3.7 ENERGY

3.7.1 INTRODUCTION

This discussion provides an evaluation of K Line Northern Extension (KNE) as it relates to energy resources. It identifies the federal, state, and local regulatory setting and describes existing conditions and the impacts from construction and operation of the proposed alignments and stations, design option, and maintenance and storage facility (MSF), as well as mitigation measures where applicable. For more detailed information, refer to the KNE Energy Technical Report (Appendix 3.7-A).

3.7.2 REGULATORY FRAMEWORK

3.7.2.1 FEDERAL

The following federal laws and regulations are relevant to construction and operation of the project:

- Energy Policy and Conservation Act of 1975 and Alternative Motor Fuels Act of 1988
- Moving Ahead for Progress in the 21st Century Act
- Energy Policy Acts of 1992 and 2005
- Energy Independence and Security Act of 2007
- Affordable Fuel-Efficient Vehicles Rule Part One: One National Program
- Corporate Average Fuel Economy and Greenhouse Gas Emissions Standards

3.7.2.2 STATE

The following state laws and regulations are relevant to construction and operation of the project:

- California Green Building Standards Code, Title 24
- Alternative and Renewable Fuel and Vehicle Technology Program
- Assembly Bill 1007, Alternative Fuels Plan
- Assembly Bill 1493, California Advanced Clean Cars Program
- California Advanced Clean Cars II Program
- Innovative Clean Transit Regulation
- Executive Order B-16-12
- Senate Bills (SB) 1078, 350, and 100
- Executive Order N-79-20

3.7.2.3 REGIONAL

The following regional plans and regulations are relevant to construction and operation of the project:

- Regional Transportation Plan/Sustainable Communities Strategies, Southern California Association of Governments (SCAG 2020)
- Air Quality Management Plans, South Coast Air Quality Management District (SCAQMD)
- Conservation and Natural Resources Element and Mobility Element, Los Angeles County 2035 General Plan (Los Angeles County 2015)

3.7.2.4 LOCAL

Metro has adopted plans, policies, and strategies that address energy efficiency, including both general goals focused on sustainability and specific actions designed to save energy. The following policies are relevant to construction and operation of the project:

- The Energy and Sustainability Policy (Metro 2007a)
- Construction and Demolition Debris Recycling and Reuse Policy (Metro 2007b)
- Environmental Policy (Metro 2009)
- Renewable Energy Policy (Metro 2011a)
- Green Construction Policy (2011b)
- All-Hazards Mitigation Plan (Metro 2022)
- Energy Conservation and Management Plan (Metro 2011c)
- Sustainable Rail Plan (2013)
- Climate Action and Adaptation Plan (2019)
- Complete Streets Policy (Metro 2014)
- First/Last Mile Strategic Plan (Metro 2016)
- Moving Beyond Sustainability Plan (2020)
- Vision 2028 Plan (2018)

The following local plans and regulations are relevant to construction and operation of the project:

- The Los Angeles Green Building Code
- The Sustainable City Plan (City of Los Angeles 2015)
- LA100: The Los Angeles 100% Renewable Energy Study and Equity Strategies, Los Angeles Department of Water and Power (LADWP 2021)

The City of Los Angeles and City of West Hollywood have regulations, plans, programs, and policies that regulate permitting, design, construction, and operational activities as they pertain to enhancing energy efficiency and reducing vehicle trips, which are interrelated with strategies to improve sustainability, regional air quality, and traffic congestion.

3.7.3 METHODOLOGY

3.7.3.1 CEQA METHODOLOGY

The purpose of this analysis is to evaluate the project against the California Environmental Quality Act (CEQA) thresholds of significance as the basis for determining the level of impacts related to energy resources.

3.7.3.2 SIGNIFICANCE THRESHOLDS

In accordance with Appendix G of the 2022 CEQA Guidelines, the project would have a significant impact related to energy resources if it would:

- Impact ENG-1: Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation.
- Impact ENG-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

3.7.4 RESOURCE STUDY AREA

The resource study area (RSA) for the energy resources analysis is defined as the utility service areas for the alignments and stations, the design option, and the MSF. The utility service areas vary among utility type and service provider and are regional. Section 3.7.5.1.1 summarizes the energy setting associated with the utilities that serve the RSA.

Section 3.7.5.1.2 describes Metro's energy use in the RSA. In addition, since the project would improve transit operations and travel in the region, for the purposes of energy consumption associated with regional travel (i.e., fuel consumption for motor vehicles), the RSA for assessing the reduction in vehicle miles traveled (VMT) with project implementation is the entire SCAG region. Section 3.7.5.1.3 identifies the existing regional transportation energy use for the project's baseline year of 2019.

3.7.5 EXISTING SETTING

This existing setting discussion summarizes current conditions related to energy resources within and near the KNE RSA.

3.7.5.1 REGIONAL SETTING

3.7.5.1.1 UTILITY SERVICE PROVIDERS

3.7.5.1.1.1 LOS ANGELES DEPARTMENT OF WATER AND POWER

LADWP serves an area covering 465 square miles that includes over four million residents and 1.4 million power customers. As of 2021, energy sources consisted of 26 percent natural gas, 35 percent

eligible renewable sources, 19 percent coal, 14 percent nuclear, and seven percent hydroelectric resources (California Energy Commission [CEC] 2022). According to CEC data, LADWP customers consumed a total of approximately 20,891 million kilowatt-hours (kWh) of electricity in 2021 (CEC 2023a).

3.7.5.1.1.2 SOUTHERN CALIFORNIA EDISON

Southern California Edison (SCE), a subsidiary of Edison International, provides electricity to approximately 180 cities in 11 counties across Central and Southern California. SCE provides electricity to approximately 15 million people in California and is one of the largest electric utilities in the United States (SCE 2019). The CEC reports on electricity consumption by planning area annually. The total electricity usage in the SCE planning area in 2021 was 81,128.9 million kWh (CEC 2023c). SCE offers various renewable energy purchase programs for their customers. As of 2021, SCE's general power mix consisted of 22 percent natural gas, 31 percent eligible renewable sources, nine percent nuclear, two percent hydroelectric resources, and 35 percent from unspecified power sources (CEC 2022).

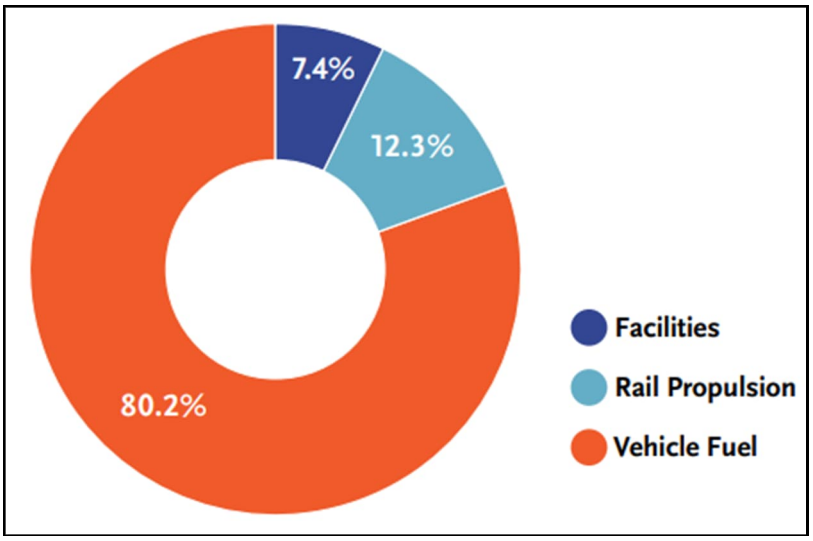
3.7.5.1.1.3 SOUTHERN CALIFORNIA GAS COMPANY

The Southern California Gas Company (SoCalGas) is a natural gas provider and subsidiary of Sempra Energy. SoCalGas provides service to about 5.9 million customers (California Public Utilities Commission 2021). In 2021, SoCalGas customers consumed approximately 5,101 million therms (CEC 2023d). SoCalGas aims to achieve net zero greenhouse gas (GHG) emissions by 2045 (SoCalGas 2021).

3.7.5.1.2 METRO ENERGY USE

Metro consumes energy in the form of fuel (gasoline, diesel, and compressed natural gas), electricity, and natural gas for its transit operations (e.g., buses, vehicles, and light and heavy rail), as well as electricity and natural gas at its various operational facilities in the region. Since 2013, Metro has steadily reduced energy consumption through conservation measures, efficient building design, and improved fuel efficiency. In 2018 alone, Metro reduced total energy consumption by 7.9 percent compared to 2017 as a result of reduced vehicle fuel consumption by buses and support vehicles (Metro 2019b). As described in Metro's Sustainability Strategic Plan (2020), building operations support over 1.2 million weekday rail and bus transit patrons. Metro's building energy consumption alone accounts for just over 100 GWh of electricity consumption per year across its extensive inventory of facilities in Los Angeles County. Metro's vehicle fleet accounts for 80 percent of the agency's total energy consumption per year. Vehicle fuels power Metro's bus fleet, vanpool, and all non-revenue vehicles. Rail propulsion power accounts for more than 200 GWh of electricity use and 12 percent of the agency's energy consumption (Metro 2020). Metro purchases electricity from local utilities, all of which are mandated to provide carbon-free energy by 2045 (SB 100). Figure 3.7-1 provides Metro's 2018 energy consumption by end use.

FIGURE 3.7-1. ENERGY CONSUMPTION BY END USE (2018)



Source: Metro 2020

3.7.5.1.3 EXISTING FUEL CONSUMPTION IN THE RSA

Transportation in Los Angeles County continues to be dominated by single-occupancy automobiles. According to the American Community Survey 2019, five-year estimate, 74 percent of Los Angeles County workers over the age of 16 drove alone to work (U.S. Census Bureau 2019). High percentages of single-occupancy vehicles result in high VMT throughout the state. Subsequently, high VMT translates into high energy use, as well as related criteria air pollutants and GHG emissions.

As shown in Table 3.7-1, existing conditions data for regional transportation-related energy consumption was modeled for the baseline year of 2019. Transportation fuel consumption was estimated based on the annual VMT as provided by the transportation model (approximately 170,339,744,680 miles) and EMFAC2021 fleet mix data for SCAQMD in 2019. Based on EMFAC2021 fleet mix data, the analysis assumed approximately 93 percent of the vehicle trips in the region were gasoline-fueled, one percent were plug-in hybrid, five percent were diesel-fueled, one percent were electric, and less than one percent were compressed natural gas.

