

## Section 3.2

# Greenhouse Gas Emissions and Climate Change

## SECTION SUMMARY

This section describes greenhouse gas (GHG) emissions associated with operation of the Revised Project and mitigation measures.

Section 3.2, Greenhouse Gas Emissions, provides the following:

- a description of the existing setting as it relates to Port GHG emissions and climate change;
- a discussion on the methodology used to determine whether the Revised Project would result in a new or substantially more severe impact to GHG emissions and climate change;
- an impact analysis of the Revised Project;
- a description of mitigation measures proposed to reduce any potential impacts, as applicable; and
- a discussion of the magnitude of the potential impacts relative to the impacts that would have occurred if all adopted mitigation measures from the 2008 EIS/EIR had been implemented.

### Key Points of Section 3.2:

The Draft SEIR for the Revised Project is focused on evaluating impacts for the continued operations of the Berths 97-109 CS Container Terminal under a set of proposed revised mitigation measures. Since all construction and physical improvements to the CS Container Terminal have been completed and are in operation as approved based on the 2008 EIS/EIR, this Draft SEIR focuses on the impacts of the alterations to mitigation measures which constitute the Revised Project. Additionally, this Draft SEIR, in evaluating the impacts of operation of the CS Container Terminal under the Revised Project, assumes and analyzes impacts of an incremental increase in the Terminal's throughput level in future years, based upon reassessment of terminal capacity, compared to the assumptions in the 2008 EIS/EIR.

Air quality operational mitigation measures MM AQ-9, MM AQ-10, and MM AQ-17, identified in Section 3.1 and summarized below, are modified mitigation measures included in the Revised Project. These measures would also mitigate GHG emissions and the effectiveness of these measures is quantified in the analysis. Note that in MM AQ-17, replacement of yard equipment with Tier 4 models would not yield a GHG benefit and was therefore not quantified in this analysis. MM AQ-15, which would replace LPG yard tractors with newer models, would not have an effect on GHG emissions since the newer models would continue to use LPG fuel.

- **MM AQ-9: Alternative Maritime Power.** Beginning January 1, 2018, all ships calling at Berths 97-109 must use AMP while hoteling in the Port, with a 95 percent compliance rate.

- 1 • **MM AQ-10: Vessel Speed Reduction Program (VSRP).** Beginning January 1, 2018, at  
2 least 95 percent of vessels calling at Berths 97-109 shall either 1) comply with the expanded  
3 VSRP of 12 knots between 40 nm from Point Fermin and the Precautionary Area or 2)  
4 comply with an alternative compliance plan approved by the LAHD for a specific vessel and  
5 type.
- 6 • **MM AQ-17: Yard Equipment at Berth 97-109 Terminal.** By January 1, 2021 all 18-ton  
7 forklifts would be replaced by units that meet or exceed the Tier 4 final off-road engine  
8 standards for PM and NO<sub>x</sub>. By January 1, 2020 all 5-ton forklifts of model years 2011 or  
9 older shall be electric. By January 1, 2021 all diesel RTG cranes of model years 2003 or  
10 older shall be diesel-electric hybrids that meet or exceed Tier 4 final off-road engine  
11 standards for PM and NO<sub>x</sub>. By January 1, 2023 all diesel RTG cranes of model years 2004 or  
12 older shall be diesel-electric hybrids that meet or exceed Tier 4 final off-road engine  
13 standards for PM and NO<sub>x</sub>. By January 1, 2025 four RTG cranes of model years 2005 and  
14 older shall be replaced by all-electric units, and one diesel RTG crane of model year 2005  
15 shall be diesel-electric hybrid with a diesel engine meeting Tier 4 final off-road engine  
16 standards for PM and NO<sub>x</sub>. By January 1, 2025 the sweeper(s) shall be alternative fuel or the  
17 cleanest available. By January 1, 2025 all gasoline shuttle buses shall be zero emissions.

18 New GHG mitigation measures, summarized below, would reduce GHG emissions.

- 19 • **MM GHG-1: LED Lighting.** All lighting within the interior of buildings on the premises  
20 and outdoor high mast terminal lighting will be replaced with LED lighting or a technology  
21 with similar energy-saving capabilities by 2023.
- 22 • **LM GHG-1. GHG Credit Fund.** Revised Project incremental GHG emissions are 34,591  
23 metric tons of CO<sub>2</sub>e in the peak year of operations in 2030. They exceed the 10,000 metric  
24 ton CO<sub>2</sub>e significance threshold by 24,591 metric tons. Because operational GHG emissions  
25 exceed the significance threshold with the incorporation of all feasible mitigation measures,  
26 LAHD shall establish a carbon offset fund, which may be accomplished through a  
27 Memorandum of Understanding with the California Air Resources Board or another  
28 appropriate entity, to mitigate project GHG impacts to the maximum extent feasible. The  
29 fund shall be used for GHG-reducing projects and programs on Port of Los Angeles property.  
30 It shall be the responsibility of the Tenant to contribute to the fund. Fund contribution shall be  
31 \$250,000, payable upon execution of a lease amendment. \$250,000 has been identified as the  
32 maximum feasible contribution level. If LAHD is unable to establish the fund within a  
33 reasonable period of time, Tenant shall instead purchase credits from an approved GHG  
34 offset registry in the amount of \$250,000.

35 The effectiveness of MM GHG-1 is quantified in the analysis, whereas the effectiveness of LM GHG-1  
36 cannot be quantified. After the application of these mitigation measures, GHG emissions and climate  
37 change impacts would be reduced but would remain significant and unavoidable under CEQA for the  
38 Revised Project.

39 The Revised Project would result in the following new or substantially more severe significant and  
40 unavoidable impacts:

41 The Revised Project would generate GHG emissions, either directly or indirectly, that would exceed the  
42 SCAQMD 10,000 mty CO<sub>2</sub>e threshold in 2023, 2030, 2036 and 2045.

43 The State of California, the City of Los Angeles, and LAHD have adopted plans and policies to reduce  
44 GHG emissions. None of these plans or policies constitute regulations or requirements adopted to  
45 implement a state-wide, regional or local plan for reduction or mitigation of GHG emissions and, thus, no  
46 significance determination can be made using these factors. Nevertheless, for the purpose of disclosure,  
47 LAHD has considered for informational purposes only, whether the Revised Project would be consistent

- 1 with federal, state, or local plans, policies, or regulations, and concluded that it would not be consistent
- 2 with some state and local plans, and policies adopted for the purpose of reducing GHG emissions and
- 3 climate change impacts.
- 4

### 3.2.1 Introduction

This section evaluates the GHG emissions and climate change issues associated with the Revised Project. Activities from operation of the Revised Project would affect GHG emissions. This section includes a description of the affected environment, including a discussion of the state of climate change science; the regulatory setting; predicted impacts of the Revised Project; and mitigation measures to address the impacts.

As described in Chapter 2, the Approved Project as analyzed in the 2008 EIS/EIR included a number of mitigation measures, some of which have yet to be fully implemented for various reasons. The Revised Project consists of continued operation of the Berths 97-109 CS Container Terminal under new and/or modified mitigation measures. This Draft SEIR further assumes that CS Container Terminal throughput will be incrementally higher than was assumed in the 2008 EIS/EIR, in the amounts shown in Table 2-3, due to a revised assessment of Terminal capacity. Therefore, this SEIR, in analyzing the impacts of operation of the Revised Project, accounts for the impacts of both the Revised Project's changes to the Approved Project, and of changed circumstances surrounding, or new information of substantial importance to, the Approved Project.

Greenhouse gas impacts are analyzed here for two baseline scenarios: 1) 2014 actual activity and mitigation implementation (the "2014 Unmitigated Baseline") and 2) 2014 as it would have been with timely implementation of all mitigation measures which were required to have been implemented by 2014 in the 2008 EIS/EIR (the "2014 Mitigated Baseline"). Two future conditions (2014 to 2045) scenarios are analyzed: 1) future conditions assuming incremental increase in Terminal throughput as shown in Table 2-3 and implementation of the 2008 EIS/EIR mitigation measures (the FEIR Mitigated Scenario) and 2) future conditions assuming incremental increase in Terminal throughput as shown in Table 2-3 and implementation of the modified mitigation measures under the Revised Project (the Revised Project Scenario). Comparison of the predicted impacts from these two future scenarios is provided for informational purposes. Details of these baseline and future scenarios are provided in Chapter 2.

Due to improvements in procedures and assumptions used to calculate emissions, it is not possible to directly compare greenhouse gas impacts presented in the 2008 Final EIS/EIR for the Approved Project with impacts calculated for this Draft SEIR for the Revised Project, nor is it possible to reproduce the outdated methods, models, and procedures used to analyze greenhouse gas impacts in the 2008 EIS/EIR. Therefore, this Draft SEIR presents an evaluation of greenhouse gas impacts for all of the baseline and future condition scenarios described in the preceding paragraph using current, state-of-the-art emission estimation, air quality modeling.

### 3.2.2 Environmental Setting

The project site is located in the Harbor District of the City of Los Angeles in the southwest coastal area of the South Coast Air Basin (SCAB). The SCAB consists of the non-desert 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.

### 3.2.2.1 Greenhouse Gas Pollutants

Gases that trap heat in the atmosphere are often called greenhouse gases. The term GHGs includes gases that contribute to the natural greenhouse effect, such as carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O), as well as gases that are only human-made and that are emitted through the use of modern industrial products, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>). 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 (United Nations Framework Convention on Climate Change, 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 as a positive feedback mechanism; higher temperatures lead to higher water concentrations, which in turn cause more global warming (Myhre et al., 2013).

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). GWP 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 CO<sub>2</sub>. GWP is a unitless quantity. CH<sub>4</sub> and N<sub>2</sub>O are substantially more potent than CO<sub>2</sub>, with GWPs (100-year horizon) of 28 and 265, respectively (IPCC, 2015). 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, 1995). In emissions inventories, GHG emissions are typically reported in terms of metric tons (“tonnes” or “MTon” equivalent to 1000 kilograms) of carbon dioxide equivalents (CO<sub>2</sub>e), which are calculated as the product of the mass emitted of a given GHG and its specific GWP. In this document, the unit “metric tons” is used to report GHG emissions.

The most important GHG in human-induced global warming is CO<sub>2</sub>. While many gases have much higher GWPs than the naturally occurring GHGs, CO<sub>2</sub> is emitted in vastly higher quantities and accounts for more than 80 percent of the GWP of all GHGs emitted by the United States (EPA, 2016). Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO<sub>2</sub> emissions and thus substantial increases in global atmospheric CO<sub>2</sub> concentrations over the last century. In 2005, the atmospheric CO<sub>2</sub> concentration was about 391 parts per million, substantially exceeding the natural range over the last 800,000 years that have been measured in ice core samples (IPCC, 2013; IPCC, 2014). The buildup of CO<sub>2</sub> in the atmosphere is a result of increased emissions and its relatively long lifespan in the atmosphere of 50 to 200 years.

Concentrations of the second most prominent GHG, CH<sub>4</sub>, have also increased due to human activities such as rice production, degradation of waste in landfills, cattle farming, and natural gas mining. In 2011, the atmospheric level of CH<sub>4</sub> was more than double the pre-industrial level, up to 1,803 parts per billion as compared to 715 parts per billion (IPCC, 2013; IPCC, 2014). CH<sub>4</sub> has a relatively short atmospheric lifespan of only 12 years, but it has a higher GWP potential than CO<sub>2</sub>.

1 N<sub>2</sub>O concentrations have increased from about 270 parts per billion in pre-industrial  
2 times to about 3124 parts per billion by 2011 (IPCC, 2013; IPCC, 2014). Most of this  
3 increase can be attributed to agricultural practices (such as soil and manure management),  
4 as well as fossil-fuel combustion and the production of some acids. N<sub>2</sub>O has a 120-year  
5 atmospheric lifespan, meaning that, in addition to its relatively large GWP, its influence  
6 is long lasting, which increases its role in global warming.

7 Sulfur hexafluoride (SF<sub>6</sub>), used in the electric industry; refrigerants such as chlorinated  
8 fluorocarbons (CFCs) and hydrofluorocarbons (HFCs); and perfluorocarbons (PFCs) are  
9 present in the atmosphere in relatively small concentrations but have extremely long  
10 lifespans between 32,000 and 50,000 years, making them potent GHGs.

11 GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse  
12 human health effects. Rather, the direct environmental effect of GHG emissions is the  
13 increase in global temperatures, which in turn has numerous indirect effects on the  
14 environment and humans. For example, some observed changes include shrinking  
15 glaciers; thawing permafrost; later freezing and earlier break-up of ice on rivers, lakes,  
16 and oceans; a lengthened growing season; shifts in plant and animal ranges; and earlier  
17 flowering of trees (IPCC, 2001). Other, longer term environmental impacts of global  
18 warming include sea level rise; changing weather patterns with increases in the severity  
19 of storms and droughts; changes to local and regional ecosystems, including the potential  
20 loss of species; and a reduction in winter snow pack (for example, estimates include a  
21 30–90 percent reduction in snowpack in the Sierra Mountains).

22 Current predictions suggest that in the next 25 years California will experience longer  
23 and more extreme heat waves, greater intensity and frequency of heat waves, and longer  
24 dry periods. More specifically, the California Climate Action Team (CAT, 2010)  
25 biennial assessment on climate change impacts and adaptation options for California  
26 predicted that California could witness the following events:

- 27 • Temperature rises between 2.7-10.5°F by the 2070–2100 time period;
- 28 • 11–18 inches of sea level rise by 2050 and 23 to 55 inches of rise by 2100;
- 29 • Drier (by 5 percent or more) than historical average precipitation, with a greater  
30 amount of drying in Southern California (with precipitation decreases in some  
31 scenarios exceeding 15 percent);
- 32 • A decrease in cotton, maize, sunflower, and wheat yields from 3 percent to 8  
33 percent by 2050, with rice and tomato yields unchanged, and decreased yields for  
34 all crops except alfalfa by 2100; and
- 35 • A substantial increase in fire risk and estimated burned area increases from 57  
36 percent to 169 percent by 2085.

