

5. Environmental Analysis

5.4 ENERGY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for energy-related impacts associated with the McKinley Elementary School Campus Master Plan (Proposed Project) and ways in which it would reduce unnecessary energy consumption, consistent with the suggestions in Appendix F of the CEQA Guidelines. Energy service providers to the McKinley ES campus include Southern California Edison (SCE) for electrical service and Southern California Gas Company (SoCalGas) for natural gas. Energy calculations for the Proposed Project are in Appendix G of this DEIR.

During the Initial Study/Notice of Preparation (IS/NOP) public review period a California Environmental Quality Act (CEQA) scoping meeting was conducted on January 31, 2023, where questions regarding the use of electric and/or solar utility systems were raised. The IS/NOP and all scoping comment letters are included as Appendices B and C of this document.

5.4.1 Environmental Setting

Section 21100(b)(3) of the CEQA Guidelines requires that an EIR include a detailed description of mitigation measures proposed to minimize significant effects on the environment, including but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy. Appendix F of the State CEQA Guidelines states that, to ensure that energy implications are considered in project decisions, the potential energy implications of a project shall be considered in an EIR, to the extent relevant and applicable to the project. Appendix F further states that a project's energy consumption and proposed conservation measures may be addressed, as relevant and applicable, in the project description, environmental setting, and impact analysis portions of technical sections as well as through mitigation measures and alternatives.

In accordance with Appendices G and F of the State CEQA Guidelines, this DEIR includes relevant information and analyses that address the energy implications of the Proposed Project. This section summarizes the Proposed Project's anticipated energy needs, impacts, and conservation measures. Other aspects of the Proposed Project's energy implications are discussed elsewhere in this DEIR, including Chapter 3, *Project Description*, and Sections 5.2, *Air Quality*; and 5.6, *Greenhouse Gas Emissions*.

5.4.1.1 REGULATORY BACKGROUND

Federal Regulations

Federal Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 was established in response to the 1973 oil crisis. The act created the Strategic Petroleum Reserve, established vehicle fuel economy standards, and prohibited the export of US crude oil (with a few limited exceptions). It also created Corporate Average Fuel Economy (CAFE) standards for passenger cars starting in model year 1978. The CAFE standards are updated periodically to account for changes in vehicle technologies, driver behavior, and/or driving conditions.

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The federal government issued new CAFE standards in 2012 for model years 2017 to 2025 that required a fleet average of 54.5 miles per gallon (mpg) for model year 2025. However, on March 30, 2020, the US Environmental Protection Agency (EPA) finalized an updated CAFE and greenhouse gas (GHG) emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021–2026. Under SAFE, the fuel economy standards will increase 1.5 percent per year compared to the 5 percent per year under the CAFE standards established in 2012. Overall, SAFE requires a fleet average of 40.4 mpg for model year 2026 vehicles (85 Federal Register 24174 (April 30, 2020)).

On December 21, 2021, under direction of Executive Order (EO) 13990 issued by President Biden, the National Highway Traffic Safety Administration repealed Safer Affordable Fuel Efficient Vehicles Rule Part One, which had preempted state and local laws related to fuel economy standards. In addition, on March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards in response to EO 13990. Fuel efficiency under the standards proposed will increase 8 percent annually for model years 2024 to 2025 and 10 percent annually for model year 2026. Overall, the new CAFE standards require a fleet average of 49 MPG for passenger vehicles and light trucks for model year 2026, which would be a 10 MPG increase relative to model year 2021 (NHTSA 2022).

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (Public Law 110-140) seeks to provide the nation with greater energy independence and security by increasing the production of clean renewable fuels; improving vehicle fuel economy; and increasing the efficiency of products, buildings, and vehicles. It also seeks to improve the energy performance of the federal government. The Act set higher CAFE standards; the Renewable Fuel Standard; appliance energy efficiency standards; building energy efficiency standards; and accelerated research and development tasks on renewable energy sources (e.g., solar energy, geothermal energy, and marine and hydrokinetic renewable energy technologies), carbon capture, and sequestration (USEPA 2022).

