Section 3.6
Greenhouse Gas Emissions and Climate Change

3.6.1 Introduction

This section evaluates the greenhouse gas (GHG) emissions and climate change issues associated with the proposed Project. The GHG and climate change issues associated with the No Project and Reduced Project alternatives are presented in the Alternatives Chapter (Chapter 5). Activities from construction and operation of the proposed Project would affect emissions of greenhouse gases in the immediate Project area and the surrounding region. This section includes a description of the affected environment including a discussion of the state of climate change science and the regulatory setting, predicted impacts of the proposed Project and mitigation measures to address the impacts.

3.6.2 Environmental Setting

The site of the proposed Project is located near the Harbor District of the City of Los Angeles in the southwest coastal area of the SCAB. The SCAB consists of the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties and all of Orange County. The air basin covers an area of approximately 15,500 square kilometers (6,000 square miles) and is bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto Mountains; and on the south by the San Diego County line.

As noted in the Water Resources section of this EIR, historically, the area that is now the Los Angeles-Long Beach port complex consisted of salt and freshwater (Dominguez Slough) marshes and mudflats. The Los Angeles River frequently flowed along what is now the Dominguez Channel. In the early 20th century, with the development of the port complex and the increasing development of the surrounding region, the Los Angeles River was relocated eastward to its present location and its course, as well as Dominguez Slough, was channelized for flood protection, creating the present Dominguez Channel (LADPW, 2011), which drains an area of western and southern Los Angeles County designated the Dominguez Watershed.

The Dominguez Channel runs in a north-south direction adjacent to the west of the proposed Project. The channel banks in the vicinity of the proposed Project are predominantly rock rip rap; a portion of the northern banks consists of compact bare dirt and gravel. The banks are devoid of vegetation with the exception of a few occurrences of pickleweed (Section 3.3). The entire Project site lies within the "X" FEMA flood zone and is adjacent to the "A" flood zone which encompasses the Dominguez Channel (FEMA 2008, Appendix X). As designated by FEMA, flood zone "A" is: *a special flood hazard area (SFHA) subject to inundation by the 1% annual chance flood. The 1%*

annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The SFHA is the area subject to flooding by the 1% annual chance flood. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood. Zone "X" areas are defined as: *Other Flood Areas – Areas of 0.2% annual chance flood: areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.*

3.6.2.1 Regional Climate and Meteorology

The current climate of the Project region is classified as Mediterranean, characterized by warm, rainless summers and mild, wet winters. Average annual precipitation for the Los Angeles area is highly variable and terrain-dependent, ranging from twelve inches at the ocean to about twice that in the foothills. At downtown Los Angeles, the average seasonal rainfall is 14.77 inches. The annual average high temperature for the city is 75F, while the average low is 57F (NOAA, 2011). The major influence on the regional climate is the Eastern Pacific High (a strong persistent area of high atmospheric pressure over the Pacific Ocean), topography, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the High are a key factor in the weather changes in the area.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when the High is centered west of northern California. In this location, the High effectively shelters Southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the High produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally from 1,000 to 2,500 feet (300 to 800 meters) above mean sea level (msl) during the summer. Vertical mixing is often limited to the base of the inversion, and air pollutants are trapped in the lowest atmospheric layer (troposphere). The mountain ranges that surround the Los Angeles Basin constrain the horizontal movement of air and also inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources of over 15 million people, are responsible for the high pollutant concentrations that can occur in the SCAB. In addition, the warm temperatures and high solar radiation during the summer months promote the formation of ozone (O3), which has its highest levels during the summer. Air pollutants include both GHGs and criteria pollutants. GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is a result of their accumulation throughout the atmosphere (lower and upper) which results in an increase in global temperatures and storm intensity, and changing precipitation patterns. These climatic changes in turn have numerous indirect effects on the natural environment and humans.

The proximity of the Eastern Pacific High and a thermal low pressure system in the desert interior to the east produce a sea breeze regime that prevails within the Project region for most of the year, particularly during the spring and summer months. Sea breezes at the Port typically increase during the morning hours from the southerly direction and reach a peak in the afternoon as they blow from the southwest. These winds generally subside after sundown. During the warmest months of the year, however, sea breezes could persist well into the nighttime hours. Conversely, during the colder months of the year, northerly land breezes increase by sunset and into the evening hours. Sea breezes transport air pollutants away from the coast and towards the interior regions in the afternoon hours for most of the year.

During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the Great Basin region can produce a "Santa Ana" condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often ventilate the SCAB of air pollutants.

The Palos Verdes Hills have a major influence on wind flow in the Port. For example, during afternoon southwest sea breeze conditions, the Palos Verdes Hills often block this flow and create a zone of lighter winds in the inner Harbor area of the Port. During strong sea breezes, this flow can bend around the north side of the Hills and end up as a northwest breeze in the inner Harbor area. This topographic feature also deflects northeasterly land breezes that flow from the coastal plains to a more northerly direction through the Port.

The proposed Project site is located approximately four miles north of the ports of Los Angeles and Long Beach in the southern part of the Los Angeles Basin. The area surrounding the proposed Project site is generally flat and would not be expected to exhibit significant variations in wind patterns within relatively short distances. The dominant terrain features/water bodies that may influence wind patterns in this part of the Los Angeles Basin include the hills of the Palos Verdes Peninsula to the west and southwest, and the San Pedro Bay and shipping channels to the south of the yard.

3.6.2.2 Greenhouse Gas Pollutants

Gases that trap heat in the atmosphere are often called greenhouse gases (GHGs). The term GHGs includes gases that contribute to the natural greenhouse effect, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), as well as gases that are only human-made and that are emitted through the use of modern industrial products, such as hydrofluorocarbons (HFCs), chlorinated fluorocarbons (CFCs), and sulfur hexafluoride (SF6). These last three families of gases, while not naturally present in the atmosphere, have properties that also cause them to trap infrared radiation when they are present in the atmosphere. Together, these six gases comprise the major GHGs that are recognized by the Kyoto Accords (UNFCCC, 1997). There are other GHGs that are not recognized by the Kyoto Accords, due either to the smaller role that they play in climate change or the uncertainties surrounding their effects. Atmospheric water vapor is not recognized by the Kyoto Accords because there is not an obvious correlation between water vapor concentrations and specific human activities. Water vapor appears to act in a positive feedback manner; higher temperatures lead to higher water concentrations, which in turn cause more global warming (IPCC, 2011).

The effect each of these gases has on global warming is a combination of the volume of their emissions and their 100-year global warming potential (GWP). Global warming potential indicates, on a pound-for-pound basis, how much a gas will contribute to global warming relative to how much warming would be caused by the same mass of carbon dioxide. It is a unitless quantity. CH_4 and N_2O are substantially more potent than CO_2, with global warming potentials of 21 and 310, respectively. However, these natural GHGs are nowhere near as potent as sulfur hexafluoride and various HFCs and CFCs. Sulfur hexafluoride has a 100 year GWP of 23,900 and CFCs and HFCs have GWPs ranging from 140 to 11,700 (IPCC, 1996). In emissions inventories, GHG emissions are typically reported in terms of pounds (lbs) or metric tons ("tonnes," equivalent to 1000 kilograms) of carbon dioxide equivalents (CO_2e), which are calculated as the product of

the mass emitted of a given GHG and its specific global warming potential. In this document, the unit tonnes is used to report GHG emissions.

The most important GHG in human-induced global warming is CO_2. While many gases have much higher global warming potentials than the naturally occurring GHGs, CO_2 is emitted in such vastly higher quantities that it accounts for 85 percent of the global warming potential of all GHGs emitted by the United States (USEPA, 2011a). Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions and thus substantial increases in atmospheric CO_2 concentrations. In 2005, atmospheric CO_2 concentrations were about 379 parts per million (ppm), over 35 percent higher than the pre-industrial (defined as the year 1750) concentrations of about 280 ppm (IPCC, 2007). In addition to the sheer increase in the volume of its emissions, CO_2 is a major factor in human-induced global warming because of its lifespan in the atmosphere of 50 to 200 years.

Concentrations of the second most prominent GHG, CH_4, have also increased due to human activities such as rice production, degradation of waste in landfills, cattle farming, and natural gas mining. In 2005, atmospheric levels of CH_4 were more than double pre-industrial levels, up to 1774 parts per billion as compared to 715 parts per billion (IPCC, 2007). CH_4 has a relatively short atmospheric lifespan of only 12 years, but has a higher global warming potential than CO_2.

N_2O concentrations have increased from about 270 parts per billion in pre-industrial times to about 319 parts per billion by 2005 (IPCC, 2007). Most of this increase can be attributed to agricultural practices (such as soil and manure management), as well as fossil-fuel combustion and the production of some acids. N_2O's 120-year atmospheric lifespan means that, in addition to its relatively large global warming potential, its influence is long-lasting, which increases its role in global warming.

