

4.7 GREENHOUSE GAS EMISSIONS/CLIMATE CHANGE

4.7.1 ENVIRONMENTAL SETTING

4.7.1.1 PHYSICAL SETTING

Greenhouse gases (GHG) include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃) (California Health and Safety Code, § 38505(g)). These gases create a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as “the greenhouse effect,” human activities have accelerated the generation of GHG emissions above pre-industrial levels (U.S. Global Change Research Program 2018). The global mean surface temperature increased by approximately 1.8°F (1°C) in the past 80 years, and is likely to reach a 2.7°F (1.5°C) increase between 2030 and 2050 at current global emission rates (IPCC 2018).

The most important and widely occurring anthropogenic GHG is CO₂, primarily from the use of fossil fuels as a source of energy. Fossil fuel combustion for electricity, heat, and transportation is the largest source of GHG emissions from human activities in the United States. The *Inventory of U.S. Greenhouse Gases and Sinks: 1990-2017* (U.S. Environmental Protection Agency 2019) states that the primary sources of GHG emissions from fossil fuel combustion in 2017 included electricity production (35%), transportation (36.5%), industry (27%), and commercial and residential end users (17-19%, respectively). Factoring in all sources of GHG emissions, the energy sector accounts for 84% of total emissions in addition to agricultural (8%), industrial processes (5.5%), and waste management (2%) sources. Other anthropogenic activities that are major sources of CO₂ include deforestation, other changes in land use, and cement production.

The County of Santa Barbara’s Final Environmental Impact Report for the Energy and Climate Action Plan (EIR) (PMC, 2015) and the *2016 Greenhouse Gas Emissions Inventory Update and Forecast* (County of Santa Barbara Long Range Planning Division, 2018) contain a detailed description of the existing regional setting as it pertains to GHG emissions. Regarding non-stationary sources of GHG emissions within Santa Barbara County specifically, the transportation sector produces 38% of the total emissions, followed by the building energy (28%), agriculture (14%), off-road equipment (11%), and solid waste (9%) sectors (County of Santa Barbara Long Range Planning Division 2018).

The overabundance of GHG in the atmosphere has led to a warming of the earth and has the potential to substantially change the earth’s climate system. More frequent and intense weather and climate-related events are expected to damage infrastructure, ecosystems, and social systems across the United States (U.S. Global Change Research Program 2018). California’s Central Coast, including Santa Barbara County, will be affected by changes in precipitation patterns, reduced foggy days, increased extreme heat days, exacerbated drought and wildfire conditions, and acceleration of sea level rise leading to increased coastal flooding and erosion (Langridge, Ruth 2018).

Each GHG has a global warming potential (GWP) that is calculated to reflect how long each different gas remains in the atmosphere and how strongly the pollutant absorbs energy relative to CO₂. The GWP indicates the relative and cumulative ability of a given mass of emissions to absorb energy and force climate change over the time the emissions remain in the atmosphere. Methane in the atmosphere over a 100- year horizon has a GWP of 25 according to the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report and 28 according to the IPCC Fifth Assessment Report. This GWP number means that one pound of CH₄ causes the equivalent warming potential of 25 to 28 pounds of CO₂. California regulators recognize the short-lived nature of CH₄ by using a GWP of 25 for CH₄ over the 100-year timespan and a GWP of 72 over a 20-year timespan (ARB, 2016a). The GWP is used to quantify GHG emissions by multiplying the different GWP of each GHG pollutant by the mass of that pollutant to arrive at a CO₂- equivalent (CO₂e) mass.

4.7.1.2 PHYSICAL EFFECTS OF GHG EMISSIONS

Changing temperatures, precipitation, sea levels, ocean currents, wind patterns and storm activity provide indicators and evidence of the effects of climate change. For the period 1950 onward, relatively comprehensive data sets of observations are available. Various indicators and evidence illustrate the many aspects of climate change, namely, how temperature and precipitation are changing, and how these changes are affecting the environment, specifically freshwater and marine systems, as well as humans, plants and animals (OEHHA, 2013; OEHHA, 2018). Consensus expressed by the Fifth Assessment Report of the IPCC shows that: “warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased” (IPCC, 2014).