Energy Policy Act of 2005

Passed by Congress in July 2005, the Energy Policy Act includes a comprehensive set of provisions to address energy issues. This Act includes tax incentives for energy conservation improvements in commercial and residential buildings, fossil fuel production and clean coal facilities, and construction and operation of nuclear power plants, among other things. Subsidies are also included for geothermal, wind energy, and other alternative energy producers.

National Energy Policy

Established in 2001 by the National Energy Policy Development Group, the National Energy Policy is designed to help the private sector and state and local governments promote dependable, affordable, and environmentally sound production and distribution of energy for the future. Key issues addressed by the energy policy are energy conservation, repair and expansion of energy infrastructure, and ways of increasing energy supplies while protecting the environment.

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Natural Gas Pipeline Safety Act of 1968

The Natural Gas Pipeline Safety Act of 1968 authorizes the United States Department of Transportation to regulate pipeline transportation of flammable, toxic, or corrosive natural gas and other gases as well as the transportation and storage of liquefied natural gas. The Pipeline and Hazardous Materials Safety Administration within the Department of Transportation develops and enforces regulations for the safe, reliable, and environmentally sound operation of the nation's 2.6-million-mile pipeline transportation system.

State Regulations

California Energy Commission

The California Energy Commission (CEC) was created in 1974 under the Warren-Alquist Act as the State's principal energy planning organization to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with six basic responsibilities when designing state energy policy:

- Forecast statewide electricity needs.
- License power plants to meet those needs.
- Promote energy conservation and efficiency measures.
- Develop renewable energy resources and alternative energy technologies.
- Promote research, development and demonstration.
- Plan for and direct the state's response to energy emergencies.

California Public Utilities Commission

In September 2008, the California Public Utilities Commission (CPUC) adopted the Long-Term Energy Efficiency Strategic Plan, which provides a framework for energy efficiency in California through the year 2020 and beyond. It articulates a long-term vision, as well as goals for each economic sector, identifying specific near-term, mid-term, and long-term strategies to assist in achieving these goals. This Plan sets forth the following four goals, known as Big Bold Energy Efficiency Strategies, to achieve significant reductions in energy demand:

- All new residential construction in California will be zero net energy by 2020;
- All new commercial construction in California will be zero net energy by 2030;
- Heating, Ventilation and Air Conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate; and
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

With respect to the commercial sector, the Long-Term Energy Efficiency Strategic Plan notes that commercial buildings, which include schools, hospitals, and public buildings, consume more electricity than any other end-use sector in California. The commercial sector's five billion-plus square feet of space accounts

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for 38 percent of the State's power use and over 25 percent of natural gas consumption. Lighting, cooling, refrigeration, and ventilation account for 75 percent of all commercial electric use, while space heating, water heating, and cooking account for over 90 percent of gas use. In 2006, schools and colleges were in the top five facility types for electricity and gas consumption, accounting for approximately 10 percent of State's electricity and gas use.

The CPUC and CEC have adopted the following goals to achieve zero net energy (ZNE) levels by 2030 in the commercial sector:

- **Goal 1:** New construction will increasingly embrace zero net energy performance (including clean, distributed generation), reaching 100 percent penetration of new starts in 2030.
- **Goal 2:** 50 percent of existing buildings will be retrofit to zero net energy by 2030 through achievement of deep levels of energy efficiency and with the addition of clean distributed generation.
- **Goal 3:** Transform the commercial lighting market through technological advancement and innovative utility initiatives.

Renewables Portfolio Standard

Senate Bills 1078, 107, X1-2, and Executive Order S-14-08

The California Renewables Portfolio Standard (RPS) Program was established in 2002 under SB 1078 (Sher) and 107 (Simitian). The RPS program required investor-owned utilities, electric service providers, and community choice aggregators to increase the use of eligible renewable energy resources to 33 percent of total procurement by 2020. Initially under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. EO S-14-08 was signed in November 2008, which expanded the state's Renewable Energy Standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). The California Public Utilities Commission (CPUC) is required to provide quarterly progress reports on progress toward RPS goals. This has accelerated the development of renewable energy projects throughout the state. For year 2020, the three largest retail energy utilities provided an average of 43 percent of their supplies from renewable energy sources. Community choice aggregators provided an average of 41 percent of their supplies from renewable sources (CPUC 2021).