37 Risks to public health are also summarized in the 2009 Climate Action Team (CAT)  
38 biennial assessment (CAT, 2010). As stated above, climate change is predicted to lead to  
39 increases in the frequency, intensity, and duration of extreme heat events and heat waves  
40 in California. This is likely to increase the risk of mortality and morbidity due to heat-  
41 related illness on the elderly; individuals with chronic conditions such as heart and lung  
42 disease, diabetes, and mental illnesses; infants; the socially or economically  
43 disadvantaged; and those who work outdoors. The expected increase in temperatures and  
44 resulting increases in ultraviolet radiation due to climate change are likely to exacerbate  
45 existing air quality problems unless measures are taken to reduce GHGs as well as air  
46 pollutants and their precursors.

1 A 2008 study (Geophysical Research Letters, 2008), has identified direct links between  
2 increased levels of CO<sub>2</sub> in the atmosphere and increases in human mortality. The study  
3 determined the amounts of ozone and airborne particles that result from temperature  
4 increases in CO<sub>2</sub> emissions. The effects of considering the human impact of increased  
5 CO<sub>2</sub> emissions showed two important effects:

- 6 • Higher temperatures due to CO<sub>2</sub> increased the chemical rate of ozone production  
7 in urban areas; and
- 8 • Increased water vapor due to carbon dioxide-induced higher temperatures  
9 boosted chemical ozone production even more in urban areas.

10 The study further indicated that the effects of carbon dioxide emissions are most  
11 pronounced in areas that already have significant pollution, such as California. Many of  
12 the plans, policies, and regulations identified in the regulations, plans and policies section  
13 of this document are directed at reducing these impacts.

### 14 **3.2.3 GHG Reduction Regulations, Plans and Policies**

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

#### 20 **3.2.3.1 Federal**

##### 21 **Federal Action on Greenhouse Gas Emissions**

###### 22 ***April 2007 Supreme Court Ruling***

23 In Massachusetts et al. v. Environmental Protection Agency et al. (2007) 549 U.S. 497,  
24 the U.S. Supreme Court ruled that GHGs were air pollutants within the meaning of the  
25 Clean Air Act and that the act authorizes the EPA to regulate CO<sub>2</sub> emissions from new  
26 motor vehicles, should those emissions endanger the public health or welfare. The Court  
27 did not mandate that the EPA enact regulations to reduce GHG emissions but found that  
28 the only instances where the EPA could avoid taking action were if it found that GHGs  
29 do not contribute to climate change or if it offered a “reasonable explanation” for not  
30 determining that GHGs contribute to climate change. On December 7, 2009, the EPA  
31 Administrator signed two distinct findings regarding GHGs under Section 202(a) of the  
32 Clean Air Act.

33 Endangerment Finding: the EPA Administrator found that the current and projected  
34 concentrations of the six key well-mixed GHGs - CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs, and SF<sub>6</sub> -  
35 in the atmosphere threaten the public health and welfare of current and future  
36 generations.

37 Cause or Contribute Finding: the EPA Administrator found that the combined emissions  
38 of these well-mixed GHGs from new motor vehicles and new motor vehicle engines  
39 contribute to the GHG pollution that threatens public health and welfare.

40 The findings themselves did not impose any requirements on industry or other entities.  
41 However, this action was a prerequisite to finalizing the EPA’s proposed GHG emissions  
42 standards for light-duty vehicles (EPA, 2009).

1 ***GHG Standards for On-road Vehicles: Corporate Average Fuel Economy***  
2 ***(CAFE) Light Duty Vehicle Standards and GHG Emissions and Fuel Efficiency***  
3 ***Standards for Medium- and Heavy-Duty Engines and Vehicles***

4 First enacted by Congress as part of the 1975 Energy Policy Conservation Act in  
5 response to the 1973–1974 oil crises, the purpose of CAFE standards is to reduce energy  
6 consumption by increasing the fuel economy of passenger cars and light-duty trucks. The  
7 CAFE regulation requires each car manufacturer to meet a standard for the sales-  
8 weighted fuel economy for the entire fleet of vehicles sold in the United States in each  
9 model year. Fuel economy, expressed in miles per gallon (mpg), is defined as the  
10 average mileage traveled by an automobile per gallon of gasoline or equivalent amount of  
11 other fuel. The National Highway Traffic Safety Administration (NHTSA) of the U.S.  
12 Department of Transportation administers the CAFE program, and the EPA provides the  
13 fuel economy data. NHTSA sets fuel economy standards for passenger cars and light-  
14 duty trucks sold in the United States while the EPA calculates the average fuel economy  
15 for each manufacturer.

16 In response to a U.S. Presidential Memorandum Regarding Fuel Efficiency Standards  
17 dated May 21, 2010, the EPA and NHTSA are taking coordinated steps to enable the  
18 production of a new generation of clean vehicles, through reduced GHG emissions and  
19 improved fuel efficiency from on-road vehicles and engines. On April 1, 2010, the EPA  
20 and NHTSA issued a Final Rule establishing new federal GHG and fuel economy  
21 standards for model years 2012–2016 passenger cars, light-duty trucks, and medium-duty  
22 passenger vehicles (EPA, 2010). On October 15, 2012, the agencies finalized GHG  
23 standards for model year 2017 through 2025 light-duty vehicles (EPA, 2012).

24 In addition, on September 15, 2011, EPA and NHTSA finalized regulations to reduce  
25 GHG emissions and improve fuel efficiency of medium- and heavy-duty vehicles  
26 (amended June 17, 2013 and August 17, 2013), including large pickup trucks and vans,  
27 semi-trucks, and all types and sizes of work trucks and buses. The regulations  
28 incorporate all on-road vehicles rated at a gross vehicle weight at or above 8,500 pounds,  
29 and the engines that power them. Under the regulations, fuel economy will be improved  
30 and GHG emissions will be reduced in model years 2014 – 2018 (EPA, 2011; EPA,  
31 2013a; EPA, 2013b). On August 16, 2016, EPA and NHTSA implemented Phase 2 of  
32 the Heavy-Duty National Program to cover model years 2018 to 2027 for certain trailers  
33 and model years 2021 to 2027 for semi-trucks, large pickup trucks, vans, and all types  
34 and sizes of buses and work trucks.

35 In November 2011, NHTSA and EPA issued a supplemental Notice of Intent outlining  
36 the key elements of the upcoming proposal for CAFE and GHG emission standards for  
37 model year 2017 and beyond for light duty vehicles. EPA currently intends to propose  
38 standards that would be projected to achieve a fleet-wide average CO<sub>2</sub> emission level of  
39 163 grams/mile in model year 2025 (this would be equivalent, on a mpg-equivalent basis,  
40 to 54.5 mpg if all of the CO<sub>2</sub> emissions reductions were achieved with fuel economy  
41 technology). NHTSA currently intends to propose standards that would be projected to  
42 require, on an average industry fleet-wide basis, 40.9 mpg in model year 2021, and 49.6  
43 mpg in model year 2025.

44 **3.2.3.2 State**

45 ***California Executive Orders and Legislation***

46 California has enacted a variety of laws that relate to climate change, many of which set  
47 aggressive goals for GHG reductions within the state, many of which are based on



1 executive orders issued by state governors. The discussion below provides a brief  
2 overview of the CARB and Office of Planning and Research documents and of the  
3 primary executive orders and legislation that relates to climate change and may affect the  
4 GHG emissions associated with the Revised Project.

#### 5 ***Executive Order S-3-05***

6 California Executive Order S-03-05 (June 1, 2005) established the following State  
7 targets: (1) year 2000 levels by 2010; (2) year 1990 levels by 2020; and (3) 80 percent  
8 below 1990 levels by 2050. EO S-3-05 established State targets and directed State  
9 legislature to develop legislation to address those targets.

#### 10 ***Assembly Bill 32, 2008 Scoping Plan and 2014 Scoping Plan Update***

11 The California Global Warming Solutions Act of 2006, widely known as AB 32, codified  
12 the following S-3-05 targets into State law: (1) year 2000 levels by 2010 and (2) year  
13 1990 levels by 2020. AB 32 directed State regulatory agencies to develop rules and  
14 regulations to meet the 2020 State targets, required CARB to develop and enforce  
15 regulations for the reporting and verification of statewide GHG emissions, and required  
16 CARB to adopt rules and regulations in an open public process to achieve the maximum  
17 technologically feasible and cost-effective GHG reductions.

18 In 2008, CARB adopted the AB 32 Scoping Plan, which set forth the framework for  
19 facilitating the State's AB 32 GHG goals. The Scoping Plan's GHG reduction actions  
20 include direct regulations, alternative compliance mechanisms, monetary and non-  
21 monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-  
22 trade system, and an AB 32 program implementation fee regulation to fund the program.

23 The Scoping Plan also identified a discrete early action, regulation for port operations.  
24 This action resulted in the promulgation of regulation for electrification of ship auxiliary  
25 engines while at berth.

26 In 2014, CARB adopted an update to the 2008 Scoping Plan that built upon the  
27 initial Scoping Plan with new strategies to achieve the following AB 32 State target:  
28 Year 1990 levels by 2020. In 2017, CARB proposed a draft second update to the 2008  
29 Scoping Plan. The Draft 2017 Scoping Plan Update highlights the State's progress  
30 toward meeting the 2020 GHG emission reduction goal, identifies funding opportunities  
31 to reduce GHG emissions through State planning and low carbon investments, identifies  
32 climate change priorities for 5 years, and sets the groundwork to reach long-term goals of  
33 EO S-3-05. The Draft 2017 Scoping Plan Update also includes specific recommended  
34 actions for lead agencies, identifies possible regulatory actions for vehicles and fuels, and  
35 introduces the Sustainable Freight Action Plan which calls for statewide efforts to  
36 improve freight system efficiency, maximize the use of near-zero emission vehicles and  
37 equipment powered by renewable energy and deploy over 100,000 zero-emission trucks  
38 and equipment by 2030.

39 The 2008 Scoping Plan, 2014 Scoping Plan Update and Draft 2017 Scoping Plan Update  
40 envision that reductions in GHG emissions will come from virtually all sectors of the  
41 economy and be accomplished from a combination of policies, planning, direct  
42 regulations, market approaches, incentives and voluntary efforts. These efforts target  
43 GHG emission reductions from cars and trucks, electricity production, fuels, and other  
44 sources.

**Executive Order B-30-15**

In April 2015, EO B-30-15 established an interim, Statewide GHG emissions-reduction target of 40 percent below 1990 levels by 2030 and directed State legislature to develop legislation to address that State target. This interim target was established in order to ensure the State meets the EO S-3-05 target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050.

To facilitate achievement of this goal, EO B-30-15 called for an update to CARB's Scoping Plan. CARB released its 2030 Target Scoping Plan for public comment in December 2016, and is expecting a final version to go to its board in the Spring of 2017.

**Senate Bill (SB) 32**

In 2016, SB 32 codified the EO B-30-15 target of 40 percent reduction below 1990 levels by 2030 and directed State regulatory agencies to develop rules and regulations to meet the 2030 State target.

**Low Carbon Fuel Standard**

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). In 2009, CARB approved for adoption the LCFS regulation, which became fully effective in April 2010 and is codified at 17 CCR 95480–95490. The LCFS will reduce greenhouse gas emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020. Carbon intensity is a measure of the GHG emissions associated with the various production, distribution, and use steps in the “lifecycle” of a transportation fuel.

**Assembly Bill 1493 (Mobile Source Reductions)**

AB 1493 (“the Pavley Standard”) required 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 also required the California Climate Action Registry to develop and adopt protocols for the reporting and certification of GHG 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 GHG emissions prior to the date of enforcement of regulations, using model year 2000 as the baseline for reduction.

In 2004, CARB applied to the EPA for a waiver under the federal Clean Air Act to authorize implementation of these regulations. EPA formally denied the waiver request in December 2007 after California filed suit to prompt federal action. In January 2008, the State Attorney General filed a new lawsuit against the EPA 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 EPA to reconsider California's request for a waiver. On June 30, 2009, the EPA granted the waiver to California for its GHG emission standards for motor vehicles. As part of this waiver, EPA 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. CARB has adopted a new approach to passenger vehicles - cars and light trucks - by combining the control of smog-causing pollutants and GHG emissions into a single coordinated package of standards. The new approach also

1 includes efforts to support and accelerate the numbers of plug-in hybrids and  
2 zero-emission vehicles in California.

### 3 ***Senate Bill 375 (Land Use Planning)***

4 SB 375 provides for a new planning process to coordinate land use planning and regional  
5 transportation plans and funding priorities in order to help California meet the GHG  
6 reduction goals established in AB 32. SB 375 requires regional transportation plans,  
7 developed by Metropolitan Planning Organizations relevant to the project area (including  
8 the Southern California Association of Governments), (SCAG, 2017) to incorporate a  
9 sustainable communities strategy (SCS) in their regional transportation plans that will  
10 achieve GHG emission reduction targets set by CARB. SB 375 also includes provisions  
11 for streamlined CEQA review for some infill projects such as transit-oriented  
12 development.