Chlorinated fluorocarbons (CFCs), used often as refrigerants, their more stratospheric-ozone-friendly replacements, hydrofluorocarbons (HFCs), and fully fluorinated species, such as sulfur hexafluoride (SF6) and tetrafluoromethane (CF4), are present in the atmosphere in relatively small concentrations, but have extremely long life spans of 50,000 and 3,200 years each, making them potent GHGs.

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn has numerous indirect effects on the environment and humans. For example, some observed changes include shrinking glaciers, thawing permafrost, later freezing and earlier break-up of ice on rivers and lakes, a lengthened growing season, shifts in plant and animal ranges, and earlier flowering of trees (IPCC, 2001). Other, longer term environmental impacts of global warming include sea level rise, changing weather patterns with increases in the severity of storms and droughts, changes to local and regional ecosystems including the potential loss of species, and a significant reduction in winter snow pack (for example, estimates include a 30-90% reduction in snowpack in the Sierra Mountains). Current data suggests that in the next 25 years, in every season of the year, California would experience unprecedented heat, longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods. More specifically, the California Climate Change Center (2006) predicted that California could witness the following events:

- Temperature rises between 3-10.5F;
- 6-20 inches or more of sea level rise;

- 2-4 times as many heat wave days in major urban centers;
- 2-6 times as many heat related deaths in major urban centers;
- 1-1.5 times more critically dry years; and
- 10-55 percent increase in the expected risk of wildfires.

Risks to public health are summarized in the 2009 California Climate Adaptation Strategy. As stated above climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. This is likely to increase the risk of mortality and morbidity due to heat-related illness on the elderly, individuals with chronic conditions such as heart and lung disease, diabetes and mental illnesses, infants, the socially or economically disadvantaged and those who work outdoors. The expected increase in temperatures and resulting increases in ultraviolet radiation due to climate change is likely to exacerbate existing air quality problems unless measures are taken to reduce GHG as well as air pollutants and their precursors.

A recent study (Geophysical Research Letters, 2008), has identified direct links between increased levels of carbon dioxide in the atmosphere and increases in human mortality. Jacobson determined the amounts of ozone and airborne particles that result from temperature increases in carbon dioxide emissions. The effects of considering the human impact of increased carbon dioxide emissions showed two important effects:

- Higher temperatures due to carbon dioxide increased the chemical rate of ozone production in urban areas
- Increased water vapor due to carbon dioxide- induced higher temperatures boosted chemical ozone production even more in urban areas.

Jacobson further indicated that the effects of carbon dioxide emissions are most pronounced in areas that already have significant pollution such as California.

Many of the plans, policies and regulations identified in the applicable regulations section of this document are directed at reducing these impacts.

3.6.2.3 Baseline Emissions

This section discusses the baseline conditions and activities. The baseline for determining the significance of potential proposed Project impacts is September, 2005. The proposed Project site is devoted to warehousing; cargo trans-loading; container, equipment, and truck maintenance, servicing and storage; rail service; and access roads for tenants. The proposed Project site includes the following businesses:

- ACTA
- Cal Cartage
- California Multimodal
- FastLane Transportation
- Flexi-Van
- L.A. Harbor Grain Terminal/Harbor Transload
- San Pedro Forklift
- Three Rivers Trucking
- Total Intermodal

Existing uses and a description of tenants and their operations is summarized in Table 2-1. Information about on-road and off-road equipment, locomotives, facility energy consumption, and worker commute activities for each baseline facility were obtained directly from individual businesses. In addition, international cargo drayage truck trips between the Port and the BNSF Hobart Yard occurring in 2005 were evaluated as part of the baseline emissions, as these truck trips would be shifted to the SCIG facility under the proposed Project scenario, as described in Section 2.1. Locomotives, drayage trucks operating at the baseline businesses and between the Ports and Hobart Yard, and on-site cargo-handling equipment at the baseline businesses were all major sources of GHG emissions.

Baseline GHG emissions (CO_2, CH_4, and N_2O) from local sources (trucks, cargo-handling equipment and motor vehicles used for employee commutes) were based on model runs of the EMFAC2007 and OFFROAD2007 models. Additional emissions estimates were conducted for rail locomotives calling on the existing tenant facilities, and for specialized cargo-handling equipment, using emissions estimation guidance from the USEPA and CARB. Table 3.6-1 presents the annual baseline GHG emissions in 2005.

In addition to direct GHG emission shown in Table 3.6-1, electricity consumption emissions were calculated for the facility and are included in Table 3.6-1. The baseline GHG emissions from electricity were based on the energy consumption of the businesses that currently occupy the proposed Project site. The businesses in some cases would be displaced and in other cases relocated. Some of these changes in activities and operations are part of the proposed Project.

Table 3.6-1. Baseline (2005) Annual GHG Emissions.

Source Category	Annual Emissions [a, e] (metric tons/year)			
	CO_2	CH_4	N_2O	CO_2e
Trucks On-Site [b]	2,298	0	0	2,299
Trucks Off-Site [b, c]	67,209	0	0	67,268
Employee Commute On-Site	120	0	0	121
Employee Commute Off-Site	5,500	1	1	5,688
CHE	10,607	15	0	10,919
Locomotives Off-Site [f]	69,590	6	2	70,270
Tenant Locomotive Activities	14	0	0	14
Electricity	2,448	0	0	2,459
Total – CEQA Baseline [d]	**157,786**	**21**	**3**	**159,038**

a) Emissions represent annual emissions.
b) Trucks include medium and heavy duty trucks.
c) Off-site trucks emissions include trips originating from existing tenant facilities and trips between port terminals and Hobart Yard.
d) Emissions might not add precisely due to rounding. For more explanation, refer to the discussion in Section 3.2.4.1.
e) The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.
f) Off-site train includes Hobart to SCAB and SCAB to Stateline

3.6.3 Applicable Regulations

Climate change has only recently been widely recognized as a threat to the global climate, economy and population. As a result, the climate change regulatory setting – federal, state and local – is complex and evolving. This section identifies key legislation, executive orders, and seminal court cases related to climate change germane to the proposed Project.

3.6.3.1 Federal Regulations

Federal Action on Greenhouse Gas Emissions

April 2007 Supreme Court Ruling

In *Massachusetts et al. v. Environmental Protection Agency* et al. 549 U.S. 497, the U.S. Supreme Court ruled that GHGs were air pollutants within the meaning of the Clean Air Act and that the Act authorizes the USEPA to regulate CO_2 emissions from new motor vehicles, should those emissions endanger the public health or welfare. The Court did not mandate that the USEPA enact regulations to reduce GHG emissions, but found that the only instances where the USEPA could avoid taking action were if it found that GHGs do not contribute to climate change or if it offered a "reasonable explanation" for not determining that GHGs contribute to climate change. On December 7, 2009, the USEPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act.

Endangerment Finding: the USEPA Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases – CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6 – in the atmosphere threaten the public health and welfare of current and future generations.

Cause or Contribute Finding: the USEPA Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

The finding itself does not impose any requirements on industry or other entities. However, this action was a prerequisite to finalizing the USEPA's proposed greenhouse gas emissions standards for light-duty vehicles (USEPA, 2011b).

Corporate Average Fuel Economy (CAFE) Standards

First enacted by Congress in 1975 as part of the 1975 Energy Policy Conservation Act in response to the 1973-1974 oil crises, the purpose of CAFE standards is to reduce energy consumption by increasing the fuel economy of passenger cars and light-duty trucks. The CAFE regulation requires each car manufacturer to meet a standard for the sales-weighted fuel economy for the entire fleet of vehicles sold in the U.S. in each model year. Fuel economy, expressed in miles per gallon (mpg), is defined as the average mileage traveled by an automobile per gallon of gasoline or equivalent amount of other fuel. The National Highway Traffic Safety Administration (NHTSA) of the US Department of Transportation (USDOT) administers the CAFE program, and the USEPA provides the fuel economy data. NHTSA sets fuel economy standards for passenger cars and light-duty trucks sold in the U.S. while USEPA calculates the average fuel economy for each manufacturer. In response to a *U.S. Presidential Memorandum Regarding Fuel Efficiency Standards* dated May 21, 2010, the USEPA and NHTSA are taking

coordinated steps to enable the production of a new generation of clean vehicles, through reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. In April 1, 2010, the USEPA and NHTSA issued a Final Rulemaking establishing new federal GHG and fuel economy standards for model years 2012 to 2016 passenger cars, light-duty trucks, and medium-duty passenger vehicles. These agencies are now in the process of developing a rulemaking to set standards for model years 2017 to 2025 passenger cars, light-duty trucks, and medium-duty passenger vehicles, as well as the first-ever GHG and fuel economy standards for medium-duty, and heavy-duty engines and trucks.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 was signed into law on December 19, 2007 and includes provisions covering:

- Renewable Fuel Standard (Section 202);
- Appliance and Lighting Efficiency Standards (Section 301–325);
- Building Energy Efficiency (Sections 411–441).