Senate Bill 350

Governor Jerry Brown signed SB 350 on October 7, 2015, which expands the RPS by establishing a goal of 50 percent of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 includes the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses upon which an energy efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires the CPUC, in consultation with the CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal. SB 350 also provides for the transformation of the California Independent System Operator into a regional organization to promote the development of regional electricity transmission markets in the western

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states and to improve the access of consumers served by the California Independent System Operator to those markets, pursuant to a specified process.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, which replaces the SB 350 requirements. Under SB 100, the RPS for public-owned facilities and retail sellers consist of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Senate Bill 1020

SB 1020 was signed into law on September 16, 2022. It requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, SB 1020 requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Appliance Efficiency Regulations

California's Appliance Efficiency Regulations contain energy performance, energy design, water performance, and water design standards for appliances (including refrigerators, ice makers, vending machines, freezers, water heaters, fans, boilers, washing machines, dryers, air conditioners, pool equipment, and plumbing fittings) that are sold or offered for sale in California (California Code of Regulations [CCR] Title 20, Parts 1600–1608). These standards are updated regularly to allow consideration of new energy efficiency technologies and methods (CEC 2017).

Title 24, Part 6, Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

On August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards went into effect on January 1, 2023, replacing the existing 2019 standards. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

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Title 24, Part 11, Green Building Standards

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.¹ The mandatory provisions of CALGreen became effective January 1, 2011. In 2021, the CEC approved the 2022 CALGreen, which went into effect on January 1, 2023, replacing the existing 2019 standards.

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model year 2017 through 2025 light-duty vehicles (see also the discussion on the update to the CAFE standards under *Federal*, above). In January 2012, the California Air Resources Board approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent fewer global warming gases and 75 percent fewer smog-forming emissions (CARB 2017).

Executive Order N-79-20

On September 23, 2020, EO N-79-20 was issued to set a time frame for the transition to zero-emissions (ZE) passenger vehicles, trucks, and off-road equipment. It directs the California Air Resources Board to develop and propose:

- Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs (zero-emission vehicles) sold in the California toward the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new ZE trucks and buses sold and operated in California toward the target of 100 percent of the fleet transitioning to ZEVs by 2045 everywhere feasible, and for all drayage trucks to be ZE by 2035.
- Strategies to achieve 100 percent zero emissions from all off-road vehicles and equipment operations in California by 2035, in cooperation with other state agencies, the EPA, and local air districts.

¹ The green building standards became mandatory in the 2010 edition of the code.

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Regional

SCAG's 2016-2040 RTP/SCS

The 2020-2045 RTP/SCS, *Connect SoCal*, was adopted on September 3, 2020, and is an update to the 2016-2040 RTP/SCS (SCAG 2020). In general, the RTP/SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light duty trucks and thereby reduce energy consumption from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land use strategies in development of the SCAG region through the horizon year 2045 (SCAG 2020). It forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. *Connect SoCal* includes a “Core Vision” that centers on maintaining and better managing the transportation network for moving people and goods, while expanding mobility choices by locating housing, jobs, and transit closer together; and increasing investments in transit and complete streets (SCAG 2020).

Local

Santa Monica – Malibu Unified School District Districtwide Plan for Sustainability

The District adopted its Districtwide Plan for Sustainability (Sustainability Plan) in 2019 to provide a strategic roadmap for formalizing and uniting the District’s many existing sustainability initiatives; incorporating sustainability into Education Services and all aspects of student learning; and integrating climate protection, resource efficiency, waste management, and other sustainability practices into District operations. The Sustainability Plan establishes a framework for assessment and progress on each focus area by documenting baseline conditions, establishing key goals and performance indicators, highlighting current initiatives and best practices, recommending improvement strategies, and anticipating project costs and funding mechanisms (SMMUSD 2019). The Sustainability Plan builds on and advances the District’s existing sustainability commitments by identifying goals and recommended strategies over the following eight sustainability focus areas: climate, education and engagement, energy efficiency and renewable, water, solid waste, transportation, food, nutrition and wellness, green building and operations.