Since California’s initial GHG strategy set forth in the 2008 Climate Change Scoping Plan, scientific evidence has continued to indicate that the climate is changing. This evidence includes rising temperatures, shifting snow and rainfall patterns, and increased incidence of extreme weather events (ARB, 2014).

The Third U.S. National Climate Assessment, released on May 6, 2014, provides the most authoritative and comprehensive source of scientific information to date about climate-change impacts across all U.S. regions and on critical sectors of the economy. For the Southwestern U.S. region, including Santa Barbara County, the National Climate Assessment emphasizes the risks to scarce water resources as follows:

Climate changes pose challenges for an already parched region that is expected to get hotter and, in its southern half, significantly drier. Increased heat and changes to rain and snowpack will send ripple effects throughout the region’s critical agriculture sector, affecting the lives and economies of 56 million people — a population that is expected to increase 68 percent by 2050, to 94 million. Severe and sustained drought will stress water sources, already over-utilized in many areas, forcing increasing competition among farmers, energy producers, urban dwellers, and plant and animal life for the region’s most precious resource.

The effects of global climate change to California's public health, infrastructure and natural resources are described in the *2009 Biennial Report of the California Climate Action Team* (CAT, 2009) and *Our Changing Climate 2012* from the California Climate Change Center (CEC, 2012). According to the Climate Action Team findings "extreme events from heat waves, floods, droughts, wildfires and bad air quality are likely to become more frequent in the future and pose serious challenges to Californians. These impacts pose growing demands on individuals, businesses and governments at the local, State, and federal levels to minimize vulnerabilities, prepare ahead of time, respond effectively, and recover and rebuild with a changing climate and environment in mind" (CAT, 2009).

Additional research by the CalEPA Office of Environmental Health Hazard Assessment (OEHHA) documented effects of climate change including impacts on terrestrial, marine, and freshwater biological systems, with resulting changes in habitat, agriculture, and food supply. These changes are occurring in conjunction with the potential to impact human well-being (OEHHA, 2018). The OEHHA categorizes climate change indicators as: changes in California's climate; impacts to physical systems including oceans, lakes, rivers, and snowpack; and impacts to biological systems including humans, vegetation and wildlife. The primary observed changes in California's climate include increased annual average air temperatures, more-frequent extremely hot days and nights, and increasingly severity of drought. Impacts to physical systems affected by warming temperatures and changing precipitation patterns show decreasing snowmelt runoff, shrinking glaciers, and rising sea levels (OEHHA, 2018). Examples of the terrestrial effects include increasing tree mortality, large wildfires, and changes in vegetation density and distribution (OEHHA, 2013). Land use planning decisions that take into account the effects of climate change would contemplate potential effects to biological resources, water resources, and agricultural resources.

4.7.1.3 GHG INVENTORY

California Inventory of GHG Sources

California first formalized a strategy to achieve GHG reductions in 2008, when California produced approximately 487 million metric tons of CO₂ e equivalent (MMTCO₂e), an amount equal to about 537 million tons for 2008, according to the Air Resources Board inventory (ARB, 2018a). One metric ton (MT) equals 1,000 kilograms, which is 2,204.6 pounds or about 1.1 short tons. By 2016, California's emissions had declined to approximately 429.4 MMTCO₂e (ARB, 2018a). In a global context, California emits less than one percent of the 49,000 MMTCO₂e emitted globally (IPCC, 2014). Table 4.7-1 summarizes the current GHG inventory for California.

Table 4.7-1. California GHG Emissions Inventory (million metric tons per year, MMTCO₂e)

Source Category	2008	2010	2012	2014	2016
Transportation ¹	177.58	165.07	161.22	162.28	169.38
Industrial ²	90.54	91.50	91.07	93.96	89.61
Electric Power	120.14	90.34	95.09	88.24	68.58
Commercial and Residential	43.52	45.05	42.89	37.37	39.36
Agriculture	35.79	34.27	36.08	35.95	33.84
High GWP	11.65	13.52	15.54	17.70	19.78
Recycling and Waste	8.11	8.37	8.49	8.59	8.81
Total Emissions	487.34	448.11	450.38	444.10	429.35

1 - Transportation category includes off-road equipment used in construction, mining, oil drilling, and other vehicles and mobile sources.

2 - Industrial category includes refineries, oil and gas extraction, and other industries including combustion of fuels plus fugitive emissions. Source: ARB, 2018a. California Greenhouse Gas Inventory for 2000-2016, by Category as Defined in the 2008 Scoping Plan.