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

20 On April 7, 2016, the Regional Council of the Southern California Association of  
21 Governments (SCAG) adopted the 2016–2040 Regional Transportation Plan/Sustainable  
22 Communities Strategy (2016 RTP/SCS). The RTP/SCS is the culmination of a multi-  
23 year effort involving stakeholders from across the SCAG Region (SCAG, 2016). The  
24 2016–2040 RTP/SCS contains a regional commitment for the broad deployment of zero-  
25 and near-zero emission transportation technologies in the 2020–2040 timeframe and clear  
26 steps to move toward this objective. The report indicates that the RTP is critical for the  
27 goods movement system in the SCAB.

### 28 ***California Sustainable Freight Action Plan***

29 The California Sustainable Freight Action Plan was adopted in July, 2016. Pursuant to  
30 EO B-32-15, the plan established targets to improve freight efficiency, transition to zero-  
31 emission technologies, and make California’s freight system more competitive. The  
32 targets are not mandates but are aspirational measures of progress. Plan measures are  
33 conceptual and rely on the future development of regulations to implement the strategies.  
34 Plan strategies include on-dock and near-dock strategies to shift goods movement from  
35 truck to rail.

### 36 ***Senate Bill 97 (CEQA Guidelines)***

37 SB 97 required that the California Natural Resources Agency coordinate on the  
38 preparation of amendments to the CEQA Guidelines regarding feasible mitigation of  
39 GHG emissions or the effects of GHG emissions. Pursuant to SB 97, the agency adopted  
40 CEQA Guidelines amendments on December 30, 2009, and transmitted the Adopted  
41 Amendments and the entire rulemaking file to the Office of Administrative Law on  
42 December 31, 2009. The amendments were approved by the Office of Administrative  
43 Law on February 16, 2010, and became effective on March 18, 2010.

44 With respect to the significance assessment, CEQA Guidelines Section 15064.4,  
45 subdivision (a), provides:

1           *The determination of the significance of greenhouse gas emissions calls for careful*  
2           *judgment by the lead agency consistent with the provisions in section 15064. A lead*  
3           *agency should make a good-faith effort, based to the extent possible on scientific and*  
4           *factual data, to describe, calculate or estimate the amount of greenhouse gas emissions*  
5           *resulting from a project. A lead agency shall have discretion to determine, in the context*  
6           *of a particular project, whether to:*

- 7           (1) *Use a model or methodology to quantify greenhouse gas emissions resulting from a*  
8           *project, and which model or methodology to use. The lead agency has discretion to*  
9           *select the model or methodology it considers the most appropriate provided its*  
10           *supports its decision with substantial evidence. The lead agency should explain the*  
11           *limitations of the particular model or methodology selected for use; and/or*  
12           (2) *Rely on a qualitative analysis or performance-based standards.*

13           Guidelines section 10564.4, subdivision (b), further indicates:

14           (b) A lead agency should consider the following factors, among others, when  
15           assessing the significance of impacts from GHG emissions on the environment:

- 16           (1) The extent to which the project may increase or reduce GHG emissions as  
17           compared to the existing environmental setting;
- 18           (2) Whether the project emissions exceed a threshold of significance that the  
19           lead agency determines applies to the project;
- 20           (3) The extent to which the project complies with regulations or requirements  
21           adopted to implement a statewide, regional, or local plan for the reduction or  
22           mitigation of GHG emissions. Such requirements must be adopted by the  
23           relevant public agency through a public review process and must reduce or  
24           mitigate the project's incremental contribution of GHG emissions. If there is  
25           substantial evidence that the possible effects of a particular project are still  
26           cumulatively considerable notwithstanding compliance with the adopted  
27           regulations or requirements, an EIR must be prepared for the project.

28           The amendments also provide that lead agencies should consider all feasible means of  
29           mitigating GHG emissions that substantially reduce energy consumption or GHG  
30           emissions. These potential mitigation measures may include carbon sequestration. If  
31           offsite or carbon offset mitigation measure are proposed, they must be part of reasonable  
32           plan of mitigation that the agency itself is committed to implementing. No threshold of  
33           significance or any specific mitigation measures are indicated.

34           Among other things, the California Natural Resources Agency noted in its public notice  
35           for these changes that impacts of GHG emissions should be considered in a cumulative  
36           context, rather than as merely a project-specific impact. The public notice states:

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

43           **CEQA Guidelines Section 15126.2(a)**

44           CEQA Guidelines identify the need to evaluate potential impacts of locating development  
45           in areas vulnerable to climate change effects: The EIR "should evaluate any potentially

1 significant impacts of locating development in other areas susceptible to hazardous  
2 conditions (e.g., floodplains, coastlines, wildfire risk areas).”

### 3 ***Executive Order S-13-08***

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

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

## 26 **3.2.3.3 Local**

### 27 **South Coast Air Quality Management District**

#### 28 ***SCAQMD GHG CEQA Thresholds***

29 On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an  
30 interim CEQA GHG significance threshold for projects where the SCAQMD is the lead  
31 agency. To date, the board has adopted a threshold of 10,000 metric tons per year (mt)  
32 CO<sub>2</sub>e emissions per year to industrial projects, and the threshold has been a part of the  
33 SCAQMD Air Quality Thresholds since 2011 (SCAQMD, 2011).

### 34 **City of Los Angeles Policies**

#### 35 ***Green LA***

36 The City of Los Angeles released its climate action plan, Green LA: An Action Plan to  
37 Lead the Nation in Fighting Global Warming, in May 2007 (City of Los Angeles, 2007).  
38 The Green LA plan is a voluntary program that sets a goal of reducing the City’s GHG  
39 emissions to 35 percent below 1990 level by 2030. This is a less ambitious goal than the  
40 statewide 40 percent reduction below 1990 target of EO B-30-15.

41 ClimateLA is the implementation framework that contains the details of the more than 50  
42 action items that are included in Green LA. The majority of the actions described in the  
43 Green LA Plan are not project-specific and include City-wide actions. Some of the

1 measures the City of Los Angeles will take to achieve the 35 percent reduction goal  
2 include the following:

- 3 • Increasing the amount of renewable energy provided by LADWP;
- 4 • Improving the energy efficiency of all City departments and City-owned  
5 buildings;
- 6 • Converting City fleet vehicles, refuse collection trucks, street sweepers, and  
7 buses to alternative fuel vehicles;
- 8 • Providing incentives and assistance to existing LADWP customers in becoming  
9 more energy efficient;
- 10 • Changing transportation and land use patterns to reduce dependence on  
11 automobiles;
- 12 • Decreasing per capita water use;
- 13 • “Greening” the Port of Los Angeles and the four airports operated by the City  
14 (including Los Angeles International Airport and LA/Ontario International  
15 Airport); and
- 16 • Promoting expansion of the “green economy” throughout the City.
- 17 • The Green LA Plan calls for the following Port-specific actions:
- 18 • Heavy-duty vehicles: By the end of 2011, all trucks calling at the ports will meet  
19 or exceed the EPA’s 2007 heavy-duty vehicle on-road emissions standards for  
20 particulate matter.
- 21 • Cargo-handling equipment: All yard tractors will meet at a minimum the EPA  
22 2007 on-road or Tier IV engine emission standards.
- 23 • Railroad locomotives: For Pacific Harbor Line switch engines, Tier II engines  
24 and emulsified or other equivalently clean alternative diesel fuels available will  
25 be used. Diesel-powered Class 1 locomotives entering port facilities will be 90  
26 percent controlled for particulate matter and NO<sub>x</sub>.
- 27 • A strategic plan for the Port will be completed and will include sustainable and  
28 green growth options.
- 29 • An economic development plan for the Port will be completed and will identify  
30 opportunities to link the Port’s investment in green growth to new economic  
31 opportunities in the green sector.

32 The specific measures for developing the Port-specific actions are included in the San  
33 Pedro Bay Ports Clean Air Action Plan discussed below.

### 34 ***The Sustainable City pLAN (pLAN)***

35 In April, 2015, the City of Los Angeles developed the Sustainable City pLAN (pLAN) as  
36 a roadmap through 2035. The pLAN contains strategies to address current and future  
37 climate change impacts and reduce air quality emissions. The pLAN sets aspirations for  
38 14 target areas. Of these, the following are related to port activities: energy-efficient  
39 buildings, carbon and climate leadership, mobility and transit. In particular, the pLAN  
40 projects the increase of port-related goods movement trips that use zero-emissions  
41 technology to 15 percent by 2025 and to 25 percent by 2035 (City of Los Angeles, 2015).

## 1 **Port of Los Angeles Policies**

### 2 ***Green Building Policy***

3 In August 2007, the Board or Harbor Commissioners adopted the Green Building Policy  
4 requiring Leadership in Energy and Environmental Design (LEED) Gold Rating as the  
5 minimum standard for new construction of most buildings of at least 7,500 square feet as  
6 well as the incorporation of solar power and best available technology for energy and  
7 water efficiency for all new Port buildings.

### 8 ***Port Climate Action Plan***

9 The 2007 Green LA Plan directed the Port to develop an individual Climate Action Plan,  
10 consistent with the goals of Green LA, to explore opportunities to reduce GHG emissions  
11 from municipal operations (such as Port buildings and Port workforce operations). The  
12 Climate Action Plan outlines specific steps that LAHD has taken and will take on global  
13 climate change. These steps include specific actions for energy audits, green building  
14 policies, onsite photovoltaic solar energy, green energy procurement, tree planting, water  
15 conservation, alternative fuel vehicles, increased recycling, and green procurement. The  
16 Port Climate Action Plan also outlines San Pedro Bay Ports Clean Air Action Plan  
17 measures that have significant GHG reduction co-benefits, such as Vessel Speed  
18 Reduction (VSR) and Alternative Marine Power (AMP). GHG reduction needs from  
19 Port's tenant activities are recognized in the Port Climate Action Plan, but are deferred to  
20 the CAAP, which addresses tenant operations.

### 21 ***Port of Los Angeles Actions to Reduce Greenhouse Gas Emissions by 2050***

22 In September 2014, LAHD prepared Actions to Reduce Greenhouse Gas Emissions by  
23 2050 and submitted the document to the City of Los Angeles (LAHD, 2014). The  
24 document presents a summary of the actions currently being undertaken by LAHD to  
25 reduce GHG emissions associated with LAHD operations, as well as its leadership role to  
26 help the maritime industry reduce its emissions occurring in the Port area. The document  
27 shows that quantifiable progress has been made in reducing GHG emissions reductions  
28 from 1990 to 2013 and outlines actions/strategies that are either being implemented or  
29 evaluated for possible implementation, in an effort to continue to reduce GHG emissions.  
30 While not a legal mandate, the plan establishes a Port-wide goal of 35 percent reduction  
31 by 2035 and 80 percent reduction by 2050.

### 32 ***San Pedro Bay Ports Clean Air Action Plan***

33 The Ports of Los Angeles and Long Beach, with the participation and cooperation of  
34 EPA, CARB, and SCAQMD staff, developed the San Pedro Bay Ports CAAP, a planning  
35 and policy document that sets goals and implementation strategies to reduce air emissions  
36 and health risks associated with port operations while allowing port development to  
37 continue (SPBP, 2006; 2010). Each individual CAAP measure is a proposed strategy for  
38 achieving these emissions reductions goals. CAAP measures are discussed in detail in  
39 Section 3.1, Air Quality and Meteorology.

40 Although many CAAP measures may result in GHG reductions as older technologies are  
41 replaced with newer, fuel-efficient technologies, the following CAAP measures are  
42 specifically identified in the CAAP to quantifiably reduce GHG emissions:

- 43 • CAAP Measure – SPBP-OGV1, Vessel Speed Reduction Program. LAHD has  
44 requested that ships coming into the Port reduce their speed to 12 knots or less  
45 within 20 nm of the Point Fermin Lighthouse. Reduction in speed demands less  
46 power from the main engine, which in turn reduces fuel usage and emissions.

1 This reduction of 3 to 10 knots per ship (depending on the ship's cruising speed)  
2 can substantially reduce emissions from the main propulsion engines of the ships.  
3 The program started in May 2001. The CAAP adopted the VSRP as control  
4 measure OGV-1 and expanded the program out to 40 nm from the Point Fermin  
5 Lighthouse in 2008. Per the 2010 CAAP update, full compliance with VSR will  
6 achieve 5 percent reduction of CO<sub>2</sub>e within the 20 nm zone and 10 percent  
7 reduction of CO<sub>2</sub>e within the 40 nm zone.

- 8 • CAAP Measure – SPBP-OGV2, Reduction of At-Berth OGV Emissions. This  
9 measure requires the use of shore power to reduce hoteling emissions at all  
10 container and cruise terminals by 2014. This measure also requires  
11 demonstration and application of alternative emissions reduction technologies for  
12 ships that are not viable candidates for shore power, to be facilitated through the  
13 Technology Advancement Program (TAP). Per the 2010 CAAP update, use of  
14 shore power at-berth will reduce hoteling emissions of CO<sub>2</sub>e by 95 percent per  
15 vessel call (this estimate does not account for emissions from electrical power  
16 generation).

17 In 2016, the Ports began the process of updating the CAAP to produce the third version.  
18 The scope and framework of this CAAP 3.0 Update will continue to look at the five  
19 major mobile sources of air pollution in and around the ports, while placing new Bay-  
20 wide Standards for the future. In addition, the CAAP will be expanded to address the  
21 following:

- 22 • Zero-emissions technologies
- 23 • Greenhouse gas emissions reductions
- 24 • Energy strategies
- 25 • Supply chain optimization.

#### 26 ***Additional Rules, Regulations and Policies***

27 In addition to the above, many rules, regulations and policies, discussed in Section 3.1,  
28 Air Quality and Methodology, that reduce fuel consumption, would have the indirect  
29 benefit of also reducing GHG emissions.