Additional provisions of the Energy Independence and Security Act address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

The Renewable Fuel Standard (RFS) is of some relevance to the project as the regulations require annual increases in biofuels sold – both biodiesel and bioethanol – from the years 2010-2022. By year 2022, the RFS will require at least 74 billion gallons of biofuel to be sold in the US, as compared to a current (2010) level of approximately 14.5 billion gallons.

Reporting Requirements

Congress passed "The Consolidated Appropriations Act of 2008" (HR 2764) in December 2007, which requires reporting of greenhouse gas (GHG) data and other relevant information from large emission sources and suppliers in the United States. The Rule is referred to as 40 CFR Part 98 - Greenhouse Gas Reporting Program (GHGRP).The stated purpose of the rule is to collect accurate and timely GHG data to inform future policy decisions. Facilities that emit 25,000 metric tons or more per year of GHGs are required to submit annual reports to USEPA. Suppliers of certain products that result in GHG emissions if released and facilities that inject CO_2 underground for geologic sequestration are also covered.

USEPA has extended the deadline for reporting initial year 2010 GHG data to September 30, 2011. This extension will allow USEPA to further test the system that reporters will use to submit data, and give industry the opportunity to test the tool, provide feedback and have sufficient time to become familiar with it prior to reporting.

3.6.3.2 Regional Agreements

Western Regional Climate Action Initiative (WCI)

The Western Regional Climate Action Initiative is a partnership among seven states, including California, and four Canadian provinces that are implementing a regional, economy-wide cap-and-trade system to reduce global warming pollution. The Western

Regional Climate Action Initiative will cap the region's electricity, industrial, and transportation sectors with the goal of reducing the heat-trapping emissions that cause global warming to 15 percent below 2005 levels by 2020. California is working with the other states and provinces to design a regional GHG reduction program that includes a cap-and-trade approach. CARB plans to develop a cap-and-trade program that will eventually link California and other member states and provinces.

3.6.3.3 State Regulations and Agreements

California Legislation

California has enacted a variety of legislation that relates to climate change, much of which sets aggressive goals for GHG reductions within the state. The discussion below provides a brief overview of the CARB and Office of Planning and Research documents and of the primary legislation that relates to climate change which may affect the GHG emissions associated with the proposed Project.

Assembly Bill 32 (Statewide GHG Reductions)

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires CARB to develop and enforce regulations for the reporting and verification of statewide greenhouse gas emissions. CARB is directed to set a greenhouse gas emission limit, based on 1990 levels, to be achieved by 2020. The bill sets a timeline for adopting a scoping plan for achieving greenhouse gas reductions in a technologically and economically feasible manner.

The heart of the bill is the requirement that statewide GHG emissions must be reduced to 1990 levels by 2020. California needs to reduce GHG emissions by approximately 28.5 percent below business-as-usual predictions of year 2020 GHG emissions to achieve this goal (CARB, 2008). The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions. Key AB 32 milestones are as follows:

- June 30, 2007—Identification of discrete early action greenhouse gas emissions reduction measures. On June 21, 2007, CARB satisfied this requirement by approving three early action measures. These were later supplemented by adding six other discrete early action measures.
- January 1, 2008—Identification of the 1990 baseline GHG emissions level and approval of a statewide limit equivalent to that level. Adoption of reporting and verification requirements concerning GHG emissions. On December 6, 2007, CARB approved a statewide limit on GHG emissions levels for the year 2020 consistent with the determined 1990 baseline.
- January 1, 2009—Adoption of a scoping plan for achieving GHG emission reductions. On October 15, 2008, CARB issued a "discussion draft" Scoping Plan entitled "Climate Change Draft Scoping Plan: A Framework for Change" (Draft Scoping Plan). CARB adopted the Draft Scoping Plan at its December 11, 2008 meeting.
- January 1, 2010—Adoption and enforcement of regulations to implement the discrete early action measures.
- January 1, 2011 (and throughout 2011) —Adoption of GHG emissions limits and reduction measures by regulation.

- January 1, 2012—GHG emissions limits and reduction measures adopted in 2011 become enforceable.

The Scoping Plan adopted in December 2008 contained goods movement control measures relevant to the proposed project.

T-6 Goods Movement Efficiency Measures: System-Wide Efficiency Improvements for Goods Movement

Under this proposed measure, California ports, railroad operators, shipping companies, terminal operators, ship owners/operators, importers, exporters, trucking companies serving ports and rail operation, government agencies, and the public would participate in developing and implementing programs to achieve system-wide reductions in GHG emissions from goods movement activities. Key elements of the measure would be to:

- Estimate emissions and key contributors to the emissions;
- Assign emission reduction goals to the key contributors with particular emphasis on ports and intermodal rail operations;
- Identify and develop approaches to achieve the emission reduction goals;
- Develop trade corridor emission reduction plans; and
- Monitor implementation of the progress in achieving the emission reduction targets.

The following measures have been adopted and represent efficiency improvements in goods movements consistent with Measure T-6 that apply to the Proposed Project.

Drayage Trucks

In December 2007, CARB approved a regulation to reduce GHGs, diesel PM, and NOx emissions from drayage trucks operating at California's ports and rail yards through retrofits and turnover of pre-1994 trucks. This early action measure will be implemented in two phases. The first phase requires all pre-1994 model year drayage trucks to be replaced or retired with newer model year trucks. The second phase requires all engines to meet or exceed the 2007 California and federal engine emission standards by December 31, 2013.

Cargo Handling Equipment

In 2005, CARB adopted an ATCM for cargo handling equipment at ports and intermodal rail yards. CARB would investigate and potentially develop a new measure to restrict unnecessary idling, which would aim to reduce fuel consumption and associated greenhouse gases, criteria pollutants, and toxic air contaminants.

Transport Refrigeration Units

Transport refrigeration units (TRUs) are refrigeration systems powered by internal combustion engines designed to control the environment of temperature sensitive products that are transported in trucks, trailers, shipping containers, and railcars. In 2004, the TRU ATCM was adopted to reduce diesel particulate matter (PM) emissions from TRU engines.

Executive Order S-3-05 (Statewide GHG Targets)

California Executive Order S-03-05 (June 1, 2005) mandates a reduction of GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990

levels by 2050. Although the 2020 target is the core of AB 32, and has been incorporated into AB 32, the 2050 target remains the goal of the Executive Order.

Low Carbon Fuel Standard (LCFS)

Executive Order S-01-07 (January 18, 2007) requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by CARB. CARB identified the Low Carbon Fuel Standard (LCFS) as a Discrete Early Action item under AB 32, and the final resolution (09-31) was issued on April 23, 2009 (CARB, 2011).

Senate Bill 1368 (GHG Emissions Standard for Baseload Generation)

Senate Bill SB1368 prohibits any retail seller of electricity in California from entering into a long-term financial commitment for baseload generation if the GHG emissions are higher than those from a combined-cycle natural gas power plant. This performance standard applies to electricity generated out-of-state as well as in-state, and to publicly owned as well as investor-owned electric utilities.

Assembly Bill 1493 (Mobile Source Reductions)

Assembly Bill (AB) 1493 ("the Pavley Standard") requires CARB to adopt regulations by January 1, 2005, to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks of model year 2009 through 2016. The bill requires the California Climate Action Registry to develop and adopt protocols for the reporting and certification of greenhouse gas emissions reductions from mobile sources for use by CARB in granting emission reduction credits. The bill authorizes CARB to grant emission reduction credits for reductions of greenhouse gas emissions prior to the date of enforcement of regulations, using model year 2000 as the baseline for reduction.

In 2004, CARB applied to the USEPA for a waiver under the federal Clean Air Act to authorize implementation of these regulations. The waiver request was formally denied by the USEPA in December 2007 after California filed suit to prompt federal action. In January 2008, the State Attorney General filed a new lawsuit against the USEPA for denying California's request for a waiver to regulate and limit GHG emissions from these vehicles. In January 2009, President Barack Obama issued a directive to the USEPA to reconsider California's request for a waiver. On June 30, 2009, the USEPA granted the waiver to California for its greenhouse gas emission standards for motor vehicles. As part of this waiver, USEPA specified the following provision: CARB may not hold a manufacturer liable or responsible for any noncompliance caused by emission debits generated by a manufacturer for the 2009 model year.

Senate Bills 1078 and 107 (Renewables Portfolio Standard)

Established in 2002 under Senate Bill 1078 and accelerated in 2006 under Senate Bill 107, California's Renewables Portfolio Standard requires retail suppliers of electric services to increase procurement from eligible renewable energy resources by at least 1 percent of their retail sales annually, until they reach 20 percent by 2010.

Senate Bill 2 (Renewables Portfolio Standard)

On April 12, 2011, Governor Brown signed SB 2 which requires one-third of the state's electricity to come from renewable sources. The legislation increases California's current

20 percent renewable portfolio standard target in 2010 to a 33 percent renewable portfolio standard by December 31, 2020.