County GHG Inventory

Pursuant to the direction provided by the County's Board of Supervisors in March of 2009 (BOS Resolution 09-059), the County developed a Climate Action Strategy (CAS) to address GHG emissions. The CAS outlines a two phase process to reduce emissions; Phase 1 included the preparation of a Climate Action Study, and Phase 2 included the development of an Energy and Climate Action Plan (ECAP). As part of the Climate Action Study, a GHG inventory including future forecasts for the unincorporated County was developed. This GHG inventory used 2007 numbers to establish a baseline for community-wide emissions in unincorporated Santa Barbara County to measure ECAP progress. The inventory excludes incorporated cities, the University of California, Santa Barbara, the Chumash reservation, and state and federal lands including Los Padres National Forest, Vandenberg Air Force Base, and offshore oil and gas production facilities. Additionally, the GHG emissions from air pollution stationary source facilities were excluded by the County from the ECAP because the facilities are under the jurisdiction of the Santa Barbara County APCD for criteria air pollutants and toxic air contaminants (Santa Barbara County, 2015).

The County GHG inventory for unincorporated areas totaled 1,192,970 MTCO₂e in 2007 as published in the ECAP:

- Transportation: 521,160 MTCO₂e
- Residential energy: 195,490 MTCO₂e
- Commercial energy: 121,580 MTCO₂e
- Off-road: 102,140 MTCO₂e
- Solid waste: 91,920 MTCO₂e
- Agriculture: 62,110 MTCO₂e
- Water and wastewater: 49,520 MTCO₂e
- Industrial energy: 46,780 MTCO₂e
- Aircraft: 2,270 MTCO₂e

Existing Site Conditions

Development on Key Site 18 (KS18) is limited to:

- A single family home site in the northeast corner near Foxenwood Lane;
- Recreational amenities for Southpoint Estates (tennis courts, picnic tables) in the northwest;
- Retention basin in the northwest corner;

The OASIS portion of KS18 is undeveloped. GHG emissions associated with the OASIS portion of the property are currently limited to annual mowing for vegetation fuel management. The OASIS property is designated in the Orcutt Community Plan (OCP) for open space and future public park uses (e.g., lawn, small restroom, sport courts, tot lots, picnic tables).

4.7.2 REGULATORY SETTING

California Regulations

The California Air Resources Board (ARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. California has a numerous regulations aimed at reducing the state's GHG emissions. These initiatives are summarized below.

California Environmental Quality Act (CEQA) Guidelines Sections 15355, 15130, 15064.4(b):

As defined in CEQA Guidelines Section 15355, and discussed in Section 15130, "*Cumulative impacts' refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*" Global mean surface warming results from GHG emissions generated from many sources over time, rather than emissions generated by any one project (IPCC 2014). **Therefore, by definition, climate change under CEQA is a cumulative impact.**

CEQA Guidelines Section 15064.4(b) states that a lead agency “should focus its analysis on the reasonably foreseeable incremental contribution of the project’s [GHG] emissions to the effects of climate change.” A project’s individual contribution may appear small but may still be cumulatively considerable. Therefore, it is not appropriate to determine the significance of an individual project’s GHG emissions by comparing against state, local, or global emission rates. Instead, the Governor’s Office of Planning and Research recommends using an established or recommended threshold as one method of determining significance during CEQA analysis (OPR 2008, 2018). A lead agency may determine that a project’s incremental contribution to an existing cumulatively significant issue, such as climate change, is not significant based on supporting facts and analysis [CEQA Guidelines Section 15130(a)(2)].

Assembly Bill (AB) 1493 (2002), California’s Advanced Clean Cars program (referred to as “Pavley”), requires ARB to develop and adopt regulations to achieve “the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” On June 30, 2009, U.S. EPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles beginning with the 2009 model year. Pavley I took effect for model years starting in 2009 to 2016 and Pavley II, which is now referred to as “LEV (Low Emission Vehicle) III GHG” will cover 2017 to 2025. Fleet average emission standards would reach 22% reduction by 2012 and 30% by 2016. The Advanced Clean Cars program coordinates the goals of the Low Emissions Vehicles (LEV), Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, when the rules will be fully implemented, new automobiles will emit 34% fewer GHGs and 75% fewer smog forming emissions from their model year 2016 levels (ARB, 2011).

