

3.5 ENERGY

This section was prepared pursuant to State CEQA Guidelines Section 15126 and Appendix G of the CEQA guidelines, which require that EIRs include a discussion of the potential energy impacts of projects. The analysis considers whether the Elk Grove Zoo Project (Project) would result in inefficient, wasteful, and unnecessary consumption of energy.

During the NOP scoping period, the Sacramento Municipal Utility District (SMUD) submitted a comment letter regarding the Project's existing electrical infrastructure and the potential for future upgrades. Impacts related to electrical demand are discussed in Section 3.14, "Utilities and Service Systems." A comment was also made encouraging the use of on-site solar systems. See Chapter 2, "Project Description," for details regarding the Project's solar commitments. Impacts 3.5-1 and 3.5-2 discuss the Project's commitment to on-site solar systems.

3.5.1 Regulatory Setting

Energy conservation is embodied in many federal, State, and local statutes and policies. At the federal level, energy standards apply to numerous products (e.g., the U.S. Environmental Protection Agency's [EPA] EnergyStar™ program) and transportation (e.g., fuel efficiency standards). At the State level, Title 24 of the California Code of Regulations sets forth energy standards for buildings. Further, the State provides rebates/tax credits for installation of renewable energy systems, and offers the Flex Your Power program promotes conservation in multiple areas. At the local level, individual cities and counties establish policies in their general plans and climate action plans (CAPs) related to the energy efficiency of new development and land use planning and to the use of renewable energy sources.

FEDERAL

Energy Policy and Conservation Act and CAFE Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle economy standards.

The Corporate Average Fuel Economy (CAFE) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with the CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the country. EPA calculates a CAFE value for each manufacturer based on the city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of the EPA city and highway fuel economy test results. Based on information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance. Under the Energy Independence and Security Act of 2007 (described below), the CAFE standards were revised for the first time in 30 years.

The CAFE Standards, which were first enacted by Congress in 1975, set fleet-wide averages that must be achieved by each automaker for its car and truck fleet. The purpose of the CAFE Standards is to reduce energy consumption by increasing the fuel economy of cars and light trucks. On April 1, 2022, Transportation Secretary Pete Buttigieg unveiled new CAFE standards for 2024–2026 model year passenger cars and light-duty trucks, requiring new vehicles sold in the US to average at least 40 miles per gallon.

Energy Policy Act of 1992 and 2005

The Energy Policy Act of 1992 (EPAAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally-fueled fleets in metropolitan areas. EPAAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In

addition, financial incentives are also included in EPCA. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs. The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The Energy Independence and Security Act of 2007 increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels; and reduces U.S. demand for oil by setting a national fuel economy standard of 35 miles per gallon by 2020—an increase in fuel economy standards of 40 percent.

By addressing renewable fuels and the CAFE standards, the Energy Independence and Security Act of 2007 builds upon progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

STATE

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as the California Energy Commission (CEC). The Act established State policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The California Public Utilities Commission (CPUC) regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Action Plan

CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The previous plan was the 2003 *Energy Action Plan* (2008 update), which calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assisting public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs, as well as encouraging urban design that reduces vehicle miles traveled (VMT) and accommodates pedestrian and bicycle access.

The 2008 update has been supplemented by the 2019 California Energy Efficiency Action Plan, which includes three goals to drive energy efficiency: doubling energy efficiency savings by 2030, removing and reducing barriers to energy efficiency in low-income and disadvantaged communities, and reducing greenhouse gas (GHG) emissions from the buildings sector (CEC 2019).

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to Assembly Bill (AB) 2076 (Chapter 936, Statutes of 2000), CEC and the California Air Resources Board (CARB) prepared and adopted a joint agency report in 2003, *Reducing California's Petroleum Dependence*. Included in this report are recommendations to increase the use of alternative fuels to 20 percent of on-road transportation fuel use by 2020 and 30 percent by 2030, significantly increase the efficiency of motor vehicles, and reduce per capita VMT (CEC and CARB 2003). Further, in response to the CEC's 2003 and 2005 *Integrated Energy Policy Reports*, Governor Davis directed CEC to take the lead in developing a long-term plan to increase alternative fuel use.

A performance-based goal of AB 2076 was to reduce petroleum demand to 15 percent below 2003 demand by 2030.