5.4.1.2 EXISTING CONDITIONS

Electricity

The campus is in SCE’s service area, which spans much of Southern California—from Orange and Riverside counties in the south to Santa Barbara County in the west to Mono County in the north (CEC 2022a). Total electricity consumption in SCE’s service area was 103,597 gigawatt-hours in 2020 (CEC 2022c).² Sources of electricity sold by SCE in 2020, the latest year for which data are available, were:

² One gigawatt-hour is equivalent to one million kilowatt-hours.

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- 30.9 percent renewable, consisting mostly of solar and wind
- 3.3 percent large hydroelectric
- 15.2 percent natural gas
- 8.4 percent nuclear
- 0.3 percent other
- 42.0 percent unspecified sources—that is, not traceable to specific sources (CEC 2022d)³

The McKinley ES campus generates electricity demand from uses such as heating, cooling, and ventilation of buildings; operation of electrical systems; lighting; and use of on-site equipment and appliances. Electricity use data from CalEEMod is based on information provided by the District. The existing campus consumes approximately 213,216 kWh per year.⁴ Existing estimated electricity consumption for the campus is shown in Table 5.4-1, *Existing Campus Electricity Consumption*.

Table 5.4-1 Existing Campus Electricity Consumption

Land Use	Electricity (kWh/year)
Elementary School	213,216
kWh = kilowatt-hour	

Gas

SoCalGas provides gas service in the City of Santa Monica, including the McKinley ES campus. The service area of SoCalGas spans much of the southern half of California, from Imperial County in the southeast to San Luis Obispo County in the northwest to part of Fresno County in the north to Riverside County and most of San Bernardino County in the east (CEC 2022b). Total natural gas consumption in SoCalGas's service area was 691,096 million cubic feet for 2020 (CEC 2022e). The McKinley ES campus generates natural gas demand from uses such as building heating, and water heating. Natural gas use data from CalEEMod is based on information provided by the District. The existing campus consumes approximately 334,400 kBTU per year.⁵ Existing estimated natural gas consumption for the campus is shown in Table 5.5-2, *Existing Campus Natural Gas Consumption*.

Table 5.4-2 Existing Campus Natural Gas Consumption

Land Use	Natural Gas (kBTU/year)
Elementary School	334,400
kBTU = kilo-British thermal unit	

³ The electricity sources listed reflect changes after the 2013 closure of the San Onofre Nuclear Generating Station, which is owned by SCE.

⁴ Based on information provided by the District for year 2019.

⁵ Based on information provided by the District for year 2019.

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Fuel Consumption

California is among the top producers of petroleum in the country, with crude oil pipelines throughout the state connecting to oil refineries in the Los Angeles, the San Francisco Bay, and the Central Valley regions. In addition to producing petroleum, California is also one of the top consumers of fuel for transportation. With this sector accounting for approximately 35 percent of California's total energy demand in 2020, amounting to approximately 2,355.5 trillion British Thermal Units (BTU) (US EIA 2020a). In addition, in 2020, California's transportation sector consumed approximately 433 million barrels of petroleum fuels (US EIA 2020b). Furthermore, according to the California Energy Commission, California's 2021 fuel sales were approximately 13,818 million gallons of gasoline and 3,744 million gallons of diesel (CEC 2022f). In Los Angeles County, approximately 3,061 million gallons of gasoline and 224 million gallons of diesel fuel were sold in 2021 (CEC 2022g).

5.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

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

5.4.3 Environmental Impacts

5.4.3.1 METHODOLOGY

The Proposed Project's Design Features

The Proposed Project would include features that would reduce criteria air pollutant emissions:

- **PDF ENE-1.** New buildings are required to achieve the current California Building Energy and Efficiency Standards (Title 24, Part 6) and CALGreen (Title 24, Part 11).