EO S-3-05: In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80% below 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the “2006 CAT Report”) (CalEPA, 2006). The 2006 CAT Report identified a recommended list of strategies that the state could pursue to reduce GHG emissions. These are strategies that could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, etc.

AB 32: California’s major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the “California Global Warming Solutions Act of 2006,” signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15% reduction below 2005 emission levels; the same requirement as under S-3-05), and requires ARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires ARB to adopt regulations to require reporting and verification of statewide GHG emissions.

ARB Scoping Plan, 2008: After completing a comprehensive review and update process, ARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO₂e. The Scoping Plan was approved by ARB on December 11, 2008, and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures.

ARB Scoping Update 2013: In May 2014, ARB approved the first update to the AB 32 Scoping Plan. The 2013 Scoping Plan update defines ARB's climate change priorities for the next five years and sets the groundwork to reach post-2020 goals set forth in EO S-3-05. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluates how to align the State's longer-term GHG reduction strategies with other State policy priorities, such as for water, waste, natural resources, clean energy and transportation, and land use (ARB, June 2014).

SB 97 August 2007: SB97 acknowledges that climate change is an environmental issue that requires analysis in California Environmental Quality Act (CEQA) documents. In March 2010, the California Resources Agency (Resources Agency) adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

ARB Resolution 07-54: This resolution establishes 25,000 MT of GHG emissions as the threshold for identifying the largest stationary emission sources in California for purposes of requiring the annual reporting of emissions. This threshold is just over 0.005% of California's total inventory of GHG emissions for 2004.

SB 375, 2008: SB 375 enhances the state's ability to reach AB 32 goals by directing ARB to develop regional GHG emission reduction targets to be achieved from vehicles for 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a "sustainable communities strategy" (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010, ARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Santa Barbara County Association of Governments (SBCAG) was assigned targets of zero net growth in per capita emissions from passenger vehicles in the 2020 and 2035 target years. The SBCAG 2040 Regional Transportation Plan and Sustainable Communities Strategy (August, 2013) demonstrated that the SBCAG region would achieve its regional emissions reduction targets for the 2020 and 2035 target years.

In April 2011, Governor Brown signed SB 2X requiring California to generate 33% of its electricity from renewable energy by 2020.

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

California Environmental Quality Act (CEQA). Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the *State CEQA Guidelines* for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted *CEQA Guidelines* provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

Local Regulations and CEQA Requirements

In May 2015, the County of Santa Barbara Board of Supervisors adopted the *Energy and Climate Action Plan (ECAP)* (County of Santa Barbara Long Range Planning Division, 2015) and certified the accompanying EIR (SCH# 20144021021) (PMC, 2015). The ECAP met the criteria in CEQA Guidelines Section 15183.5 for a “plan to reduce greenhouse gas emissions.”

CEQA Guidelines Section 15183.5. Tiering and Streamlining the Analysis of Greenhouse Gas Emissions.

- (a) Lead agencies may analyze and mitigate the significant effects of greenhouse gas emissions at a programmatic level, such as in a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review...*
- (b) Plans for the Reduction of Greenhouse Gas Emissions. Public agencies may choose to analyze and mitigate significant greenhouse gas emissions in a plan for the reduction of greenhouse gas emissions or similar document. A plan to reduce greenhouse gas emissions may be used in a cumulative impacts analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances...*

However, the ECAP is no longer projected to meet its 2020 GHG emission reduction goal and is in the process of being updated.

4.7.3 IMPACTS

THRESHOLDS AND METHODOLOGY

As discussed above, Santa Barbara County's ECAP is a GHG emission reduction plan and the County has been implementing the ECAP's emission reduction measures since 2016. However, because the County is not expected to meet the ECAP's 2020 GHG emission reduction goal, a significance threshold is more appropriate for project-level GHG emission analysis, rather than tiering off the ECAP's Environmental Impact Report (EIR).

CEQA Guidelines Section 15064.4(a) states "A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project." CEQA Guidelines Section 15064.4(b) further states:

A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

- (1) *The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;*
- (2) *Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project...*

The County of Santa Barbara does not have an adopted GHG emission significance threshold for sources other than industrial stationary sources. Therefore, significance thresholds from other California jurisdictions or agencies can be appropriately applied to land use projects within Santa Barbara County, as long as substantial evidence is provided to describe why the selected threshold is appropriate (CEQA Guidelines, § 15064.7(d)).