## 30 **3.2.4 Impacts and Mitigation Measures**

31 This section presents a discussion of the potential GHG impacts associated with operation  
32 of the Revised Project. Mitigation measures are provided, where feasible, for impacts  
33 found to be significant.

### 34 **3.2.4.1 Methodology**

35 GHG emissions were calculated for the 2014 Unmitigated Baseline, the 2014 Mitigated  
36 Baseline, for operation of the Revised Project, and for the FEIR Mitigated Scenario. In  
37 addition, indirect GHG emissions from electricity consumption during operation of the  
38 Revised Project and FEIR Mitigated Scenario were included in the analysis.

39 The major sources contributing to GHG emissions during Revised Project operation  
40 consist of:

- 41 • container ships (transit, anchoring, and hoteling);
- 42 • tugboats assisting ships during harbor transit, turning, and docking;



- 1 • cargo-handling equipment (CHE) used for loading/unloading, stacking and  
2 moving containers in the terminal;
- 3 • switching and linehaul locomotives used to move containers to and from the on-  
4 dock and near-dock railyards; and
- 5 • drayage trucks used to pick up and drop off containers at various destinations  
6 throughout the South Coast region.

7 The activity data (ship calls, truck trips, etc.) used in the GHG emission calculations for  
8 baseline, and operation are the same activity data used and described in Section 3.1, Air  
9 Quality and Meteorology; therefore, the activity data descriptions are not repeated here.  
10 The equipment utilization and scheduling data needed to calculate emissions for the  
11 operational activities were obtained from WBCT, China Shipping and LAHD  
12 Engineering staff and are included in Appendix B-1.

13 GHG emission factors and emissions associated with all scenarios are presented in detail  
14 in Appendix B1 and summarized as follows:

- 15 • CO<sub>2</sub>e emissions from on-road and off-road equipment were based on emission  
16 factors derived from EMFAC2014, the ARB CHE Calculator and  
17 OFFROAD2007.
- 18 • OGV and harbor craft engine emissions were based on emission factors  
19 identified in the Port 2014 Emissions Inventory (POLA, 2014).
- 20 • Switching and linehaul locomotive emissions were based on emission factors  
21 identified in the Port 2014 Emissions Inventory (POLA, 2014) and the ARB  
22 VISION model emission inventory forecasts (CARB, 2015).

23 In addition to evaluating the CO<sub>2</sub>e emissions from the Revised Project, the potential  
24 impact of SLR resulting from global climate change on the Revised Project was also  
25 considered. The methodology focused on a review of currently available documentation  
26 for the Los Angeles coastline (Pacific Institute, 2009; Lempert, 2012). Lempert (2012)  
27 used the Port as a case study and considers a broader range of potential SLR scenarios  
28 (up to 30 centimeters higher) than the two previous studies.

#### 29 **3.2.4.2 Geographic Boundaries**

30 For the purpose of assessing GHG impacts under CEQA, Revised Project CO<sub>2</sub>e  
31 emissions from all sources except OGVs were calculated to the California border.  
32 Emissions from Revised Project-related OGVs were calculated as follows:

- 33 • Container ship emissions were calculated along the northern 170 nm shipping  
34 route. The analysis conservatively assumed that all container ships would follow  
35 this “northern” route because it represents the longest distance that ships would  
36 travel to and from the Port while within CARB’s California in-state boundary.

#### 37 **3.2.4.3 Baseline**

38 As described in Section 2.6, the baseline that is used for assessing the air quality and  
39 related impacts of the Revised Project in this Draft SEIR (including GHG impacts)  
40 consists of throughput and activity levels during 2014 (see below), considering timely  
41 application of all mitigation measures which were required to have been completed by  
42 that year in the 2008 EIS/EIR. This is referred to as the “2014 Mitigated Baseline.” This  
43 Draft SEIR uses the 2014 Mitigated Baseline in determining the significance of  
44 incremental changes to the air quality-related impacts disclosed in the 2008 EIS/EIR, due

to proposed modifications to 2008 EIS/EIR Mitigation measures under the Revised Project and due to changed circumstances/new information of the incremental increase in Terminal throughput as shown in Table 2-3. For informational purposes, a baseline consisting of throughput levels and activity during 2014 without application of 2008 EIS/EIR mitigation measures that are proposed for modification under the Revised Project is also shown and referred to as the “2014 Unmitigated Baseline.” The baseline conditions are also described in Section 2.6 and summarized in Table 2-1.

Future conditions that could be affected by rules and regulations implemented over time were not considered in the 2014 Mitigated or Unmitigated Baselines. Only rules and regulations effective by December 31, 2014 were considered in the 2014 Mitigated and Unmitigated Baselines for the source categories listed. The methodology used to quantify baseline emissions is presented in Section 3.1.4.1, Methodology.

Table 3.2-1 presents the annual baseline GHG emissions in mty based on the baseline activity presented in Chapter 2 with application of all 2008 EIR/EIS mitigation measures. Table 3.2-2 presents the annual baseline GHG emissions in mty without application of the 2008 EIR/EIS mitigation measures.

**Table 3.2-1: Annual Operational GHG Emissions—2014 Mitigated Baseline (mty)**

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
OGV - Transit and Anchoring <sup>1</sup>	16,646	0.21	1.03	16,924
OGV – Hoteling	4,143	0.01	0.32	4,229
Harbor Craft	134	0.00	0.01	136
CHE	22,048	1.92	0.00	22,101
Rail On-Site	1,054	0.08	0.03	1,063
Rail Off-Site	13,514	1.09	0.36	13,639
On-Site Trucks	4,958	0.09	0.28	5,035
Off-Site Trucks	49,019	0.26	1.82	49,508
Employee Commute On-Site	41	0.00	0.00	41
Employee Commute Off-Site	722	0.02	0.01	725
Backlands Electricity Consumption	1,924	0.11	0.01	1,930
AMP Electricity Consumption	1,867	0.11	0.01	1,874
<b>Total Operational Year 2014</b>	<b>116,068</b>	<b>3.92</b>	<b>3.88</b>	<b>117,206</b>

Notes:

1) OGV - Transit and Anchoring also includes emissions from the AQMD Overwater Boundary to the Stateline

**Table 3.2-2: Annual Operational GHG Emissions—2014 Unmitigated Baseline (mty)**

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
OGV - Transit and Anchoring <sup>1</sup>	16,673	0.21	1.03	16,951
OGV – Hoteling	5,093	0.02	0.36	5,190
Harbor Craft	134	0.00	0.01	136
CHE	25,507	2.70	0.00	25,582
Rail On-Site	1,054	0.08	0.03	1,063

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Rail Off-Site	13,514	1.09	0.36	13,639
On-Site Trucks	4,958	0.09	0.28	5,035
Off-Site Trucks	49,019	0.26	1.82	49,508
Employee Commute On-Site	41	0.00	0.00	41
Employee Commute Off-Site	722	0.02	0.01	725
Backlands Electricity Consumption	1,924	0.11	0.01	1,930
AMP Electricity Consumption	1,488	0.09	0.01	1,494
<b>Total Operational Year 2014</b>	<b>120,126</b>	<b>4.69</b>	<b>3.92</b>	<b>121,295</b>

Notes:

1) OGV - Transit and Anchoring also includes emissions from the AQMD Overwater Boundary to the Stateline

1

2 **3.2.4.4 Thresholds of Significance**

3 **CEQA Significance Thresholds**

4 State CEQA Guidelines Section 15064.4(a) affords a lead agency discretion to evaluate  
 5 the significance of GHG emissions quantitatively or qualitatively, and to select the model  
 6 or methodology it considers appropriate for doing so. CEQA Guidelines section 15064.4  
 7 (b) sets forth the factors that should be considered by a lead agency when assessing the  
 8 significance of impacts from GHG emissions on the environment. These factors are:

- 9 • the extent to which a project may increase or reduce GHG emissions compared  
 10 with the existing environmental setting;
- 11 • whether project emissions exceed a threshold of significance that the lead agency  
 12 determines applicable to a project; and
- 13 • the extent to which a project complies with regulations or requirements adopted  
 14 to implement a statewide, regional, or local plan for the reduction or mitigation  
 15 of GHG emissions. Such requirements must be adopted by the relevant public  
 16 agency through a public review process and must reduce or mitigate the project’s  
 17 incremental contribution of greenhouse gas emissions.

18 The guidelines do not specify significance thresholds and allow the lead agencies  
 19 discretion in how to address and evaluate significance based on these criteria.

20 To provide guidance to local lead agencies regarding determining significance for GHG  
 21 emissions in CEQA documents, SCAQMD convened the GHG CEQA Significance  
 22 Threshold Working Group. Members of the working group included government  
 23 agencies that implement CEQA and representatives from various stakeholder groups that  
 24 provide input to SCAQMD staff members regarding developing the GHG CEQA  
 25 significance thresholds.

26 On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal  
 27 regarding an interim GHG significance threshold for projects where SCAQMD is lead  
 28 agency. For industrial projects, a significance threshold of 10,000 mty of CO<sub>2</sub>e emissions  
 29 per year was established. Construction GHG emissions, amortized over project life, are  
 30 required to be included in a project’s annual GHG emissions totals (SCAQMD, 2010),  
 31 however for the Revised Project all construction activities were completed prior to 2014.

1 LAHD has determined the SCAQMD-adopted 10,000 mty CO<sub>2</sub>e threshold to be suitable  
2 for LAHD projects for the following reasons:

- 3 • In April 2008, the SCAQMD convened a GHG CEQA Significance Threshold  
4 Working Group. Members of the working group include government agencies  
5 implementing CEQA representatives from various stakeholder groups that  
6 provided input to SCAQMD staff on developing GHG CEQA significance  
7 thresholds.
- 8 • The SCAQMD industrial source threshold is appropriate for projects with future  
9 operations continuing as far out as 2050. The SCAQMD threshold development  
10 methodology used the EO S-3-05 emission reduction targets as the basis in  
11 developing the threshold (SCAQMD, 2008), with the AB 32 2020 reduction  
12 requirements incorporated as a subset of EO S-3-05. EO S-3-05 sets an emission  
13 reduction target of 80 percent below 1990 levels by 2050. AB 32 requires  
14 California to reduce its GHG emissions to 1990 levels by 2020 (SCAQMD,  
15 2016a). AB 32 has the goal of achieving 1990 GHG levels by 2020.
- 16 • The SCAQMD industrial source threshold is appropriate for projects with both  
17 stationary and mobile sources, both of which are typical components of LAHD  
18 projects. The California Air Pollution Control Officers Association (CAPCOA)  
19 guidance considers industrial projects to include substantial GHG emissions  
20 associated with mobile sources (CAPCOA, 2008). SCAQMD, on industrial  
21 projects for which it is the lead agency, uses the 10,000 mty threshold to  
22 determine CEQA significance by combining a project's stationary source and  
23 mobile source emissions. Although the threshold was originally developed for  
24 stationary sources, SCAQMD staff views the threshold as conservative for  
25 projects with both stationary and mobile sources because it is applied to a larger  
26 set of emissions and therefore captures a greater percentage of projects than  
27 would be captured if the threshold was only used for stationary sources  
28 (SCAQMD, 2016a). For example, in one of its recent EIRs, the SCAQMD  
29 applied the 10,000 mty threshold to a refinery project where the mobile source  
30 emissions would increase and the stationary source emissions (combined direct  
31 and indirect) would decrease relative to baseline (SCAQMD, 2016b, SCAQMD  
32 2017). The mobile source emissions included construction equipment, on-road  
33 vehicles, and on- and off-site rail transport. Moreover, in the same EIR, the  
34 SCAQMD also applied the 10,000 mty threshold to its list of related cumulative  
35 projects, two of which were LAHD projects (SCIG and ILWU Local 13 Dispatch  
36 Hall) with dominant mobile source emissions. The SCAQMD also specifically  
37 approved the use of the 10,000 mty threshold for this Draft SEIR (SCAQMD,  
38 2015).
- 39 • The SCAQMD industrial source threshold is appropriate for projects with  
40 sources that use primarily diesel fuel. Although most of the sources that were  
41 considered by the SCAQMD in the development of the 10,000 mty threshold are  
42 natural gas-fueled (SCAQMD, 2008), both natural gas and diesel combustion  
43 produce CO<sub>2</sub> as the dominant GHG (TCR, 2016). Furthermore, the conversion  
44 of all GHG species into a CO<sub>2</sub>e ensures that the GHG emissions from any source,  
45 regardless of fuel type, can be evaluated equitably.
- 46 • The SCAQMD industrial source threshold is conservative for LAHD projects.  
47 The 10,000 mty threshold is intended to achieve a 90 percent emission capture  
48 rate for permitted industrial facilities subject to the SCAQMD's Annual Emission  
49 Reporting (AER) program. LAHD projects subject to CEQA review usually far

1 exceed this threshold because of their large size and large number of mobile  
2 sources such as ocean going vessels, drayage trucks, trains, and cargo handling  
3 equipment.

4 After considering the CEQA Guidelines and LAHD-specific climate change impact  
5 issues, LAHD has set the following threshold for use in this SEIR to determine the  
6 significance of project-related GHG impacts. The Revised Project would create a  
7 significant GHG impact if it:

- 8 • **GHG-1:** Generates GHG emissions that, either directly or indirectly, exceed  
9 the SCAQMD 10,000 mty CO<sub>2</sub>e threshold.

10 For this SEIR, no construction emissions are amortized in assessing impacts under GHG-  
11 1, as construction of the China Shipping Terminal has already been completed, and is not  
12 a component of the Revised Project analyzed in this document.

13 As noted above, CEQA Guideline Section 15064.4(b)(3) provides that one factor to be  
14 considered in assessing the significance of GHG emissions on the environment is “the  
15 extent to which a project complies with regulations or requirements adopted to implement  
16 a statewide, regional or local plan for the reduction or mitigation of GHG emissions.”