TABLE 3.7-1. ANNUAL REGIONAL TRANSPORTATION ENERGY CONSUMPTION, EXISTING (2019) CONDITIONS

DESCRIPTION	GASOLINE DEMAND (GALLONS)	DIESEL DEMAND (GALLONS)	ELECTRICAL DEMAND (kWh)	NATURAL GAS DEMAND (GALLONS)	TOTAL ENERGY CONSUMPTION (MMBtu)
Regional Transportation-Related Fuel Consumption	6,472,949,770	51,637,916	5,618,749	294,476	816,304,774

Source: Connect Los Angeles Partners 2023
kWh= kilowatt-hours; MMBtu = million British thermal units

3.7.5.1.4 ENERGY RESOURCES AND CONSUMPTION

3.7.5.1.4.1 ENERGY RESOURCES

California is rich in conventional and renewable energy resources. It has large crude oil and substantial natural gas deposits in six geological basins located in the Central Valley and along the Pacific Coast. The state is the nation's top producer of electricity from solar energy and geothermal resources. In 2022, California was also the nation's second-largest producer of electricity from biomass and the fourth-largest producer of conventional hydroelectric power (United States Energy Information Administration [USEIA] 2023a).

California is the most populous state in the nation but has one of the lowest per capita energy consumption rates in the country (USEIA 2023a). California's state energy-efficiency programs have contributed to its low per capita energy consumption. Driven by high demand from California's many motorists, major airports, and military bases, the transportation sector is the state's largest energy consumer.

3.7.5.1.4.2 PETROLEUM

California is one of the top producers of crude oil in the nation, with output accounting for more than one-tenth of total U.S. production. Reservoirs along California's Pacific Coast, including in the Los Angeles Basin and Central Valley, contain major crude oil reserves, and the state holds four percent of the nation's total proved crude oil reserves (USEIA 2023a).

3.7.5.1.4.3 NATURAL GAS

California natural gas production accounts for less than one percent of total annual U.S. production, which is less than one-tenth of the state's total consumption. Most of California's natural gas reserves and production are in fields in the northern portion of the state's Central Valley (USEIA 2023a).

3.7.5.1.4.4 RENEWABLE ENERGY

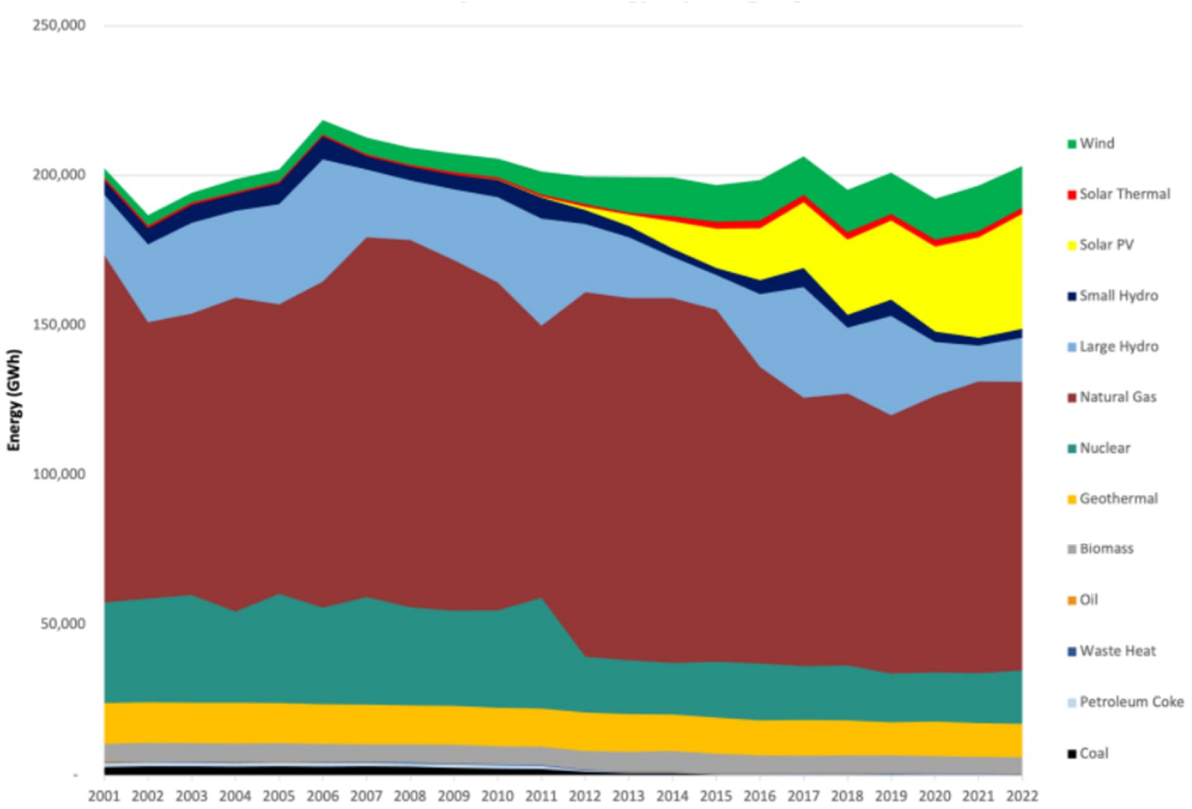
California has established Renewable Portfolio Standards targets, which reflect one of the state's key programs for advancing renewable energy. California's renewable resources are primarily solar energy (photovoltaic and wind) and geothermal resources. Solar photovoltaic energy is the largest source of California's renewable electricity generation, supplying 19 percent of the state's utility-scale electricity net generation and 27 percent of the state's total electricity net generation when small-scale solar generation is included. Wind energy accounted for seven percent of California's total in-state electricity generation in 2022. In addition, California is the nation's top producer of electricity from geothermal resources, producing 69 percent of the nation's utility-scale geothermal-sourced electricity (USEIA 2023a).

3.7.5.1.4.5 STATE ENERGY CONSUMPTION

The CEC's 2021 Integrated Energy Policy Report identifies that the state's electricity sector is adapting in response to climate policy and market changes. This includes decarbonizing the state's gas system as a fuel source for electric generation to meet air quality, climate, and other environmental goals. In 2022, total system generation for California was 287,220 gigawatt-hours (GWh), an increase of approximately three percent, or 9,456 GWh, from 2021 (CEC 2023a).

In recent years, California has witnessed a flat or downward trend in energy demand as a result of energy-efficiency programs and installation of behind-the-meter solar photovoltaic systems[1] that directly displace utility-supplied generation. Renewable and non-GHG (nuclear and large hydroelectric) resources accounted for 54.2 percent of total generation in 2022, compared to 52.1 percent in 2021. Figure 3.7-2 depicts the change in the state's electricity system generation supply mix from 2001 to 2022, including a doubling of renewable supplies (CEC 2023a).

FIGURE 3.7-2. IN-STATE ELECTRIC GENERATION BY FUEL TYPE (2011-2022)



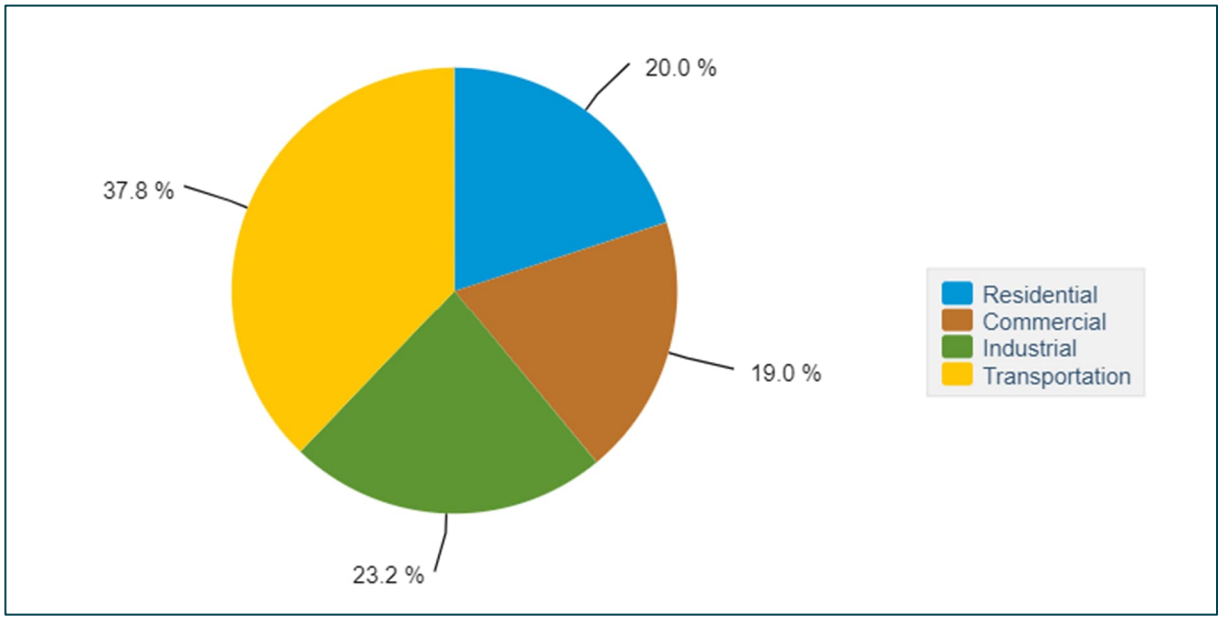
Source: CEC 2023a

[1] Behind-the-meter photovoltaic systems provide a single building or facility with direct power without passing through an electric meter.

3.7.5.1.4.6 TRANSPORTATION SECTOR

As shown in Figure 3.7-3, the transportation sector in California consumes a relatively large amount of energy in the state (approximately 38 percent). Gasoline remains the dominant fuel within the transportation sector, with 97 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. In 2022, 13.6 billion gallons of gasoline were sold, according to the California Department of Tax and Fee Administration. Retail gasoline sold in California is made up of 90 percent petroleum-based gasoline (as specified by the California Air Resources Board [CARB]) and 10 percent ethanol. Diesel fuel is the second-largest transportation fuel used in California, representing 17 percent of total fuel sales behind gasoline. According to the California State Board of Equalization, in 2015 4.2 billion gallons of diesel, including off-road diesel, were sold (CEC 2023b). However, California has implemented a range of regulations and incentives to advance its clean transportation goals. Renewable diesel, a fuel made from fats and oils such as soybean oil or canola oil, is processed to be chemically the same as petroleum diesel and can be used as a replacement fuel or blended with any amount of petroleum diesel. The use of renewable diesel in California has increased substantially in recent years; as of June 30, 2021, renewable diesel had displaced 22 percent of petroleum-based diesel in California. This is in addition to the eight percent displaced by biodiesel and the four percent displaced by biomethane.

FIGURE 3.7-3. CALIFORNIA ENERGY USE BY SECTOR (2021)



Source: USEIA 2023a

3.7.6 PROJECT MEASURES

Project measures are design features, best management practices (BMPs), or other commitments that Metro would implement as part of all proposed alignments and stations, the design option, and the MSF to reduce or avoid environmental effects associated with project construction and operation.

