4.5 GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Section 4.5 describes projected greenhouse gas (GHG) emissions associated with the Tesoro Avon Marine Oil Terminal Lease Consideration Project (Project), specifically: (1) continued operations proposed by Tesoro Refining and Marketing Company, LLC (Tesoro or Applicant) as part of its application to the California State Lands Commission (CSLC) for a lease of State sovereign lands for an additional 30 years; and (2) Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) compliance-related renovation activities at the Avon Marine Oil Terminal (Avon Terminal). Regulatory background and a description of the relative global warming impacts of various GHGs on climate change are also provided. Unlike many projects that are still in the planning stage, the Avon Terminal is currently operational. The Avon Terminal's GHG emissions are a part of the existing GHG footprint of the local and regional area, and have been included in the San Francisco Bay Area (Bay Area) regional air emissions inventory and planning process.

GHG emissions are generally classified as direct and indirect. Direct emissions are associated with the production of GHG emissions in the immediate Project area, and include combustion of natural gas, combustion of fuel in engines and construction vehicles, and fugitive emissions from valves and connections of equipment used during Project implementation, or throughout the Project life. Indirect emissions include emissions from vehicles (both gasoline and diesel).

4.5.1 ENVIRONMENTAL SETTING

4.5.1.1 GHGs and Global Climate Change

Global climate change is a change in the average weather of the Earth, and can be measured by wind patterns, storms, precipitation, and temperature (refer to Section 4.4, Air Quality, for a discussion of local climatology). Scientific consensus has identified that the human-related emission of GHGs above natural levels is a significant contributor to global climate change. GHGs lead to the trapping and buildup of heat in the atmosphere near the Earth's surface, known as the Greenhouse Effect.

GHGs are any gases that absorb infrared radiation in the atmosphere, including water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), fluorocarbons, and ozone. Climate change gases emitted as part of the Project include the following:

- CO_2 is emitted from human activities primarily related to fossil fuel combustion. The three major categories of fossil fuel combustion include electricity generation, transportation, and general industry. CO_2 is the most abundant GHG, but has a relatively low heat-trapping effect.

- CH_4 is emitted from biogenic sources; incomplete combustion, such as in forest fires, landfills, and leaks in natural gas pipelines; as well as from petroleum production, refining, and distribution systems. Over a 100-year lifetime, CH_4 traps heat approximately 25 times more effectively than CO_2 (e-CFR 2014).
- N_2O is emitted from human activities, such as agriculture, fossil fuel combustion, wastewater management, and industrial processes. Over a 100-year period, N_2O traps heat approximately 298 times more effectively than CO_2 (e-CFR 2014).

The global warming potential (GWP), or potential of a gas or aerosol to trap heat in the atmosphere, of different GHGs varies since GHGs absorb different amounts of heat. CO_2 is often used as a reference gas to relate the amount of heat absorbed to the amount of the gas emissions, referred to as CO_2 equivalent (CO_2e). CO_2e is the amount of GHG emitted multiplied by the GWP. The GWP of CO_2 is, therefore, defined as 1. Methane has a GWP of 21; thus, 1 pound of methane produces 21 pounds of CO_2e. Table 4.5-1 shows a range of gases and their GWPs over a 100-year duration.

Table 4.5-1. Global Warming Potential of Various Gases

Gas	100-year Global Warming Potential (average)
Carbon dioxide	1
Methane	25
Nitrous oxide	298
HFC*-23	14,800
HFC-125	3,500
HFC-134a	1,430
HFC-143a	4,470
HFC-152a	124
HFC-227ea	3,220
HFC-236fa	9,810
HFC-4310mee	1,640
CF4	7,390
C2F6	12,200
C3F8	8,830
C6F14	9,300
SF6	22,800

Source: U.S. Environmental Protection Agency (USEPA) 2014a
* HFC = hydrofluorocarbon

The atmosphere and the oceans are reaching their capacity to absorb CO_2 and other GHGs, without significantly changing the Earth's climate. The increase in GHGs in the Earth's climate is projected to affect a wide range of issues and resources, including

sea-level rise, flooding, water supply, agricultural and forestry resources, and energy demand. California's Climate Change Portal (www.climatechange.ca.gov) states:

> *Climate change is expected to have significant, widespread impacts on California's economy and environment. California's unique and valuable natural treasures - hundreds of miles of coastline, high value forestry and agriculture, snow-melt fed fresh water supply, vast snow and water fueled recreational opportunities, as well as other natural wonders - are especially at risk.*

In addition, the Intergovernmental Panel on Climate Change (IPCC), in its Fifth Assessment Report by Working Group II, Climate Change 2014: Synthesis Report (IPCC 2014; released November 5, 2014), stated in part:

> *Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.*

~~In additiont~~The ~~Intergovernmental Panel on Climate Change (~~IPCC~~), in the section of its Fifth Assessment Report by Working Group II,~~ ~~"~~Climate Change 2014: Impacts, Adaptation, and Vulnerability~~"~~ report (IPCC 2014; released March 31, 2014)~~,~~ section specific to North America (Chapter 26), stated in part:

> ***North American ecosystems are under increasing stress from rising temperatures, CO_2 concentrations, and sea-levels, and are particularly vulnerable to climate extremes (very high confidence).*** *Climate stresses occur alongside other anthropogenic influences on ecosystems, including land-use changes, non-native species, and pollution, and in many cases will exacerbate these pressures (very high confidence). [26.4.1; 26.4.3]. Evidence since the Fourth Assessment Report (IPCC 2007) highlights increased ecosystem vulnerability to multiple and interacting climate stresses in forest ecosystems, through wildfire activity, regional drought, high temperatures, and infestations (medium confidence) [26.4.2.1; Box 26-2]; and in coastal zones due to increasing temperatures, ocean acidification, coral reef bleaching, increased sediment load in run-off, sea level rise, storms, and storm surges (high confidence) [26.4.3.1].*

California has already been affected by climate change: sea-level rise, increased average temperatures, more extreme hot days and increased heat waves, fewer shifts in the water cycle, and increased frequency and intensity of wildfires. Higher sea levels can result in increased coastal erosion (which may have a secondary effect, such as uncovering shoreline hazards), more frequent flooding from storm surges, increased property damage, and reduced waterfront public access options. Other projected climate change impacts in California include: decreases in the water quality of surface waterbodies, groundwater, and coastal waters; decline in aquatic ecosystem health; lowered profitability for water-intensive crops; changes in species and habitat

distribution; and impacts to fisheries (California Regional Assessment Group 2002). These effects are expected to increase with rising GHG levels in the atmosphere.

Energy-related combustion activities are the primary source of GHG emissions in the United States, accounting for approximately 84 percent of total GHG emissions on a CO_2e basis. The United States accounted for approximately 17 percent of the global total GHG emissions in 2012 (USEPA 2014b).

The majority of California's GHG emissions (81 percent) are CO_2 produced from fossil fuel combustion (California Air Resource Board [CARB] 2008). In 2012, California's gross GHG emissions totaled 458.68 million metric tons of CO_2 equivalents ($MMTCO_2e$);[1] the largest categories of emissions were (CARB 2014):

- transportation sector: 167.38 $MMTCO_2e$ (36 percent);
- electric power generation: 95.09 $MMTCO_2e$ (21 percent);
- industry: 89.16 $MMTCO_2e$ (19 percent);
- commercial/residential: 42.28 $MMTCO_2e$ (9 percent); and
- agriculture: 37.86 $MMTCO_2e$ (8 percent).[2]

According to the IPCC, the concentration of CO_2, the primary GHG, has increased from approximately 280 parts per million (ppm) in pre-industrial times to well over 380 ppm. The current rate of increase in CO_2 concentrations is about 1.9 ppm/year; present CO_2 concentrations are higher than any time in at least the last 650,000 years. To meet the statewide GHG reduction target for 2020, requiring California to reduce its total statewide GHG emissions to the level they were in 1990 (Health & Saf. Code, § 38550), and the 2050 goal of 80 percent below 1990 levels (Executive Order S-3-05), not only must projects contribute to slowing the increase in GHG emissions, but, ultimately, projects should contribute to reduce the State's output of GHGs. To reach California's GHG reduction targets, it is estimated that per capita emissions will need to be reduced by slightly less than 5 percent per year during the 2020 to 2030 period, with continued reductions required through midcentury.

