

4.7 GREENHOUSE GAS EMISSIONS

This chapter describes the existing conditions in the Ravenswood/4 Corners Transit-Oriented Development Specific Plan area and evaluates the potential impacts of the Plan on greenhouse gas (GHG) emissions. A summary of the relevant regulatory setting and existing conditions is followed by a discussion of Plan-specific and cumulative impacts.

A. Background

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide and water vapor but there are also several others, most importantly: methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These are released into the earth's atmosphere through a variety of natural processes and human activities.

- ◆ Carbon dioxide and nitrous oxide are byproducts of fossil fuel combustion.
- ◆ Nitrous oxide is associated with agricultural operations such as fertilization of crops.
- ◆ Methane is commonly created by off-gassing from agricultural practices (e.g. keeping livestock) and landfill operation.
- ◆ Chlorofluorocarbons were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- ◆ Hydrofluorocarbons are now used as a substitute for chlorofluorocarbons in refrigeration and cooling.
- ◆ Perfluorocarbons and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with carbon dioxide being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger with a GWP of 23,900. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of carbon dioxide equivalents (CO₂e).

An expanding body of scientific research supports the theory that global warming is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally-occurring resources within California could be adversely affected by the global warming trend. Increased precipitation and sea level rise could increase coastal flooding, saltwater intrusion (a particular concern in the low-lying Sacramento–San Joaquin Delta, where potable water delivery pumps could be threatened), and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

B. Regulatory Framework

This section summarizes key federal, State and City statutes, regulations and policies that would apply to the Plan. Global climate change resulting from GHG emissions is an emerging environmental concern being raised and discussed at the international, national, and statewide level. At each level, agencies are considering strategies to control emissions of gases that contribute to global warming.

1. Federal Laws and Regulations

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). While the United States signed the Kyoto

Protocol, which would have required reductions in GHGs, Congress never ratified the protocol. The federal government chose voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science. In 2002, the United States announced a strategy to reduce the GHG intensity of the American economy by 18 percent over a 10-year period from 2002 to 2012. At this time, there are no federal regulations or policies pertaining to GHG emissions.

2. State Laws and Regulations

The State of California is concerned about GHG emissions and their effect on global climate change. The State recognizes that “there appears to be a close relationship between the concentration of GHGs in the atmosphere and global temperatures” and that “the “evidence for climate change is overwhelming.” The effects of climate change on California, in terms of how it would affect the ecosystem and economy, remain uncertain. The State has many areas of concern regarding climate change with respect to global warming. According to the 2006 Climate Action Team Report, the following climate change effects and conditions can be expected in California over the course of the next century:

- ◆ A diminishing Sierra snowpack declining by 70 percent to 90 percent, affecting the state’s water supply;
- ◆ Increasing temperatures from 8 to 10.4 degrees Fahrenheit (°F) under the higher emission scenarios, leading to a 25 to 35 percent increase in the number of days ozone pollution standards are exceeded in most urban areas;
- ◆ Coastal erosion along the length of California and seawater intrusion into the Sacramento River Delta from a 4- to 33-inch rise in sea level. This would exacerbate flooding in already vulnerable regions;
- ◆ Increased vulnerability of forests due to pest infestation and increased temperatures;

- ◆ Increased challenges for the state’s important agricultural industry from water shortages, increasing temperatures, and saltwater intrusion into the Delta; and
- ◆ Increased electricity demand, particularly in the hot summer months.

a. Assembly Bill 1575 (1975)

In 1975, the Legislature created the California Energy Commission (CEC). The CEC regulates electricity production that is one of the major sources of GHGs. AB 1575 amended Public Resources Code Section 21100 et seq.

b. Title 24, Part 6 of the California Code of Regulations (1978)

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2005 Standards went into effect October 1, 2005. Projects that apply for a building permit on or after this date have had to comply with the 2005 Standards. The 2008 Standards are currently being developed and were anticipated to become effective in late 2009.

c. Assembly Bill 1493 (2002)

Assembly Bill (AB) 1493 required California Air Resources Board (CARB) to develop and adopt regulations that reduce GHG emitted by passenger vehicles and light duty trucks. AB 1493 amended Health and Safety Code Sections 42823 and 43018.5.

d. State of California Executive Order S-3-05 (2005)

The Governor’s Executive Order established aggressive emissions reductions goals: by 2010, GHG emissions must be reduced to 2000 levels; by 2020, GHG emissions must be reduced to 1990 levels; and by 2050, GHG emissions must be reduced to 80 percent below 1990 levels.