In 2012, San Luis Obispo County Air Pollution Control District (SLO APCD) established an annual significance threshold of 1,150 metric tons of carbon dioxide equivalent (MTCO₂e/yr). This significance threshold is approximately equivalent to the operational GHG emissions associated with a 70- unit residential subdivision in an urban setting (49- unit rural development) or a 40,000 sq. ft. strip mall in an urban setting (SLO APCD 2012). Santa Barbara County selected the SLO APCD threshold of 1,150 MTCO₂e/year as the most appropriate threshold to determine significance of cumulative impacts from GHG emissions for this proposed project. The rationale for applying the SLO APCD GHG emissions significance threshold is discussed below.

The SLO APCD threshold is appropriate to use for evaluating GHG/Climate Change impacts for the OASIS project based on the following:

- The threshold applies to GHG emissions that are not industrial stationary sources, but that are subject to discretionary approvals by the County, where the County is the CEQA lead agency.
- The threshold was developed to be consistent with Assembly Bill 32 (the California Global Warming Solutions Act of 2006), which established the State of California's 2020 GHG emissions reduction goal.
- The selected threshold considers GHG emissions comprehensively by measuring in annual metric tons of carbon dioxide equivalent.
- The threshold assessed historical and potential future land use development trends in San Luis Obispo County to establish the significance threshold. San Luis Obispo and Santa Barbara Counties have similar historical and potential future land use development trends.
- The threshold applies to GHG emissions from residential and commercial land use projects.
- The threshold assumes that construction emissions will be amortized over the life of a project and added to the operational emissions.
- The threshold does not apply to GHGs that are emitted throughout the life cycle of products that a project may produce or consume.

Consistency with Energy and Climate Action Plan (ECAP)

A project may also result in significant impacts related to generation of GHGs/Climate change if the project would interfere with attaining the ECAPs GHG reduction goals.

IMPACT ASSESSMENT

With regard to the proposed project requests, the project's physical impacts on the environment, including generation of GHGs, would result from the construction and proposed long-term use of the OASIS property as a senior service and meeting center¹.

As discussed earlier, the ECAP is no longer projected to meet its 2020 GHG emission reduction goal and is in the process of being updated. Therefore, the California Emissions Estimator Model (CalEEMod) was used to model the OASIS project's estimated generation of greenhouse gas emissions (included in Appendix D-2) so that the projected emissions can be compared to an appropriate bright threshold to evaluate the significance of project emissions. Table 4.7-2 includes overall unmitigated operational emissions.

¹ Also refer to discussion in section 6.1 (Growth Inducing Effects) regarding increased development potential related to the General Plan Amendments, Lot Line Adjustment, and Government Code consistency requests.

Table 4.7-2a CalEEMod Unmitigated Operational Emissions

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0831	1.0000e-005	6.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.2500e-003	1.2500e-003	0.0000	0.0000	1.3400e-003
Energy	2.1800e-003	0.0198	0.0167	1.2000e-004		1.5100e-003	1.5100e-003		1.5100e-003	1.5100e-003	0.0000	61.2888	61.2888	2.2100e-003	7.7000e-004	61.5728
Mobile	0.1673	0.5395	1.5531	2.9000e-003	0.2379	4.2500e-003	0.2422	0.0640	4.0100e-003	0.0680	0.0000	265.8153	265.8153	0.0164	0.0000	266.2247
Waste						0.0000	0.0000		0.0000	0.0000	3.1835	0.0000	3.1835	0.1579	0.0000	7.1299
Water						0.0000	0.0000		0.0000	0.0000	0.3208	1.9930	2.3138	1.1900e-003	7.2000e-004	2.5571
Total	0.2526	0.5593	1.5704	3.0200e-003	0.2379	5.7600e-003	0.2437	0.0640	5.5200e-003	0.0695	3.5043	329.0984	332.6026	0.1776	1.4900e-003	337.4857

Table 4.7-2 identifies the estimated total, unmitigated, annual GHG emissions for the project as 337.4857 MTCO₂e/year, which is below the SLO threshold of 1,150 MTCO₂e/year. This estimate of overall emissions is considered a reasonable worst case estimate, based on the following:

1. The estimated emissions utilize a CalEEMod default traffic generation rate of 30.45 ADT/1,000 square feet, based on the Institute of Traffic Engineers (ITE) vehicle trip generation rate for ITE Land Use Code #492 (Recreational Health/Fitness Center). This rate is higher than the rate for ITE Land Use Code #495 (Recreational Community Center) of 28.82 ADT/1,000 square feet. ITE Code #495 was determined to be most representative of the proposed project traffic by:
 - a. Santa Barbara County Public Works Transportation staff (W. Robertson);
 - b. Associated Transportation Engineers (ATE), the County contracted traffic engineers; and
 - c. Stantec, the project traffic engineers; and

2. The estimated emissions are unmitigated and do not take into account a number of emission reduction and/or carbon sequestration measures that are built into the project, including the following features.
 - a. Solar panels;
 - b. Drought tolerant landscaping;
 - c. Rainwater capture and use for landscape irrigation (reduces energy required to pump groundwater, to transport state water to the area, etc.);
 - d. Restoration plantings, including new trees (carbon sequestration)

Table 4.7-2b Unmitigated Construction Emissions

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.1716	1.4009	0.9000	1.6400e-003	0.1640	0.0735	0.2374	0.0862	0.0697	0.1559	0.0000	142.9118	142.9118	0.0309	0.0000	143.6846
2019	0.2844	0.8322	0.5477	9.6000e-004	8.7100e-003	0.0342	0.0429	2.3600e-003	0.0329	0.0353	0.0000	82.2865	82.2865	0.0144	0.0000	82.6464
Maximum	0.2844	1.4009	0.9000	1.6400e-003	0.1640	0.0735	0.2374	0.0862	0.0697	0.1559	0.0000	142.9118	142.9118	0.0309	0.0000	143.6846

While climate change impacts cannot result from a particular project's greenhouse gas emissions, the project's incremental contribution of greenhouse gas emissions, combined with all other sources of greenhouse gases, may have a significant impact on global climate change. For this reason and as discussed in Section 4.7.3 (Regulatory Setting), a project's contribution to greenhouse gas emissions is analyzed below under "Cumulative Impacts."

CUMULATIVE IMPACT

Impact GHG-1: The project's total greenhouse gas emissions would be less than the applicable threshold, which itself addresses cumulative increases in GHGs. (Class III)

The County does not have an adopted GHG emission significance threshold for the type of project or land use being proposed, however the County does have the discretion to apply appropriate methodologies, thresholds, and mitigation measures for an individual project. Therefore, in addition to determining whether a project would interfere with ECAP goals for reducing GHG emissions, the County (as noted earlier) has chosen to apply the County of San Luis Obispo (SLO) "bright line" threshold of 1,150 MT of for the OASIS project. This threshold level is approximately equivalent to the operational GHG emissions associated with a 70-unit residential subdivision in an urban setting, a 49-unit rural development or a 70,000 square foot office building. The OASIS facility is most similar to the 70,000 square foot office building, although at approximately 15,661 square feet, the OASIS development would be less than 25% of the size of the referenced 70,000 square foot office building.

County of San Luis Obispo staff estimate the 1,150 MT CO₂e/year threshold would achieve approximately 13,800-14,200 MT CO₂e/yr. in GHG emissions reductions from new development subject to CEQA from now through 2020. The Bright-Line Threshold of 1,150 MT CO₂e/year is expected to capture a total of 56 projects over the next 10 years: 26 residential projects and 30 non-residential projects. (Greenhouse Gas Thresholds and Supporting Evidence, available online at: <https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/Greenhouse%20Gas%20Thresholds%20and%20Supporting%20Evidence%204-2-2012.pdf>)

The proposed 15,661 square foot OASIS development is substantially smaller than the SLO 49-unit rural development or 70,000 square foot office building, for which emissions are estimated to exceed the SLO threshold. However, rather than rely on the more general screening table, OASIS project specific CalEEMod projected emissions are being used for comparison to the SLO bright line 1,150.00 MT CO₂e/year threshold, as identified in Table 4.7-3.