Project measures are not the same as mitigation measures, which are used to reduce an environmental impact's significance level. Where applicable, project measures are discussed further in Section 3.7.7 as part of the evaluation of environmental impacts.

Construction and operation of the project would result in the release of criteria pollutants and GHG emissions. Section 3.3, Air Quality, describes project measures to limit release of these emissions and ensure all equipment operates at optimal manufacturer specifications. These project measures (PM AQ-1, PM AQ-3, and PM AQ-4) are also applicable to Section 3.7, Energy, since the analysis of energy resources is based on GHG emissions data. Measures to reduce GHG emissions include energy-efficiency actions that would also reduce energy consumption. Project measures PM AQ-1, PM AQ-3, and PM AQ-4 would apply to construction activities, while project measures PM AQ-3 and PM AQ-4 also would apply to operational activities. The following project measures would be applicable to impacts related to energy resources.

3.7.6.1 PM AQ-1: METRO GREEN CONSTRUCTION POLICY

Established by formal adoption of the Green Construction Policy in 2011, Metro commits to the following construction equipment requirements, construction best management practices (BMPs), and implementation strategies for all construction projects performed on Metro properties or rights-of-way (Metro 2011c):

- Construction equipment shall incorporate, where feasible, emissions-reducing technology such as hybrid drives and specific fuel economy standards.
- Equipment shall be maintained according to manufacturer specifications.
- Idling of construction equipment and heavy-duty trucks shall be restricted to a maximum of five minutes when not in use (certain exceptions apply based on CARB exemptions).
- Traffic speeds shall be limited on all unpaved roads to 15 miles per hour or less.
- All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 4 off-road emission standards at a minimum.
- All on-road heavy-duty trucks with a gross vehicle weight rating greater than or equal to 14,000 pounds shall have engines meeting U.S. 2010 on-road emission standards.
- Where applicable and feasible, coordination shall occur with local jurisdictions to improve traffic flow by signal synchronization during construction activities.
- Electric power shall be used in lieu of diesel power where available.
- Generators: Every effort shall be made to use grid-based electric power at any construction site, where feasible. Where access to the power grid is not available, on-site generators must:
  - Meet a 0.01 gram per brake-horsepower-hour standard for particulate matter; or
  - Be equipped with Best Available Control Technology for particulate matter emissions reductions.
- Inspections: Metro shall conduct inspections of construction sites and affected off-road and on-road equipment and generators as well as compliance with air quality rules.

- Records: Prior to Notice to Proceed to commence construction and to be verified afterward consistent with project contract requirements and through enforcement provisions above, the Contractor shall submit to Metro the following information for all construction equipment to be used on Metro properties or rights-of-way:
  - A certified statement that all construction equipment used conforms to the requirements specified above;
  - A list of all the equipment and vehicles (i.e., off-road equipment, include the CARB-issued Equipment Identification Number) to be used; and
  - A copy of each Contractor's certified U.S. Environmental Protection Agency rating and applicable paperwork issued either by CARB, SCAQMD, and any other jurisdiction that has oversight over the equipment.

3.7.6.2 PM AQ-3: METRO 2020 MOVING BEYOND SUSTAINABILITY STRATEGIC PLAN

Construction and operation of the project will adhere to the commitments established by the Metro Moving Beyond Sustainability Strategic Plan 2020, including, but not limited to, the application of renewable diesel requirements for contractors, the implementation of the Construction and Demolition Debris Policy, the identification of opportunities to decarbonize fuel sources at construction sites, the use of electric medium- and heavy-duty equipment during construction, and the design and build capital projects to CalGreen Tier 2 standards (Metro 2020).

3.7.6.3 PM AQ-4: METRO DESIGN STANDARDS

The project will be designed in accordance with the Metro Rail Design Criteria and the Metro Systemwide Station Design Standards Policy, which includes the installation of high-efficiency LED lighting in all fixtures to reduce electricity consumption (Metro 2017, 2018).

3.7.7 IMPACT EVALUATION AND MITIGATION MEASURES

This analysis presents the construction and operational impacts for energy resources, as well as any applicable mitigation measures associated with KNE. A summary of the impact conclusions and applicable mitigation measures is found in Table 3.7-17 in Section 3.7.7.4.

3.7.7.1 IMPACT ENG-1: ENERGY CONSUMPTION

Impact ENG-1: Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?

3.7.7.1.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

3.7.7.1.1.1 CONSTRUCTION IMPACTS

Less than Significant Impact. Implementation of the KNE San Vicente–Fairfax Alignment would increase energy consumption for the duration of construction in the form of fossil fuel use associated

with transportation (e.g., gasoline, diesel fuel), including the transport and use of construction equipment (off-road), use of delivery and haul trucks (on-road), and use of passenger vehicles (on-road) by construction employees. Construction-related transportation energy consumption depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate according to the subphase of construction. Construction fuel use for the alignment would cease upon completion of construction.

Table 3.7-2 presents the total fuel consumption anticipated for construction activities for the KNE San Vicente–Fairfax Alignment. The total fuel demand in gallons of gasoline and diesel is based on the carbon dioxide (CO_2) emissions calculations for proposed construction activities and application of the USEIA's CO_2 emissions coefficients (USEIA 2023b). For additional information related to the CO_2 emissions calculations, refer to Section 3.9, Greenhouse Gas Emissions.

TABLE 3.7-2. KNE SAN VICENTE–FAIRFAX ALIGNMENT CONSTRUCTION-RELATED ENERGY CONSUMPTION

	ENERGY CONSUMPTION (GALLONS OF FUEL; MMBTU)				
ENERGY SOURCE	SECTION 1	SECTION 2	SECTION 3	MSF	KNE SAN VICENTE–FAIRFAX ALIGNMENT TOTAL[1]
Off-Road Construction Equipment (gallons [diesel])	2,434,569	1,852,525	2,079,911	453,288	6,820,293
Truck Trips (Hauling, Delivery, Cement) (gallons [diesel])	1,176,776	847,898	1,286,247	120,905	3,431,826
Subtotal Fuel Consumption (gallons [diesel])	*3,611,345*	*2,700,424*	*3,366,158*	*574,193*	*10,252,119*
Worker Commute Trips (gallons [gasoline])	373,737	286,772	336,921	73,411	1,070,842
Subtotal Fuel Consumption (gallons [gasoline])	*373,737*	*286,772*	*336,921*	*73,411*	*1,070,842*
Total MMBTU	**545,083**	**408,505**	**506,645**	**88,415**	**1,548,648**

Source: Connect Los Angeles Partners 2023
[1]The MSF is an essential element in supporting the reliable operation of a light rail transit system and would be necessary for the implementation and operation of the KNE San Vicente–Fairfax Alignment. As such, energy consumption associated with MSF construction has been included in the alignment total.
Note: The KNE San Vicente–Fairfax Alignment would be constructed in three sections, referred to as Section 1, Section 2, and Section 3.
MMBtu = Million British thermal units; MSF = maintenance and storage facility

As shown in Table 3.7-2, total energy consumption for construction of the alignment (including transportation fuel use by off-road equipment, worker vehicle trips, and material delivery and haul truck trips) would be approximately 1,548,648 million British thermal units (MMBtu). Based on the anticipated sequential construction phasing of the alignment and stations and temporary nature of construction, the use of construction equipment that is less energy efficient than at comparable construction sites is not anticipated.

In addition, construction contractors would be required, in accordance with Metro's Green Construction Policy (project measure PM AQ-1), to minimize the idling time of construction equipment

by shutting equipment off when it is not in use or reducing the idling time to five minutes and maintaining equipment to manufacturers' specifications. These required practices limit wasteful and unnecessary energy consumption associated with the use of heavy-duty equipment during construction. Per Metro's Construction and Demolition Debris Recycling and Reuse Policy (project measure PM AQ-3), Metro would also give preference to recyclable and recycled products in the selection of construction materials and ensure that facilities used for disposal and recycling are complying with applicable federal, state, or local rules and regulations (Metro 2007b).

Energy consumption from construction activities would be temporary. While this analysis discloses an estimate of temporary construction-related energy demand, the long-term implications are more important for understanding the degree to which construction of the alignment and stations could result in wasteful or inefficient use of energy. As described in more detail below, the short-term energy-related energy consumption would facilitate a reduction in long-term demands. As a result, the energy demand associated with construction activities would not be wasteful or inefficient.

While the alignment and stations would require energy usage during temporary construction activities, energy consumption would be minimized by following Metro guidelines, which would avoid use of energy resources in a wasteful, inefficient, or unnecessary manner during construction. Therefore, the KNE San Vicente–Fairfax Alignment would have a less than significant impact during construction.

3.7.7.1.1.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operation of the KNE San Vicente–Fairfax Alignment would consume energy associated with electricity for light rail vehicle (LRV) propulsion and station operations, such as lighting, elevators/escalators, ventilation, and overhead contact systems. LRV propulsion and station operations were assumed to not use gasoline, diesel, or natural gas. This analysis also evaluated the regional transportation energy consumption for the 2045 future year to compare to the regional transportation energy consumption if KNE were not implemented (2045 without Project Conditions). The year 2045 is used as the future year for analysis purposes in order to facilitate consistency with other regional planning processes. Transportation fuel demand for the KNE San Vicente–Fairfax Alignment and the 2045 without Project Conditions were estimated based on the annual VMT in the SCAG region as provided by the transportation model (approximately 214,090,029,819 and 214,139,478,194 miles, respectively) and EMFAC2021 fleet mix data for SCAQMD in 2045. Fleet mix data for SCAQMD in 2045 includes conventional vehicles (gasoline or diesel-fueled vehicles) as well as alternative vehicle types, including electric and plug-in hybrid vehicles and vehicles fueled by compressed natural gas. Refer to Section 3.9, Greenhouse Gas Emissions, for additional information on annual VMT in the SCAG region.

Table 3.7-3 presents the energy consumption associated with operation of the alignment compared to the 2045 without Project Conditions. The table shows that the alignment and stations would reduce regional energy consumption from the 2045 without Project Conditions by 117,328 MMBtu in 2045. In addition, alignment and station operations would be electric-powered and any energy consumption from maintenance would be offset by long-term operation of KNE. Electricity providers in the region would also continue to use an increasing proportion of renewable energy sources in the electric power mix over time, pursuant to SB 100, thereby minimizing the indirect demand on energy resources. Stations would also be designed to meet Metro Design Standards (project measure PM AQ-4), which would require that they meet a number of conservation standards, including energy-efficient lighting, and per project measure PM AQ-3, comply with CalGreen and state energy standards under Title 24.

