE's purchased electricity is based on the average CO₂ intensity factor as reported in SCE's 2006 and 2007 Annual Emissions report submitted to the California Climate Action Registry in addition to the year 2009 intensity factors for CH₄ and N₂O provided by the USEPA e-GRID data for the WECC Region. Reductions from BAU for non-residential electricity use includes a reduction in carbon intensity of SCE's energy supply required under the 33 percent RPS (CEC 2012), an increase in building energy efficiency as a result of changes to the Building and Energy Efficiency Standards, and energy conservation measures.
- **Waste:** Modeling of landfilled waste disposed of by residents and employees in the City is based on the waste commitment method using the CARB's Landfill Emissions Tool model, version 1.3, based on waste disposal (municipal solid waste and alternative daily cover) and waste characterization data from CalRecycle (CalRecycle 2013). Landfills in California have gas capture systems, but because the landfill gas captured is not under the jurisdiction of the City, the landfill gas emissions from the capture system are not included in the City's inventory. Only fugitive sources of GHG emissions from landfill are included. Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's gas capture system. The landfill gas capture efficiency is based on CARB's Local Government Operations Protocol (LGOP), Version 1.1. Forecasts are adjusted for increases in population and employment in the City.

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- **Water/Wastewater:** GHG emissions from water and wastewater include indirect GHG emissions from the embodied energy of water and wastewater. Total water generation in the City is based on the Eastern Water Municipal District's 2010 UWMP. Forecasts are adjusted for increases in population and employment and are based on the target per capita SBx7-7.⁹ Energy use from water use and wastewater treatment is estimated using energy rates identified by the CEC (CEC 2006c) and carbon intensity of energy identified by the CPUC (see Residential and Nonresidential and City energy identified above). In addition to the indirect emissions associated with the embodied energy of water use and wastewater treatment, wastewater treatment also results in fugitive GHG emissions from wastewater processing at the Perris Water Treatment Plant. Fugitive emissions from wastewater treatment associated with the City were calculated using the emission factors in CARB's LGOP, Version 1.1. Forecasts are adjusted for increases in population and employment in the City.
- **Other Sources:** OFFROAD2007 was used to estimate GHG emissions from landscaping equipment, light commercial equipment, and construction equipment in the City. OFFROAD2007 is a database of equipment use and associated emissions for each county compiled by CARB. Annual emissions were compiled using OFFROAD2007 for the County of Riverside for year 2010. In order to determine the percentage of emissions attributable to the City of Menifee, landscaping and light commercial equipment is estimated based on population (Landscaping) and employment (Light Commercial Equipment) for the City of Menifee as a percentage of Riverside County. Agricultural equipment is estimated on the amount of agricultural lands in the City of Menifee and County of Riverside provided by the County of Riverside Agricultural Commissioner's Office. For this analysis, it is assumed that agricultural land uses would be reduced by 50 percent by year 2020 and there would be no agricultural uses by horizon year 2035. Construction equipment use is estimated based on building permit data for the City of Menifee and County of Riverside from data compiled by the U.S. Census. Daily off-road construction emissions are multiplied by 347 days per year to account for reduced/limited construction activity on weekends and holidays. Forecasts are adjusted for increases in population and employment in the City, with the exception of construction activities, which assume that construction emissions for the forecast year would be similar to historical levels. Area sources exclude emissions from fireplaces and consumer products in the City.
- **Lifecycle:** Life cycle emissions are not included in this analysis because not enough information is available for the proposed project, and therefore life cycle GHG emissions would be speculative.



The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.7-1: BUILDOUT OF THE PROPOSED GENERAL PLAN WOULD RESULT IN A SUBSTANTIAL INCREASE IN GHG EMISSIONS COMPARED TO EXISTING CONDITIONS. WHILE GHG EMISSIONS AT YEAR 2020 AND 2035 WOULD BE LESS THAN CURRENT LEVELS, COMMUNITY-WIDE GHG EMISSIONS WOULD NOT MEET THE 2020 TARGET OF AB 32 OR THE LONG-TERM GHG REDUCTIONS GOAL UNDER EXECUTIVE ORDER S-03-05. [THRESHOLD GHG-1]

Impact Analysis: Buildout of the City of Menifee would contribute to GHG emissions impacts through direct and indirect GHG emissions. GHG emissions inventories are provided for the following scenarios: AB 32 horizon year 2020, horizon year 2035, buildout of the proposed General Plan in post-2035 (see Table 4-2,

⁹ SBx7-7 (2009) requires all water suppliers to reduce SB per capita urban water use by 20 percent by 2020, with incremental progress towards this goal (10 percent by 2015). The 2010 UWMPs contain water use targets to meet this requirement. Effective 2016, urban retail water suppliers who do not meet the water conservation requirements established by SBx7-7 are not eligible for state water grants or loans.

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Future Buildout Projections) buildout of the proposed General Plan with the Expanded EDC in post-2035 (see Table 4-3, *Future Theoretical Buildout Projects With Expanded EDC Scenario*).

Communitywide GHG Emissions and Statewide Targets

2020 – AB 32 Target Year – Community-Wide GHG Inventory

The community-wide GHG BAU emissions inventory and the emissions inventory with reduction measures incorporated for the City in 2020 compared to 2010 conditions (CEQA Baseline) is included in Table 5.7-5, *2020 Community-Wide GHG Emissions Inventory for the City of Menifee*.¹⁰ For 2020, the reduction measures would reduce GHG emissions by 291,050 MTCO₂e compared to BAU (26 percent reduction in GHG emissions). Compared to the City's 2010 emissions inventory, the City will experience a decrease of 65,120 MTCO₂e emissions (7 percent reduction in GHG emissions from 2010 conditions). Consequently, GHG emissions within the City would decrease as a result of GHG reduction measures implemented by the federal, state, regional, and local agencies. The project would not generate a substantial increase in GHG emissions in the short-term.