In its 2008 Report on Climate Change, *Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act*, the California Air Pollution Control Officers Association (CAPCOA) stated:

> *[w]hile it may be true that many GHG sources are individually too small to make any noticeable difference to climate change, it is also true that the countless small sources around the globe combine to produce a very substantial portion of total GHG emissions (CAPCOA 2008).*

[1] $MTCO_2e$ is a normalizing quantity that describes the amount of CO_2 that would have the same global warming effects as a given mixture of GHG emissions.

[2] Not all GHG sources are included, so the components do not add up to the total.

4.5.1.2 Sea-level Rise

Scientific research to date indicates that observed climate change around the globe will likely result in sea-level rise, and State-owned lands and resources under the CSLC's jurisdiction are, and will continue to be, impacted by rising sea levels. Because of their nature and location, these lands and resources are already vulnerable to a range of natural events, such as storms and extreme high tides.

In July 2014, the California Natural Resources Agency released the document, *Safeguarding California: Reducing Climate Risk. An update to the 2009 California Climate Adaptation Strategy* (Safeguarding Plan) to provide policy guidance for State decision-makers, as part of continuing efforts to prepare for climate risks. The Safeguarding Plan sets forth "actions needed" to safeguard ocean and coastal ecosystems and resources, as part of its policy recommendations for State decision-makers. On hazard avoidance for new development, the Safeguarding Plan calls on decision-makers to carefully consider, in light of principles described in the Safeguarding Plan, whether there is a "compelling need" for significant new structures or infrastructure prior to authorizing their construction. For example, the Safeguarding Plan acknowledges that shoreline protective structures result in the loss of beach and lateral beach public access, and asks agencies to take steps to minimize the adverse effects of sea-level rise, erosion, and storms.

Sea levels in the San Francisco Bay Estuary are measured at the San Francisco (Fort Point) tide station. The monthly mean sea levels during the period of 1906 to 2006 show an upward linear trend of approximately 2 millimeters per year (mm/yr). During this period, unusually high spikes were noted due to El Niño episodes. MOTEMS requires that all marine oil terminals consider, as part of design or repairs, the predicted sea-level rise over the remaining life of a terminal. Based on the measured sea level rise of 2 mm/yr, the sea-level rise at the Avon Terminal over a 30-year period is estimated to be 0.2 foot.

4.5.2 REGULATORY SETTING

Federal and State laws that may be relevant to the Project are identified in Table 4-1. Regional and local laws, regulations, and policies relevant to GHG emissions and climate change are discussed below (also refer to Section 4.4, Air Quality).

Bay Area Air Quality Management District Climate Protection Program

In June 2005, the Bay Area Air Quality Management District (BAAQMD) established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the San Francisco Bay Area Air Basin. The climate protection program includes measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative sources of energy, all of which assist in reducing

emissions of GHGs. The BAAQMD also seeks to support current climate protection programs in the region and to stimulate additional efforts through public education and outreach, technical assistance to local governments and other interested parties, and promotion of collaborative efforts among stakeholders.

In 2010, the BAAQMD updated its California Environmental Quality Act (CEQA) Guidelines, requiring that the effects of climate change be addressed in CEQA documents. The Guidelines:

- specify a threshold of significance for operations-related GHG emissions of 10,000 metric tons of CO_2e equivalent emissions ($MTCO_2e$) of GHG per year (refer to Section 4.5.1.2);
- discuss how the BAAQMD established the threshold of significance;
- recommend that CEQA documents include a discussion of a project's GHG emissions from construction and operation; and
- discuss GHG impact assessment and mitigation measures available.