TABLE 3.7-3. KNE SAN VICENTE–FAIRFAX ALIGNMENT ANNUAL OPERATIONAL ENERGY CONSUMPTION

DESCRIPTION	GASOLINE DEMAND (GALLONS)	DIESEL DEMAND (GALLONS)	ELECTRICAL DEMAND (KWH)	NATURAL GAS DEMAND (GALLONS)	TOTAL OPERATIONAL ENERGY CONSUMPTION (MMBTU)
KNE San Vicente–Fairfax Alignment Regional Transportation Fuel Consumption	4,550,444,805	71,622,738	1,295,541,556	81,651	-
Light Rail Operations	-	-	4,409,586	-	-
Station Operations	-	-	675,648	-	-
KNE San Vicente–Fairfax Alignment Total Energy Consumption	**4,550,444,805**	**71,622,739**	**1,300,626,790**	**81,652**	**583,139,863**
2045 without Project Conditions, Regional Transportation Fuel Consumption	4,551,495,821	71,639,281	1,295,840,787	81,671	583,257,191
Net Energy Consumption	**(1,051,016)**	**(16,542)**	**4,786,003**	**(19)**	**(117,328)**

Source: Connect Los Angeles Partners 2023
kWh= kilowatt-hours; MMBtu = Million British thermal units

Furthermore, the alignment would ultimately facilitate a reduction in energy demand by providing a critical regional connection between major activity centers and areas of high population and employment density. Thus, the alignment and stations would reduce automobile VMT in the region, helping to achieve goals such as decreasing reliance on fossil fuels and decreasing overall per capita energy consumption for transportation, as identified in Appendix F of the CEQA Guidelines. Transportation is the largest energy-consuming sector in California, so projects that reduce transportation energy demand are particularly important in promoting energy conservation and other objectives embodied in Appendix F of the CEQA Guidelines. Therefore, the KNE San Vicente–Fairfax Alignment would have a less than significant impact during operation.

3.7.7.1.2 KNE FAIRFAX ALIGNMENT

3.7.7.1.2.1 CONSTRUCTION IMPACTS

Less than Significant Impact. Implementation of the KNE Fairfax Alignment would increase energy consumption for the duration of construction in the form of fossil fuel use associated with transportation (e.g., gasoline, diesel fuel), including the transport and use of construction equipment (off-road), use of delivery and haul trucks (on-road), and use of passenger vehicles (on-road) by construction employees. Construction-related transportation energy consumption depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate according to the subphase of construction. Construction fuel use for the alignment would cease upon completion of construction.

Table 3.7-4 presents the total fuel consumption anticipated for construction activities for the KNE Fairfax Alignment. The total fuel demand in gallons of gasoline and diesel is based on the CO_2 emissions calculations for proposed construction activities and application of the USEIA's CO_2 emissions coefficients (USEIA 2023b). For additional information related to the CO_2 emissions calculations, refer to Section 3.9, Greenhouse Gas Emissions.

TABLE 3.7-4. KNE FAIRFAX ALIGNMENT CONSTRUCTION-RELATED ENERGY CONSUMPTION

ENERGY SOURCE	ENERGY CONSUMPTION (GALLONS OF FUEL; MMBTU)			
	SECTION 1	SECTION 2	MSF	KNE FAIRFAX ALIGNMENT TOTAL[1]
Off-Road Construction Equipment (gallons [diesel])	2,434,569	2,479,902	453,288	5,367,759
Truck Trips (Hauling, Delivery, Cement) (gallons [diesel])	1,176,776	1,558,919	123,263	2,858,959
Subtotal Fuel Consumption (gallons [diesel])	*3,611,345*	*4,038,822*	*576,551*	*8,226,718*
Worker Commute Trips (gallons [gasoline])	373,737	405,585	72,570	851,892
Subtotal Fuel Consumption (gallons [gasoline])	*373,737*	*405,585*	*72,570*	*851,892*
Total MMBTU	**545,083**	**608,055**	**88,635**	**1,241,774**

Source: Connect Los Angeles Partners 2023
[1]The MSF is an essential element in supporting the reliable operation of a light rail transit system and would be necessary for the implementation and operation of the KNE Fairfax Alignment. As such, energy consumption associated with MSF construction has been included in the alignment total.
Note: The KNE Fairfax Alignment would be constructed in two sections, referred to as Section 1 and Section 2.
MMBtu = Million British thermal units; MSF = maintenance and storage facility

As shown in Table 3.7-4, total energy consumption for construction of the alignment (including transportation fuel use by off-road equipment, worker vehicle trips, and material delivery and haul truck trips) would be approximately 1,241,774 MMBtu. Based on the anticipated sequential construction phasing of the alignment and stations and temporary nature of construction, the use of construction equipment that is less energy efficient than at comparable construction sites is not anticipated.

In addition, construction contractors would be required, in accordance with Metro's Green Construction Policy (project measure PM AQ-1), to minimize the idling time of construction equipment by shutting equipment off when it is not in use or reducing the idling time to five minutes and maintaining equipment to manufacturers' specifications. These required practices limit wasteful and unnecessary energy consumption associated with the use of heavy-duty equipment during construction. Per Metro's Construction and Demolition Debris Recycling and Reuse Policy (project measure PM AQ-3), Metro would also give preference to recyclable and recycled products in the selection of construction materials and ensure that facilities used for disposal and recycling are complying with applicable federal, state, or local rules and regulations (Metro 2007b).

Energy consumption from construction activities would be temporary. While this analysis discloses an estimate of temporary construction-related energy demand, the long-term implications are more important for understanding the degree to which construction of the alignment and stations could result in wasteful or inefficient use of energy. As described in more detail below, the short-term energy-related energy consumption would facilitate a reduction in long-term demands. As a result, the energy demand associated with construction activities would not be wasteful or inefficient.

While the alignment and stations would require energy usage during temporary construction activities, energy consumption would be minimized by following Metro guidelines, which would avoid use of energy resources in a wasteful, inefficient, or unnecessary manner during construction. Therefore, the KNE Fairfax Alignment would have a less than significant impact during construction.

3.7.7.1.2.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operation of the KNE Fairfax Alignment would consume energy associated with electricity for LRV propulsion and station operations, such as lighting, elevators/escalators, ventilation, overhead catenary systems, etc. LRV propulsion and station operations were assumed to not use gasoline, diesel, or natural gas. This analysis also evaluated the regional transportation energy consumption of a 2045 future year to compare to the regional transportation energy consumption if the project were not implemented (2045 without Project Conditions). Transportation fuel demand for the KNE Fairfax Alignment and the 2045 without Project Conditions were estimated based on the annual VMT in the SCAG region as provided by the transportation model (approximately 214,092,959,309 and 214,139,478,194 miles, respectively) and EMFAC2021 fleet mix data for SCAQMD in 2045. Fleet mix data for SCAQMD in 2045 includes conventional vehicles (gasoline or diesel-fueled vehicles) as well as alternative vehicle types, including electric and plug-in hybrid vehicles and vehicles fueled by compressed natural gas. Refer to Section 3.9, Greenhouse Gas Emissions, for additional information on annual VMT in the SCAG region.

Table 3.7-5 presents the energy consumption associated with operation of the KNE Fairfax Alignment compared to the 2045 without Project Conditions. The table shows that the alignment and stations would reduce regional energy consumption from the 2045 without Project Conditions by 112,809 MMBtu in 2045. In addition, alignment and station operations would be electric-powered and any energy consumption from maintenance would be offset by long-term operation of the project. Electricity providers in the region would also continue to use an increasing proportion of renewable

energy sources in the electric power mix over time pursuant to SB 100, thereby minimizing the indirect demand on energy resources. The stations that are part of the KNE Fairfax Alignment would also be designed to meet Metro Design Standards per project measure PM AQ-4, which would require that stations meet a number of conservation standards, including energy-efficient lighting, and per project measure PM AQ-3, comply with CalGreen and state energy standards under Title 24.

TABLE 3.7-5. KNE FAIRFAX ALIGNMENT ANNUAL OPERATIONAL ENERGY CONSUMPTION

DESCRIPTION	GASOLINE DEMAND (GALLONS)	DIESEL DEMAND (GALLONS)	ELECTRICAL DEMAND (KWH)	NATURAL GAS DEMAND (GALLONS)	TOTAL OPERATIONAL ENERGY CONSUMPTION (MMBtu)
KNE Fairfax Alignment Regional Transportation-Related Fuel Consumption	4,550,507,070	71,623,719	1,295,559,283	81,653	-
Light Rail Operations	-	-	3,545,853	-	-
Station Operations	-	-	525,504	-	-
KNE Fairfax Alignment Total Energy Consumption	**4,550,507,070**	**71,623,719**	**1,299,630,640**	**81,653**	**583,144,382**
2045 without Project Conditions, Regional Transportation Fuel Consumption	4,551,495,821	71,639,281	1,295,840,787	81,671	583,257,191
Net Energy Consumption	(988,751)	(15,562)	3,789,853	(18)	(112,809)

Source: Connect Los Angeles Partners 2023
kWh= kilowatt-hours; MMBtu = Million British thermal units

Furthermore, the KNE Fairfax Alignment would facilitate a reduction in energy demand by providing a critical regional connection between major activity centers and areas of high population and employment density. Thus, the KNE Fairfax Alignment would reduce automobile VMT in the region, helping to achieve goals such as decreasing reliance on fossil fuels and decreasing overall per capita energy consumption for transportation, as identified in Appendix F of the CEQA Guidelines. Transportation is the largest energy-consuming sector in California, so projects that reduce transportation energy demand are particularly important in promoting energy conservation and other objectives embodied in Appendix F of the CEQA Guidelines. Therefore, the KNE Fairfax Alignment would have a less than significant impact during operation.

3.7.7.1.3 KNE LA BREA ALIGNMENT

3.7.7.1.3.1 CONSTRUCTION IMPACTS

Less than Significant Impact. Implementation of the KNE La Brea Alignment would increase energy consumption for the duration of construction in the form of fossil fuel use associated with transportation (e.g., gasoline, diesel fuel), including the transport and use of construction equipment (off-road), use of delivery and haul trucks (on-road), and use of passenger vehicles (on-road) by

construction employees. Construction-related transportation energy consumption depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate according to the subphase of construction. Construction fuel use for the alignment would cease upon completion of construction.

Table 3.7-6 presents the total fuel consumption anticipated for construction activities for the KNE La Brea Alignment. The total fuel demand in gallons of gasoline and diesel is based on the CO_2 emissions calculations for proposed construction activities and application of the USEIA's CO_2 emissions coefficients (USEIA 2023b). For additional information related to the CO_2 emissions calculations, refer to Section 3.9, Greenhouse Gas Emissions.