Consistency with AB 32 Target

AB 32 set a target of achieving 1990 levels of GHG emissions by 2020. Table 5.7-5 identifies the per capita community-wide GHG emissions with reduction measures incorporated in the City compared to SCAQMD's efficiency metric, which represents the GHG reduction goal under AB 32. As shown in this table, the per service population emissions for year 2020 in the City would not meet the SCAQMD efficiency threshold of 6.6 MTCO₂e/year/SP. Therefore, GHG impacts would not be consistent with the GHG reduction goals under AB 32.

2035 – SCAG Forecast Year

The community-wide GHG emissions inventory for the City in 2035 based on local projections in population and employment compared to existing conditions is included in Table 5.7-6, *Horizon Year 2035 Community-Wide GHG Emissions Inventory for the City of Menifee*. For 2035, the reduction measures would reduce GHG emissions by 411,710 MTCO₂e compared to BAU (32 percent reduction in GHG emissions). Compared to the City's 2010 emissions inventory, the City would experience a decrease of 25,000 MTCO₂e emissions (3 percent reduction in GHG emissions from 2010 conditions). Therefore, GHG emissions within the City would decrease as a result of GHG reduction measures implemented by the federal, state, and regional agencies. The project would not generate a substantial increase in GHG emissions.

Consistency with the Long-Term Goal of Executive Order S-03-05

Executive Order S-03-05 identified a long-term goal of reducing GHG emissions to 80 percent of 1990 levels by 2050. CARB is currently updating the Scoping Plan to identify additional measures to achieve the long-term GHG reduction targets. At this time, there is no plan past 2020 that achieves the long-term GHG reduction goal established under S-03-05. As identified by the California Council on Science and Technology, the state cannot meet the 2050 goal without major advancements in technology (CCST 2012). Likewise, as shown in Table 5.7-6, the community-wide GHG emissions with reduction measures incorporated in the City would not meet the efficiency threshold of 4.0 MTCO₂e/year/SP, which assumes progress toward the long-term goal of reducing GHG emissions to 80 percent of 1990 levels by 2050. Therefore, GHG impacts within the City of Menifee from the short-term growth under the proposed General

¹⁰ The CEQA Baseline differs from "existing conditions" identified as the base year in AB 32. The CEQA baseline is modeled using 2010 emission rates; whereas "existing conditions" under AB 32 is defined as conditions and emission rates in 2005.

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Plan would not achieve the long-term GHG reductions goals under Executive Order S-03-05 and would cumulatively contribute to the long-term GHG emissions in the state.

Post-2035 – Full Buildout of the General Plan Community-Wide GHG Inventory

Full buildout of the land uses within the City as proposed under the General Plan is likely not to occur within the 20-year planning horizon projected by the SCAG forecast. The community-wide GHG emissions inventory for the City at buildout of the proposed General Plan compared to existing conditions is included in Table 5.7-7, *General Plan Buildout (Post-2035) Community-Wide GHG Emissions Inventory for the City of Menifee*. As shown in this table, the Scoping Plan and local measures would result in a reduction of 580,270 MTCO₂e emissions (31 percent reduction) beyond year 2035 compared to BAU. However, buildout of the proposed General Plan would result in an increase of 379,300 MTCO₂e of GHG emissions (37 percent increase in GHG emissions) from existing conditions. Consequently, the proposed project would generate a substantial increase in GHG emissions within the City.

Consistency with the Long-Term Goal of Executive Order S-03-05

As shown in Table 5.7-7, the community-wide GHG emissions with reduction measures incorporated in the City under full buildout of the proposed General Plan would not meet the efficiency threshold of 4.0 MTCO₂e/year/SP. As stated, this efficiency threshold assumes progress toward meeting the long-term goal of reducing GHG emissions to 80 percent of 1990 levels by 2050 set forth under Executive Order S-03-05. Also as stated, there is currently no plan past 2020 that would achieve the long-term GHG reduction goal established under S-03-05 and major advancements in technology would be required to meet the 2050 target. Therefore, GHG impacts within the City of Menifee from full buildout of the proposed General Plan would not achieve the long-term GHG reductions goals under Executive Order S-03-05 and would cumulatively contribute to the long-term GHG emissions in the state.



Post-2035 With Expanded EDC – Full Buildout of the General Plan Community-Wide GHG Inventory

This alternative to the proposed General Plan would expand the Economic Development Corridor (EDC). Similar to the proposed General Plan, full buildout of this alternative is likely not to occur within the 20-year planning horizon projected SCAG. The community-wide GHG emissions inventory for the City at buildout of the proposed General Plan compared to existing conditions is included in Table 5.7-8, *General Plan With Expanded EDC Buildout (Post-2035) With Expanded EDC Community-Wide GHG Emissions Inventory for the City of Menifee*. Similar to the proposed General Plan buildout scenario, the inventory with reduction measures incorporated for this scenario includes reductions from federal, state, and local measures. As shown in this table, the Scoping Plan and local measures would result in a reduction of 615,390 MTCO₂e of GHG emissions (32 percent reduction) beyond year 2035 compared to BAU. However, buildout of the proposed General Plan with Expanded EDC would result in an increase of 446,640 MTCO₂e of GHG emissions (43 percent increase in GHG emissions) from existing conditions. Consequently, the proposed General Plan with Expanded EDC would generate a substantial increase in GHG emissions within the City.

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**Table 5.7-5
2020 Community-Wide GHG Emissions Inventory for the City of Menifee**

Pollutant	2020 GHG Emissions (MTCO _{2e} /Year)				
	2010	2020 BAU	2020 MTCO _{2e} with Reduction Measures	2020 Inventory With Reduction Measures Incorporated Change from 2010	2020 Inventory With Reduction Measures Incorporated Change from 2020 BAU
Transportation ¹	685,320	852,620	599,280	(86,040)	(253,340)
Energy – Residential ²	104,710	119,300	104,430	(280)	(14,870)
Energy – Nonresidential ²	33,100	75,020	60,380	27,280	(14,640)
Energy – City/Municipal	752	942	742	(10)	(200)
Waste ³	830	930	930	100	0
Water/Wastewater ⁴	22,950	25,100	20,970	(1,980)	(4,130)
Other – Off-road Equipment ⁵	39,070	38,750	34,880	(4,190)	(3,870)
Total Community Emissions	886,730	1,036,380	821,610	(65,120)	(291,050)
Net Change in Percentage	N/A	N/A	N/A	(7%)	(26%)
Service Population (SP)⁶	86,295	108,225	108,225	N/A	N/A
Emissions Per Service Population (SP)	10.3 MTCO _{2e} /Year/SP	10.3 MTCO _{2e} /Year/SP	7.6 MTCO _{2e} /Year/SP	N/A	N/A
SCAQMD Proposed Plan-Level Efficiency Standard	N/A	6.6 MTCO _{2e} /Year/SP	6.6 MTCO _{2e} /Year/SP	N/A	N/A