In June 2005, the Governor of California signed Executive Order S-3-05, which identified Cal/EPA as the lead coordinating State agency for establish-

ing climate change emission reduction targets in California. A “Climate Action Team,” a multi-agency group of State agencies, was set up to implement Executive Order S-3-05. Under this order, the State plans to reduce GHG emissions to 80 percent below 1990 levels by 2050. GHG emission reduction strategies and measures to reduce global warming were identified by the California Climate Action Team in 2006.

e. Assembly Bill 32, California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codifies the State’s GHG emissions target by directing CARB to reduce the State’s global warming emissions to 1990 levels by 2020. CARB regulations are required to begin phasing in by 2012. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. AB 32 has been codified in Health and Safety Code section 38500, et seq. Since that time, the CARB, CEC, CPUC, and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State’s main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. It requires CARB and other State agencies to develop and adopt regulations and other initiatives reducing GHGs by 2012.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons of carbon dioxide equivalent (MMTCO_{2e}) as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit.

CARB is also conducting rulemaking, culminating in rule adoption by January 1, 2011 for reducing GHG emissions to achieve the emissions cap by 2020. The rules must take effect no later than 2012. In designing emission reduction measures, CARB must aim to minimize costs, maximize benefits, improve and modernize California's energy infrastructure, maintain electric system reliability, maximize additional environmental and economic co-benefits for California, and complement the State's efforts to improve air quality.

In addition, landfill gas capture and control was identified as an early adoption measure for AB 32, and CARB has proposed a rule requiring gas capture and collection for landfills having at least 450,000 tons of waste in place and establishing performance standards for systems already installed.

f. Senate Bill 97, Modification to the Public Resources Code (2007)
Pursuant to Senate Bill 97 (SB 97), the Governor's Office of Planning and Research (OPR) is in the process of developing CEQA Guidelines addressing GHGs. OPR is required to "prepare, develop, and transmit" the guidelines to the Resources Agency on or before July 1, 2009. In June 2008, OPR issued interim guidance for addressing climate change through CEQA. SB 97 amended Public Resources Code Section 21083.05.

At the direction of the OPR, CARB is currently developing statewide interim thresholds of significance for green house gas emissions. CARB is focusing on common project types that, collectively, are responsible for substantial GHG emissions – specifically industrial, residential, and commercial projects. The ongoing workshops have been planned to discuss further development of concepts introduced in its Preliminary Draft Staff Proposal on Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act (CEQA).

g. Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

Recently, California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB375 amended Public Resources Code Section 21061.3 and added Sections 21155, 21155.1, 21155.2, 21155.3 and 21159.28. SB 375 would develop emissions-reduction goals in which regions can apply in planning activities. SB 375 provides incentives for local governments and developers to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows developers to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB would work with the metropolitan planning organizations (e.g. ABAG and MTC) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

h. Executive Order S-13-08 (2008)

This Executive Order directed California agencies to assess and reduce the vulnerability of future construction projects to impacts associated with sea-level rise.

i. California's Heavy Duty Vehicle Greenhouse Gas Emissions Reduction Measure

On December 12, 2008 (one day after adopting the AB 32 Climate Action Plan), CARB adopted the Heavy Duty Vehicle GHG Emission Reduction measure that requires long-haul truckers to install fuel-efficient tires and aero-

dynamic devices on their trailers. This measure will reduce GHG emissions through improved fuel economy.

3. Regional and City Regulations

a. Bay Area Air Quality Management District (BAAQMD)

In 2005, the BAAQMD initiated a Climate Protection Program that integrates climate protection activities into existing District programs and functions. Current BAAQMD climate action activities include grant programs, CEQA commenting, regulations, inventory development, and outreach. BAAQMD awarded \$3 million to 53 local climate protection programs aimed at reducing GHG emissions in the Bay Area. Elementary school teaching curriculums have been developed by the District.

A regional GHG emission inventory for 2002 was developed by BAAQMD and recently updated for 2007 conditions. This inventory provides an overview of GHG emission sources in the Bay Area, including a breakdown by county levels and emission sectors. The inventory allows District staff and others to identify emission sectors where potential GHG and criteria pollutant emission reductions can be achieved.