Based on CEQA Guidelines Appendix F, *Energy Conservation*, in order to ensure energy implications are considered in project decisions, CEQA requires that EIRs include a discussion of the potential impacts of proposed projects, with particular emphasis on avoiding or reducing wasteful, unnecessary, or inefficient use of energy resources, which would include decreasing overall per capita energy consumption; decreasing reliance on fossil fuels such as coal, natural gas, and oil; and increasing reliance on renewable energy sources. Environmental effects may include the Proposed Project's energy requirements and its energy use efficiencies by amount and fuel type during demolition, construction, and operation; the effects of the Proposed Project on local and regional energy supplies; the effects of the Proposed Project on peak and base period demands for electricity and other forms of energy; the degree to which the Proposed Project complies with existing energy standards; the effects of the Proposed Project on energy resources; and the Proposed Project's projected transportation energy use requirements and its overall use of efficient transportation alternatives, if

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applicable. The provided energy and fuel usage information provided in this section are based on the following:

- **Building Energy.** CalEEMod default energy rates, which are based on the CEC's 2018-2030 Uncalibrated Commercial Sector Forecast and the 2019 Residential Appliance Saturation Survey (RASS), are used to quantify electricity and natural gas use. Use of the CalEEMod default energy rates results in conservative estimates compared to the recently adopted 2022 Building Energy Efficiency Standards because the 2019 RASS accounted for energy data for homes built between 1935 to 2015 with an average construction year of 1974. It is anticipated new buildings under the 2022 Standards would generally result in lower electricity use. Furthermore, the carbon intensity factor is based on the carbon dioxide equivalent (CO_{2e}) intensity factor of 452 pounds per megawatt hour (lbs./MWh) as reported in Southern California Edison's 2021 Sustainability Report (SCE 2022). Overall, using the fourth assessment report global warming potentials (AR4 GWPs) and the default CalEEMod intensity factors of 0.033 lb./MWh for methane (CH₄) and 0.004 lb./MWh for nitrous oxide (N₂O), the adjusted intensity factor for CO₂ is 449.98 lbs./MWh.
- **Construction Fuel Usage.** Fuel usage associated with construction-related vehicle trips fuel usage data was obtained from EMFAC2021, Version 1.0.3, and OFFROAD2021, Version 1.0.1. Construction equipment data was obtained from the District. Where specific information regarding proposed project-related construction activities was not available, construction assumptions were based on CalEEMod defaults.

5.4.3.2 IMPACT ANALYSIS

The following impact analysis addresses thresholds of significance for which the Initial Study/Notice of Preparation disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.4-1: Implementation of the Proposed Project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. [Threshold E-1]

Short-Term Construction Impacts

Construction of development associated with the Proposed Project would create temporary increased demands for electricity and vehicle fuels compared to existing conditions and would result in short-term transportation-related energy use.

Electrical Energy

Construction activities associated with the Proposed Project would require electricity to power the construction equipment. The electricity use during construction would vary during different phases of construction. The majority of construction equipment during demolition and grading would be gas or diesel powered, and the later construction phases would require electricity-powered equipment for interior

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construction and architectural coatings. Overall, the use of electricity would be temporary in nature and would fluctuate according to the phase of construction. Additionally, it is anticipated that the majority of electric-powered construction equipment would be hand tools (e.g., power drills, table saws, compressors) and lighting, which would result in minimal electricity usage during construction activities. Therefore, construction activities of the Proposed Project would not result in wasteful, inefficient, or unnecessary electricity demands as electricity consumption would be limited to tasks necessary to complete project construction, and impacts would be **less than significant**.

Natural Gas Energy

It is not anticipated that construction equipment used for development accommodated by the Proposed Project would be powered by natural gas, and no natural gas demand is anticipated during construction. Therefore, **no impact** is anticipated with respect to natural gas usage during the Proposed Project's construction.