As discussed in Section 4.4, Air Quality, the Alameda County Superior Court issued a judgment finding that the BAAQMD had failed to comply with CEQA when it adopted updated CEQA Guidelines. Lead agencies may continue to rely on the BAAQMD's 1999 thresholds of significance and continue to make determinations regarding the significance of an individual project's air quality impacts based on the substantial evidence in the record for that project (BAAQMD 2014). The 1999 Guidelines do not specifically address GHG emissions. Although the 10,000 $MTCO_2e$ threshold is currently set aside in the BAAQMD, it is consistent with thresholds currently enforced in other districts, most notably the South Coast Air Quality Management District.

4.5.3 GREENHOUSE GAS EMISSIONS INVENTORY

4.5.3.1 Baseline and Operational GHG Emissions

The baseline GHG impact of the Avon Terminal consists of the methane fraction associated with leaks from fugitive components transporting crude oil, combustion GHG emissions from fire pump testing, and combustion GHG emissions from vessel operations. Due to the renovations as part of the Berth 1A construction, and the relative decrease in the number of potential sources of fugitive emissions as a result of the Berth 1 decommissioning and Berth 5 demolition, the fugitive emissions would decrease over the Avon Terminal lease period. The fugitive emissions are a very small portion of the GHG emissions from the Avon Terminal and, therefore, are assumed to have a negligible GHG impact. The fire pump testing would not change as part of the Avon Terminal renovations and lease extension, so these would have a negligible GHG impact. Therefore, fugitive emissions and fire pump testing emissions were not included in the baseline or operational emissions inventory.

Continued operations of ocean-going vessels (OGV) at the Avon Terminal would generate quantifiable emissions of carbon dioxide, methane, and nitrous oxides. Other recognized GHG emission sources, such as refrigerants, are not relevant to the Avon Terminal.

As discussed in Section 4.4.3.1, the number of lease-period annual vessel calls would be less than the baseline and, therefore, emissions would be less during the lease period than the baseline. Besides the decrease in vessels, there are additional factors contributing to the decrease in emissions; among these are cleaner-burning fuels, vessel speed restrictions, and more efficient modern engines.

The BAAQMD-prescribed method contained in the Title V Permit does not anticipate these or other changes impacting vessel GHG emissions. Therefore, the analysis presented herein uses CARB methods to calculate emissions, which are based on engine size, modern emission factors, and updated estimates regarding vessel activities and time in those activities.

GHG emissions from OGV were calculated using methodology from the CARB emissions estimation guidance document titled *Emissions Estimation Methodology for Ocean Going Vessels* (CARB 2011). The methodology was developed by the CARB to calculate an updated inventory of OGV emissions for their California emissions inventory. Due to a lack of CH_4 and N_2O emission factors in the CARB OGV methodology, these emission factors were resourced from the Port of Long Beach Air Emissions Inventory from 2011 (Starcrest Consulting Group LLC 2012). See Table 4.5-2 for a summary of OGV emissions.

Table 4.5-2: Summary of OGV GHG Emissions

Source	$MTCO_2e$ /year[1]	
	Baseline	**Anticipated Future Annual**
Vessel transit to Avon Terminal vicinity	1,523.65	1,474.50
Maneuvering	1,396.68	1,351.63
Hoteling—main diesel engine	1,055.18	1,021.14
Hoteling—fuel oil	1,103.46	1,067.86
Boiler—unloading	1,021.18	988.24
Tug boats (2)	548.63	530.94
Total emissions:	**6,648.79**	**6,434.31**

[1] $MTCO_2e$ = metric tons of CO_2 equivalent emissions

The tugboat GHG emissions were estimated using methodology from the CARB emissions estimation guidance documents titled *Assumptions for Estimating Greenhouse Gas Emissions from Commercial Harbor Craft Operating in California* (CARB 2008) and *Emissions Estimation Methodology for Commercial Harbor Craft Operating in California* (CARB 2007). The methodology was developed by the CARB to

calculate an updated inventory of commercial harbor craft emissions to support regulatory analysis. Due to a lack of CH_4 and N_2O emission factors in the CARB OGV methodology, these emission factors were resourced from the Port of Long Beach Air Emissions Inventory from 2011 (Starcrest Consulting Group LLC 2012).