Notes: Emissions forecast based on changes in population (residential energy), employment (nonresidential energy), or service population (City energy, waste, water/wastewater, transportation). The inventory with reduction measures incorporated includes reductions identified in the Scoping Plan associated with transportation (Pavley+LCFS), energy & water/wastewater (33% RPS), and other (LCFS). The current inventory does not account for reductions in building energy use from Title 24 cycle updates. Emissions may not total to 100% due to rounding.

¹ EMFAC2011 based on daily per capita VMT data provided by Urban Crossroads. Modeling was conducted for both a BAU scenario, which does not include GHG emissions reduction from the Pavley Fuel Efficiency Standard and LCFS, and for the ABAU scenario, which includes these statewide regulations. The inventory with reduction measures incorporated also includes reductions from local measures within the proposed General Plan Circulation Element that would reduce VMT by approximately 2.6 percent.

² Electricity use was modeled using data provided by Southern California Edison (SCE). Natural gas use was modeled using data provided by SoCal Gas. The carbon intensity of SCE's purchased electricity is based on the average CO₂ intensity factor as reported in SCE's 2006 and 2007 Annual Emissions report submitted to the California Climate Action Registry in addition to the intensity factors for CH₄ and N₂O provided by the USEPA e-GRID data for year 2009.

³ CARB Landfill Emissions Tool model, version 1.3, based on waste disposal (municipal solid waste and alternative daily cover) and waste characterization data from CalRecycle (CalRecycle 2013). Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's gas capture system.

⁴ LGOP, version 1.1, based on the Eastern Municipal Water District's 2010 UWMP.

⁵ OFFROAD2007 for Riverside County proportioned based on the City of Menifee as a percentage of Riverside County based on data from the US Census. Area sources exclude emissions from fireplaces and consumer products in the City.

⁶ Based on a service population of 2010: 86,295 people (77,519 residents and 8,776 employees); and 2020: 108,225 people (88,331 residents and 19,894 employees).

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**Table 5.7-6
Horizon Year 2035 Community-Wide GHG Emissions Inventory for the City of Menifee**

Pollutant	2035 GHG Emissions (MTCO _{2e} /Year)				
	2010	2035 BAU	2035 MTCO _{2e} with Reduction Measures	2035 Inventory With Reduction Measures Incorporated Change from 2010	2035 Inventory With Reduction Measures Incorporated Change from 2035 BAU
Transportation ¹	685,320	985,210	618,420	(66,900)	(366,790)
Energy – Residential ²	104,710	140,880	120,200	15,490	(20,680)
Energy – Nonresidential ²	33,100	77,480	62,130	29,030	(15,350)
Energy – City/Municipal	752	1,093	852	100	(241)
Waste ³	830	1,080	1,080	250	0
Water/Wastewater ⁴	22,950	28,960	24,190	1,240	(4,770)
Other – Off-road Equipment ⁵	39,070	38,740	34,860	(4,210)	(3,880)
Total Community Emissions	886,730	1,273,440	861,730	(25,000)	(411,710)
Net Change in Percentage	N/A	N/A	N/A	(3%)	(32%)
Service Population (SP)⁶	86,295	124,853	124,853	N/A	N/A
Emissions Per Service Population (SP)	10.3 MTCO_{2e}/Year/SP	10.2 MTCO_{2e}/Year/SP	6.9 MTCO_{2e}/Year/SP	N/A	N/A
SCAQMD Proposed Plan-Level Efficiency Standard	N/A	4.0 MTCO_{2e}/Year/SP	4.0 MTCO_{2e}/Year/SP	N/A	N/A

Notes: Emissions forecast based on changes in population (residential energy), employment (nonresidential energy), or service population (City energy, waste, water/wastewater, transportation).

The inventory with reduction measures incorporated includes reductions identified in the Scoping Plan associated with transportation (Pavley+LCFS), energy & water/wastewater (33% RPS), and other (LCFS). The current inventory does not account for reductions in building energy use from Title 24 cycle updates.

Emissions may not total to 100% due to rounding.

¹ EMFAC2011 based on daily per capita VMT data provided by Urban Crossroads. Modeling was conducted for both a BAU scenario, which does not include GHG emissions reduction from the Pavley Fuel Efficiency Standard and LCFS, and for the ABAU scenario, which includes these statewide regulations. The inventory with reduction measures incorporated also includes reductions from local measures within the proposed General Plan Circulation Element that would reduce VMT by approximately 2.6 percent.

² Electricity use was modeled using data provided by Southern California Edison (SCE). Natural gas use was modeled using data provided by SoCal Gas. The carbon intensity of SCE's purchased electricity is based on the average CO₂ intensity factor as reported in SCE's 2006 and 2007 Annual Emissions report submitted to the California Climate Action Registry in addition to the CH₄ and N₂O intensity factors for the WECC region provided by the USEPA e-GRID data for year 2009.

³ CARB Landfill Emissions Tool model, version 1.3, based on waste disposal (municipal solid waste and alternative daily cover) and waste characterization data from CalRecycle (CalRecycle 2013). Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's gas capture system.

⁴ LGOP, version 1.1, based on the Eastern Municipal Water District's 2010 UWMP.

⁵ OFFROAD2007 for Riverside County proportioned based on the City of Menifee as a percentage of Riverside County based on data from the US Census. Area sources exclude emissions from fireplaces and consumer products in the City.

⁶ Based on a service population of 2010: 86,295 people (77,519 residents and 8,776 employees); and 2035: 124,853 people (104,309 residents and 20,544 employees).