TABLE 3.7-6. KNE LA BREA ALIGNMENT CONSTRUCTION-RELATED ENERGY CONSUMPTION

ENERGY SOURCE	ENERGY CONSUMPTION (GALLONS OF FUEL; MMBTU)			
	SECTION 1	SECTION 2	MSF	KNE LA BREA ALIGNMENT TOTAL[1]
Off-Road Construction Equipment (gallons [diesel])	2,278,285	1,991,219	448,371	4,717,875
Truck Trips (Hauling, Delivery, Cement) (gallons [diesel])	1,046,445	1,255,317	122,829	2,424,591
Subtotal Fuel Consumption (gallons [diesel])	*3,324,730*	*3,246,536*	*571,200*	*7,142,466*
Worker Commute Trips (gallons [gasoline])	353,586	313,552	68,615	735,753
Subtotal Fuel Consumption (gallons [gasoline])	*353,586*	*313,552*	*68,615*	*735,753*
Total MMBTU	503,011	487,216	87,402	1,077,629

Source: Connect Los Angeles Partners 2023
[1]The MSF is an essential element in supporting the reliable operation of a light rail transit system and would be necessary for the implementation and operation of the KNE La Brea Alignment. As such, energy consumption associated with MSF construction has been included in the alignment total.
Note: The KNE La Brea Alignment would be constructed in two sections, referred to as Section 1 and Section 2.
MMBtu = Million British thermal units; MSF = maintenance and storage facility

As shown in Table 3.7-6, total energy consumption for construction of the alignment (including transportation fuel use by off-road equipment, worker vehicle trips, and material delivery and haul truck trips) would be approximately 1,077,629 MMBtu. Based on the anticipated sequential construction phasing of the alignment and stations and temporary nature of construction, the use of construction equipment that is less energy efficient than at comparable construction sites is not anticipated.

In addition, construction contractors would be required, in accordance with Metro's Green Construction Policy (project measure PM AQ-1), to minimize the idling time of construction equipment by shutting equipment off when it is not in use or reducing the idling time to five minutes and maintaining equipment to manufacturers' specifications. These required practices limit wasteful and unnecessary energy consumption associated with the use of heavy-duty equipment during construction. Per Metro's Construction and Demolition Debris Recycling and Reuse Policy (project measure PM AQ-3), Metro would also give preference to recyclable and recycled products in the

selection of construction materials and ensure that facilities used for disposal and recycling are complying with applicable federal, state, or local rules and regulations (Metro 2007b).

Energy consumption from construction activities would be temporary. While this analysis discloses an estimate of temporary construction-related energy demand, the long-term implications are more important for understanding the degree to which construction of the alignment and stations could result in wasteful or inefficient use of energy. As described in more detail below, the short-term energy-related energy consumption would facilitate a reduction in long-term demands. As a result, the energy demand associated with construction activities would not be wasteful or inefficient.

While the alignment and stations would require energy usage during temporary construction activities, energy consumption would be minimized by following Metro guidelines, which would avoid use of energy resources in a wasteful, inefficient, or unnecessary manner during construction. Therefore, the KNE La Brea Alignment would have a less than significant impact during construction.

3.7.7.1.3.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operation of the KNE La Brea Alignment would consume energy associated with electricity for LRV propulsion and station operations, such as lighting, elevators/escalators, ventilation, overhead catenary systems, etc. LRV propulsion and station operations were assumed to not use gasoline, diesel, or natural gas. This analysis also evaluated the regional transportation energy consumption of a 2045 future year to compare to the regional transportation energy consumption if the project were not implemented (2045 without Project Conditions). Transportation fuel demand for the KNE La Brea Alignment and the 2045 without Project Conditions were estimated based on the annual VMT in the SCAG region as provided by the transportation model (approximately 214,090,021,424 and 214,139,478,194 miles, respectively) and EMFAC2021 fleet mix data for SCAQMD in 2045. Fleet mix data for SCAQMD in 2045 includes conventional vehicles (gasoline or diesel-fueled vehicles) as well as alternative vehicle types, including electric and plug-in hybrid vehicles and vehicles fueled by compressed natural gas. Refer to Section 3.9, Greenhouse Gas Emissions, for additional information on annual VMT in the SCAG region.

Table 3.7-7 presents the energy consumption associated with operation of the KNE La Brea Alignment compared to the 2045 without Project Conditions. The table shows that the alignment and stations would reduce regional energy consumption from the 2045 without Project Conditions by 123,550 MMBtu in 2045. In addition, alignment and station operations would be electric-powered and any energy consumption from maintenance would be offset by long-term operation of the project. Electricity providers in the region would also continue to use an increasing proportion of renewable energy sources in the electric power mix over time pursuant to SB 100, thereby minimizing the indirect demand on energy resources. The stations that are part of the KNE La Brea Alignment would also be designed to meet Metro Design Standards per project measure PM AQ-4, which would require that stations meet a number of conservation standards, including energy-efficient lighting, and per project measure PM AQ-3, comply with CalGreen and state energy standards under Title 24.

TABLE 3.7-7. KNE LA BREA ALIGNMENT ANNUAL OPERATIONAL ENERGY CONSUMPTION

DESCRIPTION	GASOLINE DEMAND (GALLONS)	DIESEL DEMAND (GALLONS)	ELECTRICAL DEMAND (KWH)	NATURAL GAS DEMAND (GALLONS)	TOTAL OPERATIONAL ENERGY CONSUMPTION (MMBtu)
KNE La Brea Alignment Regional Transportation Fuel Consumption	4,550,444,626	71,622,736	1,295,541,505	81,652	-
Light Rail Operations	-	-	2,818,498	-	-
Station Operations	-	-	450,432	-	-
KNE La Brea Alignment Total Energy Consumption	4,550,444,626	71,622,736	1,298,810,435	81,652	583,133,641
2045 without Project Conditions, Regional Transportation Fuel Consumption	4,551,495,821	71,639,281	1,295,840,787	81,671	583,257,191
Net Energy Consumption	(1,051,195)	(16,545)	2,969,648	(19)	(123,550)

Source: Connect Los Angeles Partners 2023
kWh= kilowatt-hours; MMBtu = Million British thermal units

Furthermore, the KNE La Brea Alignment would facilitate a reduction in energy demand by providing a critical regional connection between major activity centers and areas of high population and employment density. Thus, the KNE La Brea Alignment would reduce automobile VMT in the region, helping to achieve goals such as decreasing reliance on fossil fuels and decreasing overall per capita energy consumption for transportation, as identified in Appendix F of the CEQA Guidelines. Transportation is the largest energy-consuming sector in California, so projects that reduce transportation energy demand are particularly important in promoting energy conservation and other objectives embodied in Appendix F of the CEQA Guidelines. Therefore, the KNE La Brea Alignment would have a less than significant impact during operation.

3.7.7.1.4 HOLLYWOOD BOWL DESIGN OPTION

3.7.7.1.4.1 CONSTRUCTION IMPACTS

Less than Significant Impact. Construction of the Hollywood Bowl Design Option would also employ sequential excavation method construction rather than the tunnel boring machine construction used for the alignments, but this would still result in consumption of similar energy resources as the alignments and stations. Construction-related energy sources associated with the design option would include diesel and gasoline fuel for the transport and use of construction equipment (off-road), use of delivery and haul trucks (on-road), and use of passenger vehicles (on-road) by construction employees. Table 3.7-8, Table 3.7-9 and Table 3.7-10 present the total fuel consumption anticipated for construction activities for the design option with the KNE San Vicente–Fairfax Alignment, KNE Fairfax Alignment, and KNE La Brea Alignment, respectively.

TABLE 3.7-8. KNE SAN VICENTE–FAIRFAX ALIGNMENT WITH HOLLYWOOD BOWL DESIGN OPTION CONSTRUCTION-RELATED ENERGY CONSUMPTION

ENERGY SOURCE	ENERGY CONSUMPTION (GALLONS OF FUEL; MMBTU)				
	SECTION 1	SECTION 2	SECTION 3	MSF	KNE SAN VICENTE–FAIRFAX ALIGNMENT TOTAL[1]
Off-Road Construction Equipment (gallons [diesel])	2,434,569	1,852,525	4,032,033	453,288	8,772,414
Truck Trips (Hauling, Delivery, Cement) (gallons [diesel])	1,176,776	847,898	1,301,704	120,905	3,447,283
Subtotal Fuel Consumption (gallons [diesel])	*3,611,345*	*2,700,424*	*5,333,737*	*574,193*	*12,219,698*
Worker Commute Trips (gallons [gasoline])	373,737	286,772	532,244	73,411	1,266,165
Subtotal Fuel Consumption (gallons [gasoline])	*373,737*	*286,772*	*532,244*	*73,411*	*1,266,165*
Total MMBTU	**545,083**	**408,505**	**802,586**	**88,415**	**1,844,589**

Source: Connect Los Angeles Partners 2023
[1]The MSF is an essential element in supporting the reliable operation of a light rail transit system and would be necessary for the implementation and operation of the Hollywood Bowl Design Option as part of the alignment. As such, energy consumption associated with MSF construction has been included in the alignment total.
Note: The KNE San Vicente–Fairfax Alignment would be constructed in three sections, referred to as Section 1, Section 2, and Section 3.
MMBtu = Million British thermal units; MSF = maintenance and storage facility

TABLE 3.7-9. KNE FAIRFAX ALIGNMENT WITH HOLLYWOOD BOWL DESIGN OPTION CONSTRUCTION-RELATED ENERGY CONSUMPTION

ENERGY SOURCE	ENERGY CONSUMPTION (GALLONS OF FUEL; MMBTU)			
	SECTION 1	SECTION 2	MSF	KNE FAIRFAX ALIGNMENT TOTAL[1]
Off-Road Construction Equipment (gallons [diesel])	2,434,569	4,397,808	453,288	7,285,665
Truck Trips (Hauling, Delivery, Cement) (gallons [diesel])	1,176,776	1,574,499	121,992	2,873,267
Subtotal Fuel Consumption (gallons [diesel])	*3,611,345*	*5,972,308*	*575,279*	*10,158,932*
Worker Commute Trips (gallons [gasoline])	373,737	598,685	71,144	1,043,567
Subtotal Fuel Consumption (gallons [gasoline])	*373,737*	*598,685*	*71,144*	*1,043,567*
Total MMBTU	**545,083**	**899,014**	**88,282**	**1,532,378**

Source: Connect Los Angeles Partners 2023
[1]The MSF is an essential element in supporting the reliable operation of a light rail transit system and would be necessary for the implementation and operation of the Hollywood Bowl Design Option as part of the alignment. As such, energy consumption associated with MSF construction has been included in the alignment total.
Note: The KNE Fairfax Alignment would be constructed in two sections, referred to as Section 1 and Section 2.
MMBtu = Million British thermal units; MSF = maintenance and storage facility