Integrated Energy Policy Report

Senate Bill (SB) 1389 (Chapter 568, Statutes of 2002) required CEC to “conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the State’s economy, and protect public health and safety” (PRC Section 25301[a]). This work culminated in preparation of the first Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every 2 years and an update every other year. The 2022 IEPR Update Report, which is the most recent IEPR, was adopted on November 9, 2022. The 2022 IEPR Update Report provides a summary of priority energy issues currently facing the State, outlining strategies and recommendations to further the State’s goal of ensuring reliable, affordable, and environmentally responsible energy sources. Energy topics covered in the report include progress toward Statewide renewable energy targets and issues facing future renewable development; efforts to increase energy efficiency in existing and new buildings; progress by utilities in achieving energy efficiency targets and potential; improving coordination among the State’s energy agencies; streamlining power plant licensing processes; results of preliminary forecasts of electricity, natural gas, and transportation fuel supply and demand; future energy infrastructure needs; the need for research and development efforts to Statewide energy policies; and issues facing California’s nuclear power plants (CEC 2022).

Legislation Associated with Electricity Generation

The State has passed multiple pieces of legislation requiring the increasing use of renewable energy to produce electricity for consumers. California’s Renewable Portfolio Standard (RPS) Program was established in 2002 (SB 1078) with the initial requirement to generate 20 percent of their electricity from renewable by 2017, 33 percent of their electricity from renewables by 2020 (SB X1-2 of 2011), 52 percent by 2027 (SB 100 of 2018), 60 percent by 2030 (also SB 100 of 2018), and 100 percent by 2045 (also SB 100 of 2018). More detail about these regulations is provided in Section 3.7, “Greenhouse Gas Emissions and Climate Change.”

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires doubling of the energy efficiency savings in electricity and natural gas for retail customers through energy efficiency and conservation by December 31, 2030.

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare a State plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with CARB and in consultation with other State, federal, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes the costs to California and maximizes the economic benefits of in-State production. The SAF Plan assessed various alternative fuels and developed fuel portfolios to meet California’s goals to reduce petroleum consumption, increase alternative fuel use, reduce greenhouse gas (GHG) emissions, and increase in-State production of biofuels without causing a significant degradation of public health and environmental quality.

California Building Energy Efficiency Standards (Title 24, Part 6)

The energy consumption of new residential and nonresidential buildings in California is regulated by the California Energy Code. The code was established by CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California’s energy consumption and provide energy-efficiency standards for residential and nonresidential buildings. CEC updates the California Energy Code every 3 years, typically including more stringent design requirements for reduced energy consumption, which results in the generation of fewer GHG emissions. The 2022 California Energy Code went into effect on January 1, 2023. The 2022 California Energy Code advances the on-site energy generation progress started in the 2019 California Energy Code by encouraging electric heat pump technology and use, establishing electric-ready requirements when natural gas is installed, expanding solar photovoltaic (PV) system and battery storage standards, and strengthening ventilation standards to improve indoor

air quality. CEC estimates that the 2022 California Energy Code will save consumers \$1.5 billion and reduce GHGs by 10 million metric tons of carbon dioxide-equivalent over the next 30 years (CEC 2021).

California Green Building Standards (Title 24, Part 11)

The California Green Building Standards, also known as CALGreen, is a reach code (i.e., optional standards that exceed the requirements of mandatory codes) developed by CEC that provides green building standards for Statewide residential and nonresidential construction. The current version is the 2022 CALGreen Code, which took effect on January 1, 2023. As compared to the 2019 CALGreen Code, the 2022 CALGreen Code strengthened sections pertaining to electric vehicle (EV) and bicycle parking, water efficiency and conservation, and material conservation and resource efficiency, among other sections of the CALGreen Code. The CALGreen Code sets design requirements equivalent to or more stringent than those of the California Energy Code for energy efficiency, water efficiency, waste diversion, and indoor air quality. These codes are adopted by local agencies that enforce building codes and used as guidelines by State agencies for meeting the requirements of Executive Order B-18-12.

Legislation Associated with Greenhouse Gas Reduction

The State has passed legislation that aims to reduce GHG emissions. The legislation often has an added benefit of reducing energy consumption. SB 32 requires a Statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. Executive Order S-3-05 sets a long-term target of reducing Statewide GHG emissions by 80 percent below 1990 levels by 2050.