In 2008, BAAQMD adopted a fee program that applies to permitted stationary sources. These fees are used to fund the District's climate protection programs, while providing an incentive for sources to reduce their emissions.

BAAQMD is currently developing a comprehensive clean air plan update to address regional air pollution. This plan will also include BAAQMD plans to reduce GHG emissions.

BAAQMD adopted revised CEQA guidelines in May, 2011.¹ The guidelines include proposed thresholds for evaluating GHG emissions to ensure that

¹ BAAQMD, 2011. *California Environmental Quality Act. Air Quality Guidelines*, updated May 2011.

GHG emissions reductions targets specified in AB 32 are achieved in the Bay Area.

b. City of East Palo Alto Climate Action Plan

The City of East Palo Alto adopted a Climate Action Plan and IS/ND on September 20, 2011.² The Climate Action Plan provides a foundation for future community efforts to reduce GHG emissions. It is expected that future projects will identify and incorporate specific applicable measures from the Climate Action Plan.

The Climate Action Plan includes 23 actions to address climate change with measures, such as emission reductions and energy and water conservation goals. These GHG reduction measures and actions are structured around the four general categories of GHG emissions, as identified by the GHG inventory. The following describes the categories and the goals.

i. *Energy Use in Buildings (Commercial/Industrial and Residential)*

- ◆ Goal E-1: Become More Energy Efficient
- ◆ Goal E-2: Increase Renewable Energy

ii. *Transportation and Land Use*

- ◆ Goal TL-1: Prioritize Smart Growth Land Use
- ◆ Goal TL-2: Improve Public Transportation
- ◆ Goal TL-3: Encourage Walking and Bicycling
- ◆ Goal TL-4: Increase Urban Green Space

iii. *Waste*

- ◆ Goal W-1: Promote Material Re-use
- ◆ Goal W-2: Increase Recycling
- ◆ Goal W-3: Increase Composting

² City of East Palo Alto, 2011. Staff Report Item No. 29, Climate Action Plan and Initial Study and Negative Declaration. September 20.

iv. Municipal Operations

- ◆ Goal MU-1: Increase Municipal Energy Efficiency and Renewable Energy
- ◆ Goal MU-2: Efficient Municipal Transportation
- ◆ Goal MU-3: Work Towards Zero Waste Government Operations

C. Existing Conditions

1. Greenhouse Gas Inventories

a. U.S. Inventory

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC). The U.S. EPA is developing rulemaking to regulate GHGs under the Clean Air Plan (note that a 2007 Supreme Court ruling held that the U.S. EPA can regulate GHG emissions).³

As part of the commitments to UNFCCC, the U.S. EPA has developed an inventory of anthropogenic emissions by sources and removals by sinks of all greenhouse gases. This inventory is periodically updated with the latest update being 2009.⁴ EPA reports that total U.S. emissions have risen by 7.3 percent from 1990 to 2009 to 6,633 million metric tons of equivalent CO₂ per year, while emissions decreased by 6.1 percent from 2008 to 2009. The decrease was primarily due to a decrease in economic output (resulting in lower energy consumption) and a decrease in the carbon density of fuels used to

³ On April 2, 2007, the United States Supreme Court issued a 5-4 decision in *Massachusetts v. EPA*, which holds that the U.S. Environmental Protection Agency has authority, under the Clean Air Act, to regulate greenhouse gas emissions from new vehicles. The U.S. EPA had previously argued it lacked legal authority under the Clean Air Act to regulate greenhouse gases. The majority opinion of the Supreme Court decision noted that greenhouse gases meet the Clean Air Act's definition of an "air pollutant," and the EPA has the statutory authority to regulate the emission of such gases from new motor vehicles.

⁴ U.S. EPA, 2011. *2011 U.S. Greenhouse Gas Inventory Report Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2009. (April 2011) USEPA #430-R-11-005.*

generate electricity. The inventory notes that the electric power industry is the highest emitter by economic sector at 33 percent. The transportation sector emits about 27 percent of CO₂ equivalent emissions, with 60 percent of those emissions coming from personal automobile use. Residential uses, primarily from energy use, accounted for 20 percent of CO₂ emissions.