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**Table 5.7-7
General Plan Buildout (Post-2035) Community-Wide GHG Emissions Inventory for the City of Menifee**

Pollutant	Post 2035 GHG Emissions (MTCO _{2e} /Year)				
	2010	P-2035 BAU	P-2035 MTCO _{2e} with Reduction Measures	P-2035 Inventory With Reduction Measures Incorporated Change from 2010	P-2035 Inventory With Reduction Measures Incorporated Change from P-2035 BAU
Transportation ¹	685,320	1,146,010	719,360	34,040	(442,730)
Energy – Residential ²	104,710	214,680	174,120	69,410	(40,560)
Energy – Nonresidential ²	33,100	379,200	277,820	244,720	(101,380)
Energy – City/Municipal	752	2,266	1,694	942	(572)
Waste ³	830	2,240	2,240	1,410	0
Water/Wastewater ⁴	22,950	60,190	49,650	26,700	(10,540)
Other – Off-road Equipment ⁵	39,070	41,720	41,150	2,080	(570)
Total Community Emissions	886,730	1,846,310	1,266,030	379,300	(615,390)
Net Change in Percentage	N/A	N/A	N/A	37%	(32%)
Service Population (SP)⁶	86,295	259,496	259,496	N/A	N/A
Emissions Per Service Population (SP)	10.3 MTCO _{2e} /Year/SP	7.0 MTCO _{2e} /Year/SP	4.9 MTCO _{2e} /Year/SP	N/A	N/A
SCAQMD Proposed Plan-Level Efficiency Standard	N/A	4.0 MTCO _{2e} /Year/SP	4.0 MTCO _{2e} /Year/SP	N/A	N/A

Notes: Emissions forecast based on changes in population (residential energy), employment (nonresidential energy), or service population (City energy, waste, water/wastewater, transportation).

The inventory with reduction measures incorporated includes reductions identified in the Scoping Plan associated with transportation (Pavley+LCFS), energy & water/wastewater (33% RPS), and other (LCFS).

Reductions from local measures within the proposed City of Menifee General Plan Circulation Element are also included. The current inventory does not account for reductions in building energy use from Title 24 cycle updates.

Emissions may not total to 100% due to rounding.

¹ EMFAC2011 based on daily per capita VMT data provided by Urban Crossroads. Modeling was conducted for both a BAU scenario, which does not include GHG emissions reduction from the Pavley Fuel Efficiency Standard and LCFS, and for the ABAU scenario, which includes these statewide regulations. The inventory with reduction measures incorporated also includes reductions from local measures within the proposed General Plan Circulation Element that would reduce VMT by approximately 2.6 percent.

² Electricity use was modeled using data provided by Southern California Edison (SCE). Natural gas use was modeled using data provided by SoCal Gas. The carbon intensity of SCE's purchased electricity is based on the average CO₂ intensity factor as reported in SCE's 2006 and 2007 Annual Emissions report submitted to the California Climate Action Registry in addition to the CH₄ and N₂O intensity factors for the WECC region provided by the USEPA e-GRID data for year 2009.

³ CARB Landfill Emissions Tool model, version 1.3, based on waste disposal (municipal solid waste and alternative daily cover) and waste characterization data from CalRecycle (CalRecycle 2013). Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's gas capture system.

⁴ LGOP, version 1.1, based on the Eastern Municipal Water District's 2010 UWMP.

⁵ OFFROAD2007 for Riverside County proportioned based on the City of Menifee as a percentage of Riverside County based on data from the US Census. Area sources exclude emissions from fireplaces and consumer products in the City.

⁶ Based on a service population of 2010: 86,295 people (77,519 residents and 8,776 employees); and 2035: 259,496 people (158,942 residents and 100,544 employees).

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**Table 5.7-8
General Plan With Expanded EDC Buildout (Post-2035) Community-Wide GHG Emissions Inventory for the City of Menifee**

Pollutant	Post 2035 GHG Emissions (MTCO _{2e} /Year)				
	2010	P-2035 With Expanded EDC BAU	P-2035 with Expanded EDC MTCO _{2e} with Reduction Measures	P-2035 with Expanded EDC Inventory With Reduction Measures Incorporated Change from 2010	P-2035 with Expanded EDC Inventory With Reduction Measures Incorporated Change from P-2035 BAU
Transportation ¹	685,320	1,189,160	746,430	61,110	(442,730)
Energy – Residential ²	104,710	213,990	173,610	68,900	(40,380)
Energy – Nonresidential ²	33,100	435,300	317,930	284,830	(117,370)
Energy – City/Municipal	752	2,396	1,785	1,033	(611)
Waste ³	830	2,360	2,360	1,530	0
Water/Wastewater ⁴	22,950	63,520	49,830	26,880	(13,690)
Other – Off-road Equipment ⁵	39,070	42,040	41,430	2,360	(610)
Total Community Emissions	886,730	1,948,770	1,333,380	446,640	(615,390)
Net Change in Percentage	N/A	N/A	N/A	43%	(32%)
Service Population (SP)⁶	86,295	273,867	273,867	N/A	N/A
Emissions Per Service Population (SP)	10.3 MTCO_{2e}/Year/SP	7.0 MTCO_{2e}/Year/SP	4.9 MTCO_{2e}/Year/SP	N/A	N/A
SCAQMD Proposed Plan-Level Efficiency Standard	N/A	4.0 MTCO_{2e}/Year/SP	4.0 MTCO_{2e}/Year/SP	N/A	N/A

Notes: Emissions forecast based on changes in population (residential energy), employment (nonresidential energy), or service population (City energy, waste, water/wastewater, transportation).

The inventory with reduction measures incorporated includes reductions identified in the Scoping Plan associated with transportation (Pavley+LCFS), energy & water/wastewater (33% RPS), and other (LCFS). Reductions from local measures within the proposed City of Menifee General Plan Circulation Element are also included. The current inventory does not account for reductions in building energy use from Title 24 cycle updates. Emissions may not total to 100% due to rounding.