4.5.3.2 MOTEMS Renovation GHG Emissions

MOTEMS renovation-related emissions would comprise primarily diesel combustion exhaust emissions from construction equipment operation. Renovation-related emissions would be short-term in duration, but still could cause significant GHG impacts.

MOTEMS renovation GHG emissions were primarily estimated using equipment estimates provided by Tesoro as data input to the California Emissions Estimation Model (CalEEMod) Version 2013.2.2. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operations of land use projects. The model was developed in collaboration with the CAPCOA and the air districts of California, and it is the preferred model of the BAAQMD (BAAQMD 2014).

During the Berth 5 demolition phase of the Project, some tugboat and workboat activity would occur. These emissions were estimated using methodology from the CARB emissions estimation guidance documents titled *Assumptions for Estimating Greenhouse Gas Emissions from Commercial Harbor Craft Operating in California* (CARB 2008) and *Emissions Estimation Methodology for Commercial Harbor Craft Operating in California* (CARB 2007). This is the same methodology that was used for the calculation of the operational tugboat emissions.

The MOTEMS renovation GHG emissions were estimated for each renovation phase using the schedule stated in Section 2.5.3, Renovation Schedule, and renovation equipment data provided by Tesoro. Table 4.5-3 presents estimated renovation-related GHG emissions from the Project.

Table 4.5-3: Annual Renovation GHG Emissions

Total ($MTCO_2e$/year)[1]		
2015	**2016**	**2017**
2,205	2,599	1,112

Compiled by TRC using CalEEMod V2013.2.2
[1] $MTCO_2e$ = metric tons of CO_2 equivalent emissions

4.5.4 SIGNIFICANCE CRITERIA

For the purposes of this analysis, an impact was considered to be significant and to require mitigation if it would result in any of the following:

- Generate GHG emissions during operation or MOTEMS renovation, either directly or indirectly, that may have a significant impact on the environment, as specified in the BAAQMD CEQA Guidelines
- Conflict with an applicable local or State plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases

Impacts of the Project on climate change and GHG emissions were assessed by comparing baseline conditions to anticipated changes from MOTEMS renovation and future Project operation during the proposed 30-year lease period. Impacts were quantified to the extent feasible, using the methods and data presented in Section 4.5.3.

4.5.5 IMPACT ANALYSIS AND MITIGATION

The following subsections describe the Project's potential impacts on climate change and GHG emissions. Where impacts are determined to be significant, feasible mitigation measures (MM) are described that would reduce or avoid the impact.

4.5.5.1 Proposed Project

Impact GHG-1: Generate GHG emissions, but not in levels that would result in a significant cumulative impact on the environment. (Less than significant.)

The inventory of annual GHG emissions, as a baseline and under the proposed lease, is presented in Table 4.4-1. The 1999 BAAQMD CEQA Guidelines do not establish significance thresholds for GHG emissions; however, since GHG emissions from the Avon Terminal during the lease period would decrease due to fewer vessel calls and other contributing factors, the impact of the lease renewal is less than significant. MOTEMS renovation emissions for the Project would be short term in duration; the estimated maximum annual MOTEMS renovation GHG emissions are 2,599 $MTCO_2e$, compared to the approximately 30.8 million $MTCO_2e$ per year GHG emissions generated by BAAQMD stationary sources (BAAQMD 2010). This is less than 0.01 percent of the BAAQMD's stationary-source GHG footprint. Due to the short-term nature and insignificant contribution to the BAAQMD's GHG emissions footprint, the impact is less than significant.

Mitigation Measure: No mitigation required.

Impact GHG-2: Generate GHG emissions, either directly or indirectly, that conflict with an applicable plan, policy, or regulation adopted for the purposes of GHG reduction. (Less than significant.)