As a part of U.S. EPA's responsibility to develop and update an inventory of U.S. GHG emissions and sinks, EPA compared trends of other various U.S. data. Over the period between 1990 and 2009, GHG emissions grew at a rate of about 0.4 percent per year. Population growth was higher at 1.1 percent, while electricity consumption was at 1.5 percent and fossil fuel use grew at 0.5 percent. Gross domestic product grew at a much higher rate of 2.5 percent.

b. State of California Inventory

California emissions of GHGs or CO₂ equivalent emissions was estimated at 484 million metric tons of equivalent CO₂ emissions (MMT_{CO₂e}), which is about 7 percent of the emissions from the entire United States. It is estimated that the United States contributes up to 35 percent of the world's CO₂ equivalent emissions. Transportation is the largest source of GHG emissions in California, contributing about 40 percent of the emissions. Electricity generation is second at over 20 percent, but California imports electricity during the summer bringing energy sources up to about 25 percent. Industrial activities account for about 20 percent of the State's emissions. Transportation is the largest source of GHG emissions in California, followed by industrial sources and electric power generation. On a per-person basis, GHG emissions are lower in California than most other states; however, California is a populous state and the second largest emitter of GHGs in the United States and one of the largest emitters in the world.

Under a "business as usual" scenario, emissions of GHG in California are estimated to increase to approximately 600 MMT_{CO₂e} by 2020. CARB staff has estimated the 1990 statewide emissions level to be 427 MMT_{CO₂e}, therefore, requiring a reduction of almost 30 percent in emissions by 2020 to meet the AB 32 goal.

CARB updated the future 2020 forecast in light of the economic downturn and updated the 2020 projected annual emissions to 545 million metric tons of CO_{2e}. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 million metric tons of CO_{2e}. Thus, an estimated reduction of 80 million metric tons of CO_{2e} is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

c. Bay Area Inventory

BAAQMD estimated GHG emissions for the Bay Area in 2007.⁵ It estimates that the total Bay Area emissions were 102.7 million metric tons of equivalent CO₂ (MMCO_{2e}). The inventory is broken down by county, of which San Mateo County accounted for 8.9 percent. Similar to most Bay Area counties, most of San Mateo County's emissions are from transportation.

d. City of East Palo Alto GHG Emissions

The adopted Climate Action Plan includes a "Baseline Emissions Inventory for 2005." The City emitted approximately 140,500 metric tons of CO_{2e} that year. Over 60 percent of those emissions were transportation related. A majority of these emissions were from regional traffic on the State highways that include Route 84 (Bayfront Expressway), Route 114 (Willow Road) and Route 109 (University Avenue). Much of this regional traffic is passing through East Palo Alto. However, the emissions inventory does not reflect emissions from vehicle traffic generated by East Palo Alto that occurs outside the City limits.

⁵ BAAQMD, 2010. *Source Inventory of Bay Area Greenhouse Gas Emissions.*

D. Standards of Significance

1. Amendments to CEQA Appendix G Checklist

The Natural Resources Agency conducted formal rulemaking in 2009, as required by SB 97 for issuing criteria to determine the significance of projects or plans. Projects or plans would have a significant impact if they would:

- a. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
- b. Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs

OPR recommends that each agency develop an approach to addressing GHG emissions that is based on best available information. The approach includes three basic steps: (1) identify and quantify emissions; (2) assess the significance of the emissions; and (3) if emissions are significant, identify mitigation measures or alternatives that will reduce the impact to a less-than-significant level.

It is also recommended that EIRs explain how climate change may result in environmental impacts that are applicable to a particular project site. If applicable to the project site, the following potential impacts should be discussed: wildfire hazard, flooding, and water supply reliability.

2. Significance Thresholds

The BAAQMD released thresholds of significance in their latest CEQA Air Quality Guidelines dated May 2011 to include performance standards for Plans and projects. BAAQMD proposes the two different project thresholds of significance for GHG emissions from plans: (1) compliance with a qualified Climate Action Plan or (2) emissions of 4.6 metric tons of CO₂e per service population per year.^{6,7,8}

⁶ BAAQMD, 2011. *California Environmental Quality Act. Air Quality Guidelines*, updated May, 2011.

The City of East Palo Alto has adopted a Climate Action Plan and an IS/ND. The discussion below under 1.b. analyzes the Climate Action Plan and its qualifications according to the BAAQMD criteria, and judges the Specific Plan GHG emissions under the performance-based thresholds.