TABLE 3.7-10. KNE LA BREA ALIGNMENT WITH HOLLYWOOD BOWL DESIGN OPTION CONSTRUCTION-RELATED ENERGY CONSUMPTION

ENERGY SOURCE	ENERGY CONSUMPTION (GALLONS OF FUEL; MMBTU)			
	SECTION 1	SECTION 2	MSF	KNE LA BREA ALIGNMENT TOTAL[1]
Off-Road Construction Equipment (gallons [diesel])	2,278,285	3,958,086	448,371	6,684,742
Truck Trips (Hauling, Delivery, Cement) (gallons [diesel])	1,046,445	1,271,923	121,557	2,439,925
Subtotal Fuel Consumption (gallons [diesel])	*3,324,730*	*5,230,009*	*569,928*	*9,124,668*
Worker Commute Trips (gallons [gasoline])	353,586	524,426	70,930	948,942
Subtotal Fuel Consumption (gallons [gasoline])	*353,586*	*524,426*	*70,930*	*948,942*
Total MMBTU	**503,011**	**787,294**	**87,516**	**1,377,822**

Source: Connect Los Angeles Partners 2023
[1]The MSF is an essential element in supporting the reliable operation of a light rail transit system and would be necessary for the implementation and operation of the Hollywood Bowl Design Option as part of the alignment. As such, energy consumption associated with MSF construction has been included in the alignment total.
Note: The KNE La Brea Alignment would be constructed in two sections, referred to as Section 1 and Section 2.
MMBtu = Million British thermal units; MSF = maintenance and storage facility

Construction of the design option would be temporary and energy consumption would fluctuate according to the subphase of construction. Construction contractors would be required to implement the practices described above for the alignments and stations. Therefore, the Hollywood Bowl Design Option would have a less than significant impact during construction.

3.7.7.1.4.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operation of the Hollywood Bowl Design Option would consume additional electricity for LRV propulsion and for operation of one additional station, beyond that described for the alignments. LRV propulsion and station operations were assumed to not use gasoline, diesel, or natural gas. The annual energy consumption associated with operation of the design option is provided in Table 3.7-11. A summary of the operational energy consumption for the three alignments with the Hollywood Bowl Design Option is shown in Table 3.7-15.

TABLE 3.7-11. HOLLYWOOD BOWL DESIGN OPTION ANNUAL OPERATIONAL ENERGY CONSUMPTION

DESCRIPTION	ELECTRICAL DEMAND (KWH)	TOTAL OPERATIONAL ENERGY DEMAND (MMBtu)
Light Rail Operations	454,596	1,552
Station Operations	75,072	256
Total Energy Consumption	529,668	1,808

Source: Connect Los Angeles Partners 2023
kWh= kilowatt-hours; MMBtu = Million British thermal units

As shown in Table 3.7-11, operation of the design option would result in approximately 1,808 additional MMBtu per year. However, the design option would only be implemented with an alignment to increase rider connectivity as part of KNE, resulting in an overall net reduction in regional energy consumption due to the reduced VMT in the region (see Table 3.7-15, which demonstrates that KNE would reduce up to 123,550 MMBtu). After accounting for the additional energy consumption required to operate the design option, KNE would still result in a reduction of 121,742 MMBtu. As discussed in Section 3.16, Transportation, implementation of the Hollywood Bowl Design Option would result in a small reduction in VMT in the region and there would be no significant annual operational consumption of gasoline, diesel, or natural gas. Therefore, the Hollywood Bowl Design Option would have a less than significant impact during operation.

3.7.7.1.5 MAINTENANCE AND STORAGE FACILITY

3.7.7.1.5.1 CONSTRUCTION IMPACTS

Less than Significant Impact. Construction of the MSF would result in consumption of similar types of energy resources as described for the alignments. Construction-related energy sources associated with the MSF would include diesel and gasoline fuel for the transport and use of construction equipment (off-road), use of delivery and haul trucks (on-road), and use of passenger vehicles (on-road) by construction employees. Construction-related transportation energy consumption depends on the type and number of trips, VMT, fuel efficiency of vehicles, and travel mode. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate according to the subphase of construction.

Construction of the MSF would occur concurrently with Section 1 and Section 2 of each alignment. Concurrently with Section 1 of the alignments, MSF facility construction would include the addition of four storage tracks on the existing Division 16 site to accommodate increased LRV storage. Concurrently with Section 2 of the alignments, MSF facilities constructed would include expansion of the existing Division 16 MSF on the adjacent 16.5-acre site and comprise approximately 57,380 square feet of facility structures. No MSF construction would occur as part of Section 3 of the KNE San Vicente–Fairfax Alignment because the MSF would be completed as part of Section 2. Table 3.7-12 presents the total fuel consumption anticipated for proposed construction activities for the MSF depending on the alignment selected.

Construction of the MSF would be temporary. Fuel use related to construction would cease upon completion of construction. Construction contractors would be required to implement the same required practices described above for the alignments and stations. Therefore, the MSF would have a less than significant impact during construction.

TABLE 3.7-12. MSF AND KNE ALIGNMENTS CONSTRUCTION-RELATED ENERGY CONSUMPTION

	ENERGY CONSUMPTION (GALLONS OF FUEL; MMBTU)								
	KNE SAN VICENTE–FAIRFAX ALIGNMENT			KNE FAIRFAX ALIGNMENT			KNE LA BREA ALIGNMENT		
EMISSION SOURCE	SECTION 1 MSF FACILITIES[1]	SECTION 2 MSF EXPANSION[2]	ALIGNMENT WITH MSF[3]	SECTION 1 MSF FACILITIES[1]	SECTION 2 MSF EXPANSION[2]	ALIGNMENT WITH MSF[3]	SECTION 1 MSF FACILITIES[1]	SECTION 2 MSF EXPANSION[2]	ALIGNMENT WITH MSF[3]
Off-Road Construction Equipment (gallons [diesel])	52,785	400,503	6,820,293	52,785	400,503	5,367,759	47,868	400,503	4,717,875
Truck Trips (Hauling, Delivery, Cement) (gallons [diesel])	12,490	108,415	3,431,826	12,490	110,773	2,858,959	12,055	110,773	2,424,591
Subtotal Fuel Consumption (gallons [diesel])	*65,275*	*508,918*	*10,252,119*	*65,275*	*511,276*	*8,226,718*	*59,924*	*511,276*	*7,142,466*
Worker Commute Trips (gallons [gasoline])	13,578	59,834	1,070,842	13,578	58,992	851,892	10,872	57,743	735,753
Subtotal Fuel Consumption (gallons [gasoline])	*13,578*	*59,834*	*1,070,842*	*13,578*	*58,992*	*851,892*	*10,872*	*57,743*	*735,753*
Total MMBTU	**10,705**	**77,710**	**1,548,648**	**10,705**	**77,930**	**1,241,774**	**9,628**	**77,774**	**1,077,629**

Source: Connect Los Angeles Partners 2023
[1] Section 1 MSF Facilities = the additional four storage tracks required to support operation of Section 1 of the alignment.
[2] Section 2 MSF Expansion = full expansion of the Division 16 site
[3]The MSF is an essential element in supporting the reliable operation of a light rail transit system and would be necessary for the implementation and operation of any KNE alignment. As such, energy consumption associated with MSF construction has been presented with alignment energy totals.
Note: As discussed in Section 2.4.6, Construction Sections, of Chapter 2, KNE would be constructed in either two sections (for the KNE Fairfax and La Brea Alignments) or three sections (for the KNE San Vicente–Fairfax Alignments), referred to as Section 1, Section 2, and Section 3. Together these comprise KNE.
MMBtu = Million British thermal units; MSF = maintenance and storage facility

3.7.7.1.5.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operation of the MSF would consume additional electricity beyond that described for the alignments and stations and the design option. The MSF would consume electricity for lighting, ventilation, radio and telecommunications, and operations and maintenance equipment, as well as natural gas for space and water heating (which is not required for operation of the alignments and stations and the design option). In addition, water use associated with the MSF would result in indirect electricity consumption associated with the energy required to supply, treat, and distribute water to the South Coast region. The annual energy consumption associated with operation of the MSF expansion at Metro's Division 16 (buildout of MSF, which would be constructed concurrent with Section 2 of the alignments) is provided in Table 3.7-13.

TABLE 3.7-13. MSF ANNUAL OPERATIONAL ENERGY CONSUMPTION

DESCRIPTION	ENERGY DEMAND
Electricity Consumption (kWh/year)[1]	310,088
Natural Gas Consumption (kBtu)	49,347
Total Energy Consumption (MMBtu)[2]	1,108

Source: Connect Los Angeles Partners 2023
[1] Electricity consumption includes the indirect electricity demand associated with the electricity required to supply, treat, and distribute water.
[2] Total energy consumption presented in Million British thermal units. Electricity consumption in kilowatt-hours and natural gas consumption in thousand British thermal units has been converted to a single unit of measure.
kWh= kilowatt-hours; kBtu = thousand British thermal units; MMBtu = Million British thermal units

As shown in Table 3.7-13, operation of the MSF would result in approximately 1,108 additional MMBtu per year. Operation of the MSF would comply with applicable regulations, including CalGreen and state energy standards under Title 24 per project measures PM AQ-3 and PM AQ-4, which would require that the MSF meet a number of conservation standards, including installation of water-efficient fixtures and energy-efficient lighting and appliances. Furthermore, the MSF would allow for the additional light rail operations under any of the alignments, therefore providing for the regional VMT and related transportation energy reduction benefit provided by KNE. Therefore, the MSF would have a less than significant impact during operation.

3.7.7.1.6 SUMMARY OF KNE ENERGY CONSUMPTION

3.7.7.1.6.1 CONSTRUCTION IMPACTS

For comparative purposes, Table 3.7-14 summarizes the construction-related energy consumption for all alignments and stations, design option, and MSF. The construction-related energy consumption accounts for construction equipment, haul trucks, delivery trucks, cement trucks, and worker commutes.