¹ EMFAC2011 based on daily per capita VMT data provided by Urban Crossroads. Modeling was conducted for both a BAU scenario, which does not include GHG emissions reduction from the Pavley Fuel Efficiency Standard and LCFS, and for the ABAU scenario, which includes these statewide regulations. The inventory with reduction measures incorporated also includes reductions from local measures within the proposed General Plan Circulation Element that would reduce VMT by approximately 2.6 percent.

² Electricity use was modeled using data provided by Southern California Edison (SCE). Natural gas use was modeled using data provided by SoCal Gas. The carbon intensity of SCE's purchased electricity is based on the average CO₂ intensity factor as reported in SCE's 2006 and 2007 Annual Emissions report submitted to the California Climate Action Registry in addition to the CH₄ and N₂O intensity factors for the WECC region provided by the USEPA e-GRID data for year 2009.

³ CARB Landfill Emissions Tool model, version 1.3, based on waste disposal (municipal solid waste and alternative daily cover) and waste characterization data from CalRecycle (CalRecycle 2013). Modeling assumes a 75 percent reduction in fugitive GHG emissions from the landfill's gas capture system.

⁴ LGOP, version 1.1, based on the Eastern Municipal Water District's 2010 UWMP.

⁵ OFFROAD2007 for Riverside County proportioned based on the City of Menifee as a percentage of Riverside County based on data from the US Census. Area sources exclude emissions from fireplaces and consumer products in the City.

⁶ Based on a service population of 2010: 86,295 people (77,519 residents and 8,776 employees); and P-2035 With Expanded EDC: 273,867 people (158,434 residents and 115,433 employees).

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Consistency with the Long-Term Goal of Executive Order S-03-05

As shown in Table 5.7-8, the community-wide GHG emissions with reduction measures incorporated in the City under full buildout of the proposed General Plan with Expanded EDC would not meet the efficiency threshold of 4.0 MTCO₂e/year/SP. As stated, this efficiency threshold assumes progress toward meeting the long-term goal of reducing GHG emissions to 80 percent of 1990 levels by 2050 set forth under Executive Order S-03-05. Also as stated, there is currently no plan past 2020 that would achieve the long-term GHG reduction goal established under S-03-05 and major advancements in technology would be required to meet the 2050 target. Therefore, GHG impacts within the City of Menifee from full buildout of the proposed General Plan with Expanded EDC would not achieve the long-term GHG reductions goals under Executive Order S-03-05 and would cumulatively contribute to the long-term GHG emissions in the state.

IMPACT 5.7-2: THE CITY OF MENIFEE GENERAL PLAN WOULD NOT CONFLICT WITH CARB'S 2008 SCOPING PLAN OR SCAG'S 2012 RTP/SCS. [THRESHOLD GHG-2]

Impact Analysis: The City of Menifee has not yet adopted a qualified GHG reduction plan. However, CARB adopted the 2008 Scoping Plan to identify statewide strategies to achieve the GHG reduction targets of AB 32, and SCAG adopted the 2012 RTP/SCS to achieve the local passenger vehicle per capita GHG reduction targets of SB 375.

CARB Scoping Plan

In accordance with AB 32, CARB developed the Scoping Plan to outline the state's strategy to achieve 1990 level emissions by year 2020. To estimate the reductions necessary, CARB projected statewide 2020 BAU GHG emissions and identified that the state as a whole would be required to reduce GHG emissions by 28.5 percent from year 2020 BAU to achieve the targets of AB 32 (CARB 2008). Since release of the 2008 Scoping Plan, CARB has updated the 2020 GHG BAU forecast to reflect GHG emissions in light of the economic downturn and measures not previously considered in the 2008 Scoping Plan baseline inventory. The revised BAU 2020 forecast shows that the state would have to reduce GHG emissions by 21.6 percent from BAU without Pavley and the 33 percent RPS or 15.7 percent from the adjusted baseline (i.e., with Pavley and 33 percent RPS) (CARB 2012c).

Since adoption of the 2008 Scoping Plan, state agencies have adopted programs identified in the Plan, and the legislature has passed additional legislation to achieve the GHG reduction targets. Statewide strategies to reduce GHG emissions include the LCFS, California Appliance Energy Efficiency regulations; California Building Standards (i.e., CALGreen and the 2013 Building and Energy Efficiency Standards); 33 percent RPS; and changes in the corporate average fuel economy standards (e.g., Pavley I and California Advanced Clean Cars [Pavley II]). In addition the statewide measures, the policies and implementation actions included as part of the proposed General Plan and shown in Table 5.7-9, *City of Menifee Proposed Greenhouse Gas Reduction Policy and Implementation Strategies*, would be consistent with the intent of the Scoping Plan.



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**Table 5.7-9
City of Menifee Proposed Greenhouse Gas Reduction Policy and Implementation Strategies**

Policy/Action	Policy/Implementation Action Description	Reduction in MTCO _{2e}	
		2020	2035
Circulation/Land Use		-253,340 MTCO_{2e}	-366,790 MTCO_{2e}
State Measures			
Pavley I	California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA.		
LCFS	LCFS for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO _{2e} gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The LCFS applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the fuel cycle using the most economically feasible methods		
Policies			
C-1.1	Require roadways to: <ul style="list-style-type: none"> • Comply with federal, state, and local design and safety standards. • Meet the needs of multiple types of users (families, commuters, recreational beginners, exercise experts) and meet ADA standards and guidelines. • Be compatible with streetscape and surrounding land uses. • Be maintained in accordance with best practices. 		
C-2.1	Require on- and off-street pathways to: <ul style="list-style-type: none"> • Comply with federal, state, and local design and safety standards. • Meet the needs of multiple types of users (families, commuters, recreational beginners, exercise experts) and meet ADA standards and guidelines. • Be compatible with streetscape and surrounding land uses. • Be maintained in accordance with best practices. 		
C-2.2	Provide off-street multipurpose trails and on-street bike lanes as our primary paths of citywide travel, and explore the shared use of low speed roadways for connectivity wherever it is safe to do so.		
C-2.3	Require walkways that promote safe and convenient travel between residential areas, businesses, schools, parks, recreation areas, transit facilities, and other key destination points.		
C-2.4	Explore opportunities to expand the pedestrian and bicycle networks; this includes consideration of utility easements, drainage corridors, road rights-of-way and other potential options.		
C-2.5	Work with the Western Riverside Council of Governments to implement the Non-Motorized Transportation Plan for Western Riverside County.		
C-3.1	Maintain a proactive working partnership with transit providers to ensure that adequate public transit service is available.		
C-3.2	Require new development to provide transit facilities, such as bus shelters, transit bays, and turnouts, as necessary.		
C-3.3	Provide additional development-related incentives to projects that promote transit use.		
C-3.4	Advocate expansion of Metrolink service to the area.		
C-3.5	Work with regional transit agencies to secure convenient feeder service from the Metrolink station to employment districts and transit nodes in Menifee.		
C-3.6	Require future community-wide facilities, such as libraries, schools, parks, and community centers, to be sited in transit-ready areas (can be served and made accessible by public transit). Conversely, plan (and coordinate with other transit agencies to plan) future transit routes to serve existing community facilities.		
C-4.1	Encourage the use of neighborhood electric vehicles and golf carts instead of automobiles for local trips.		
Implementation Actions			
Action C13	Encourage developers to provide bikeway and pedestrian connections between developed land uses, as well as bicycle parking accommodations for employees and customers.		