Senate Bill 375 (Land Use Planning)

Senate Bill (SB) 375 provides for a new planning process to coordinate land use planning and regional transportation plans and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 requires regional transportation plans, developed by Metropolitan Planning Organizations relevant to the proposed Project area (including the Southern California Association of Governments (SCAG, 2011a), to incorporate a "sustainable communities strategy" (SCS) in their regional transportation plans that will achieve GHG emission reduction targets set by CARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects such as transit oriented development. SB 375 will be implemented over the next several years.

SB 375 is similar to the Regional Blueprint Planning Program, established by the California Department of Transportation, which provides discretionary grants to fund regional transportation and land use plans voluntarily developed by Metropolitan Planning Organizations working in cooperation with Council of Governments. The scoping plan adopted by CARB in December of 2008 relies on the requirements of SB 375 to implement the carbon emissions reductions anticipated from land use decisions.

SCAG will develop and finalize a sustainable community's strategy as part of its 2012 Regional Transportation Plan. Currently, SCAG is conducting workshops to integrate stakeholder input into the SCS elements. The draft Regional Transportation Plan and SCS is scheduled for release in December 2011 (SCAG, 2011b).

Energy Conservation Standards

Energy Conservation Standards for new residential and commercial buildings were originally adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2008 (Title 24, Part 6 of the California Code of Regulations [CCR, 2008]). In general, 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. The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608), dated December 2006, 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 non-federally regulated appliances. While these regulations are now often seen as "business as usual," they do exceed the standards imposed by any other state and reduce GHG emissions by reducing energy demand.

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code (Title 24, California Code of Regulations) (California Building Standards Commission, 2009). Part 11 establishes voluntary standards on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. Some of these standards have become mandatory in the 2010 edition of the Part 11 Code.

Senate Bill 97 (CEQA Guidelines)

SB 97 required that the California Natural Resources Agency (CNRA) coordinate on the preparation of amendments to the CEQA Guidelines regarding feasible mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions. Pursuant to SB 97, CNRA adopted CEQA Guidelines amendments on December 30, 2009 and transmitted the Adopted Amendments and the entire rulemaking file to the Office of Administrative Law (OAL) on December 31, 2009. The amendments were approved by the Office of Administrative Law on February 16, 2010, and became effective on March 18, 2010.

With respect to the significance assessment, newly added CEQA Guidelines section 15064.4, subdivision (b), indicates:

- A lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:
- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The Guidelines (SB 97, 2009) also apply retroactively to any incomplete environmental impact report, negative declaration, mitigated negative declaration, or other related documents. The amendments also provide that lead agencies should consider all feasible means of mitigating greenhouse gas emissions that substantially reduce energy consumption or GHG emissions. These potential mitigation measures may include carbon sequestration. If off-site or carbon offset mitigation measure are proposed they must be part of reasonable plan of mitigation that the agency itself is committed to implementing. No threshold of significance or any specific mitigation measures are indicated.

Among other things, CNRA noted in its Public Notice for these changes that impacts of GHG emissions should be considered in the context of a cumulative impact, rather than a project impact. The Public Notice states:

"While the Proposed Amendments do not foreclose the possibility that a single project may result in greenhouse gas emissions with a direct impact on the environment, the evidence before [CNRA] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of greenhouse gas emissions should center on whether a project's incremental contribution of greenhouse gas emissions is cumulatively considerable."

CEQA Guidelines §15126.2(a)

- **CEQA Guidelines** identify the need to evaluate potential impacts of locating development in areas vulnerable to climate change effects: *The EIR "should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g. floodplains, coastlines, wildfire risk areas)".*
- **Executive Order S-13-08**

  On November 14, 2008, Governor Arnold Schwarzenegger signed EO S-13-08 which called on state agencies to develop a strategy for identification and preparation for expected climate change impacts in California. The resulting *2009 California Climate Adaptation Strategy (CAS)* report was developed by the California Natural Resources Agency (CNRA) in coordination with the Climate Action Team (CAT). The report presents best available science relevant to climate impacts in California and proposes a set of recommendations for California decision makers to assess vulnerability and promote resiliency in order to reduce California's vulnerability to climate change. In addition to requiring the CAT to create a Climate Adaptation Strategy, EO-S13-08 ordered the creation of a comprehensive Sea Level Rise Assessment Report which is proposed for completion by the National Academy of Science (NAS) in 2012. Guidance regarding adaptation strategies is general in nature and emphasizes incorporation of strategies into existing planning policies and processes.

  EO-S-13-08 called for the California Ocean Protection Council (OPC) to work with the other CAT state agencies to develop interim guidance for assessing the potential impacts of sea -level rise (SLR) due to climate change in California. In coordination with NAS efforts, the OPC drafted interim guidance recommending that state agencies consider a range of SLR scenarios for the years 2050 and 2100 in order to assess project vulnerability, reduce expected risks, and increase resiliency to sea-level rise. The draft resolution and interim guidance document is consistent with the Ocean Protection Act (Division 26.5, Public Resource Code Section 35615(a)(1)) which specifically directs the OPC to coordinate activities of state agencies to improve the effectiveness of state efforts to protect ocean resources.

3.6.3.4 Local Regulations and Agreements

Local Air Quality Management District (SCAQMD) Policies

On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for proposed Projects where the SCAQMD is the lead agency. Currently, the Board has only adopted thresholds relevant to industrial (stationary source) projects (SCAQMD, 2011). To achieve a policy objective of capturing 90 percent of GHG emissions from new residential/commercial development projects and implement a "fair share" approach to reducing emission increases from each sector, SCAQMD staff proposed in September 2010 combining performance standards and screening thresholds. The performance standards suggested have primarily focused on energy efficiency measures beyond Title 24 Part 6, California's building energy efficiency standards, and a screening level of 3,000 tonnes CO_2e per year based on direct operational emissions. Above this screening level, project design features designed to reduce GHGs must be implemented to reduce the impact to below a level of significance. The SCAQMD staff is in an ongoing effort to develop GHG CEQA significance thresholds. The CEQA Significance Thresholds Working Group, which includes government agencies implementing CEQA and representatives from various stakeholder

groups, are providing input for this effort, although have not met since September 2010. Information on the current developments of the CEQA Significance Thresholds Working Group can be found on the SCAQMD website (SCAQMD, 2010).

City of Los Angeles Policies

Green LA

The City of Los Angeles released its climate action plan, "Green LA: An Action Plan to Lead the Nation in Fighting Global Warming", in May 2007 (City of Los Angeles, 2010). The Green LA plan is a voluntary program that sets a goal of reducing the City's greenhouse gas emissions to 35 percent below 1990 level by 2030. ClimateLA is the implementation framework that contains the details of the more than fifty action items that are included in Green LA. The majority of the actions described in the LA Green Plan are not project specific and include City-wide actions. Some of the measures the City of Los Angeles will take to achieve the 35 percent reduction goal include the following:

- increasing the amount of renewable energy provided by LADWP;
- improving the energy efficiency of all City departments and City-owned buildings;
- converting City fleet vehicles, refuse collection trucks, street sweepers and buses to alternative fuel vehicles;
- providing incentives and assistance to existing LADWP customers in becoming more energy efficient;
- changing transportation and land use patterns to reduce dependence on automobiles;
- decreasing per capita water use;
- "greening" the Port of Los Angeles and the four airports operated by the City (including Los Angeles International Airport and LA/Ontario International Airport); and
- promoting expansion of the "green economy" throughout the City.

The LA Green Plan calls for the following Port-specific actions:

- Heavy-duty vehicles: By the end of 2011, all trucks calling at the ports will meet or exceed the U.S. Environmental Protection Agency's (USEPA) 2007 heavy-duty vehicle on-road emissions standards for \particulate matter
- Cargo-handling equipment: All yard tractors will meet at a minimum the US EPA 2007 on-road or Tier IV engine emission standards
- Railroad locomotives: For Pacific Harbor Line switch engines, use of Tier II engines and emulsified or other equivalently clean alternative diesel fuels available. Diesel-powered Class 1 locomotives entering port facilities will be 90% controlled for particulate matter and NOx.
- Complete a strategic plan for the Port of Los Angeles, including sustainable and green growth options
- Complete an economic development plan for the port, identifying opportunities to link the port's investment in green growth to new economic opportunities in the green sector.

The specific measures for developing the Port-Specific are included in the San Pedro Bay Ports Clean Air Action Plan (CAAP) discussed below.

Executive Directive No. 10

In July, 2007, Mayor Villaraigosa directed the Environmental Affairs Department, City Planning Department, Department of Building and Safety, General Services Department and Bureau of Engineering, in cooperation with the Housing Department, Fire Department, Department of Recreation and Parks, Department of Water and Power, Port of Los Angeles, Los Angeles World Airports (LAWA), and the Community Redevelopment Agency of Los Angeles (CRA/LA) to create and adopt a Statement of Sustainable Building Policies to guide the private sector's decision making process for planning, construction and renovation of buildings in the City. The principles were to cover the areas of sustainable design, energy and atmosphere, materials and resources, water efficiency, landscaping and transportation resources and be consistent with current tenets in local and national building codes.