Liquid Fuels and Transportation Energy

Transportation energy use depends on the type and number of trips, vehicle miles traveled (VMT), fuel efficiency of vehicles, and travel mode. Additionally, transportation energy use during construction would come from the transport and use of construction equipment, delivery vehicles and haul trucks, and construction employee vehicles that would use diesel fuel and/or gasoline. Energy consumption for each of the three phases of construction was calculated using the CalEEMod (Version 2022.1) computer model and data from the EMFAC2021, Version 1.0.3, and OFFROAD2021, Version 1.0.1, databases. The results are shown in Table 5.4-3, *Construction-Related Fuel Usage*.

Table 5.4-3 Construction-Related Fuel Usage

Project Component	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
Construction Worker Commute	196,060	7,494	257	8	6,203	2,266
Construction Vendor Trips	5,343	1,017	39,173	5,402	0	0
Construction Truck Haul Trips	4	1	9,571	1,555	0	0
Construction Off-Road Equipment	N/A	0	N/A	108,614	N/A	0
Total	201,406	8,511	49,000	115,578	6,203	2,266

Source: CalEEMod Version 2022.1; EMFAC2021, Version 1.0.3, and OFFROAD2021, Version 1.0.1.

Notes: VMT = vehicle miles traveled; kWh = kilowatt hour

The use of energy resources by these vehicles would fluctuate according to the phase of construction and would be temporary. It is anticipated that the majority of off-road construction equipment, such as those used during demolition and grading, would be gas or diesel powered. In addition, all construction equipment would cease operating upon completion of the Proposed Project's construction. Thus, impacts related to transportation energy use during construction would be temporary and would not require expanded energy supplies or the construction of new infrastructure. Furthermore, to limit wasteful and unnecessary energy

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consumption, the construction contractors are anticipated to minimize nonessential idling of construction equipment during construction, in accordance with section 2449 of CCR, Title 13, Article 4.8, Chapter 9, which limits nonessential idling of diesel-powered off-road equipment to 5 minutes or less.

The Proposed Project would not result in wasteful, inefficient, or unnecessary use of energy during construction. It is anticipated that the construction equipment would be well maintained and meet the appropriate tier ratings per US EPA emissions standards, so that adequate energy-efficiency level is achieved. Construction trips would not result in unnecessary use of energy since the campus is centrally located and is served by numerous regional freeway systems (e.g., State Route [SR]-2 and Interstate [I]-10) that provide the most direct routes from various areas of the region. Electrical energy would be available for use during construction from existing power lines and connections, precluding the use of less-efficient generators. Thus, energy use during construction of the Proposed Project would not be considered inefficient, wasteful, or unnecessary. Impacts would be **less than significant**.

Long-Term Impacts During Operation

Operation of the Proposed Project would create additional demands for electricity and natural gas as compared to existing conditions due to the increase in building square footage. Operational use of energy would also include heating, cooling, and ventilation of buildings; water heating; operation of electrical systems, use of on-site equipment and appliances; and indoor and outdoor lighting.

Electrical Energy

The proposed net increase in electricity consumption from the Proposed Project is shown in Table 5.4-4.

Table 5.4-4 Net Operation-Related Electricity Consumption

Land Use ¹	Electricity (kWh/year) ¹
Elementary School (Full Buildout) ²	628,774
Parking Lot ¹ (Full Buildout)	21,292
Total	650,066
Existing Elementary School	213,216
Net Operation-Related Electricity Consumption	436,850

Source: See Appendix G, Energy Data Sheet.

Note: kWh=kilowatt-hour

¹ Electricity consumption modeling conservatively assumes that electricity use from the parking lot (lighting) are new and does not assume and energy reductions from use of higher efficiency lighting or HVAC units.

² As seen in Appendix D of the CalEEMod Users' Guide, the default energy dataset is based on 2019 consumption estimates from the CEC's Commercial Forecast and the Residential Appliance Saturation Survey (RASS). While these surveys were completed in 2019, the energy intensity estimates derived from the dataset do not only represent buildings constructed in compliance with energy efficiency requirements of the 2019 Energy Code but would also include energy use rates by older buildings. Therefore, the default energy consumption estimates provided in CalEEMod are very conservative and overestimate expected energy use.