TABLE 3.7-14. KNE CONSTRUCTION-RELATED ENERGY CONSUMPTION SUMMARY

DESCRIPTION	SECTION	TOTAL ENERGY CONSUMPTION (MMBTU)
ALIGNMENT AND MSF[1]		
KNE San Vicente–Fairfax Alignment	Section 1	545,083
	Section 2	408,505
	Section 3	506,645
	MSF	88,415
KNE Fairfax Alignment	Section 1	545,083
	Section 2	608,055
	MSF	88,635
KNE La Brea Alignment	Section 1	503,011
	Section 2	487,216
	MSF	87,402
ALIGNMENT, MSF, AND DESIGN OPTION[1]		
KNE San Vicente–Fairfax Alignment and Hollywood Bowl Design Option	Section 1	545,083
	Section 2	408,505
	Section 3	802,586
	MSF	88,415
KNE Fairfax Alignment and Hollywood Bowl Design Option	Section 1	545,083
	Section 2	899,014
	MSF	88,282
KNE La Brea Alignment and Hollywood Bowl Design Option	Section 1	503,011
	Section 2	787,294
	MSF	87,516

Source: Connect Los Angeles Partners 2023
[1]The MSF is an essential element in supporting the reliable operation of a light rail transit system and would be necessary for the implementation and operation of any alignment. As such, energy consumption associated with MSF construction has been presented with alignment energy totals.
Note: As discussed in Section 2.4.6, Construction Sections, of Chapter 2, KNE would be constructed in either two sections (for the KNE Fairfax and La Brea Alignments) or three sections (for the KNE San Vicente–Fairfax Alignment), referred to as Section 1, Section 2, and Section 3. Together these comprise KNE.
MMBtu = Million British thermal units; MSF = maintenance and storage facility

3.7.7.1.6.2 OPERATIONAL IMPACTS

For comparative purposes, Table 3.7-15 summarizes the regional operational-related energy consumption for all alignments and stations, design option, and MSF. The operational-related energy consumption accounts for the total annual regional energy consumption. As shown in Table 3.7-15, implementation of KNE would result in a net energy reduction.

TABLE 3.7-15. KNE ANNUAL OPERATIONAL TOTAL ENERGY CONSUMPTION SUMMARY

ALIGNMENT	GASOLINE DEMAND (GALLONS)	DIESEL DEMAND (GALLONS)	ELECTRICAL DEMAND (KWH)	NATURAL GAS DEMAND (GALLONS)	TOTAL OPERATIONAL ENERGY CONSUMPTION (MMBTU)	2045 WITHOUT PROJECT CONDITIONS, REGIONAL TRANSPORTATION FUEL CONSUMPTION	NET ENERGY CONSUMPTION
KNE San Vicente–Fairfax Alignment[1]	4,550,444,805	71,622,739	1,300,626,790	81,652	583,139,863	583,257,191	**(117,328)**
KNE Fairfax Alignment[1]	4,550,507,070	71,623,719	1,299,630,640	81,653	583,144,382	583,257,191	**(112,809)**
KNE La Brea Alignment[1]	4,550,444,626	71,622,736	1,298,810,435	81,652	583,133,641	583,257,191	**(123,550)**
Hollywood Bowl Design Option	N/A	N/A	529,668	N/A	1,808	-	-
MSF	N/A	N/A	310,088	49,347	1,108	-	-

Source: Connect Los Angeles Partners 2023

[1] The energy consumption shown for each alignment includes the regional transportation energy consumption (e.g., gasoline, diesel, and electrical demand associated with annual VMT in the SCAG region) in the 2045 future year to compare to the regional transportation energy consumption if the project were not implemented (2045 without Project Conditions).

kWh= kilowatt-hours; MMBtu = Million British thermal units; MSF = maintenance and storage facility; N/A = not applicable

3.7.7.2 IMPACT ENG-2: RENEWABLE ENERGY AND ENERGY EFFICIENCY

Impact ENG-2: Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

3.7.7.2.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

3.7.7.2.1.1 CONSTRUCTION IMPACTS

No Impact. As described under Impact ENG-1, the KNE San Vicente–Fairfax Alignment would increase energy consumption for the duration of construction. However, the alignment would comply with Metro's Green Construction Policy per project measure PM AQ-1, adhere to commitments established by the Moving Beyond Sustainability Strategic Plan 2020 per project measure PM AQ-3, and conform with Metro's Rail Design Criteria and Metro's Systemwide Station Design Standards Policy per project measure PM AQ-4. This would ensure consistency with the purpose and goals included in state and local energy plans and policies described in Table 3.7-16 and Section 3.7.2 to reduce energy consumption during construction activities.

By adhering to these plans and policies, construction of the alignment would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the KNE San Vicente–Fairfax Alignment would have no impact during construction.

TABLE 3.7-16. CONSISTENCY WITH PLANS AND POLICIES

PLANNING AGENCY OR JURISDICTION	ADOPTED PLAN	DESCRIPTION OF PLAN	CONSISTENCY WITH PLANS AND POLICES
State of California	AB 1007, Alternative Fuels Plan	AB 1007 (Pavley, Chapter 371, Statutes of 2005) requires the California Energy Commission to prepare an alternative fuels plan to increase the use of alternative fuels in California. The State Alternative Fuels Plan aims to clean the state's air, diversify fuel sources, and protect the state from oil spikes that affect prices, the economy, and jobs. The State Alternative Fuels Plan focuses on transportation fuels and alternative fuels but recognizes other components of the transportation system, including advanced vehicle technology and efficiency improvements in conventional vehicles. Additionally, the plan indicates that significant efforts would be needed to reduce VMT by all Californians through more effective land use and transportation planning and greater mass movement of people and goods.	The KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF, would not conflict with the policy mechanisms set forth by the Alternative Fuels Plan and would support aspects of the Plan's goals, including reducing VMT, by all Californians through more effective land use and transportation planning and greater mass movement of people.
State of California	EO B-16-12	EO B-16-12 advances two long-term environmental and energy goals for the transportation section: (1) decrease transportation section GHG emissions to 80 percent below 1990 levels by 2050 and (2) reduce at least 1.5 billion gallons of petroleum fuels by 2025 through the use of clean and efficient vehicles.	The KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF, would not conflict with the provisions or policy mechanisms set forth by EO B-16-12. KNE would support the Executive Order by decreasing the use of petroleum fuels and therefore GHG emissions in the transportation sector.
State of California	SB 1078, 350, and 100	In December 2021, SB 100 increased the renewable electricity procurement goal set by SB 350 from 50 percent to 60 percent by 2030 with new interim targets of 44 percent by 2024 and 52 percent by 2027. Additionally, SB 100 requires renewable energy and zero-carbon electricity system to supply 100 percent of electric retail sales by 2045.	The KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF, would not conflict with electricity providers from increasing renewable electricity procurement.
State of California	EO N-79-20	California shall transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.	The KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF, would not conflict with the provisions set forth by EO N-79-20 that would transition zero-emission off-road vehicles and equipment by 2035 where feasible.

PLANNING AGENCY OR JURISDICTION	ADOPTED PLAN	DESCRIPTION OF PLAN	CONSISTENCY WITH PLANS AND POLICES
SCAG	2020-2045 SCAG RTP/SCS	The RTP provides a long-range regional vision for regional transportation goals and policies, as well as predicted transportation challenges and the region's future transportation strategy. The RTP/SCS establishes the following goal that relates to the project and energy efficiency and conservation: • Actively encourage and create incentives for energy efficiency, where possible.	The KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF, would not conflict with the goals related to energy efficiency and conservation.
City of Los Angeles	Mobility 2035	Policy 2.3 Pedestrian Infrastructure: Recognize walking as a component of every trip, and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment. Policy 2.5 Transit Network: Improve the performance and reliability of existing and future bus service. Policy 2.9 Multiple Networks: Consider the role of each enhanced network when designing a street that includes multiple modes. Policy 2.11 Transit Right-of-Way Design: Set high standards in designing public transit rights-of-way that consider user experience and support active transportation infrastructure. Policy 2.12 Walkway and Bikeway Accommodations: Design for pedestrian and bicycle travel when rehabilitating or installing a new bridge, tunnel, or exclusive transit right-of-way.	The KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF, are consistent with Policy 2.3, Policy 2.5, Policy 2.9, Policy 2.11, and Policy 2.12. The alignments and design option do not conflict with the Los Angeles Mobility Element policies regarding infrastructure, specifically pedestrian infrastructure, transit networks, right-of-way designs, and walkability and bikeway accommodations. The MSF would support operations and maintenance of the alignments and design option. KNE would improve the transit network in Los Angeles and would give users more transit options. Furthermore, La Brea Avenue is identified as a "Comprehensive Transit Enhanced Street" and the KNE La Brea Alignment would further this objective.
City of West Hollywood	General Plan-Mobility Element	M- 5.2 Prioritize property access to promote transit, walking, and bicycling over auto access.	The KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments are consistent with this policy as the alignments would contribute to the decrease of VMT and prioritize transit and active transportation. This policy would not apply to the Hollywood Bowl Design Option or MSF because neither project component would be located in the City of West Hollywood.
Metro	First/Last Mile Strategic Plan	The First/Last Mile Plan provides an adaptable vision for addressing first/last mile improvements in a systematic way and coordinating infrastructure investments in areas surrounding stations to extend the reach of transit with the goal of increasing ridership.	Metro would implement this policy for the KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF, which would not conflict with the provisions set forth by this policy.

PLANNING AGENCY OR JURISDICTION	ADOPTED PLAN	DESCRIPTION OF PLAN	CONSISTENCY WITH PLANS AND POLICES
Metro	Green Construction Policy	Adopted to reduce emissions from construction equipment and includes a commitment by Metro that all on-road and off-road vehicles used in construction of a project will be greener and less polluting, and that best practices will be implemented to meet or exceed air quality emission standards. For example, from January 1, 2015, and onward, all off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 off-road emission standard at a minimum. Measures related to energy use include limiting idling, maintaining equipment to manufacturers' specifications, and using electric power in lieu of diesel power where available.	Metro would implement this policy for the KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF, per project measure PM AQ-1. Therefore, KNE would not conflict with this policy.
Metro	Energy and Sustainability Policy	Established to aid Metro in controlling energy consumption and encouraging energy efficiency, conservation, and sustainability. Long-term objectives include: • Reducing the use of fossil fuels through the use of ambient and renewable energy sources. • Using fuels and electricity as efficiently as possible.	Metro would implement the Energy and Sustainability Policy for the construction and operational phases of the KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF. KNE would implement: • Reducing the use of fossil fuels through the use of ambient and renewable energy sources. • Using fuels and electricity as efficiently as possible.
Metro	Environmental Policy	A comprehensive policy that provides guidance on such aspects as mitigating potential environmental impacts generated by development activities and reducing consumption of natural resources. Specific commitments related to energy include promoting renewable energy sources to address energy and environmental challenges.	Metro would implement the Environmental Policy for the KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF; therefore, KNE would not conflict with this policy.
Metro	Renewable Energy Policy	Calls for renewable energy solutions while minimizing non-renewable energy use and also calls for a review of technical feasibility for renewable power projects on Metro property and infrastructure.	Metro would implement this policy for the KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF; therefore, KNE would not conflict with this policy.
Metro	Energy Conservation and Management Plan	The Plan addresses existing and projected energy needs, identifies opportunities to reduce energy consumption and achieve cost savings, and sets forth implementation strategies, including for vehicle propulsion energy.	Metro would implement this plan for the KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF; therefore, KNE would not conflict with this plan.