SB 375 aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. The Advanced Clean Cars program, approved by CARB, combines the control of GHG emissions and criteria air pollutants and the increase in the number of zero-emission vehicles into a single package of standards. The program's zero-emission vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025. In August 2022, CARB adopted the ACC II program, which sets sales requirements to reach the goal of 100 percent ZEV sales in the State by 2035. Additionally, in April 2023, CARB adopted the Advanced Clean Fleets regulation, which sets a goal of achieving a fully zero-emission truck and bus fleet within the State by 2045. Implementation of the State's legislation associated with GHG reduction will have the co-benefit of reducing California's dependency on fossil fuel and making land use development and transportation systems more energy efficient.

More details about legislation associated with GHG reduction are provided in the regulatory setting of Section 3.7, "Greenhouse Gas Emissions and Climate Change."

LOCAL

City of Elk Grove General Plan

The City of Elk Grove General Plan includes policies that promote energy conservation and reduction strategies. The following policies are applicable to the Project (City of Elk Grove 2022a):

- ▶ **Policy NR-6-1:** Promote energy efficiency and conservation strategies to help residents and businesses save money and conserve valuable resources.
- ▶ **Policy NR-6-5:** Promote energy conservation measures in new development to reduce on-site emissions and seek to reduce the energy impacts from new residential and commercial projects through investigation and implementation of energy efficiency measures during all phases of design and development.
- ▶ **Policy NR-6-6:** Encourage renewable energy options that are affordable and benefit all community members.
- ▶ **Policy NR-6-7:** Encourage the use of solar energy systems in homes, commercial businesses, and City facilities as a form of renewable energy.
- ▶ **Policy SD-2-1:** Incorporate green building techniques and best management practices in the site design, construction, and renovation of all public projects.

- ▶ **Policy SD-2-2:** Support innovation and green building best management practices for all new private development.

City of Elk Grove Climate Action Plan

The City of Elk Grove Climate Action Plan: 2019 Update (CAP), adopted in February 2019 (and amended in December 2019 and December 2022) by the Elk Grove City Council, was incorporated into the most recent update to the General Plan (discussed above). The CAP includes GHG emission reduction targets, strategies, and implementation measures developed to help the City reach these targets. Reduction strategies address GHG emissions associated with transportation and land use, energy, water, waste management and recycling, agriculture, and open space. The following CAP goals are related to transportation and energy use (City of Elk Grove 2022b):

- ▶ Encourage or Require Green Building Practices in New Construction,
- ▶ Phase in Zero Net Energy Standards in New Construction,
- ▶ Solar Photovoltaics in New and Existing Residential and Commercial Development,
- ▶ Limit Vehicle Miles Traveled,
- ▶ Require Tier 4 Final Construction Equipment by 2030, and
- ▶ Require EV [electric vehicle] Charging Stations for All New Development.

The CAP is currently being updated and is anticipated to be completed in 2024.

City of Elk Grove Municipal Code

Elk Grove Municipal Code (EGMC) Chapter 16.07 provides permitting guidance for EV charging stations. EGMC Sections 16.07.200 through 16.07.500 summarize the streamlined permitting process for installation of EV charging stations including provisions pertaining to the completion of a technical review checklist that ensures that installation of an EV charging station would not result in any adverse environmental or health effects. As stated in the EGMC Section 16.07.400, "the intent of this chapter [is] to encourage the installation of electric vehicle charging stations by removing obstacles to permitting for charging stations so long as the action does not supersede the Building Official's authority to address higher priority, life-safety situations."

EGMC Section 23.58.120 requires nonresidential developments with over 200 parking spaces to have a minimum of 20 percent of the parking spaces to be EV capable and 25 percent of EV capable spaces to be EV ready parking spaces. This section also implements the requirements of Part 6 of the 2022 Title 24 California Building Code (CALGreen Code) for non-residential land uses.

3.5.2 Environmental Setting

PHYSICAL SETTING

Energy Facilities and Services in the Project Area

Electric services are provided to the City by SMUD. Natural gas is supplied to the City from Pacific Gas and Electric. See Section 3.14, "Utilities and Service Systems," for more detailed information on electrical and natural gas infrastructure specifically serving the Project area.

The proportion of SMUD-delivered electricity generated from eligible renewable energy sources is anticipated to increase over the next three decades to comply with the SB 100 goals described in Section 3.5.1, "Regulatory Setting."