Electrical service to the campus would continue to be provided by SCE through connections to existing off-site electrical lines and new on-site infrastructure as needed for each phase. The Proposed Project would add approximately 55,300 square feet of building area to the campus and would redevelop the parking area. As

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shown in the table, the net new electricity demand by these additional uses from the elementary school would total 436,850 kilowatt-hours per year. While the Proposed Project would generate new energy demand at the site, it would be required to comply with the applicable Building Energy Efficiency Standards and CALGreen requirements as well as the District's Sustainability Plan, including measures for energy efficient lighting and higher efficiency HVAC units. In addition, as the Building Energy Efficiency Standards mandate an increase in building energy efficiency every three years, the new buildings to be constructed would be more energy efficient than the existing school buildings energy to be replaced (CEC 2022h). In addition, as noted in Chapter 3, Project Description, the Proposed Project would be solar ready and would include features such as occupancy sensors for classrooms and offices that more efficiently use energy. These features would comply with the goals outlined in Appendix F of the CEQA Guidelines, as the Proposed Project would promote the use of renewable energy and decrease reliance on fossil fuels to meet the electricity demands of the campus. Because the Proposed Project would comply with these regulations and would provide features to decrease electricity use by the campus, it would not result in wasteful, inefficient, or unnecessary electricity demands even though the Proposed Project would consume more energy. Therefore, operation of the Proposed Project would result in a less than significant impact related to electricity.

Natural Gas Energy

The net new natural gas consumption associated with the Proposed Project is shown in Table 5.4-5. As seen in the table, the net new natural gas demand by the new elementary school buildings would total 1,774,792 kilo-British thermal units per year following buildout of the Proposed Project. Development associated with the Proposed Project would be built to meet the Building Energy Efficiency Standards, including measures for higher efficiency HVAC units for building heating. These measures would comply with the goals outlined in Appendix F of the CEQA Guidelines, as the Proposed Project would decrease reliance on fossil fuels to meet the natural gas demands of the campus. It would not result in wasteful, inefficient, or unnecessary natural gas demands. Therefore, operation of the Proposed Project would result in **less than significant** impacts with respect to natural gas usage.

Table 5.4-5 Net Operation-Related Natural Gas Consumption

Land Use	Natural Gas (kBTU/year) ¹
Elementary School (Full Buildout)	2,109,192
Existing Elementary School (2019)	334,400
Net Operation-Related Electricity Consumption	1,774,792

Source: See Appendix Energy.

Note: kBTU=kilo-British thermal units

¹ As seen in Appendix D of the CalEEMod Users' Guide, the default energy dataset is based on 2019 consumption estimates from the CEC's Commercial Forecast and the Residential Appliance Saturation Survey (RASS). While these surveys were completed in 2019, the energy intensity estimates derived from the dataset do not only represent buildings constructed in compliance with energy efficiency requirements of the 2019 Energy Code, but would also include energy use rates by older buildings. Therefore, the default energy consumption estimates provided in CalEEMod are very conservative and overestimate expected energy use.

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Transportation Energy

The Proposed Project would result in the consumption of transportation energy during operation from the use of motor vehicles. The efficiency of the motor vehicles in use (average miles per gallon) is unknown and highly variable. Thus, estimates of transportation energy use are based on the overall vehicle miles traveled (VMT) and related transportation energy use. The Proposed Project's related VMT would primarily come from students and staff. However, because student capacity and staffing would not increase or change after full buildout of the three construction phases, implementation of the Proposed Project would not result in additional trips or an increase in VMT and would not result in additional reliance on fossil fuel consumption. In addition, the Proposed Project would include electric vehicle charging infrastructure, which, if implemented, would reduce reliance on fossil fuels. Therefore, there would be **no impact** with respect to operation-related fuel usage.