Ordinance 179,820

The City of Los Angeles also adopted a green building ordinance (Ordinance 179,820) in April 2008, which establishes a Green Building Program, in order to address the impact of climate change from new development. The purpose of the Green Building Program is to reduce the use of natural resources, create health healthier environments and minimize the negative impacts of development on local, regional, and global ecosystems. The program consists of a Standard of Sustainability and Standard of Sustainable Excellence. The Green Building Program would require that certain new development projects 50,000 square feet or larger or with more than 50 residential units must at a minimum, under the Standard of Sustainability, meet the intent of the criteria of the US Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) rating system's "certified" performance level. In meeting this requirement, the developer must submit a LEED checklist, provide a signed declaration from a LEED accredited professional asserting that the proposed Project meets the intent of the LEED rating system's "certified" level, and provide a set of plans that identifies the LEED measures. The program under the Standard of Sustainable Excellence establishes an incentive program for projects that register with USGBC and achieve LEED silver rating such as priority processing services within the City departments (City of Los Angeles, 2011). As a project design feature, the proposed Project is committed to achieving LEED Core and Shell Silver certification level.

Port Climate Action Plan

The Green LA Plan led to the Port's development of an individual Climate Action Plan, consistent with the goals of Green LA, to examine opportunities to reduce GHG emissions from Port operations.

In accordance with this directive, the Port's Climate Action Plan developed in December of 2007 covers currently listed GHG emissions related to the Port's activities (such as Port buildings, and Port workforce operations). The Climate Action Plan outlines specific steps that the Port of Los Angeles Harbor Department has taken and will take on global climate change. These steps include specific actions that will be taken for energy audits, green building policies, on-site PV solar energy, green energy procurement, tree planting, water conservation, alternative fuel vehicles, increased recycling, and green procurement.

In addition, the Port of Los Angeles Sustainability Assessment, published in June of 2008, contains an assessment of existing programs and policies against the eight goals that were identified in the Mayor Villaraigosa's Executive Directive No. 10 on

Sustainability Practices in the City of Los Angeles. The Port also completed annual GHG inventories of the Port's activities and reported these to the California Climate Action Registry for years 2006 through 2009. The Port's Annual Inventory of Air Emissions (EI) has included GHG estimates for transportation activities associated with goods movement for OGVs, harbor craft, trucks, locomotives, and cargo handling equipment since 2006. In 2009 and 2010, the Port expanded the 2006-2008 GHG inventories to include an expanded geographical delineation for OGV's, trucks and locomotives. These EI's and expanded inventories can be found on the Port's web site (Port of Los Angeles, 2011).

3.6.4 Impacts and Mitigation Measures

This section presents a discussion of the potential greenhouse gas (GHG) emission impacts associated with the construction and operation of the proposed Project. Mitigation measures are also discussed in this section. Greenhouse gas emissions associated with the proposed Project were calculated according to methodologies provided in the California Climate Action Registry General Reporting Protocol (GPR), Version 3.1 (CCAR, 2009). Appendix C5 provides more detail on the GHG emission calculation methodologies. It should be noted that the Climate Action Reserve officially closed the California Climate Action Registry at the end of 2010. Any reference to the CCAR GPR in this report applies to The Climate Registry Protocol (TCR) as the protocols are equivalent. However, the TCR Protocol should be used in the future as updates will be made only to the TCR GPR.

3.6.4.1 Methodology

GHG emissions of CO_2, CH_4, and N_2O were estimated for construction and operation of the proposed project. In addition, the indirect emissions of GHGs were estimated from electricity use for both construction and operation of the proposed project.

Methodologies for estimating GHG emissions are provided in the California Climate Action Registry General Reporting Protocol. The activity data used as the inputs for the GHG emission calculations are the same activity data used in the air quality section for estimating construction emissions and operational emissions. These activity data determine the levels of air quality and GHG construction emissions from the various construction elements. The construction emissions sources include:

- off-road construction equipment,
- on-road trucks,
- general cargo ships,
- rail delivery,
- worker commute trips, and
- relocated tenant construction sites.

The activity data for operational emissions include;

- SCIG drayage trucks,
- railyard equipment,
- other vehicles, including refueling trucks, employee commuter vehicles and on-site service trucks,
- locomotives, and
- relocated tenants' operational emissions.

The activities of these sources are discussed in more detail in the Air Quality Section 3.2. An additional emission category included in the GHG section is the indirect emissions from electricity consumption, which were calculated specifically for the proposed project. Indirect emissions represent future operations of the proposed project (SCIG facility) and the relocated tenants' future operations. For the SCIG facility, expected electricity consumption for the facility at full build-out was provided by BNSF. For the relocated tenants, electricity consumption was either identical to the baseline if the tenant was relocated to a similarly sized site or was scaled down by the ratio of the acreage of the relocation site to the acreage of the original site. For electricity consumption in the years before the full build-out, GHG emissions were scaled down by the ratio of the throughput of the facility in that year to the full build-out year.

In order to assess potential impacts to the proposed Project due to projected increases in sea-level rise, currently available public documentation for the Los Angeles coastline was reviewed (Pacific Institute, 2009). Pacific Institute potential SLR scenario maps represent the extent of a 100-year coastal flood, based on FEMA 100-year flood elevations, with a sea-level rise of 1.4 meters (55 inches) by the year 2100.

3.6.4.2 Scope of Analysis and Geographic Boundaries

Under the CCAR General Reporting Protocol (version 3.1, January 2009), emissions associated with Project construction and operations would be divided into three categories:

- Scope 1: Direct emissions from sources owned or operated by the Port
- Scope 2: Indirect emissions from purchased and consumed electricity
- Scope 3: Indirect emissions from sources not owned or operated by the Port

Examples of Scope 1 sources would be those sources owned and operated by the Port such as Port vehicles and marine vessels. There are not anticipated to be any Scope 1 sources associated with this Project. CCAR does not require Scope 3 emissions to be reported because they are considered to belong to another reporting entity (i.e., whoever owns, leases, or operates the sources), and that entity would report these emissions as Scope 1 emissions in its own inventory. Virtually all SCIG trucks, line-haul locomotives, railyard equipment, and construction equipment falls under this category. As a result, when used for CEQA purposes, the CCAR definition of operational boundaries would omit a large portion of the GHG emission sources associated with the proposed Project. Therefore, the operational and geographical boundaries were determined differently from the General Reporting Protocol to make the GHG analysis more consistent with CEQA and to avoid the omission of a significant number of mobile sources.

For the purposes of this EIR, GHG emissions were calculated for all Project-related sources (Scopes 1, 2, and 3). Because CCAR does not require reporting of Scope 3 emissions, CCAR has not developed a method for determining the operational or geographical boundaries for some Scope 3 emissions sources, such as trucks, line-haul locomotives and ships. Therefore, for those sources that travel out of California, the geographical boundaries used for the emission calculations were based on the routes as described in the Methodology Section of the Air Quality Impact Section 3.2 and were tracked to the state line as listed below.

- The average one-way truck trip distances from the SCIG facility were assumed to be as follows:
    - To West Basin – approximately 5 miles

- To Terminal Island – approximately 4 miles from TI
- To Pier F, J – approximately 3 miles

- For trains, the average travel distance between the SCIG facility and the eastern border of California was estimated to be 338 miles (Los Angeles Harbor to Needles, California).
- In the case of electricity consumption, all GHG emissions were included regardless of whether they are generated by in-state or out-of-state power plants.

This approach is consistent with the CCAR goal of reporting all GHG emissions within the State of California (CCAR, 2009). This document acknowledges that GHG emissions extend beyond state borders. However, origin and destination data for out-of-state emissions over the life of the project do not exist and would be speculative on a project-specific level.

The focus of the SLR analysis is the proposed Project at the SCIG facility. Although truck and train routes were also considered, due to the lack of project specific SLR information, transportation routes associated with the Project are addressed in general terms.

3.6.4.3 Impact Determination

Section 15125 of the CEQA Guidelines requires EIRs to include a description of the physical environmental conditions in the vicinity of the project that exists at the time of the NOP. These environmental conditions would normally constitute the baseline physical conditions by which the CEQA lead agency determines whether an impact is significant. For purposes of this Draft EIR, the CEQA baseline for determining the significance of the proposed Project is 2005, which is the time of the NOP.

The CEQA baseline represents the setting at a fixed point in time (2005) and differs from the No-Project Alternative (Alternative 1—discussed in Section 5.1) in that the No-Project Alternative addresses what is likely to happen at the site over time, starting from the existing conditions. The No-Project Alternative allows for growth at the proposed project site that would occur without additional approvals.

3.6.4.4 Significance Thresholds

CEQA Guidelines §15064.4 (b) sets forth the factors that should be considered by a lead agency when assessing the significance of impacts from greenhouse gas emissions on the environment. These factors are:

- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.

The Guidelines do not specify significance thresholds and left this to lead agencies to decide. CARB developed initial guidance for air districts to consider for CEQA significance thresholds in October 2008. At that time, CARB proposed a threshold of 7,000 tons per year for industrial projects, and did not provide a numerical threshold for commercial and residential projects stating it would be developed in the future.