17 Several state, regional and local plans have been developed that set goals for the  
18 reduction of GHG emissions over the next few years and decades. Some of these plans  
19 and policies (notably, EO S-3-05 and AB 32) were taken into account by the SCAQMD  
20 in developing the 10,000 mty CO<sub>2</sub>e threshold. However, no regulations or requirements  
21 have been adopted by relevant public agencies to implement those plans for specific  
22 projects, within the meaning of CEQA Guidelines Section 15064.4(b)(3). Consequently,  
23 no CEQA significance assessment based upon compliance with such regulations or  
24 requirements can be made for the Revised Project. Nevertheless, for the purpose of  
25 disclosure, LAHD has considered for informational purposes only, whether the Revised  
26 Project would be consistent with federal, state or local plans, policies or regulations for  
27 the reduction of GHG emissions, as set forth below.

28 Finally, State CEQA Guidelines Section 15126.2(a) identifies the need to evaluate  
29 potential impacts of locating development in areas that are vulnerable to climate change  
30 effects. The EIR “should evaluate any potentially significant impacts of locating  
31 development in other areas susceptible to hazardous conditions (e.g., floodplains,  
32 coastlines, wildfire risk areas).” Because the Revised Project does not involve any  
33 physical alterations to the CS Container Terminal, which has already been constructed,  
34 and because no significance thresholds are defined for evaluating the potential impacts of  
35 climate change, no further evaluation is required. However, a qualitative assessment of  
36 consistency with related climate change policies and plans is provided for informational  
37 purposes only.

### 38 **3.2.4.5 Impact Determination**

#### 39 **Impact GHG-1: Would the Revised Project generate GHG emissions,** 40 **either directly or indirectly, that would exceed the SCAQMD 10,000** 41 **mty CO<sub>2</sub>e threshold?**

42 Continued operation of the Revised Project would generate operational GHG emissions  
43 which have been evaluated for analysis years 2023, 2030, 2036 and 2045. Continued  
44 operation of the Revised Project would occur with specific revisions made to several Air

1 Quality Mitigation Measures that have been described in Section 3.1 and which would  
2 affect GHG emissions from the Revised Project. These include:

- 3 • **MM AQ-9: Alternative Maritime Power.** Beginning January 1, 2018, all ships  
4 calling at Berths 97-109 must use AMP while hoteling in the Port with a 95%  
5 compliance rate.
- 6 • **MM AQ-10: Vessel Speed Reduction Program (VSRP).** Beginning January  
7 1, 2018, at least 95 percent of vessels calling at Berths 97-109 shall either 1)  
8 comply with the expanded VSRP of 12 knots between 40 nm from Point Fermin  
9 and the Precautionary Area or 2) comply with an alternative compliance plan  
10 approved by the LAHD for a specific vessel and type.
- 11 • **MM AQ-17: Yard Equipment at Berth 97-109 Terminal.** By January 1, 2021  
12 all 18-ton forklifts would be replaced by units that meet or exceed the Tier 4 final  
13 off-road engine standards for PM and NO<sub>x</sub>. By January 1, 2020 all 5-ton forklifts  
14 of model years 2011 or older shall be electric. By January 1, 2021 all diesel RTG  
15 cranes of model years 2003 or older shall be diesel-electric hybrids that meet or  
16 exceed Tier 4 final off-road engine standards for PM and NO<sub>x</sub>. By January 1,  
17 2023 all diesel RTG cranes of model years 2004 or older shall be diesel-electric  
18 hybrids that meet or exceed Tier 4 final off-road engine standards for PM and  
19 NO<sub>x</sub>. By January 1, 2025 four RTG cranes of model years 2005 and older shall  
20 be replaced by all-electric units, and one diesel RTG crane of model year 2005  
21 shall be diesel-electric hybrid with a diesel engine meeting Tier 4 final off-road  
22 engine standards for PM and NO<sub>x</sub>. By January 1, 2025 the sweeper(s) shall be  
23 alternative fuel or the cleanest available. By January 1, 2025 all gasoline shuttle  
24 buses shall be zero emissions.

25 All other 2008 EIR/EIS GHG mitigation measures and lease measures have either already  
26 been implemented or are not quantified for purposes of calculating GHG emissions under  
27 the Revised Project. Note that in MM AQ-17, replacement of yard equipment with Tier 4  
28 models would not yield a GHG benefit and was therefore not quantified in this analysis.

29 The Revised Project operational GHG emissions under the revised mitigation measures  
30 MM AQ-9, MM AQ-10, MM AQ-17 are summarized below in Table 3.2-3. The  
31 operational GHG emissions from the Revised Project are compared to the 2014 Mitigated  
32 Baseline for purposes of determining the impact, and are compared to the 2014  
33 Unmitigated Baseline for informational purposes.

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**Table 3.2-3: Operational GHG Emissions– Revised Project (mt)**

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
<b>Year – 2023</b>				
<b>Emissions in metric tons per year</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,466	0.24	1.12	18,770
OGV – Hoteling	3,675	0.02	0.27	3,746
Harbor Craft	255	0.01	0.01	258
CHE	32,862	1.17	0.00	32,895
Rail On-Site	1,200	0.10	0.03	1,211
Rail Off-Site	23,786	1.93	0.63	24,006
On-Site Trucks	5,666	0.11	0.32	5,753
Off-Site Trucks	54,846	0.34	2.32	55,471
Employee Commute On-Site	77	0.00	0.00	77
Employee Commute Off-Site	1,229	0.02	0.01	1,233
Backlands Electricity Consumption	2,496	0.15	0.02	2,505
AMP Electricity Consumption	1,218	0.07	0.01	1,222
<b>Total Operational Year 2023</b>	<b>145,778</b>	<b>4.15</b>	<b>4.73</b>	<b>147,149</b>
<b>2023 CEQA Impacts</b>				
2014 Unmitigated Baseline Emissions	120,126	4.69	3.92	121,295
Revised Project Minus 2014 Unmitigated Baseline				<b>25,853</b>
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
Revised Project Minus 2014 Mitigated Baseline				<b>29,982</b>
Significance Threshold				10,000
Significant?				<b>Yes</b>
<b>Year – 2030</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,707	0.25	1.05	18,991
OGV – Hoteling	3,606	0.02	0.26	3,675
Harbor Craft	255	0.01	0.01	258
CHE	36,710	2.85	0.00	36,790
Rail On-Site	1,193	0.10	0.03	1,204
Rail Off-Site	24,910	2.02	0.66	25,140
On-Site Trucks	5,605	0.07	0.32	5,693
Off-Site Trucks	54,256	0.24	2.07	54,811
Employee Commute On-Site	66	0.00	0.00	66
Employee Commute Off-Site	1,049	0.01	0.01	1,051
Backlands Electricity Consumption	2,809	0.17	0.02	2,819
AMP Electricity Consumption	1,254	0.07	0.01	1,258
<b>Total Operations Year 2030</b>	<b>150,420</b>	<b>5.80</b>	<b>4.43</b>	<b>151,758</b>
<b>2030 CEQA Impacts</b>				
2014 Unmitigated Baseline Emissions	120,126	4.69	3.92	121,295
Revised Project Minus 2014 Unmitigated Baseline				<b>30,462</b>
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
Revised Project Minus 2014 Mitigated				<b>34,591</b>

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Baseline				
Significance Threshold				10,000
Significant?				<b>Yes</b>
<b>Year – 2036</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,719	0.25	1.05	19,003
OGV – Hoteling	3,606	0.02	0.26	3,675
Harbor Craft	255	0.01	0.01	258
CHE	36,722	1.72	0.00	36,770
Rail On-Site	1,181	0.09	0.03	1,191
Rail Off-Site	23,547	1.91	0.62	23,765
On-Site Trucks	5,390	0.06	0.32	5,475
Off-Site Trucks	53,074	0.21	1.93	53,592
Employee Commute On-Site	59	0.00	0.00	59
Employee Commute Off-Site	937	0.01	0.01	939
Backlands Electricity Consumption	2,809	0.17	0.02	2,819
AMP Electricity Consumption	1,254	0.07	0.01	1,258
<b>Total Operations Year 2036</b>	<b>147,553</b>	<b>4.51</b>	<b>4.26</b>	<b>148,807</b>
<b>2036 CEQA Impacts</b>				
2014 Unmitigated Baseline Emissions	120,126	4.69	3.92	121,295
Revised Project Minus 2014 Unmitigated Baseline				<b>27,511</b>
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
Revised Project Minus 2014 Mitigated Baseline				31,640
Significance Threshold				10,000
Significant?				<b>Yes</b>
<b>Year – 2045</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,719	0.25	1.05	19,003
OGV – Hoteling	3,606	0.02	0.26	3,675
Harbor Craft	255	0.01	0.01	258
CHE	36,699	1.32	0.00	36,736
Rail On-Site	1,180	0.09	0.03	1,191
Rail Off-Site	21,673	1.75	0.57	21,873
On-Site Trucks	5,296	0.05	0.31	5,380
Off-Site Trucks	54,170	0.26	1.88	54,677
Employee Commute On-Site	57	0.00	0.00	57
Employee Commute Off-Site	936	0.01	0.01	938
Backlands Electricity Consumption	2,809	0.17	0.02	2,819
AMP Electricity Consumption	1,254	0.07	0.01	1,258
<b>Total Operations Year 2045</b>	<b>146,655</b>	<b>4.01</b>	<b>4.15</b>	<b>147,868</b>
<b>2045 CEQA Impacts</b>				
2014 Unmitigated Baseline Emissions	120,126	4.69	3.92	121,295
Revised Project Minus 2014 Unmitigated Baseline				<b>26,573</b>



Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
Revised Project Minus 2014 Mitigated Baseline				30,701
Significance Threshold				10,000
Significant?				<b>Yes</b>

Notes:

1) OGV - Transit and Anchoring also includes emissions from the AQMD Overwater Boundary to the Stateline

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**Impact Determination**

Table 3.2-3 shows that the Revised Project’s GHG emissions minus the “Mitigated Baseline” would exceed the GHG threshold of 10,000 mty in all of the study years.

**Mitigation Measures**

New GHG mitigation measures, summarized below, would reduce GHG emissions.

- **MM GHG-1: LED Lighting.** All lighting within the interior of buildings on the premises and outdoor high mast terminal lighting will be replaced with LED lighting or a technology with similar energy-saving capabilities by 2023.

Twenty-four 100-foot and 17 60-foot, high-mast light poles would be converted to LED lighting by 2023. The effects of converting high mast light poles to LED on electricity-consumption GHG emissions is quantified; the effects of converting interior lighting to LED is not quantified.

The following lease measure, summarized below, was not quantified for GHG emission reduction.

- **LM GHG-1: GHG Credit Fund.** Revised Project incremental GHG emissions are 34,591 metric tons of CO<sub>2</sub>e in the peak year of operations in 2030. They exceed the 10,000 metric ton CO<sub>2</sub>e significance threshold by 24,591 metric tons. Because operational GHG emissions exceed the significance threshold with the incorporation of all feasible mitigation measures, LAHD shall establish a carbon offset fund, which may be accomplished through a Memorandum of Understanding with the California Air Resources Board or another appropriate entity, to mitigate project GHG impacts to the maximum extent feasible. The fund shall be used for GHG-reducing projects and programs on Port of Los Angeles property. It shall be the responsibility of the Tenant to contribute to the fund. Fund contribution shall be \$250,000, payable upon execution of a lease amendment. \$250,000 has been identified as the maximum feasible contribution level. If LAHD is unable to establish the fund within a reasonable period of time, Tenant shall instead purchase credits from an approved GHG offset registry in the amount of \$250,000.

**Residual Impacts**

Table 3.2-4 shows the residual impacts of the Revised Project after application of mitigation measure MM GHG-1, LED lighting.