The CARB Climate Change Scoping Plan establishes GHG-reduction strategies and goals for California's future. The plan primarily aims to deal with large contributors to

California's GHG emissions, such as power generation and transportation. This is in large part due to the global nature of climate change, where significant contributors are on a much larger scale than the Avon Terminal. The Project's operational emissions would decrease over the lease period, which would result in a positive contribution relative to the goals of the scoping plan and climate change. The scale of the Project's minimal temporary and short-term MOTEMS renovation is insignificant relative to the goals of the scoping plan and climate change. The proposed Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHG; therefore, the impact is less than significant.

Mitigation Measure: No mitigation required.

4.5.5.2 Alternative 1: No Project

Impact GHG-3: Generate significant greenhouse gas emissions from heavy equipment associated with decommissioning. (Less than significant.)

Under the No Project alternative, Tesoro's Avon Terminal lease would not be renewed, and the existing Avon Terminal would be subsequently decommissioned, with its components abandoned in place, removed, or a combination thereof. Decommissioning of the Avon Terminal would be governed by an Abandonment and Restoration Plan and an Abandonment Agreement, both of which would require CSLC review and approval.

The construction activity associated with removal of Avon Terminal components would generate GHG emissions. Depending upon the details of the required restoration plan and abandonment agreement, the amount of construction equipment activity and resultant GHG impacts would vary. Without performing a more detailed quantitative analysis, it is difficult to ascertain with certainty whether impacts from this alternative would be significant. Nonetheless, construction activity associated with the decommissioning of the Avon Terminal would be short term in nature and, therefore, it is assumed at this time, would not generate significant quantities of GHG emissions.

Mitigation Measure: No mitigation required.

Impact GHG-4: Generate significant greenhouse gas emissions from the transfer of operations to other Bay Area terminals and/or land based alternatives such as railcar or trucking. (Potentially significant.)

Under the No Project alternative, Tesoro might pursue transitioning to the Tesoro Amorco Marine Oil Terminal (Amorco Terminal) to absorb export and import operations from the Avon Terminal, thereby increasing the throughput at the Amorco Terminal. Currently, the Amorco Terminal operates as an import-only facility, and thus, would only be capable of absorbing the increased throughput if the Amorco Terminal were to be

substantially upgraded and expanded to accommodate export operations, as well as meet the current combined throughput capacities for both terminals. Short-term GHG emissions occurring during construction of the required upgrades would be subject to CEQA evaluation.

No significant long-term net change to GHG emissions are likely as a result of this operations transition, as vessel calls would be consistent with those cited herein over the lease period. Whether at the Amorco Terminal or another Bay Area terminal, increases to meet regional demand would be subject to review by the BAAQMD to determine whether the increase in operations would be in compliance with permitting.

In addition to transitioning the exported products from the Golden Eagle Refinery (Refinery) to existing terminal operations in the Bay Area, land-based infrastructure to handle Refinery product export by railcar or by truck is a possibility, although it would not entirely replace the export products from the Avon Terminal, as approximately 70 to 80 percent of the products are currently shipped overseas. The Refinery has existing rail facilities that would need to be expanded to transport increased quantities of export by rail. Expansion of the existing rail capability and a proposal to increase rail export would be subject to BAAQMD permitting and CEQA review. Export would occur via unit trains of approximately 105 railcars capable of delivering approximately 73,500 barrels per unit train. Up to one unit train per day could be loaded with an expanded railcar handling facility. This would equate to approximately 26.8 million barrels of product per year, which is far more than the total projected annual average export of the Avon Terminal, and in excess of the permitted export limits under the Title V Permit. There could be possible GHG emissions reductions associated with transitioning a portion of the Refinery export to land-based transit. However, railcar and truck emissions are land-based diesel combustion operations, which would emit criteria and toxic pollutants, including diesel particulate emissions, in closer proximity to populations and sensitive receptors than do OGV.

In summary, GHG reduction benefits would be offset by potential increases in exposures to sensitive receptors along rail and truck routes, and increased impacts at other Bay Area marine or rail terminals. Without performing a more detailed quantitative analysis it is difficult to ascertain with certainty whether impacts from this alternative would be significant.

Mitigation Measures: Should this alternative be selected, MMs would be determined during a separate environmental review under CEQA.