In the SCAB, currently, the SCAQMD Board has only adopted thresholds relevant to industrial (stationary source) projects for which it is the lead agency (SCAQMD, 2011). This threshold is generally set at 10,000 metric tons per year of GHG emissions from the proposed project. To achieve a policy objective of capturing 90 percent of GHG emissions from new residential/commercial development projects and implement a "fair share" approach to reducing emission increases from each sector, SCAQMD staff has proposed combining performance standards and screening thresholds. The performance standards suggested have primarily focused on energy efficiency measures beyond Title 24 Part 6, California's building energy efficiency standards, and a screening level of 3,000 tonnes CO_2e per year based on direct operational emissions. Above this screening level, project design features designed to reduce GHGs must be implemented to reduce the impact to below a level of significance. However, these SCAQMD thresholds apply to stationary sources (adopted) and residential and commercial developments (proposed) and not transportation sources which are the primary sources of potential impact for the proposed Project.

The *L.A. CEQA Thresholds Guid*e (City of Los Angeles, 2006) does not include recent and up to date thresholds on greenhouse gas emissions. Therefore, reliance on the Office of Planning and Research (OPR)'s revised Environmental Checklist (Appendix G) determination of significance is based on whether the project would:

GHG-1: Generate GHG 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 GHGs

The City of Los Angeles has not established such a threshold. Therefore, the Port of Los Angeles, for purposes of this proposed Project only, is utilizing the following as its CEQA threshold of significance**:**

- The proposed Project would result in a significant impact if CO_2e emissions exceed CEQA baseline emissions.

Under CEQA, baseline conditions normally include environmental conditions in the vicinity of the proposed project site, or the area affected by the proposed project, during the baseline period or in this case without the proposed project. However, to ensure a conservative description of baseline conditions and to avoid understating project impacts, this document describes baseline conditions as including only activities that occurred on the site prior to the proposed project. The impacts are therefore based on the future operations emissions compared to the baseline scenario. In addition, the total emissions from construction represent impacts from the proposed project. In absence of further guidance, this threshold is thought to be the most conservative because any increase over baseline is designated as significant.

CEQA Guideline §15126.2(a) identifies the need to evaluate potential impacts of locating development in areas vulnerable to climate change effects: *The EIR "should evaluate any potentially significant impacts of locating development in other areas susceptible to hazardous conditions (e.g. floodplains, coastlines, wildfire risk areas)".*

3.6.4.5 Impacts and Mitigation

Impact GHG-1: The proposed Project would result in an increase in construction-related and operation-related GHG emissions.

Table 3.6-2 presents the annual GHG emissions associated with construction of the proposed Project, and Table 3.6-3 presents the annual construction GHG emissions of the proposed Project with the overlap of relocated tenant operations. This table contains annual construction emissions for each project year. Emissions for each construction element were determined by totaling the daily emissions from the individual construction activities and relocated tenant operational activities that overlap in the proposed construction schedule.

Table 3.6-2. Summary of Annual Construction Emissions without Relocated Tenant Operations during Construction Period-Proposed Project.

Source Category	Annual Emissions (metric tons/year) [c]			
	CO_2	CH_4	N_2O	CO_2e
Construction Year 2013				
SCIG and Relocated Tenant Sites Construction - on-site	11,928	1	0	12,055
SCIG and Relocated Tenant Sites Construction - off-site	5,129	0	0	5,177
2013 Total Annual[b]	**17,057**	**1**	**0**	**17,232**
Thresholds				**0**
CEQA Significant?[a]				**Yes**
Construction Year 2014				
SCIG and Relocated Tenant Sites Construction - on-site	3,959	0	0	4,000
SCIG and Relocated Tenant Sites Construction - off-site	3,478	0	0	3,486
2014 Total Annual[b]	**7,437**	**0**	**0**	**7,486**
Thresholds				**0**
CEQA Significant?[a]				**Yes**
Construction Year 2015				
SCIG and Relocated Tenant Sites Construction - on-site	2,669	0	0	2,675
SCIG and Relocated Tenant Sites Construction - off-site	335	0	0	342
2015 Total Annual[b]	**3,005**	**0**	**0**	**3,017**
Thresholds				**0**
CEQA Significant?[a]				**Yes**

a) CEQA significance is determined by comparing the peak daily construction emissions directly to the thresholds.
b) Emissions might not add precisely due to rounding. For more explanation, refer to the discussion in Section 3.2.4.1.
c) The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

Table 3.6-3. Summary of Annual Construction Emissions including Relocated Tenant Operations during Construction Period-Proposed Project.

Source Category	Annual Emissions (metric tons/year) [c]			
	CO_2	CH_4	N_2O	CO_2e
Construction Year 2013				
SCIG and Relocated Tenant Sites Construction - On-Site	11,928	1	0	12,055
SCIG and Relocated Tenant Sites Construction - Off-Site	5,129	0	0	5,177
Tenants Operations - On-Site	11,941	5	0	12,051
Tenants Operations - Off-Site	12,421	0	0	12,474
2013 Total Annual[b]	**41,419**	**6**	**1**	**41,756**
Thresholds				**0**
CEQA Significant?[a]				**Yes**
Construction Year 2014				
SCIG and Relocated Tenant Sites Construction - On-Site	3,959	0	0	4,000
SCIG and Relocated Tenant Sites Construction - Off-Site	3,478	0	0	3,486
Tenants Operations - On-Site	5,321	1	0	5,352
Tenants Operations - Off-Site	6,652	0	0	6,680
2014 Total Annual[b]	**19,410**	**2**	**0**	**19,518**
Thresholds				**0**
CEQA Significant?[a]				**Yes**
Construction Year 2015				
SCIG and Relocated Tenant Sites Construction - On-Site	2,669	0	0	2,675
SCIG and Relocated Tenant Sites Construction - Off-Site	335	0	0	342
Tenants Operations - On-Site	5,321	1	0	5,351
Tenants Operations - Off-Site	6,649	0	0	6,666
2015 Total Annual[b]	**14,974**	**2**	**0**	**15,034**
Thresholds				**0**
CEQA Significant?[a]				**Yes**

a) CEQA significance is determined by comparing the peak daily construction emissions directly to the thresholds.
b) Emissions might not add precisely due to rounding. For more explanation, refer to the discussion in Section 3.2.4.1.
c) The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available.

Table 3.6-4 represents annual GHG emissions associated with operation of the proposed Project. Baseline annual emissions are compared to future annual operational emissions to determine CEQA significance for the proposed Project.

Table 3.6-4. Summary of Annual Operational Emissions - Proposed Project.

Source Category	Annual Emissions (metric tons/year) [a,e]				
	CO_2	CH_4	N_2O	HFC	CO_2e
Project Year 2013					
Trucks On-Site	1,846	0	0	0	1,846
Trucks Off-Site [b]	9,782	0	0	0	9,790
CHE	7,967	5	0	0	8,067
Employee Commute On-Site	57	0	0	0	57
Employee Commute Off-Site [b]	2,639	0	0	0	2,684
Tenant Locomotive Activities	7	0	0	0	7
Electricity	2,065	0	0	0	2,074
Total - Project Year 2013 [d]	**24,362**	**5**	**0**	**0**	**24,525**
CEQA Impacts					

Source Category	Annual Emissions (metric tons/year) [a,e]				
	CO_2	CH_4	N_2O	HFC	CO_2e
CEQA Baseline Emissions	157,786	21	3	0	159,038
Proposed Project minus CEQA Baseline [c]	-46,039	-14	-2	0	-46,819
Thresholds					0
Significance?					**No**
Project Year 2014					
Trucks On-Site	1,173	0	0	0	1,173
Trucks Off-Site [b]	5,092	0	0	0	5,096
CHE	3,417	1	0	0	3,445
Employee Commute On-Site	32	0	0	0	32
Employee Commute Off-Site [b]	1,561	0	0	0	1,584
Tenant Locomotive Activities	2	0	0	0	2
Electricity	697	0	0	0	700
Total - Project Year 2014 [d]	**11,973**	**1**	**0**	**0**	**12,032**
CEQA Impacts					
CEQA Baseline Emissions	157,786	21	3	0	159,038
Proposed Project minus CEQA Baseline [c]	-58,428	-18	-2	0	-59,312
Thresholds					0
Significance?					**No**
Project Year 2015					
Trucks On-Site	1,173	0	0	0	1,173
Trucks Off-Site [b]	5,092	0	0	0	5,096
CHE	3,417	1	0	0	3,444
Employee Commute On-Site	32	0	0	0	32
Employee Commute Off-Site [b]	1,557	0	0	0	1,570
Tenant Locomotive Activities	2	0	0	0	2
Electricity	697	0	0	0	700
Total - Project Year 2015 [d]	**11,970**	**1**	**0**	**0**	**12,017**
CEQA Impacts					
CEQA Baseline Emissions	157,786	21	3	0	159,038
Proposed Project minus CEQA Baseline [c]	-58,431	-18	-2	0	-59,327
Thresholds					0
Significance?					**No**
Project Year 2016					
Locomotives On-Site	1,068	0	0	0	1,079
Locomotives Off-Site [b]	85,634	7	2	0	86,470
Trucks On-Site	9,214	0	0	0	9,219
Trucks Off-Site [b]	15,008	0	0	0	15,020
Railyard Equipment	218	0	0	0	232
TRU	5	0	0	0	16
Employee Commute On-Site	27	0	0	0	27
Employee Commute Off-Site [b]	785	0	0	0	795
Refueling Trucks On-Site	1	0	0	0	1
Refueling Trucks Off-Site [b]	17	0	0	0	17
Electricity	1,807	0	0	0	1,814
Relocated Tenant Sources					
Trucks On-Site	1,173	0	0	0	1,173
Trucks Off-Site [b]	5,093	0	0	0	5,097
CHE	3,407	1	0	0	3,432