Table 4.7-3 OASIS GHG Emissions

Unmitigated Overall Construction Emissions (amortized over 25 years)*	143.6846 CO ₂ e/year 143.6846 MT CO ₂ e/year /25 yrs = 5.75/yr over 25 yrs
Unmitigated Overall Operational Emission	337.49 MT CO ₂ e/year
Combined Construction & Operational Emissions	343.23 MT CO₂e/year
SLO Threshold	1,150.00 MT CO ₂ e/year

*Construction emissions amortized over 25 years per SLO APCD Air Quality Handbook (p. 2-2) <https://www.prcity.com/DocumentCenter/View/14604/California-Environmental-Quality-Act-Handbook---2012-Volume-1-PDF>

As identified in Table 4.7-3, the project's GHG emissions (343.23 MT CO₂e/year) would not exceed the 1,150.00 MT CO₂e/year threshold. Therefore, the project's incremental contribution to this cumulative effect is not cumulatively considerable and is not significant. (Class III).

CONSISTENCY WITH ENERGY AND CLIMATE ACTION PLAN (ECAP)

Impact GHG-2: The project would potentially interfere with the goals/conflict with strategies for reducing County-wide greenhouse gas emissions (GHGs) in the County's Energy and Climate Action Plan (ECAP). (Class II)

In addition to consideration of estimated project emissions compared to the SLO bright line threshold, the project's consistency with the ECAP strategies for reducing GHG emissions must also be considered. The ECAP includes a number of strategies for reducing emissions, including strategies for the following:

- Sustainable Communities Strategy (e.g., goal of a zero net increase per capita in GHG emissions from passenger vehicles by 2020, etc.)
- Land Use Design (e.g., reduce dependency on automobiles, decrease vehicle miles traveled (VMT), increase access to transit, include electric vehicle charging stations, include walking/bike paths, etc.)
- Built Environment (increase energy efficiency through location, design, construction, and system, green building standards, cool pavements, awnings to shade windows, incorporate landscaping to cool buildings, etc.);
- Renewable Energy (solar, etc.);
- Waste Reduction (use of recycled materials in building design, pavement, recycle program for operations, construction); and
- Water Efficiency (water conservation, dual plumbing for grey water, etc)

The project would be consistent with some of the strategies for reducing GHGs, including incorporation of solar panels on the roof, onsite storage of roof runoff for landscape irrigation, construction of a bikepath/trail segment (although no through connection provided), and the project's location in general proximity to project visitors (mostly Orcutt area seniors). However, one of the main contributors of GHGs is vehicle emissions from single occupant automobiles. Therefore, the ECAP includes a variety of strategies to encourage alternative forms of transportation. The project would primarily serve area seniors, a population with reduced ability to bicycle or walk long distances and/or up and down hills. The existing OASIS facility includes

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an onsite covered bus stop. However, no new bus stops are proposed as part of the project and existing bus stops are not in locations proximate to the project site to facilitate use by OASIS members, many of whom may be mobility restricted due to the distance and topographic difference between Clark Avenue and the proposed development. Further, as identified by the project applicant, most members who do not drive themselves or carpool would be expected to utilize the SMOOTH Senior Dial-a-Ride service to access OASIS activities onsite, which could result in four vehicle trips per customer using this service to access the OASIS facility (2 trips for drop-off, 2 trips for pick-up).

Mitigation measure AQ-2 (Transportation Demand Management), included in Section 4.2 (Air Quality) would reduce this impact to a less than significant level by reducing emissions associated with single occupant automobiles.

4.7.4 MITIGATION

Compliance with Mitigation Measure AQ-2 in Section 4.2 (Air Quality) would reduce emissions associated with vehicle trips, a major contributor to the County's generation of greenhouse gases.

IMPACTS AFTER MITIGATION

Impact GHG-1: The proposed project's total greenhouse gas emissions would be less than the applicable threshold, which itself addresses cumulative increases in GHGs. (Class III)

Impact GHG-1: No mitigation is necessary. Residual impacts would be less than significant.

Impact GHG-2: The project would potentially interfere with the goals and strategies for reducing County-wide greenhouse gas emissions (GHGs) in the County's Energy and Climate Action Plan (ECAP). (Class II)

Impact GHG-2 would be mitigated by Mitigation Measure AQ-2 which would ensure the project reduces GHG emissions associated with automobiles and avoid conflicts with the ECAP strategies to reduce GHGs.