4.5.5.3 Alternative 2: Restricted Lease Taking Avon Terminal Out of Service for Oil Transport

Impact GHG-5: Generate significant greenhouse gas emissions from the transfer of operations to other Bay Area terminals and/or land based alternatives such as railcar or trucking. (Potentially significant.)

Under this alternative, Tesoro's Avon Terminal lease would be renewed, with modification to restrict its allowed use such that the existing Avon Terminal would be left in place, taken out of service, placed into caretaker status for any petroleum product transfer, and not decommissioned or demolished. No GHG emissions impacts would be associated with these activities. Because the structure of the Avon Terminal would remain in place, Tesoro would retain the option to apply to bring it back into service for oil transport at some time in the future, should the need arise. Any future change in use of the Avon Terminal would require a lease action and potential separate CEQA review by the CSLC.

Similar to Impact GHG-4, Tesoro might absorb export and import operations from the Avon Terminal by modifying infrastructure at the Amorco Terminal to accommodate export operations and increase import capability, or consider alternative means of product transportation, such as pipelines and/or rail transportation, or use some combination of these sources. Without performing a more detailed quantitative analysis, it is difficult to ascertain with certainty whether impacts from this alternative would be significant.

Mitigation Measures: Should this alternative be selected, MMs would be determined during a separate environmental review under CEQA.

4.5.6 CUMULATIVE IMPACT ANALYSIS

The 1999 BAAQMD CEQA Guidelines state that:

> *Any proposed project that would individually have a significant air quality impact … would also be considered to have a significant cumulative air quality impact. For any project that does not individually have significant operational air quality impacts, the determination of significant cumulative impact should be based on an evaluation of the consistency of the project with the local general plan and of the general plan with the regional air quality plan.*
>
> *When a project is proposed in a city or county with a general plan that is consistent with the CAP and the project is consistent with that general plan (i.e., it does not require a general plan amendment), then the project will not have a significant cumulative impact (provided, of course, the project does not individually have any significant impacts). No further analysis regarding cumulative impacts is necessary.*

The Project does not have an individually significant air quality impact. Section 3.8 of the *Contra Costa County General Plan* (2005) states the following land use goal: "To

provide opportunities for increasing the participation of Contra Costa County in the economic and cultural growth of the region, and the contribute to, as well as benefit from, the continued growth in importance of the Bay Region and the State of California." The lease renewal would enable Tesoro to continue operations, which would be beneficial to the regional economy. The lease renewal would not involve the expansion of the existing Avon Terminal; therefore, the Project would be consistent with the land-use designations of the general plan.

The Project would not have a significant individual GHG impact and would not conflict with the *Contra Costa County General Plan*; therefore, it would not be considered to have a cumulative significant impact.

4.5.7 SUMMARY OF FINDINGS

Table 4.5-4 includes a summary of anticipated impacts to air quality and associated mitigation measures.

Table 4.5-4: Summary of Air Quality Impacts and Mitigation Measures

Impact	Mitigation Measure(s)
Proposed Project	
GHG-1: Generate GHG emissions, but not in levels that would result in a significant cumulative impact on the environment.	No mitigation required
GHG-2: Generate GHG emissions, either directly or indirectly, that conflict with an applicable plan, policy, or regulation adopted for the purposes of GHG reduction.	No mitigation required
Alternative 1: No Project	
GHG-3: Generate significant greenhouse gas emissions during heavy equipment associated with decommissioning.	No mitigation required
GHG-4: Generate significant greenhouse gas emissions from the transfer of operations to other Bay Area terminals and/or land based alternatives such as railcar or trucking.	Should this alternative be selected, MMs would be determined during a separate environmental review under CEQA
Alternative 2: Restricted Lease Taking Avon Terminal Out of Service for Oil Transport	
GHG-5: Generate significant greenhouse gas emissions from the transfer of operations to other Bay Area terminals and/or land based alternatives such as railcar or trucking.	Should this alternative be selected, MMs would be determined during a separate environmental review under CEQA

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