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2**Table 3.2-4: Operational GHG Emissions– Revised Project with Mitigation (mt)**

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
<b>Year – 2023 Revised Project</b>				
<b>Emissions in metric tons per year</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,466	0.24	1.12	18,770
OGV – Hoteling	3,675	0.02	0.27	3,746
Harbor Craft	255	0.01	0.01	258
CHE	32,862	1.17	0.00	32,895
Rail On-Site	1,200	0.10	0.03	1,211
Rail Off-Site	23,786	1.93	0.63	24,006
On-Site Trucks	5,666	0.11	0.32	5,753
Off-Site Trucks	54,846	0.34	2.32	55,471
Employee Commute On-Site	77	0.00	0.00	77
Employee Commute Off-Site	1,229	0.02	0.01	1,233
Backlands Electricity Consumption with LED mitigation	2,688	0.16	0.02	2,698
AMP Electricity Consumption	1,218	0.07	0.01	1,222
<b>Total Operational Year 2023</b>	<b>145,970</b>	<b>4</b>	<b>5</b>	<b>147,341</b>
<b>2023 CEQA Impacts</b>				
2014 Unmitigated Baseline Emissions	120,126	4.69	3.92	121,295
Mitigated Revised Project Minus 2014 Unmitigated Baseline				<b>26,046</b>
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
Mitigated Revised Project Minus 2014 Mitigated Baseline				<b>30,174</b>
Significance Threshold				10,000
Significant?				<b>Yes</b>
<b>Year – 2030 Revised Project</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,707	0.25	1.05	18,991
OGV – Hoteling	3,606	0.02	0.26	3,675
Harbor Craft	255	0.01	0.01	258
CHE	36,710	2.85	0.00	36,790
Rail On-Site	1,193	0.10	0.03	1,204
Rail Off-Site	24,910	2.02	0.66	25,140
On-Site Trucks	5,605	0.07	0.32	5,693
Off-Site Trucks	54,256	0.24	2.07	54,811
Employee Commute On-Site	66	0.00	0.00	66
Employee Commute Off-Site	1,049	0.01	0.01	1,051
Backlands Electricity Consumption with LED mitigation	3,001	0.18	0.02	3,012
AMP Electricity Consumption	1,254	0.07	0.01	1,258
<b>Total Operations Year 2030</b>	<b>150,612</b>	<b>6</b>	<b>4</b>	<b>151,950</b>
<b>2030 CEQA Impacts</b>				
2014 Unmitigated Baseline Emissions	120,126	4.69	3.92	121,295

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Mitigated Revised Project Minus 2014 Unmitigated Baseline				<b>30,655</b>
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
Mitigated Revised Project Minus 2014 Mitigated Baseline				<b>34,783</b>
Significance Threshold				10,000
Significant?				<b>Yes</b>
<b>Year – 2036 Revised Project</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,719	0.25	1.05	19,003
OGV – Hoteling	3,606	0.02	0.26	3,675
Harbor Craft	255	0.01	0.01	258
CHE	36,722	1.72	0.00	36,770
Rail On-Site	1,181	0.09	0.03	1,191
Rail Off-Site	23,547	1.91	0.62	23,765
On-Site Trucks	5,390	0.06	0.32	5,475
Off-Site Trucks	53,074	0.21	1.93	53,592
Employee Commute On-Site	59	0.00	0.00	59
Employee Commute Off-Site	937	0.01	0.01	939
Backlands Electricity Consumption with LED mitigation	3,001	0.18	0.02	3,012
AMP Electricity Consumption	1,254	0.07	0.01	1,258
Total Operations Year 2036	<b>147,744</b>	<b>5</b>	<b>4</b>	<b>148,999</b>
<b>2036 CEQA Impacts</b>				
2014 Unmitigated Baseline Emissions	120,126	4.69	3.92	121,295
Mitigated Revised Project Minus 2014 Unmitigated Baseline				<b>27,704</b>
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
Mitigated Revised Project Minus 2014 Mitigated Baseline				<b>31,832</b>
Significance Threshold				10,000
Significant?				<b>Yes</b>
<b>Year – 2045 Revised Project</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,719	0.25	1.05	19,003
OGV – Hoteling	3,606	0.02	0.26	3,675
Harbor Craft	255	0.01	0.01	258
CHE	36,699	1.32	0.00	36,736
Rail On-Site	1,180	0.09	0.03	1,191
Rail Off-Site	21,673	1.75	0.57	21,873
On-Site Trucks	5,296	0.05	0.31	5,380
Off-Site Trucks	54,170	0.26	1.88	54,677
Employee Commute On-Site	57	0.00	0.00	57
Employee Commute Off-Site	936	0.01	0.01	938
Backlands Electricity Consumption with LED mitigation	3,001	0.18	0.02	3,012
AMP Electricity Consumption	1,254	0.07	0.01	1,258

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
Total Operations Year 2045	<b>146,847</b>	<b>4</b>	<b>4</b>	<b>148,060</b>
<b>2045 CEQA Impacts</b>				
2014 Unmitigated Baseline Emissions	120,126	4.69	3.92	121,295
Mitigated Revised Project Minus 2014 Unmitigated Baseline				<b>26,765</b>
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
Mitigated Revised Project Minus 2014 Mitigated Baseline				<b>30,894</b>
Significance Threshold				10,000
Significant?				<b>Yes</b>

Notes:

1) OGV - Transit and Anchoring also includes emissions from the AQMD Overwater Boundary to the Stateline

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Impacts would remain significant and unavoidable.

**Comparison of Impacts to FEIR Mitigated Scenario (informational only)**

The same methodology described above to analyze the GHG impacts from the Revised Project was used to analyze, for informational purposes only, the impacts from the FEIR Mitigated Scenario that is defined in Section 3.1.1. of this Draft SEIR. As with the Revised Project, the forecasted GHG emissions if all 2008 EIR/EIS mitigation measures had been applied are compared to the 2014 Unmitigated Baseline and the 2014 Mitigated Baseline to provide a direct comparison to the impact analysis in Tables 3.2-3 and 3.2-4. The results are shown in Table 3.2-5.

**Table 3.2-5: Operational GHG Emissions–FEIR Mitigated Scenario (mty)**

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
<b>Year – 2023 FEIR Mitigated Scenario</b>				
Emissions in metric tons per year				
OGV - Transit and Anchoring <sup>1</sup>	18,013	0.24	1.10	18,313
OGV – Hoteling	3,496	0.01	0.26	3,565
Harbor Craft	255	0.01	0.01	258
CHE	32,106	1.99	0.00	32,162
Rail On-Site	1,200	0.10	0.03	1,211
Rail Off-Site	23,786	1.93	0.63	24,006
On-Site Trucks	5,666	0.11	0.32	5,753
Off-Site Trucks	54,846	0.34	2.32	55,471
Employee Commute On-Site	77	0.00	0.00	77
Employee Commute Off-Site	1,229	0.02	0.01	1,233
Backlands Electricity Consumption	2,688	0.16	0.02	2,698
AMP Electricity Consumption	1,282	0.08	0.01	1,287
Total Operational Year 2023	<b>144,646</b>	<b>4.98</b>	<b>4.71</b>	<b>146,034</b>
<b>2023 CEQA Impacts</b>				
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
FEIR Mitigated Scenario Minus				<b>28,867</b>

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
2014 Mitigated Baseline				
Significance Threshold				10,000
Significant?				<b>Yes</b>
<b>Year – 2030 FEIR Mitigated Scenario</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,229	0.24	1.02	18,507
OGV – Hoteling	3,421	0.01	0.25	3,489
Harbor Craft	255	0.01	0.01	258
CHE	35,813	2.34	0.00	35,878
Rail On-Site	1,193	0.10	0.03	1,204
Rail Off-Site	24,910	2.02	0.66	25,140
On-Site Trucks	5,605	0.07	0.32	5,693
Off-Site Trucks	54,256	0.24	2.07	54,811
Employee Commute On-Site	66	0.00	0.00	66
Employee Commute Off-Site	1,049	0.01	0.01	1,051
Backlands Electricity Consumption	3,001	0.18	0.02	3,012
AMP Electricity Consumption	1,320	0.08	0.01	1,325
Total Operations Year 2030	<b>149,118</b>	<b>5.29</b>	<b>4.40</b>	<b>150,433</b>
<b>2030 CEQA Impacts</b>				
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
FEIR Mitigated Scenario Minus 2014 Mitigated Baseline				<b>33,267</b>
Significance Threshold				10,000
Significant?				<b>Yes</b>
<b>Year – 2036 FEIR Mitigated Scenario</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,229	0.24	1.02	18,507
OGV – Hoteling	3,421	0.01	0.25	3,489
Harbor Craft	255	0.01	0.01	258
CHE	35,835	2.04	0.00	35,892
Rail On-Site	1,181	0.09	0.03	1,191
Rail Off-Site	23,547	1.91	0.62	23,765
On-Site Trucks	5,390	0.06	0.32	5,475
Off-Site Trucks	53,074	0.21	1.93	53,592
Employee Commute On-Site	59	0.00	0.00	59
Employee Commute Off-Site	937	0.01	0.01	939
Backlands Electricity Consumption	3,001	0.18	0.02	3,012
AMP Electricity Consumption	1,320	0.08	0.01	1,325
Total Operations Year 2036	<b>146,249</b>	<b>4.83</b>	<b>4.23</b>	<b>147,504</b>
<b>2036 CEQA Impacts</b>				
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
FEIR Mitigated Scenario Minus 2014 Mitigated Baseline				<b>30,337</b>
Significance Threshold				10,000
Significant?				<b>Yes</b>

Source Category	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	CO <sub>2</sub> e
<b>Year – 2045 FEIR Mitigated Scenario</b>				
OGV - Transit and Anchoring <sup>1</sup>	18,229	0.24	1.02	18,507
OGV – Hoteling	3,421	0.01	0.25	3,489
Harbor Craft	255	0.01	0.01	258
CHE	35,812	1.25	0.00	35,847
Rail On-Site	1,180	0.09	0.03	1,191
Rail Off-Site	21,673	1.75	0.57	21,873
On-Site Trucks	5,296	0.05	0.31	5,380
Off-Site Trucks	54,170	0.26	1.88	54,677
Employee Commute On-Site	57	0.00	0.00	57
Employee Commute Off-Site	936	0.01	0.01	938
Backlands Electricity Consumption	3,001	0.18	0.02	3,012
AMP Electricity Consumption	1,320	0.08	0.01	1,325
<b>Total Operations Year 2045</b>	<b>145,352</b>	<b>3.94</b>	<b>4.12</b>	<b>146,555</b>
<b>2045 CEQA Impacts</b>				
2014 Mitigated Baseline	116,029	3.91	3.88	117,167
FEIR Mitigated Scenario Minus 2014 Mitigated Baseline				<b>29,388</b>
Significance Threshold				10,000
Significant?				<b>Yes</b>

Notes:

1) OGV - Transit and Anchoring also includes emissions from the AQMD Overwater Boundary to the Stateline

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2 Table 3.2-5 shows that with application of all FEIR mitigation measures, the FEIR  
3 Mitigated Scenario operational emissions would still exceed the threshold of significance  
4 for all analysis years. However the increment between the FEIR Mitigated Scenario and  
5 the Mitigated Baseline would be lower than for the Revised Project.

6 **Informational Assessment: The Revised Project would not be**  
7 **consistent with certain statewide, regional, and local plans and**  
8 **policies.**

9 The State of California, the City of Los Angeles, and LAHD have adopted plans and  
10 policies to reduce GHG emissions. None of these plans or policies constitute regulations  
11 or requirements adopted to implement a statewide, regional or local plan for reduction or  
12 mitigation of greenhouse gas emissions. (See *Center for Biological Diversity v. Cal.*  
13 *Dept. of Fish and Wildlife (Newhall Ranch)* (2015) 62 Cal.4<sup>th</sup> 204, 223.) Therefore, a  
14 significance determination cannot be made using these factors.

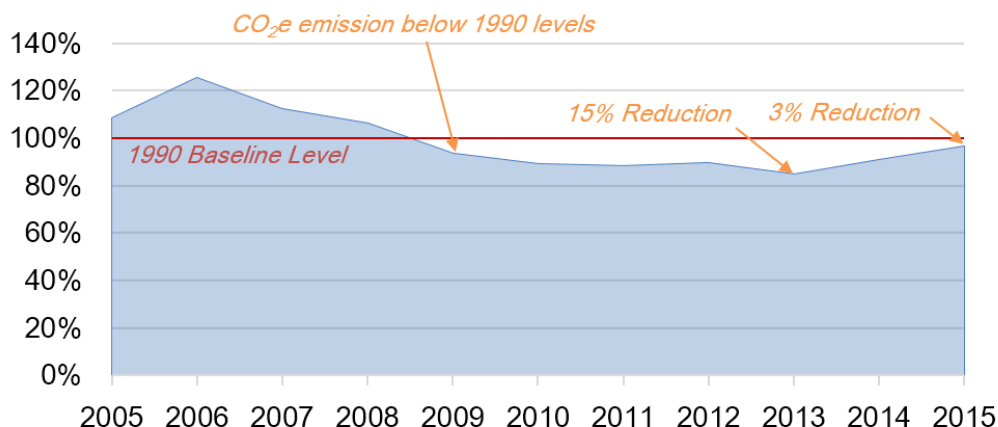
15 Nevertheless, for informational purposes only, this document provides a discussion of  
16 consistency with adopted statewide, regional and local plans and policies to reduce GHG  
17 emissions.

18 The State of California is leading the way in the United States, related to GHG  
19 reductions. Several legislative and municipal targets for reducing GHG emissions, below  
20 1990 levels have been established. Key examples include:

- 1                   • Senate Bill 32 (SB32)
- 2                    1990 levels by 2020
- 3                    40 percent below 1990 levels by 2030
- 4                   • Assembly Bill 32 (AB 32)
- 5                    80 percent below 1990 levels by 2050
- 6                   • City of Los Angeles Sustainable City pLAn
- 7                    45 percent below 1990 levels by 2025
- 8                    60 percent below 1990 levels by 2035
- 9                    80 percent below 1990 levels by 2050

LAHD has been tracking GHG emissions, in terms of carbon dioxide equivalents (CO<sub>2</sub>e) since 2005 through the LAHD municipal GHG inventory and the annual inventory of air emissions (see Figure 3.2-1). As illustrated below in Figure 3.2-2, Port-related GHG emissions (all three scopes) started making significant reductions since 2006, reaching a maximum reduction in CO<sub>2</sub>e of 15 percent from 1990 levels in 2013. Subsequently, 2014 and 2015 saw GHG levels rise due to a period of port congestion that arose from circumstances outside of the control of either the LAHD or its tenants. This event illustrates a major challenge related to managing GHG-related emissions, as events outside the control of LAHD or its individual tenants will continue to have a varying degree of impact on the progress of reduction efforts.