E. Impact Discussion

Because global warming is the result of GHG emissions and these emissions are the result of innumerable sources worldwide, global climate change is a cumulative impact and all analyses are, by their nature, cumulative analyses.

1. Plan and Cumulative Impacts

The following provides a discussion of the potential GHG impacts that could occur as a result of implementation of the Plan.

- a. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. *(LTS)*

Operation-related GHG emissions derive primarily from five sources:

- ◆ Mobile source emissions due to additional trips generated by the Plan.
- ◆ Emissions from electricity generated by fossil-fuel power plants to the Plan Area.
- ◆ Emissions caused by consumption of natural gas for heating, cooking and water heating within the Plan.
- ◆ Municipal emissions created by transport and treatment of water supply to the Plan and by electricity used to light streets.
- ◆ Municipal emissions created by the disposal and decomposition in landfills of solid waste generated from the Plan Area.

⁷ The threshold of 6.6 from the May 2011 BAAQMD guidelines is only applicable to General Plans.

⁸ The term Service Population refers to the total number of employees and residents in the Plan Area.

GHG emissions were modeled for year 2020 to be consistent with AB 32 targets used by BAAQMD to develop GHG significance thresholds. In addition, emissions were also modeled for 2035, which is the assumed buildout year of the Specific Plan. The GHG emissions associated with the development of the Plan were calculated based primarily on guidance in the BAAQMD CEQA Air Quality Guidelines. Area and mobile source emissions were calculated using the URBEMIS2007 model using the Specific Plan land uses and trip generation forecasts. The URBEMIS2007 input file was then used with the BAAQMD Greenhouse Gas Model (BGM), to provide annual GHG emissions in terms of metric tons of CO_{2e}.

The URBEMIS2007 modeling used the project size and type to predict area source and operational (traffic-related) emissions. The total square footages for the various land uses (e.g., residential, office, retail, etc.) were input to the model. The traffic study trip generation rates were inputted to the model.

As discussed above, the BGM model uses the URBEMIS2007 input model file. The BGM model provides CO_{2e} emissions associated with transportation, area sources, natural gas usage, electricity usage, electricity usage associated with water conveyance, and solid waste generation. This model applies adopted Pavley rules and the low carbon fuel standard to URBEMIS2007 predicted vehicle emissions.

Adjustments were made either in the BGM model or to the model output. Trip generation rates were adjusted to reflect the traffic study predictions that take into account the mix of uses and retail pass-by trips. Hexagon Transportation Consultants predicted the daily trip generation for the Plan Area (see Table 4.14-5). Since Hexagon applied these reductions to the total trips, an adjusted trip generation rate was computed and used in the URBEMIS2007 modeling.⁹ Appendix 3, which includes the GHG modeling information, contains the trip rate computations that are based on Hexagon data.

⁹ Reductions in emissions associated with transit or a Transportation Demand Management Program were not included in the traffic modeling assumptions and also not included in the GHG modeling.

Emission of CO₂e associated with natural gas combustion and electricity usage were computed using default consumption rates contained in BGM. Since the proposed project would include construction of new buildings that would be compliant with new State Building code, energy efficiency was assumed to be at least 15 percent greater than existing conditions.

Emissions associated with electricity consumption output by BGM were adjusted to account for Pacific Gas & Electric utility's (PG&E) lower emission rate. BGM uses a statewide rate of 805 pounds of CO₂ per megawatt of electricity produced, while the rate for PG&E is much lower at about 526 pounds of CO₂ per megawatt. The PG&E rate was also adjusted to account for increased use of renewable sources. The current renewable portfolio of 13 percent was assumed to increase to 20 percent by 2020 and 33 percent before 2035.

Default emissions rates of water and wastewater conveyance were used. The BGM output emissions for CO₂e were adjusted based on the PG&E emissions rates for electricity described above.

For this assessment, a county-wide waste diversion rate of 50% was assumed in the modeling. Although GHG emissions were not included in development of the significance threshold by BAAQMD, they are included in this assessment.

The per capita rate is the total annual GHG emissions expressed in metric tons divided by the service population. New development under the Specific Plan is estimated to produce 4,851 new jobs and 2,766 new residences (see Section 4.12, Population and Housing).

The results shown in Table 4.7-1 reflect the primary features of the Specific Plan that produce emissions. As these results do not include the effects of the Specific Plan or Climate Action Plan policies that would reduce GHG emissions, emissions are overestimated.