Source Category	Annual Emissions (metric tons/year) [a,e]				
	CO_2	CH_4	N_2O	HFC	CO_2e
Employee Commute On-Site	32	0	0	0	32
Employee Commute Off-Site [b]	1,349	0	0	0	1,366
Tenant Locomotive Activities	0	0	0	0	0
Electricity	697	0	0	0	700
Total - Project Year 2016 [d]	**125,531**	**9**	**2**	**0**	**126,491**
CEQA Impacts					
CEQA Baseline Emissions	157,786	21	3	0	159,038
Proposed Project minus CEQA Baseline	-32,255	-13	0	0	-32,547
Thresholds					**0**
Significance?					**No**
Project Year 2023					
Locomotives On-Site	1,393	0	0	0	1,407
Locomotives Off-Site [b]	114,178	9	3	0	115,294
Trucks On-Site	12,653	0	0	0	12,660
Trucks Off-Site [b]	19,803	0	0	0	19,820
Railyard Equipment	221	0	0	0	241
TRU	7	0	0	0	22
Employee Commute On-Site	48	0	0	0	48
Employee Commute Off-Site [b]	1,383	0	0	0	1,395
Refueling Trucks On-Site	2	0	0	0	2
Refueling Trucks Off-Site [b]	22	0	0	0	22
Electricity	2,858	0	0	0	2,870
Relocated Tenant Sources					
Trucks On-Site	1,173	0	0	0	1,173
Trucks Off-Site [b]	5,088	0	0	0	5,093
CHE	3,407	1	0	0	3,430
Employee Commute On-Site	31	0	0	0	31
Employee Commute Off-Site [b]	1,312	0	0	0	1,323
Tenant Locomotive Activities	0	0	0	0	0
Electricity	697	0	0	0	700
Total - Project Year 2023 [d]	**164,276**	**11**	**3**	**0**	**165,531**
CEQA Impacts					
CEQA Baseline Emissions	157,786	21	3	0	159,038
Proposed Project minus CEQA Baseline	6,490	-10	1	0	6,493
Thresholds					**0**
Significance?					**Yes**
Project Year 2035					
Locomotives On-Site	1,392	0	0	0	1,406
Locomotives Off-Site [b]	114,178	9	3	0	115,294
Trucks On-Site	12,653	0	0	0	12,660
Trucks Off-Site [b]	19,263	0	0	0	19,279
Railyard Equipment	221	0	0	0	241
TRU	7	0	0	0	22
Employee Commute On-Site	48	0	0	0	48
Employee Commute Off-Site [b]	1,391	0	0	0	1,398
Refueling Trucks On-Site	2	0	0	0	2
Refueling Trucks Off-Site [b]	22	0	0	0	22
Electricity	2,858	0	0	0	2,870
Relocated Tenant Sources					

Source Category	Annual Emissions (metric tons/year) [a,e]				
	CO_2	CH_4	N_2O	HFC	CO_2e
Trucks On-Site	1,173	0	0	0	1,173
Trucks Off-Site [b]	5,140	0	0	0	5,144
CHE	3,407	1	0	0	3,430
Employee Commute On-Site	31	0	0	0	31
Employee Commute Off-Site [b]	1,329	0	0	0	1,336
Tenant Locomotive Activities	0	0	0	0	0
Electricity	697	0	0	0	700
Total - Project Year 2035 [d]	**163,810**	**11**	**3**	**0**	**165,055**
CEQA Impacts					
CEQA Baseline Emissions	157,786	21	3	0	159,038
Proposed Project minus CEQA Baseline	6,025	-10	1	0	6,016
Thresholds					**0**
Significance?					**Yes**
Project Year 2046					
Locomotives On-Site	1,393	0	0	0	1,407
Locomotives Off-Site [b]	114,178	9	3	0	115,294
Trucks On-Site	12,653	0	0	0	12,660
Trucks Off-Site [b]	19,190	0	0	0	19,206
Railyard Equipment	221	0	0	0	241
TRU	7	0	0	0	22
Employee Commute On-Site	48	0	0	0	48
Employee Commute Off-Site [b]	1,377	0	0	0	1,384
Refueling Trucks On-Site	2	0	0	0	2
Refueling Trucks Off-Site [b]	22	0	0	0	22
Electricity	2,858	0	0	0	2,870
Relocated Tenant Sources					
Trucks On-Site	1,173	0	0	0	1,173
Trucks Off-Site [b]	5,111	0	0	0	5,115
CHE	3,407	1	0	0	3,430
Employee Commute On-Site	31	0	0	0	31
Employee Commute Off-Site [b]	1,319	0	0	0	1,326
Tenant Locomotive Activities	0	0	0	0	0
Electricity	697	0	0	0	700
Total - Project Year 2046 [d]	**163,686**	**11**	**3**	**0**	**164,929**
CEQA Impacts					
CEQA Baseline Emissions	157,786	21	3	0	159,038
Proposed Project minus CEQA Baseline	5,901	-10	1	0	5,891
Thresholds					**0**
Significance?					**Yes**

a) Emissions represent annual emissions
b) Truck, train, and worker commute emissions include transport within the Stateline
c) By definition, the Proposed Project minus Baseline increment in 2013, 2014 and 2015 does not account for both the truck travel between port terminals to Hobart Yard and the rail travel from Hobart Yard to the South Coast Air Basin boundary as they are not a part of the Project and Alternatives during this period
d) Emissions might not precisely add due to rounding. For further explanation, refer to the discussion in Section 3.2.4.1.
e) The emission estimates presented in this table were calculated using the latest available data, assumptions, and emission factors at the time this document was prepared. Future studies might use updated data, assumptions, and emission factors that are not currently available

Impact Determination – Project Emissions

The data in Tables 3.6-2 and 3.6-3 show the construction GHG emissions and the net change in annual operational GHG emissions between the Project and CEQA Baseline emissions respectively. Where there are no established significance thresholds, the Port has conservatively established that any increase is potentially significant and is treated accordingly. Therefore, significant impacts would occur for the Proposed Project construction and operation activities.

The proposed project would produce GHG operational emissions that would exceed the CEQA baseline levels when the project reaches its full capacity in 2023 and beyond. However, operational emissions would be less than the baseline GHG emissions through 2016 before the SCIG facility throughput reaches a maximum. Therefore, significant impacts under CEQA would occur for the Proposed Project.

Mitigation Measures - Project Emissions

The mitigation measures applied to the air quality impacts in Section 3.2 as **MM AQ-1** through **MM AQ-7** would have ether negligible effects on reducing GHG emissions or could not be reasonably quantified. For example, **MM AQ-1**, Fleet Modernization of Construction Equipment could not be reasonable quantified because idling restrictions are limited to a maximum of 5 minutes when not in use but the equipment can start and stop throughout a day and the amount of total time the equipment would be running cannot be determined. **MM AQ-2,** Fleet Modernization of On-Road Trucks is designed to reduce PM_{10} and NOx emissions, but would not have a substantial impact on GHG emissions. Likewise, **MM AQ-3**, Additional Fugitive Dust Controls addresses only PM emissions and would not have an impact on GHG emissions. Finally, **MM AQ-4,-5**, and **-6** are directed to DPM and/or are also not quantifiable A number of project features reduce GHG emissions, including the use of wide-span electric RMG cranes, and idle reduction devices for locomotives, and a site administration building which is LEED certified. The elements of the project were considered in the analysis above. The following mitigation measures would reduce GHG emissions from electricity generation or fossil fuel combustion, but these mitigation measures were not quantified. These mitigation measures would also apply to certain relocated tenants including California Cartage on the 10-acre site, and ACTA. These measures would not apply to Fast Lane because the Fast Lane relocation site does not require any new construction other than providing land for more container storage. This measure also does not apply to other relocated tenants located on non-POLA property under the jurisdiction of another entity.

MM GHG-1: Increased Fuel Efficiency for Construction Equipment. Construction equipment idling is to be restricted to a maximum of 5 minutes when not in use and when feasible, and the use of electrified construction equipment where feasible.