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**Table 5.7-9
City of Menifee Proposed Greenhouse Gas Reduction Policy and Implementation Strategies**

Policy/Action	Policy/Implementation Action Description	Reduction in MTCO_{2e}	
		2020	2035
Action C14	Require Subregional and Community Off-Road Bike Trail dedications from new development projects that are consistent with the alignments identified in Exhibit C-4: Bikeway and Community Pedestrian Network.		
Action C15	Resolve the bikeway alignments, intersections crossings and traffic control features within the Connectivity Analysis Zones identified in Exhibit C-3: Roadway Network prior to approval of new development projects which significantly impact or constrain alignment alternatives in those zones.		
Action C16	Develop and maintain bicycle and walking trail system brochures and maps that educate and inform trail users. This information should be made available on the City's website.		
Action C17	Establish and maintain design standards for the development of various types of bikeway and related improvements—e.g., parkways, bridges, trail heads, and rest stops—that may be necessary to implement the Menifee Bikeway and Community Pedestrian Network (Exhibit C-4). Bikeways shall be designed and constructed in accordance with Chapter 1000, Bikeway Planning and Design, of the Caltrans Highway Design Manual, or as otherwise approved by the City Engineer.		
Action C18	Aggressively seek funding for trails and bikeways from federal and state sources.		
Action C19	Create a Bicycle Master Plan for the City.		
Action C20	Revise Municipal Zoning Code to require bicycle parking at multi-family residential sites in addition to requirements for commercial, service and offices uses.		
Action C21	Require bus shelters, transit bays and turnouts, where appropriate, from new development projects along the existing and potential future transit service routes identified in Exhibit C-4.		
Action C22	Encourage developers to implement transit oriented design best practices in the vicinity of the five Transit Nodes identified in Exhibit C-5: Potential Transit Services.		
Action C23	Develop local transit routes (bus, shuttle or trams) to circulate people between retail centers, medical facilities, offices, schools and residential areas to provide community mobility options.		
Action C24	Participate in and influence regional transportation programs that seek new and creative solutions in public transportation, transportation systems, and traffic management.		
Action C25	Prepare an integrated NEV/Golf Cart Study that covers the entire City and expands upon the backbone network identified in Exhibit C-6: Potential Neighborhood Electric Vehicle Network.		
	Identify areas where public and private parking lots should provide for NEV parking and NEV recharging stations.		
Action C26	Work with WRCOG Clean Cities Coalition and SCAQMD to install electric vehicle charging stations in high traffic areas through grant-funded programs to encourage electric vehicle use.		
Action C27	Revise the permit fees and processing schedule to provide incentives to new and existing commercial, industrial, public, school, medical, and residential projects that provide parking spaces reserved for electric vehicles (NEVs and EVs) and have a charging connection. Incentives could include giving priority in plan review, processing, and field inspection services.		
Action C28	Review and update the existing Golf Cart plan to ensure relevance and provide appropriate implementation.		
Action C29	Prepare an NEV Plan that supports flexible travel options, promotes vehicle emission reductions, integrates with other alternative transportation modes, and incorporates parking standards that recognize the reduced footprint needs inherent with NEVs and golf carts.		
Action OSC59	Evaluate the existing transportation network to identify areas where mobile source pollution can be reduced by making vehicular movement more efficient. Revise the transportation network as necessary. Possible improvements include: installation of dedicated left and right turn lanes, construction of roundabouts, development of Intelligent Transportation systems such as synchronized signal timing, and adaptive traffic control systems, removal of unwarranted stop signs and construction of new and improved freeway on- and off-ramps.		
Action OSC72	Set and monitor performance goals and/or VMT reduction targets that are consistent with the targets set by Southern California Association of Governments (SCAG) Sustainable Communities Strategy and Regional Transportation Plan and Western Riverside Council of Governments (WRCOG) Climate Action Plan.		
Action OSC73	Work with Riverside Transit Agency (RTA), and the Riverside County Transportation Commission (RCTC) to evaluate options to add transit to increase service in Menifee. Improvements include supporting the implementation of a regional Bus Rapid Transit system in Western Riverside County (with a stop in the City of Menifee) and expanded service or a dedicated shuttle to connect Sun City Core to the Menifee Valley Medical Center. Partner		



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**Table 5.7-9
City of Menifee Proposed Greenhouse Gas Reduction Policy and Implementation Strategies**