The Specific Plan also includes several features that would reduce the GHG emissions from the levels shown in Table 4.7-1. Firstly, emissions reductions would occur through improved vehicle efficiency, as described above under project impacts.

Secondly, a project applicant would be required to develop and implement Green Building standards above those required by **Specific Plan Policy LU-4.6**, which is also a feature of the City's Climate Action Plan. These measures together are estimated to reduce annual 2020 emissions by at least 10 percent. As a result, the per capita emissions would be reduced to 4.4 metric tons or less of CO₂e per service population.

According to the CEQA Guidelines, Section 15183.5.a:

Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as...a plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review.

The City's Climate Action Plan is considered a qualified plan using the BAAQMD criteria, as it contains a baseline inventory, business-as-usual scenario demonstrating the rise in GHG emissions in the absence of the Climate Action Plan, and an acceptable numerical target for GHG reduction in accordance with the Governor's Executive Order S-03-5.

The Climate Action Plan incorporated the Specific Plan by reference. It analyzed regional growth in East Palo Alto and included the three land use alternatives available at an earlier stage in the Specific Plan process. The Climate Action Plan included the construction of 1,075 housing units in its calculations.¹⁰ As the Specific Plan would result in a maximum buildout of 835

¹⁰ Climate Action Plan, page 44. At the time the Climate Action Plan was adopted, three possible land use alternatives had been chosen. The final Preferred Alternative was a combination of these three alternatives. The Climate Action Plan

TABLE 4.7-1 **ANNUAL OPERATIONAL GHG EMISSIONS IN EMISSIONS IN METRIC TONS PER YEAR**

Exposure Type	2020 Specific Plan	2035 Specific Plan
Transportation	26,144	23,197
Area Sources	425	425
Indirect Sources (Electricity)	5,271	5,271
Indirect Sources (Natural Gas)	2,338	2,338
Water & Wastewater	183	180
Solid Waste	2,322	2,322
Total	36,684	33,733
Emissions per Service Population (SP)	4.82 metric tons/SP/year*	4.43 metric tons/SP/year*

* A service population of 7,617 is assumed for both 2020 and 2035.

Source: Illingworth & Rodkin, 2011.

housing units, the Climate Action Plan encompassed more than the growth that is now proposed. GHG emissions at the programmatic level were, therefore, found to be less than significant and this Specific Plan tiers off that finding. Therefore, GHG emissions from implementation of the Specific Plan would be *less than significant*.

b. Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. *(NI)*

As discussed above, the City of East Palo Alto adopted a Climate Action Plan on September 20, 2011. Measures included in the following Climate Action Plan sections are relevant to the Specific Plan.

analyzed the alternative with the mid-level number of housing units and therefore encompasses the growth outlined in this Specific Plan.

i. Energy Use in Buildings (Commercial/Industrial and Residential).

The goals and standards in this section require the City to establish a mandatory green building checklist and ordinances on new commercial and residential construction and retrofit projects. The Specific Plan Policy LU-4.6 also requires Green Building standards to be part of every development project application

ii. Transportation and Land Use.

The adopted Climate Action Plan established goals and measures to prioritize smart growth land use strategies, improve public transportation, encourage walking and bicycling, and increase urban green space. Specifically, one of the measures requires the implementation of the Ravenswood/4 Corners Transit-Oriented Development Strategy. The proposed Specific Plan's Transportation and Traffic goals and policies are consistent with the Climate Action Plan in this regard. Policies under **Specific Plan Goal TRA-1** and **TRA-3** would support the Climate Action Plan's Goal TL-3; Encourage Walking and Bicycling, and Goal TL-2, Improve Public Transportation, by requiring enhanced pedestrian and bicycle circulation and increased use of public transit and non-vehicular methods of travel. Additionally, the Specific Plan would allow for increased open space, including parks and civic areas, pursuant to the Climate Action Plan's Goal TL-4, Increase Urban Green Space.

Overall, the proposed Specific Plan would be in compliance with the major goals and policies of the Climate Action Plan. Therefore, the impacts would be *less than significant*.

CITY OF EAST PALO ALTO
RAVENSWOOD/4 CORNERS TOD SPECIFIC PLAN
DRAFT EIR
GREENHOUSE GAS EMISSIONS