**Figure 3.2-1: GHG Emissions 2005-2015**



LAHD and its tenants have initiated a number of wide-ranging strategies to reduce all port-related GHGs, which includes the benefits associated with the Clean Air Action Plan (CAAP), Zero Emission Roadmap, Energy Management Action Plan (EMAP), operational efficiency improvements, and land use and planning initiatives. Looking toward 2050, there are several unknowns that will affect future GHG emission levels. These unknowns include grid power portfolios; maritime industry preferences of power sources and fuel types for ships, harbor craft, terminal equipment, locomotives, and trucks; advances in cargo movement efficiencies; the locations of manufacturing centers for products and commodities moved; and increasing consumer demand for goods. The key relationships that have led to operational efficiency improvements to date are the cost of energy, current and upcoming regulatory programs, and the competitive nature of the

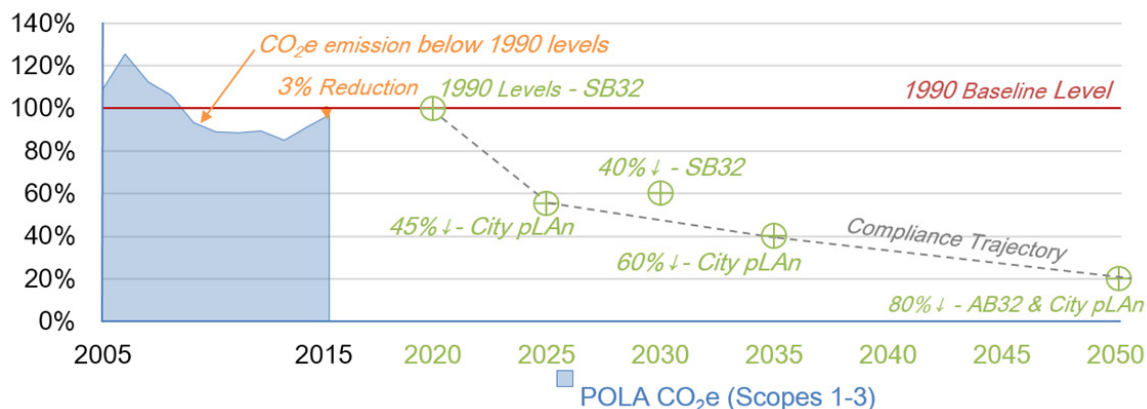
goods movement industry. We anticipate these relationships will continue to produce benefits with regards to GHG emissions for the foreseeable future.

There is no single “silver bullet” emission reduction strategy that easily reduces the sources to meet the various interim targets let alone the final 80 percent reduction, so it will take continued research, evaluation, engagement, innovation, demonstrations, investment, and coordination/action to achieve the 2050 target. LAHD is playing a leading role in implementing innovative programs, promoting research, applying for grant funding (e.g. with our partners, and facilitating engagement and analysis on an international level.

Figure 3.2-2 below shows the key GHG targets listed above with a postulated ‘compliance trajectory’ set to meet the most stringent targets. It is important to note that the targets shown in Figure 2 are not project specific targets, and that no specific project level regulations or requirements have been developed by agencies for implementation of these plans. Instead, these targets are goals meant to apply to all applicable GHG sources in aggregate, which means some sources will need to go beyond these targets, while others may not be able to meet the target level.

As shown, LAHD emission inventories show that port-wide emissions have already met the SB 32 2020 target, even during the period of temporary congestion, with CO<sub>2</sub>e emissions anticipated to return to pre-2014 trends starting in 2016.

**Figure 3.2-2: Actual GHG Emissions 2005-2015 & 2015-2050 GHG Compliance Trajectory**



Nevertheless, with the very aggressive targets shown in the figure above, it is not possible at this time to determine whether Port-wide emissions or any particular Project applicant will be able to meet the compliance trajectory shown in Figure 3.5-2 above. Compliance will depend upon future regulations or requirements that may be adopted, future technologies that have not been identified or fully developed at this time, or any other Port-wide GHG reduction strategies that may be established. As a result, while LAHD will continue to work with its tenants to implement aggressive GHG reduction measures to meet the compliance trajectory that is shown, LAHD cannot with certainty confirm compliance with these future plans and policies at this time.

Table 3.2-5 presents more detailed information on plans, and policies adopted for the purpose of reducing GHG emissions.



1 **Table 3.2-5: Consideration of Key State and Local GHG-Reducing Plans, and Policies**

Plan or Policy	Plan/Policy Measure	Discussion
<p><b>EO S-3-05 (2005)</b> established the following GHG emissions-reduction targets for California State agencies: (1) Year 2000 levels by 2010; (2) year 1990 levels by 2020; and (3) 80 percent below 1990 levels by 2050.</p>	<p>Established State-wide goals that are not directly binding on local agencies conducting project-level analysis.</p>	<p>EO S-3-05 established State targets and directed State legislature to develop legislation to address those targets.</p> <p>The Revised Project analysis has quantified GHG impacts for 2023, 2030, 2036 and 2045 and has identified feasible mitigation measures.</p> <p>EO S-3-05 did not identify project-level measures. The Revised Project would comply with existing regulations, applicable to project activities, and would, by law, comply with future regulatory requirements, applicable to project activities. However, as the Revised Project would exceed the SCAQMD significance threshold under GHG-1, and since EO-S-3-05 targets were considered in developing the SCAQMD threshold, it was determined that the Revised Project could not be consistent with the State’s compliance with GHG reduction goals established under EO S-3-05.</p>
<p><b>AB 32– California Global Warming Solutions Act (2006)</b> codified the following statewide targets under S-3-05: (1) Year 2000 levels by 2010; and (2) Year 1990 levels by 2020.</p>	<p>Established State-wide goals that are not directly binding on local agencies conducting project-level analysis.</p>	<p>AB 32 codified EO S-3-05 targets through 2020 and directed State regulatory agencies to develop rules and regulations to meet the 2020 State targets. To date, no such rules and regulations have been promulgated that would be binding on the Revised Project.</p> <p>The Revised Project analysis has quantified GHG impacts for 2023 and has identified feasible mitigation measures.</p> <p>AB 32 did not identify project-level measures. The Revised Project would comply with existing regulations, applicable to project activities, and would, by law, comply with future regulatory requirements, applicable to project activities.</p> <p>However, because the Revised Project would exceed the SCAQMD significance threshold under GHG-1, and since AB 32 targets were considered in developing the SCAQMD threshold, it was determined that the Revised Project would not be consistent with the State’s compliance with AB 32.</p>
<p><b>ARB’s AB 32 Scoping Plan (2008)</b> set a Statewide roadmap for achieving the following AB 32 State targets: (1)</p>	<p>The Scoping Plan includes general recommendations to reduce GHG emissions from various sources. The most relevant to the</p>	<p>AB 32 Scoping Plan describes the State’s approach to achieve the GHG emissions reduction goal to 1990 levels by 2020. The Scoping Plan’s GHG reduction actions include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an</p>

Plan or Policy	Plan/Policy Measure	Discussion
<p>Year 2000 levels by 2010; and (2) Year 1990 levels by 2020.</p>	<p>proposed Project are the Goods Movement Recommendations, which are generally suited to the proposed Project, although they are not legally binding on local agencies conducting project-level analysis.</p>	<p>AB 32 program implementation fee regulation to fund the program. The Scoping Plan's reduction actions do not identify specific project-level measures.</p> <p>The Scoping Plan identified a discrete early action, regulation for port operations. This action resulted in the promulgation of regulation for electrification of ship auxiliary engines while at berth. The Revised Project complies with this requirement and goes beyond in requiring a higher percentage of vessel calls (quantified at 95%) to use shoreside power than the regulation requires.</p> <p>The Revised Project analysis has quantified GHG impacts for 2023 and has identified feasible mitigation measures. The Revised Project would comply with existing regulations, applicable to project activities, and would, by law, comply with future regulatory requirements, applicable to project activities, developed as part of the Scoping Plan. The Revised Project GHG emissions are expected to exceed 10,000 MT per year for every study year. Because the AB 32 targets were considered in developing the SCAQMD threshold, it was determined that the Revised Project would not be consistent with the State's GHG reduction goals under AB 32 and would therefore not be consistent with the AB 32 Scoping Plan (2008).</p>
<p><b>AB 32 Scoping Plan Update (2014)</b> builds upon the 2008 Scoping Plan with new strategies to achieve the following AB 32 State target: Year 1990 levels by 2020.</p> <p>ARB released a draft 2030 Target Scoping Plan in December 2016, and is expecting a final version to go to its board in Spring of 2017.</p>	<p>The Scoping Plan includes general recommendations to reduce GHG emissions from various sources.</p>	<p>AB 32 Scoping Plan Update highlights the State's progress toward meeting the 2020 GHG emission reduction goal, identifies funding opportunities to reduce GHG emissions through State planning and low carbon investments, identifies climate change priorities for 5 years, and sets the groundwork to reach long-term goals of EO S-3-05.</p> <p>The Scoping Plan Update includes specific recommended actions for lead agencies, identifies possible regulatory actions for vehicles and fuels, and introduces the need for a Sustainable Freight Initiative and the 2014 Sustainable Freight Strategy (technical assessments that identify near-term and 2020 actions for each freight sector). The Scoping Plan Update identifies the following key technology-specific objectives for the freight/transportation sector but does not identify specific direct project-level measures:</p> <ul style="list-style-type: none"> <li>Accelerate the introduction and deployment of zero and near-zero emission trucks, including trucks capable of zero-emission miles.</li> </ul>

Plan or Policy	Plan/Policy Measure	Discussion
		<ul style="list-style-type: none"> <li>• Continue improving the efficiency of trucks (both engines and vehicles).</li> <li>• Support development and introduction of locomotives capable of zero emission track miles.</li> <li>• Accelerate cleanup of the existing locomotive fleet.</li> <li>• Increase near-dock rail in Oakland/Los Angeles/Long Beach.</li> <li>• Reduce GHGs and criteria pollutants from ocean-going vessels.</li> <li>• Identify efficiency improvements on all levels (equipment, sector, and system).</li> <li>• Showcase strategies and best practices.</li> </ul> <p>The Revised Project analysis has quantified GHG impacts and has identified feasible mitigation measures. The Revised Project would help to implement the objective in the Scoping Plan Update of reducing GHGs and criteria pollutants from ocean-going vessels.</p> <p>The Revised Project would comply with existing regulations, applicable to project activities, and would, by law, comply with future regulatory requirements, applicable to project activities, developed as part of the Scoping Plan Update.</p> <p>The Revised project GHG emissions are expected to exceed 10,000 MT per year for all study years. The Revised Project would therefore not be consistent with the State’s implementation of the AB 32 Scoping Plan Update.</p>
<p>Sustainable Freight Action Plan EO B-32-15 (2015)</p>	<p>The objectives laid out in the Governor’s Executive Order to reduce emissions in the freight sector and improve efficiency and reduce pollution of the freight transport system to meet 2030 targets.</p>	<p>The California Freight Action Plan was developed in conjunction with several state agencies and includes the following recommendations:</p> <ul style="list-style-type: none"> <li>• A long-term 2050 Vision and Guiding Principles for California’s future freight transport system.</li> <li>• Targets for 2030 to guide the State toward meeting the Vision.</li> <li>• Opportunities to leverage State freight transport system investments.</li> <li>• Actions to initiate over the next five years to make progress towards the Targets and the Vision.</li> <li>• Pilot projects to achieve on-the-ground progress in the near-term.</li> <li>• Additional concepts for further exploration and development, if viable.</li> </ul>

Plan or Policy	Plan/Policy Measure	Discussion
		<p>There is no finding of consistency appropriate for the proposed Project because these are future goals and recommendations that are not defined clearly and a determination cannot be demonstrated at this time.</p>
<p>2017 Climate Change Scoping Plan Update (Draft)</p>	<p>The draft 2017 Scoping Plan Update includes general recommendations to reduce GHG emissions from various sources. The most relevant to the Revised Project are the Sustainable Freight Goals.</p>	<p>The California Air Resources Board (CARB) draft 2017 Climate Change Scoping Plan Update builds upon the existing AB 32 Scoping Plan, and provides further guidance to meet the new statewide greenhouse gas (GHG) reduction goal under SB 32 of 40 percent below 1990 emission levels by 2030. The draft Plan Update also discusses its relation to the 2050 GHG reduction target under the Governor's Executive Order B-30-15, which is 80 percent below 1990 levels. A final draft Scoping Plan Update is expected to go to the CARB board in June of 2017.</p> <p>The transportation sustainability guidance in the draft Plan Update notes that the state's transportation system includes its 12 major ports, in addition to the state's vast network of roads and highways, 245 public use airports, and the nation's first high-speed rail system. The draft Plan Update notes that the state's transportation system, while providing benefits such as economic growth and greater accessibility, also has adverse consequences, including GHG emissions, air pollutants, and traffic congestion. The draft Plan Update identifies the transportation system, as a whole, as the largest emitter of GHG emissions in California.</p> <p>The draft Scoping Plan Update identifies the following technology-specific objectives for the freight/transportation sector but does not identify specific direct project-level measure.</p> <p>The draft Scoping Plan Update identifies a need for further action on Zero Emission Vehicles, and solicits input on additional policies to move toward a goal of 100 percent ZEV sales in the light-duty vehicle sector.</p> <p>The draft Scoping Plan Update concludes that most GHG reductions in the transportation sector will come from new technologies and low-carbon fuels, but also concludes that a reduction in Vehicle Miles Traveled ("VMT") is needed to enable the statewide 2030 GHG reduction goal.</p> <p>High-level objectives and goals set out in the draft Plan Update to reduce GHGs in the transportation sector include:</p>