MM GHG-2: Solar Panels. The Port shall review the feasibility of including the future SCIG site on their Inventory of Potential PV Solar Sites at POLA from their December 2007 Climate Action Plan.

MM GHG-3: Recycling. The applicant shall ensure a minimum of 40 percent of all waste generated during project construction is recycled and 60 percent of all waste generated in all buildings is recycled by the facility opening year of 2016. Recycled materials shall include: (a) white and colored paper; (b) post-it notes; (c) magazines; (d) newspaper; (e) file folders; (f) all envelopes including those with plastic windows; (g) all cardboard boxes and cartons; (h) all metal and aluminum cans; (i) glass bottles and jars; and; (j) all plastic bottles.

MM GHG-4: Tree Planting. Once construction is completed, the applicant shall plant shade trees around the main administration building and maintain all trees through the life of the lease.

MM GHG-5: Water Conservation. As part of the facility construction, the applicant shall install a water recirculation system at potential wash racks, install low-flow devices in new buildings and low irrigation landscaping, and maintain these through the life of the lease.

MM GHG-6: Compact Fluorescent Light Bulbs. All interior buildings on the SCIG facility shall exclusively use compact fluorescent light bulbs for ambient lighting. The applicant shall also maintain and replace any Port-supplied compact fluorescent light bulbs. Fluorescent light bulbs produce less waste heat and use substantially less electricity than incandescent light bulbs.

MM GHG-7: Energy Audit. The applicant shall conduct a third party energy audit every 5 years and install innovative power saving technology where feasible, such as power factor correction systems and lighting power regulators. Such systems help to maximize usable electric current and eliminate wasted electricity, thereby lowering overall electricity use.

Residual Impacts

GHG mitigation measures GHG-1 through GHG-7 were not quantified because of the difficulty in determining quantitative future year GHG emissions reductions from these measures. Therefore the GHG emissions of construction and operation are significant.

Impact GHG-2: The proposed Project would not conflict with State and local plans and policies.

The proposed project would result in more efficient use of fossil fuels to move goods through the Ports as a result of increased used of rail versus trucking. The project is consistent with key legislation, regulations, plans and policies described in Section 3.6.3, Applicable Regulations**.**

The ratio of locomotive fuel efficiency to truck fuel efficiency on a per-ton-mile basis ranges from 1.9 to 5.5 (Federal Railroad Administration, 2009). Increased fuel efficiency reduces GHG emissions on a per-ton-mile basis. The Project, by shifting the drayage truck trips from Hobart Yard to the SCIG facility, would increase the fuel efficiency of regional cargo movement and decrease GHG emissions. This fundamental feature of the Project is consistent with the California Air Resources Board's Scoping Plan for reducing GHG emissions from the Goods Movement sector which calls for efficiency-based GHG reductions in activities such as Port-related trucks, cargo handling equipment, and freight transport.

Regarding adaptation, the Pacific Institute potential sea level rise (SLR) scenario maps represent the extent of a 100-year coastal flood, based on FEMA 100-year flood elevations, with a sea-level rise of 1.4 meters (55 inches) by the year 2100. These maps, created in 2009, show a vast majority of the Port of LA and the immediate vicinity as potentially inundated under the year 2100 scenario. This area would potentially include impacts to southern portions of the SCIG Project site as well as many of the transportation routes associated with the Project.

The Pacific Institute study represents the best available information concerning sea level rise, and thus must be the basis for the impact assessment. However, the SLR scenario

presented in the Pacific Institute study is not based on current LIDAR or topographic information at an appropriate scale to represent likely impacts to the region. More specific information regarding projected SLR within the lifespan of the project, as well as refined data incorporating verifiable topographic features and elevations, is needed in order to adequately address potential impacts to the Project. POLA and POLB are developing the analyses needed to accurately forecast the impact of sea level rise on the San Pedro Bay Ports and the infrastructure around the Ports, which will be used to develop long-range plans for responding to sea level rise, but those analyses are not yet available.

Impact Determination

The proposed project is consistent with State and local policies and plans for GHG emissions. Because the Pacific Institute study indicates that future sea level rise would have an adverse effect on the proposed Project, the impact is considered significant.

Mitigation Measures

Sea-level rise and its consequences will be addressed on a regional basis. Protection of the ports, their infrastructure, and surrounding areas, if it is found to be necessary, will likely involve substantial construction projects to raise the elevation of infrastructure and construct seawalls or other physical improvements. The design of the protection will be based on a region-wide, detailed analysis of topography, drainage, probable sea-level rise, flood flows, and storm surge dynamics. A regional approach is necessary to ensure that site-specific measures do not exacerbate impacts elsewhere in the region and to ensure that protection is feasible and effective. At this point, it is not possible to design appropriate protection for a specific project because these factors have not yet been defined. Accordingly, no feasible mitigation is available to apply to the proposed Project.

Residual Impacts

As no feasible mitigation is available, impacts would remain significant and unavoidable.

3.6.4.6 Summary of Impact Determinations

Table 3.6-5 provides a summary of the impact determinations of the proposed Project related to GHG and Climate Change, as described in the detailed discussion in Sections 3.6.4.3. This table allows easy comparison of the potential impacts of the proposed Project with respect to land use resources.

For each type of potential impact, the table provides a description of the impact, the impact determination, any applicable mitigation measures, and residual impacts (that is, the impact remaining after mitigation). All impacts, whether significant or not, are included in this table.

Table 3.6-5. Summary Matrix of Impacts and Mitigation Measures for GHG Associated with the Proposed Project.

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
GHG-1: The proposed Project would result in an increase in construction-related and operation-related GHG emissions.	**Significant impact.**	**MM GHG-1:** Increased Fuel Efficiency for Construction Equipment. **MM GHG-2:** Solar Panels. **MM GHG-3**: Recycling. **MM GHG-4:** Tree Planting. **MM GHG-5:** Water Conservation. **MM GHG-6**: Compact Fluorescent Bulbs. **MM GHG-7**: Energy Audit.	**Significant and unavoidable.**
GHG-2: The proposed Project would not conflict with State and local plans and policies. The proposed Project would be subject to sea level rise impacts from climate change.	**Significant impact.**	No feasible mitigation is available	**Significant and unavoidable**

3.6.4.7 Mitigation Monitoring

Table 3.6-6 presents the mitigation monitoring for GHG.

Table 3.6-6. Mitigation Monitoring for GHG.

GHG-1: The proposed Project would result in an increase in construction-related and operation-related GHG emissions.	
Mitigation Measure	**MM GHG-1**: Increased Fuel Efficiency for Construction Equipment. Construction equipment idling is to be restricted to a maximum of 5 minutes when not in use and when feasible, and the use of electrified construction equipment where feasible. **MM GHG-2:** Solar Panels. The Port shall review the feasibility of including the future SCIG site on their Inventory of Potential PV Solar Sites at POLA from their December 2007 Climate Action Plan. **MM GHG-3:** Recycling. The tenant shall ensure a minimum of 40 percent of all waste generated during project construction is recycled and 60 percent of all waste generated in all buildings is recycled by the facility opening year of 2016. Recycled materials shall include: (a) white and colored paper; (b) post-it notes; (c) magazines; (d) newspaper; (e) file folders; (f) all envelopes including those with plastic windows; (g) all cardboard boxes and cartons; (h) all metal and aluminum cans; (i) glass bottles and jars; and; (j) all plastic bottles. **MM GHG-4:** Tree Planting. The applicant shall plant shade trees around the main administration building and the tenant shall maintain all trees through the life of the lease. **MM GHG-5:** Water Conservation. As part of the facility construction, the applicant shall install a water recirculation system at potential wash racks, install low-flow devices in new buildings and low irrigation landscaping, and maintain these through the life of the lease. **MM GHG-6:** Compact Fluorescent Light Bulbs. All interior buildings on the SCIG facility shall exclusively use compact fluorescent light bulbs for ambient lighting. The applicant shall also maintain and replace any Port-supplied compact fluorescent light bulbs. Fluorescent light bulbs produce less waste heat and use substantially less electricity than incandescent light bulbs. Although not quantified in this analysis, implementation of this measure is expected to reduce the Project's GHG emissions by less than 0.1 percent. **MM GHG-7:** Energy Audit. The applicant shall conduct a third party energy audit every 5 years and install innovative power saving technology where feasible, such as power factor correction systems and lighting power regulators. Such systems help to maximize usable electric current and eliminate wasted electricity, thereby lowering overall electricity use.
Timing	During construction and throughout operation of the facility.
Methodology	LAHD will include **MM GHG-1** to **GHG-7** in the contract specifications for construction and operation. LAHD will monitor implementation of mitigation measures during construction and operation.
Responsible Parties	Applicant and LAHD.
Residual Impacts	Significant after mitigation for construction and operation GHG emissions.

3.6.5 Significant Unavoidable Impacts

Construction and operational GHG emissions under Impact GHG-1 would be significant after mitigation. Impacts of climate change (sea level rise) on the proposed Project represent a significant and unavoidable impact under Impact GHG-2.