Impact 5.4-2: The Proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. [Threshold E-2])

The following evaluates consistency of the Proposed Project with California's RPS program and the Santa Monica – Malibu Unified School District Districtwide Plan for Sustainability.

California Renewables Portfolio Standard Program

The state's electricity grid is transitioning to renewable energy under California's RPS Program. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The RPS goals have been updated since adoption of SB 1078 in 2002. In general, California has RPS requirements of 33 percent renewable energy by 2020 (SB X1-2), 44 percent by 2024, 50 percent by 2026, 52 percent by 2027, 60 percent by 2030, and 100 percent by 2045. The RPS requirements established under SB 100 are also applicable to publicly owned utilities. The statewide RPS requirements do not directly apply to individual development projects, but to utilities and energy providers such as SCE, whose compliance with RPS requirements would contribute to the state objective of transitioning to renewable energy. The land uses accommodated by the Proposed Project would not change (school use) and would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen. For instance, the Proposed Project would be solar ready and would establish lighting and equipment efficiency standards for all new equipment that meet or exceed Title 24 standards. Therefore, implementation of the Proposed Project would not conflict with or obstruct implementation of California's RPS Program and impacts would be **less than significant**.

SCAG's Regional Transportation Plan / Sustainable Communities Strategy

SCAG adopted the 2020-2045 RTP/SCS (Connect SoCal) in September 2020. Connect SoCal finds that land use strategies that focus on new housing and job growth in areas rich with destinations and mobility options would be consistent with a land use development pattern that supports and complements the proposed transportation network. The overarching strategy in Connect SoCal is to plan for the southern California region to grow in more compact communities in transit priority areas and priority growth areas; provide neighborhoods with efficient and plentiful public transit; establish abundant and safe opportunities to walk,

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bike, and pursue other forms of active transportation; and preserve more of the region's remaining natural lands and farmlands (SCAG 2020). Connect SoCal's transportation projects help more efficiently distribute population, housing, and employment growth, and forecast development is generally consistent with regional-level general plan data to promote active transportation and reduce energy consumption. As shown in Section 5.6, *Greenhouse Gas*, the Proposed Project would provide redeveloped and modernized facilities for the existing and future students of McKinley ES but not result in an increase in student capacity. The Proposed Project would not generate an increase in VMT and would not generate additional transportation energy demand or additional fossil fuel consumption from transportation. Therefore, implementation of the Proposed Project would not interfere with implementation of the Connect SoCal Plan and impacts would be **less than significant**.

Santa Monica – Malibu Unified School District Districtwide Plan for Sustainability

Adopted by the District in 2019, the Sustainability Plan is intended to provide a roadmap to formalize and unite the District's existing sustainability initiatives in addition to incorporating and integrating sustainability practices into student learning and District operations.

While most of the measures under each focus area within the Sustainability Plan apply more broadly to District actions rather than individual projects, the Proposed Project is consistent with the broad strategies outlined in the Sustainability Plan, particularly for the energy efficiency and renewable focus area. For instance, implementation of the Proposed Project would be required to comply with the latest Building Energy Efficiency Standards and CALGreen requirements and would be solar ready. In addition, the Proposed Project would establish lighting and equipment efficiency standards for all new equipment that meet or exceed Title 24 standards. Therefore, the Proposed Project would not interfere with implementation of the District's Sustainability Plan, and impacts would be **less than significant**.

5.4.4 Mitigation Measures

No mitigation measures are required.

5.4.5 Level of Significance After Mitigation

All impacts are **less than significant**.

5.4.6 Cumulative Impacts

The areas considered for cumulative impacts to electricity and natural gas supplies are the service areas of SCE and SoCalGas, respectively, described above in Section 5.4.1. Other development projects in the service area would generate increased electricity and natural gas demands. However, as with development associated with the Proposed Project, all projects within the SCE and SoCalGas service areas would be required to comply with the Building Energy Efficiency Standards and CALGreen, which would contribute to minimizing wasteful energy consumption. Therefore, cumulative impacts would be **less than significant**, and the Proposed Project's impacts would not be cumulatively considerable.

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