Plan or Policy	Plan/Policy Measure	Discussion
		<ul style="list-style-type: none"> <li>• Update to the CEQA metric of transportation impacts, from level of service (LOS) to VMT, statewide.</li> <li>• Promote transportation fuel system infrastructure for electric, fuel-cell, and other emerging clean technologies.</li> <li>• Promote potential efficiency gains from automated transportation systems.</li> <li>• Continue research and development on transportation system infrastructure.</li> </ul> <p>The draft Scoping Plan Update includes general “Sustainable Freight Goals,” including</p> <ul style="list-style-type: none"> <li>• Increase freight system efficiency of freight operators at specific facilities and along freight corridors such that more cargo can be moved with fewer emissions.</li> <li>• Accelerate use of clean vehicle and equipment technologies and fuels of freight technologies, and continued development of renewable fuels.</li> <li>• Encourage state and federal incentive programs to continue supporting zero and non-zero pilot and demonstration projects.</li> </ul> <p>The Revised Project complies with many of the 2017 Climate Change Scoping Plan Updates (Draft) objectives and goals described above. However, because the Revised Project would exceed the SCAQMD significance threshold under GHG-1, and because AB 32 targets were considered in developing the SCAQMD threshold, it was determined that the Revised Project would not be consistent with the State’s GHG reduction goals under AB 32 and would therefore not be consistent with the 2017 Climate Change Scoping Plan Updates (Draft) which builds on the AB 32 Scoping Plan.</p>
<p><b>EO B-30-15</b> established a Statewide GHG emissions-reduction target of 40 percent below 1990 levels by 2030.</p>	<p>Established State-wide goals that are not directly binding on local agencies conducting project-level analysis.</p>	<p>EO B-30-15 established a State target of 40 percent below 1990 levels by 2030 and directed State legislature to develop legislation to address that State target. This target was established in order to ensure the State meets the EO S-3-05 target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050.</p> <p>The Revised Project analysis has quantified GHG impacts for 2030 and has identified feasible mitigation measures. The analysis projects that GHG emissions for all study years would exceed the 10,000 mty per year threshold.</p> <p>Similar to EO S-3-05, EO B-30-15 did not identify</p>

Plan or Policy	Plan/Policy Measure	Discussion
		<p>project-level measures. The Revised Project would comply with existing regulations, applicable to project activities, and would, by law, comply with future regulatory requirements, applicable to project activities. However, as the Revised Project would exceed the SCAQMD significance threshold under GHG-1, and since EO-S-3-05 targets were considered in developing the SCAQMD threshold, it was determined that the Revised Project would not be consistent with the State’s compliance with the GHG reduction goals established under EO B-30-15.</p>
<p><b>SB 32 (2016)</b> codified the EO B-30-15 target: 40 percent reduction below 1990 levels by 2030.</p>	<p>Established State-wide goals that are not directly binding on local agencies conducting project-level analysis.</p>	<p>SB 32 codified EO B-30-15 target through 2030 and directed State regulatory agencies to develop rules and regulations to meet the 2030 State target but did not identify project-level measures. The Revised Project analysis has quantified GHG impacts for 2030 and has identified feasible mitigation measures. Similar to AB 32, SB 32 did not identify project-level measures.</p> <p>However, because the Revised Project would exceed the SCAQMD significance threshold under GHG-1, and because EO B-30-15 target targets were considered in developing the SCAQMD threshold, it was determined that the proposed Project would not be consistent with the State’s GHG reduction goals under EO B-30-15 and would therefore not be consistent with SB 32 which codifies EO B-30-15.</p>
<p><b><i>Southern California Association of Governments (SCAG) 2012-2035 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (2012)</i></b>. Provides for development of a sustainable communities strategy in the context of the existing regional transportation planning process.</p>	<p>Not directly binding on project-level analysis, but certain elements of the Revised Project serve to forward the RTP/SCS goals.</p>	<p>SCAG developed the 2012-2035 RTP/SCS with the primary goal of increasing mobility for the region’s residents and visitors but also with an emphasis on sustainability, per SB 375.<sup>a</sup> Although SB 375 focuses on light-duty vehicle emissions, SCAG’s RTP/SCS includes additional regional strategies directed at Goods Movement.</p> <p>The RTP/SCS Goods Movement Appendix identifies strategies for regional highway improvements, regional rail improvements (i.e., on-dock and near-dock rail), and San Pedro Bay ports access projects.</p> <p>The RTP/SCS Goods Movement Appendix also identifies goods movement environmental strategies such as the short-term deployment of commercially available lower-emission trucks and locomotives and the longer term strategy development of phased implementation of a zero- and near-zero emission freight system. The longer term strategies include technology and pilot studies, demonstration projects, regulatory development, and funding commitments. These reflect regional, industry-wide or port-wide strategies, but are not directly binding on project-level</p>

Plan or Policy	Plan/Policy Measure	Discussion
		<p>analysis. The Port has implemented several short and longer term strategies as part of the CAAP and CAAP Update as follows: (1) The Clean Truck Program limits Port access to 2007 or newer trucks; (2) The Sustainable Construction Guidelines limit Port access to 2010 or newer trucks (see mitigation measure MM AQ-2); (3) The Port’s Technology Advancement Program evaluates and helps bring to market emerging and emission reducing technologies.</p> <p>The Revised Project would comply with CAAP measures, existing regulations that are applicable to project activities, and would, by law, comply with future regulatory requirements that are suited to project activities. However, because the strategies outlined in the RTP/SCS are regional, industry-wide or port-wide and many of the strategies are long term, it is not possible to demonstrate consistency with the RTP/SCS at this time.</p>
<b><i>The Sustainable City pLAn (2015)</i></b>	Not directly applicable to project-level analysis, but certain elements of the Revised Project serve to forward the goals.	<p>The City of Los Angeles plan contains strategies to address current and future climate change impacts and reduce air quality emissions. The pLAn sets aspirations for 14 target areas. Of these, the following are applicable to port activities: energy-efficient buildings, carbon and climate leadership, mobility and transit.</p> <p>The Revised Project will continue to further these goals and aspirations but because these are future targets that are not defined clearly, it is not possible to demonstrate consistency at this time.</p>
<b><i>San Pedro Bay Ports Clean Air Action Plan (2007) and Update (2010)</i></b>	GHG reductions are considered as co-benefits of CAAP measures.	<p>Although the CAAP and Update are primarily designed to reduce criteria pollutants and air toxics, the following strategies also reduce GHG emissions:</p> <p>OGV1: Vessel Speed Reduction (VSR) Program  OGV2: Reduction of At-Berth OGV Emissions  HC1: Performance Standards for Harbor Craft.</p> <p>Of these measures, OGV1 is applicable to the Revised Project. Mitigation measure MM AQ-9 addresses CAAP measure OGV1. CAAP measure HC1 is a port-wide measure; RL1 through 3 do not apply to the Revised Project. The Revised Project is therefore consistent with the CAAP and CAAP Update.</p>
<b><i>Port of Los Angeles “Actions to Reduce Greenhouse Gas</i></b>	Not applicable on project-level analysis, but certain elements	The document outlines actions/strategies that are either being implemented or evaluated to continue the reduction of GHG emissions and meet a target of 35 percent below 1990 levels by 2035 and 80 percent

Plan or Policy	Plan/Policy Measure	Discussion
<p><b><i>Emissions by 2050” (Submitted to City of Los Angeles, 2014)</i></b></p>	<p>of the Revised Project serve to forward the goals.</p>	<p>below 1990 levels by 2050. Table 3 of the document lists GHG emissions reduction strategies for Port operations as well as the applicable implementing programs. The document does not identify new programs or measures; it lists existing initiatives and reiterates the Port’s commitment to continued collaboration with the international maritime community, as well as between all stakeholders and regulators.</p> <p>The Revised Project will continue to further these goals and aspirations but because these are future targets that are not defined clearly, it is not possible to demonstrate consistency at this time.</p>

Notes:

- a. SB 375 – Sustainable Communities and Climate Protection Act of 2008 set regional targets for GHG emissions reductions from passenger vehicle use for 2020 and 2035 for each region covered by one of the State’s metropolitan planning organizations (MPO). SB 375 further required that SCAG include an SCS in the RTP that reduces GHG emissions from passenger vehicles.

1

2 **3.2.4.1 Sea Level Rise**

3 With respect to adaptation to climate change effects, the Rand Corporation prepared a  
 4 study (Lempert, 2012) of potential SLR impacts on Port facilities that focused on four  
 5 areas at different elevations and their potential exposure to SLR. The four areas studied  
 6 are the low side of the container ship terminals, the upper side of the terminals,  
 7 Berths 206–209, and the Alameda and Harry Bridges crossing. The study goes beyond  
 8 the theoretical SLR inundation scenarios that have been generated from the upper ranges  
 9 of SLR in studies conducted by the Pacific Institute and the California Sea Level Rise  
 10 Task Force of the Coastal and Ocean Working Group of the California Climate Action  
 11 Team (Co-CAT) in the *State of California Sea Level Rise Interim Guidance Document*  
 12 (Co-CAT, 2010).

13 The Rand study takes into account the range of the SLR estimates in the Co-CAT  
 14 document (up to 55 inches by 2100) and expands the range by another 12 inches to allow  
 15 for uncertainty related to a broad circulation shift in the Pacific Ocean resulting from  
 16 climate change later in the 21<sup>st</sup> century. The Rand study assigns probabilities to the SLR  
 17 ranges (with an approximately equal distribution of probabilities) and then determines  
 18 whether investments should or should not be made to upgrade sea armoring at the four  
 19 facility areas. Upgrades to sea armoring means the addition of physical structures  
 20 intended to protect infrastructure or shoreline against anticipated seal level rise. The  
 21 study concludes by stating that a decision to harden sea armoring at the next decision  
 22 point for upgrade (i.e., when a new project is being constructed) should be seriously  
 23 considered only for the lower lying Alameda and Harry Bridges crossing area, which is  
 24 6.13 feet above mean sea level.

25 The higher elevation areas reviewed in the study include Berths 206–209 (7.62 feet above  
 26 MSL), lower terminal (9.20 feet above MSL), and upper terminal (12.14 feet above  
 27 MSL). The Revised Project is located in the lower terminal area.



1 The Rand study also performed a detailed analysis of key variables that could affect the  
 2 decision to armor during construction. For the lower terminal area, which is where the  
 3 Project is located, the study indicates that the Port could consider upgrading costs of  
 4 approximately one percent of a project's total when the project's life is greater than 50  
 5 years and there is a forecast trend in increased daily storminess due to climate change (a  
 6 three percent increase in the daily sea-level anomaly). Currently, there is no scientific  
 7 consensus regarding whether daily storminess will increase or decrease in the 21<sup>st</sup> century  
 8 for the Southern California region.

9 The conclusions from the Rand study, when applied to the proposed project area,  
 10 demonstrate that additional protection from SLR are not warranted at this time given the  
 11 current state of scientific understanding of SLR and related climatic variables. As noted  
 12 above, the Rand study is consistent with state guidance because it uses the Co-CAT  
 13 document for its central range of SLR estimates.

### 14 3.2.4.2 Summary of Impact Determinations

15 Table 3.2-6 provides a summary of the impact determinations of the Revised Project  
 16 related to GHGs.

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

21 **Table 3.2-6: Summary Matrix of Impacts and Mitigation Measures for GHG Associated with**  
 22 **the Revised Project**

Environmental Impacts	Impact Determination	Mitigation Measures	Impacts after Mitigation
Impact GHG-1: The Revised Project would generate GHG emissions, either directly or indirectly that would exceed the SCAQMD 10,000 mty CO <sub>2</sub> e threshold.	Significant	MM GHG-1: LED Lighting	Significant and Unavoidable

### 24 3.2.4.3 Mitigation Monitoring

25 The Revised Project would result in significant GHG impacts; however, the mitigation  
 26 measures detailed below would be implemented. Lease measure LM GHG-1, although  
 27 not a mitigation measure, is included below for tracking purposes.

<b>IMPACT GHG-1: The Revised Project would generate GHG emissions, either directly or indirectly, that would exceed the SCAQMD 10,000 mty CO<sub>2</sub>e threshold.</b>	
<b>Mitigation Measure</b>	<b>MM GHG-1: LED Lighting.</b> All lighting within the interior of buildings on the premises and outdoor high mast terminal lighting will be replaced with LED lighting or a technology with similar energy-saving capabilities by 2023.
Timing	Tenant must complete replacement of lighting by December 31, 2023.
Methodology	LAHD shall include MM GHG-1 in the lease agreement with tenant. Tenant shall implement MM GHG-1 through its own construction contractor. LAHD shall monitor implementation of mitigation measure during operation through the tenant lease.
Responsible Parties	LAHD for lease compliance. Tenant through its own construction contractor in conjunction with LAHD.
Residual Impacts	Significant and unavoidable.
<b>Mitigation Measure</b>	<b>LM GHG-1: GHG Credit Fund.</b> Revised Project incremental GHG emissions are 34,591 metric tons of CO <sub>2</sub> e in the peak year of operations in 2030. They exceed the 10,000 metric ton CO <sub>2</sub> e significance threshold by 24,591 metric tons. Because operational GHG emissions exceed the significance threshold with the incorporation of all feasible mitigation measures, LAHD shall establish a carbon offset fund, which may be accomplished through a Memorandum of Understanding with the California Air Resources Board or another appropriate entity, to mitigate project GHG impacts to the maximum extent feasible. The fund shall be used for GHG-reducing projects and programs on Port of Los Angeles property. It shall be the responsibility of the Tenant to contribute to the fund. Fund contribution shall be \$250,000, payable upon execution of a lease amendment. \$250,000 has been identified as the maximum feasible contribution level. If LAHD is unable to establish the fund within a reasonable period of time, Tenant shall instead purchase credits from an approved GHG offset registry in the amount of \$250,000.
Timing	During operations.
Methodology	LAHD shall include LM GHG-1 in the lease agreement with tenant. LAHD shall monitor implementation of lease measure during operation through the tenant lease.
Responsible Parties	LAHD, Tenant
Residual Impacts	Significant and unavoidable.

1  
2

1 **3.2.5 Significant Unavoidable Impacts**

2 GHG emissions would be significant and unavoidable after mitigation for the Revised  
3 Project.

4