PLANNING AGENCY OR JURISDICTION	ADOPTED PLAN	DESCRIPTION OF PLAN	CONSISTENCY WITH PLANS AND POLICES
Metro	Sustainable Rail Plan	Examines strategies to reduce energy consumption from rail operations and analyzes their costs and potential energy savings. The study supports implementation of the Energy Conservation and Management Plan.	Metro would implement this plan for the KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF; therefore, KNE would not conflict with this plan.
Metro	Climate Action and Adaptation Plan	Developed to provide a framework for improving energy efficiency and reducing GHG emissions and non-renewable energy consumption, including but not limited to, increased renewable energy procurement, increased photovoltaic installations, replacing lighting and appliances at Metro facilities with more energy-efficient controls and equipment, and an assessment of opportunities for Wayside Energy Storage Substation implementation to store energy from decelerating railcars.	Metro would implement this plan for the KNE San Vicente–Fairfax, Fairfax, and La Brea Alignments, as well as the Hollywood Bowl Design Option and MSF; therefore, KNE would not conflict with this plan.

Source: SCAG 2000; City of Los Angeles 2015; City of West Hollywood 2011; Metro 2007a, 2009, 2011a, 2011b, 2011c, 2012, 2013, 2014, 2019a
AB = Assembly Bill; EO = Executive Order; GHG = greenhouse gases; MSF = maintenance and storage facility; RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy; SB = Senate Bill; VMT = vehicle miles traveled

3.7.7.2.1.2 OPERATIONAL IMPACTS

No Impact. State and local energy conservation plans promote the use of renewable fuels and encourage a reduction in nonrenewable fuel usage and increased transit service to reduce passenger vehicles and the transportation-related fuel consumption on the roadway network. Table 3.7-16 provides a consistency check with the state and local energy plans and policies listed in Section 3.7.2. The KNE San Vicente–Fairfax Alignment would be consistent with all state and local energy plans and policies identified in the table.

The alignment would increase the availability of electric-powered transit, a form of transportation that is not dependent on traditional transportation fuels (i.e., diesel and gas), would result in a net reduction in VMT, and would promote alternative forms of transportation, including walking, bicycling, and transit use. Operation of the alignment would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the KNE San Vicente–Fairfax Alignment would have no impact during operation.

3.7.7.2.2 KNE FAIRFAX ALIGNMENT

3.7.7.2.2.1 CONSTRUCTION IMPACTS

No Impact. As described under Impact ENG-1, the KNE Fairfax Alignment would increase energy consumption for the duration of construction. However, the alignment would comply with Metro's Green Construction Policy per project measure PM AQ-1, adhere to commitments established by the Moving Beyond Sustainability Strategic Plan 2020 per project measure PM AQ-3, and conform with Metro's Rail Design Criteria and Metro's Systemwide Station Design Standards Policy per project measure PM AQ-4. This would ensure consistency with the purpose and goals included in state and local energy plans and policies described in Table 3.7-16 and Section 3.7.2 to reduce energy consumption during construction activities.

By adhering to these plans and policies, construction of the alignment would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the KNE Fairfax Alignment would have no impact during construction.

3.7.7.2.2.2 OPERATIONAL IMPACTS

No Impact. State and local energy conservation plans promote the use of renewable fuels and encourage a reduction in nonrenewable fuel usage and increased transit service to reduce passenger vehicles and the transportation-related fuel consumption on the roadway network. Table 3.7-16 provides a consistency check with the state and local energy plans and policies listed in Section 3.7.2. The KNE Fairfax Alignment would be consistent with all state and local energy plans and policies identified in the table.

The alignment would increase the availability of electric-powered transit, a form of transportation that is not dependent on traditional transportation fuels (i.e., diesel and gas), would result in a net reduction in VMT, and would promote alternative forms of transportation, including walking, bicycling, and transit use.

Operation of the alignment would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the KNE Fairfax Alignment would have no impact during operation.

3.7.7.2.3 KNE LA BREA ALIGNMENT

3.7.7.2.3.1 CONSTRUCTION IMPACTS

No Impact. As described under Impact ENG-1, the KNE La Brea Alignment would increase energy consumption for the duration of construction. However, the alignment would comply with Metro's Green Construction Policy per project measure PM AQ-1, adhere to commitments established by the Moving Beyond Sustainability Strategic Plan 2020 per project measure PM AQ-3, and conform with Metro's Rail Design Criteria and Metro's Systemwide Station Design Standards Policy per project measure PM AQ-4. This would ensure consistency with the purpose and goals included in state and local energy plans and policies described in Table 3.7-16 and Section 3.7.2 to reduce energy consumption during construction activities.

By adhering to these plans and policies, construction of the alignment would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the KNE La Brea Alignment would have no impact during construction.

3.7.7.2.3.2 OPERATIONAL IMPACTS

No Impact. State and local energy conservation plans promote the use of renewable fuels and encourage a reduction in nonrenewable fuel usage and increased transit service to reduce passenger vehicles and the transportation-related fuel consumption on the roadway network. Table 3.7-16 provides a consistency check with the state and local energy plans and policies listed in Section 3.7.2. The KNE La Brea Alignment would be consistent with all state and local energy plans and policies identified in the table.

The alignment would increase the availability of electric-powered transit, a form of transportation that is not dependent on traditional transportation fuels (i.e., diesel and gas), would result in a net reduction in VMT, and would promote alternative forms of transportation, including walking, bicycling, and transit use. Operation of the alignment would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the KNE La Brea Alignment would have no impact during operation.

3.7.7.2.4 HOLLYWOOD BOWL DESIGN OPTION

3.7.7.2.4.1 CONSTRUCTION IMPACTS

No Impact. Similar to the alignments as described under Impact ENG-1, the Hollywood Bowl Design Option would increase energy consumption for the duration of construction. However, the design option would comply with Metro's Green Construction Policy per project measure PM AQ-1, adhere to commitments established by the Moving Beyond Sustainability Strategic Plan 2020 per project measure PM AQ-3, and conform with Metro's Rail Design Criteria and Metro's Systemwide Station Design Standards Policy per project measure PM AQ-4. This would ensure consistency with the purpose and goals included in state

and local energy plans and policies described in Table 3.7-16 and Section 3.7.2 to reduce energy consumption during construction activities.

By adhering to these plans and policies, construction of the design option would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the Hollywood Bowl Design Option would have no impact during construction.

3.7.7.2.4.2 OPERATIONAL IMPACTS

No Impact. As described above for the alignments, the Hollywood Bowl Design Option would allow for an additional station at the Hollywood Bowl, which would primarily serve the Hollywood Bowl venue along with the residential land uses in the vicinity of the proposed station. Thus, the Hollywood Bowl Design Option would also facilitate electric-powered transit use in place of passenger vehicle use. State and local energy conservation plans promote the use of renewable fuels and encourage a reduction in nonrenewable fuel usage and increased transit service to reduce passenger vehicles and the transportation-related fuel consumption on the roadway network. Table 3.7-16 provides a consistency check with the state and local energy plans and policies listed in Section 3.7.2. The Hollywood Bowl Design Option would be consistent with all state and local energy plans and policies identified in the table.

The design option would increase the availability of electric-powered transit, a form of transportation that is not dependent on traditional transportation fuels (i.e., diesel and gas), would result in a net reduction in VMT, and would promote alternative forms of transportation, including walking, bicycling, and transit use. Operation of the alignment would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the Hollywood Bowl Design Option would have no impact during operation.

3.7.7.2.5 MAINTENANCE AND STORAGE FACILITY

3.7.7.2.5.1 CONSTRUCTION IMPACTS

No Impact. The MSF would comply with applicable requirements of Metro's Green Construction Policy and Metro Rail Design Criteria per project measures PM AQ-1, PM AQ-3, and PM AQ-4, which would ensure consistency with the purpose and goals included in state and local energy plans and policies described in Table 3.7-16 and Section 3.7.2 to reduce energy consumption. By adhering to these plans and policies, construction of the MSF would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. Therefore, the MSF would have no impact during construction.

3.7.7.2.5.2 OPERATIONAL IMPACTS

No Impact. The MSF would provide support necessary for operation of KNE and would therefore be consistent with the regional and local energy conservation plans detailed above for the alignments by contributing to implementation of KNE. Table 3.7-16 provides a consistency check with the state and local energy plans and policies described in Section 3.7.2. Since the MSF supports operation of the alignments and Hollywood Bowl Design Option, it would be consistent with all state and local energy plans and policies identified in the table. In addition, per project measure PM AQ-4, the MSF would be required to comply with energy-efficiency standards set forth by Title 24 of the California Administrative Code and the Appliance Efficiency Regulations. Title 24 requires that a project meet conservation standards, including installation of water-efficient fixtures and energy-efficient lighting. Title 24 also regulates energy consumption for the heating, cooling, ventilation, and lighting of nonresidential buildings. Since the MSF would allow for additional light rail operations under any of the alignments, it would provide regional VMT reductions and related transportation energy reduction benefits. Operation of the MSF would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, the MSF would have no impact during operation.

3.7.7.3 MITIGATION MEASURES

As the impact analysis above demonstrates, construction and operation of any of the KNE alignments and stations, the design option, and the MSF would result in no impact or a less than significant impact related to energy resources. Therefore, no mitigation is required under CEQA.

3.7.7.4 SUMMARY OF IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES

Table 3.7-17 summarizes the energy impact significance conclusions and applicable mitigation measures. As indicated above, there are no significant energy impacts that would require mitigation.

TABLE 3.7-17. KNE SUMMARY OF IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES

IMPACT		IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES				
		KNE SAN VICENTE–FAIRFAX ALIGNMENT	KNE FAIRFAX ALIGNMENT	KNE LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION	MAINTENANCE AND STORAGE FACILITY
Impact ENG-1: Energy Consumption	Impact Before Mitigation	Construction: LTS Operation: LTS	Construction: LTS Operation: LTS	Construction: LTS Operation: LTS	Construction: LTS Operation: LTS	Construction: LTS Operation: LTS
	Mitigation Measures	None Required	None Required	None Required	None Required	None Required
	Impact After Mitigation	Construction: LTS Operation: LTS	Construction: LTS Operation: LTS	Construction: LTS Operation: LTS	Construction: LTS Operation: LTS	Construction: LTS Operation: LTS
Impact ENG-2: Renewable Energy and Energy Efficiency	Impact Before Mitigation	Construction: No Impact Operation: No Impact	Construction: No Impact Operation: No Impact	Construction: No Impact Operation: No Impact	Construction: No Impact Operation: No Impact	Construction: No Impact Operation: No Impact
	Mitigation Measures	None Required	None Required	None Required	None Required	None Required
	Impact After Mitigation	Construction: No Impact Operation: No Impact	Construction: No Impact Operation: No Impact	Construction: No Impact Operation: No Impact	Construction: No Impact Operation: No Impact	Construction: No Impact Operation: No Impact

Source: Connect Los Angeles Partners 2024
LTS = less than significant