Policy/Action	Policy/Implementation Action Description	Reduction in MTCO₂e	
		2020	2035
	with RTA to increase the frequency and coverage of buses connecting Menifee to other cities and the nearby existing and proposed rail stations. Possible grant funding sources should be considered in the evaluation.		
Action OSC75	Create a program to incentivize new and existing commercial, industrial, public, school and medical facilities/developments to install shared vehicle parking, car pool parking, additional bike racks, and bus stop shelters. Components of the plan could include reduced permit fees, expedited processing, reduced parking requirements, etc.		
Action OSC76	Design and implement a public outreach campaign to reduce vehicle miles traveled within the City. Campaign components can include a ride sharing board at City Hall and an on-line version through the City website, promotion of RTA's schedule, passes, and programs, the City's Bicycle Master Plan when Complete, as well as electric vehicles and their routes/street network.		
Building and Energy Efficiency		2020	2035
		-33,840 MTCO₂e	-41,041 MTCO₂e
State Measures			
Title 24 Energy Standards	Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission in June 1977 and updated triannually (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the California Energy Commission (CEC) adopted the 2013 Building and Energy Efficiency Standards, which go into effect on January 1, 2014. Buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent (residential) to 30 percent (nonresidential) more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes and businesses.		
Title 24 CALGreen	On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (CALGreen) was adopted as part of the California Building Standards Code (Part 11, Title 24, California Code of Regulations). CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011.		
33% RPS	Executive Order S-14-08 was signed in November 2008, which expands the state's renewable energy standard to 33 percent renewable power by 2020. In 2011, the state legislature adopted this higher standard in SBX1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production will decrease indirect GHG emissions from development projects, because electricity production from renewable sources is generally considered carbon neutral.		
Title 25	The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and nonfederally regulated appliances.		
Policies			
OSC-9.5	Comply with the mandatory requirements of Title 24 Part 11 of the California Building Standards Code (CALGreen) and the Title 24 Part 6 Building Energy Efficiency Standards.		
Implementation Actions			
Action OSC65	Establish a reduced permit fee schedule for energy saving projects or energy efficiency improvements in Menifee homes and businesses.		
Action OSC66	Complete a solar analysis and implement a five year plan to establish solar energy generation on municipal buildings.		
Action OSC67	Create a Solar Plan that provides incentives and coordinates financing for city residences and businesses to invest in solar energy.		

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**Table 5.7-9
City of Menifee Proposed Greenhouse Gas Reduction Policy and Implementation Strategies**

Policy/Action	Policy/Implementation Action Description	Reduction in MTCO_{2e}	
		2020	2035
Action OSC68	Conduct energy efficiency audits of existing municipal buildings to check, repair, and readjust heating, ventilation, air conditioning, lighting, water heating equipment, insulation, and weatherization.		
Action OSC69	Revise the Menifee Municipal Code to include energy efficient light sources such as LED, LPS (Lower Pressure Sodium), HPS (High Pressure Sodium) and solar powered signage and regulation of parking lot and building light fixtures require full cut-off fixtures, except emergency exit or safety lighting. In addition, require that all permanently installed exterior lighting be controlled by either a photocell or an astronomical time switch. Prohibit continuous all night outdoor lighting unless required for security reasons.		
Action OSC71	Train all plan check and building inspection staff in appropriate use of green building materials, techniques, and best practices.		
Action OSC74	Work with EMWD to create a public outreach campaign to reduce energy use and conserve water. Campaign components can include workshops, brochures, mailers, website links, etc. Topics to highlight include: changes in Menifee's Building Code, how to implement whole house energy upgrades or other energy efficiency improvements for residents and businesses, the WRCOG HERO financing program and other subregional energy conservation efforts, as well as the City's the Solar Plan when complete.		
Action OSC77	Adopt a Green Building Ordinance that requires energy efficient design, in excess of Title 24 standards, for all new residential and non-residential buildings. Require 30 percent above the 2008 Building Energy Efficiency standards in Title 24 to coincide with the Voluntary Tier 2 standards for the 2010 California Green Building Code (CALGreen).		
General GHG Reduction Policies and Implementation Actions		2020	2035
		-3,870 MTCO_{2e}	-3,880 MTCO_{2e}
State Measures			
LCFS	LCFS for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO _{2e} gram per unit of fuel energy sold in California. The LCFS requires a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The LCFS applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the fuel cycle using the most economically feasible methods		
Policies			
OSC-10.1	Align the City's local GHG reduction targets to be consistent with the statewide GHG reduction target of AB 32.		
OSC-10.2	Align the City's long-term GHG reduction goal consistent with the statewide GHG reduction goal of Executive Order S-03-05.		
OSC-10.3	Participate in regional greenhouse gas emissions reductions initiatives.		
OSC-10.4	Consider impacts to climate change as a factor in evaluation of policies, strategies, and projects.		
Implementation Actions			
Action OSC60	Create and implement a public outreach program to recognize and reward companies and residents using innovative approaches to improve air quality. Programs could include recognition on the City's website or a certificate presented at a City Council meeting.		
Action OSC61	Provide a link to SCAQMD's website and promote their regional events and incentive programs through the City's website and at City Hall.		
Action OSC62	Require new development projects and substantial redevelopment projects subject to CALGreen to provide proof of submittal of a Construction Waste Management Plan (CWMP). Project applicants should work with Riverside County Waste Management Department to prepare the CWMP. Require the CWMP to include control measures that will also protect air quality such as but not be limited to: *Minimizing simultaneous operation of multiple construction equipment units. *Implementation of South Coast Air Quality Management Plan (AQMP). *Fugitive Dust Control Measures. *Construction vehicle and equipment emissions standards and controls.		
Action OSC63	Monitor regional air quality issues and apply for local government grants through SCAQMD to improve air quality in the City and the larger South Coast Air Basin.		
Action OSC64	Provide technical assistance and demographic data to SCAG and SCAQMD for the development of future projections and programs.		



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GREENHOUSE GAS EMISSIONS

**Table 5.7-9
City of Menifee Proposed Greenhouse Gas Reduction Policy and Implementation Strategies**

Policy/Action	Policy/Implementation Action Description	Reduction in MTCO₂e	
		2020	2035
Action OSC70	Establish a tracking and monitoring system for greenhouse gas emissions that includes Planning and Building design review standards to evaluate a project's contribution to GHG emissions to demonstrate compliance with AB 32.		
Total GHG Reductions		2020	2035
		-291,050 MTCO₂e	-411,710 MTCO₂e

The Circulation Element policies and implementation actions presented in Table 5.7-9 would provide an overall VMT reduction of 2.6 percent (Urban Crossroads 2013b). This reduction in VMT would therefore reduce the overall transportation-related GHG emissions. Implementation Action OSC77 would result in construction of new buildings that are 30 percent more energy efficient than what is required in the 2008 Building Energy Efficiency standards. In addition, this implementation action would increase the energy efficiency of new residential buildings by 5 percent above the 2013 Building Energy Efficiency Standards. Compliance with state and local regulations would ensure that the growth under the City of Menifee General Plan would not conflict with the Scoping Plan. Therefore, impacts would be less than significant.

SCAG's 2012 RTP/SCS

SCAG's 2012 RTP/SCS is a regional growth management strategy that targets per capita GHG reduction from passenger vehicles and light duty trucks in the Southern California region. The 2012 RTP/SCS incorporates local land use projections and circulation networks in the cities' and counties' general plans. The projected regional development pattern, including location of land uses and residential densities included in local general plans, when integrated with the proposed regional transportation network identified in the 2012 RTP/SCS, would reduce per capita vehicular travel-related GHG emissions and achieve the GHG reduction per capita targets for the SCAG region.

The proposed Land Use Plan would intensify development of non-residential land uses and improve the jobs-housing balance within the City of Menifee. This land use strategy is consistent with the overall goal of the 2012 RTP/SCS as improvement in the jobs-housing balance could potentially reduce VMT. Additionally, Table 5.10-1, *Consistency with SCAG's 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy Goals*, provides an assessment of the proposed project's relationship to applicable RTP/SCS goals. As identified in this table, the proposed project would be consistent with the applicable RTP/SCS goals. Therefore, the General Plan is consistent with SCAG's 2012 RTP/SCS.

5.7.4 Existing Regulations and Standard Conditions

- AB 32: California Global Warming Solutions Act
- Executive Order S-3-05: Greenhouse Gas Emission Reduction Targets
- Pavley Fuel Efficiency Standards (AB1493). Establishes fuel efficiency ratings for new cars.
- Title 24 California Code of Regulations, Part 6 (Building and Energy Efficiency Standards). Establishes building energy efficiency standards for residential and nonresidential development.

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- Title 24 California Code of Regulations, Part 11 (California Green Building Code). Establishes sustainability criteria to reduce building energy use and water use for new residential and non-residential development.
- Title 20 California Code of Regulations (Appliance Energy Efficiency Standards). Establishes energy efficiency requirements for appliances.
- Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires the carbon content of fuel sold in California to be 10 percent less by 2020.
- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes.
- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions.
- Renewable Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020. California Code of Regulations, Title 24: Energy Efficiency Standards.

Relevant General Plan Policies

Relevant Menifee General Plan policies are in the Open Space and Conservation Element and the Circulation Element and are listed in Appendix C of this EIR.



5.7.5 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impact would be less than significant: 5.7-2.

Without mitigation, the following impact would be **potentially significant**:

- Impact 5.7-1 Buildout of the proposed General Plan would result in an increase in GHG emissions compared to existing conditions and would not achieve the AB 32 reduction target or the long-term GHG reductions goals under Executive Order S-03-05.

These significance conclusions also apply to the Expanded EDC Scenario.

5.7.6 Mitigation Measures

Impact 5.7-1

- a) The City of Menifee General Plan includes policies and measures (shown in EIR GHG section Table 5.7-9) for the City to implement in support of achieving the reduction target of AB 32 and the statewide GHG reduction goal of Executive Order S-03-05.
- b) Implementation of Mitigation Measure 3-1 under Air Quality.

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5.7.7 Level of Significance After Mitigation

Impact 5.7-1

The policies and implementation actions in the proposed General Plan are the City's GHG Reduction Plan measures that would ensure that GHG emissions from buildout of the proposed General Plan would be minimized to the extent feasible. Table 5.7-9 identifies the GHG reductions associated with state and local GHG reduction measures. As identified in Table 5.7-9, these measures would reduce GHG emissions by 291,055 MTCO₂e in 2020 (26 percent reduction) and by 411,709 MTCO₂e in 2035 (32 percent reduction). Table 5.7-5 and Table 5.7-6 identify GHG emissions based on the population and employment forecast in 2020 and 2035, respectively. As shown in these Tables, with state and local GHG reduction measures, GHG emissions would be less than current levels even though the City is growing.

However, the General Plan provides a vision for the City of Menifee beyond 2035. Population and employment growth at full buildout of the General Plan would be a substantial increase from existing conditions. As a result, the increase in new emissions sources would outweigh reductions the City could achieve from state and local GHG reduction measures. Due to the magnitude of emissions generated by the buildout of residential, office, commercial, industrial, and warehousing land uses, there are no other feasible mitigation measures available to reduce GHG emissions to a level where buildout of the proposed General Plan would meet the SCAQMD efficiency target of AB 32 of 6.6 MTCO₂e in 2020 or an increased efficiency by 2035 of 4.0 MTCO₂e under Executive Order S-03-05. The proposed General Plan would also substantially improve the jobs-housing balance at buildout. The City of Menifee is jobs poor and housing rich. Residents within the City typically travel substantial distances, compared to more urbanized areas of Southern California, to their places of employment. Based on the VMT provided by Urban Crossroads, people who live or work within the City of Menifee travel, on average, 57 miles per day (e.g., average commute trip length is greater than 28 miles one-way). Based on the VMT provided by Urban Crossroads, this distance would decrease 32 to 31 (with the Expanded EDC) miles per day.

It should be noted that additional statewide measures would be necessary to reduce GHG emissions under the proposed General Plan to meet the long-term GHG reduction goals under Executive Order S-03-05, which identified a goal to reduce GHG emissions to 80 percent of 1990 levels by 2050. At this time, there is no plan past 2020 that achieves the long-term GHG reduction goal established under S-03-05.

While the General Plan would increase land use intensity in Menifee and allow for an improved jobs-housing ratio, Impact 5.7-1 would remain significant and unavoidable for the proposed General Plan and for the Expanded EDC Scenario.