Energy Types and Sources

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. One-third of energy commodities consumed in California is natural gas. In 2021, approximately 38 percent of natural gas consumed in the State was used to generate electricity. Large hydroelectric

powered approximately 9 percent of electricity and renewable energy from solar, wind, small hydroelectric, geothermal, and biomass combustion totaled 34 percent (SMUD 2023). In 2021 SMUD provided its customers with 30 percent eligible renewable energy (i.e., biomass combustion, geothermal, small scale hydroelectric, solar, and wind) and 18 percent and 52 percent from large scale hydroelectric and natural gas, respectively (SMUD 2023). The contribution of in- and out-of-State power plants depends on the precipitation that occurred in the previous year, the corresponding amount of hydroelectric power that is available, and other factors.

Alternative Fuels

A variety of alternative fuels are used to reduce demand for petroleum-based fuel. The use of these fuels is encouraged through various Statewide regulations and plans (e.g., Low Carbon Fuel Standard, AB 32 Scoping Plan). Conventional gasoline and diesel may be replaced (depending on the capability of the vehicle) with many transportation fuels, including:

- ▶ biodiesel,
- ▶ electricity,
- ▶ ethanol (E-10 and E-85),
- ▶ hydrogen,
- ▶ natural gas (methane in the form of compressed and liquefied natural gas),
- ▶ propane,
- ▶ renewable diesel (including biomass-to-liquid),
- ▶ synthetic fuels, and
- ▶ gas-to-liquid and coal-to-liquid fuels.

California has a growing number of alternative fuel vehicles through the joint efforts of CEC, CARB, local air districts, federal government, transit agencies, utilities, and other public and private entities. As of August 2023, California contained over 16,000 alternative fueling stations (AFDC 2023).

ENERGY USE FOR TRANSPORTATION

In 2021, the transportation sector comprised the largest end-use sector of energy in the State totaling 37.8 percent, followed by the industrial sector totaling 23.2 percent, the residential sector at 20.0 percent, and the commercial sector at 19.0 percent (EIA 2020). On-road vehicles use about 90 percent of the petroleum consumed in California. CEC reported retail sales of 448 million and 45 million gallons of gasoline and diesel, respectively, in Sacramento County in 2021 (the most recent data available) (CEC 2023). The California Department of Transportation (Caltrans) projects that 996 million gallons of gasoline and diesel will be consumed in Sacramento County in 2030 (Caltrans 2008). On-road vehicles use about 90 percent of the petroleum consumed in California. The California Department of Transportation (Caltrans) projected 782 million gallons of gasoline and diesel were consumed in Sacramento County in 2015, an increase of approximately 88 million gallons of fuel from 2010 levels (Caltrans 2008).

ENERGY USE AND CLIMATE CHANGE

Scientists and climatologists have produced evidence that the burning of fossil fuels by vehicles, power plants, industrial facilities, residences, and commercial facilities has led to an increase of the earth's temperature. For an analysis of GHG production and the Project's impacts on climate change, refer to Section 3.7, "Greenhouse Gas Emissions and Climate Change."

3.5.3 Impacts and Mitigation Measures

METHODOLOGY

Construction- and operation-related energy consumption by the Project was measured in megawatt-hours of electricity, therms of natural gas, gallons of gasoline, and gallons of diesel fuel. Energy consumption estimates were calculated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.16 computer program. Where Project-specific information was not known, CalEEMod default values based on the Project's location were used. Project-specific information on solar energy, VMT, and water usage were provided by the Project applicant and City and used in CalEEMod.

Project construction and operations were modeled separately. To model construction emission levels, each phase was modeled separately, and total emissions and energy consumption were calculated by year. To model operational at full buildout of the New Zoo, each phase (1A, 1B, 1C, 2, 3, and 4) was combined into one CalEEMod run to calculate emissions and energy consumption of the first year of operations at full buildout.

Kimley Horn completed a traffic study that determined Project VMT, and the results were input into CalEEMod to obtain transportation energy estimates. Fuel consumption during construction was calculated using carbon dioxide equivalent (CO₂e) estimates for worker (gasoline) and off-road equipment, as well as for hauling (diesel). Refer to Appendix E for detailed assumptions and modeling results.

THRESHOLDS OF SIGNIFICANCE

An impact on energy resources would be significant if implementation of the Project would:

- ▶ result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during Project construction or operation or
- ▶ conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Result in Wasteful, Inefficient, or Unnecessary Consumption of Energy during Project Construction or Operation

Implementation of the Project would result in the consumption of additional energy supplies during construction in the form of gasoline and diesel fuel. However, this energy expenditure would not be considered wasteful, because construction would be temporary, and standard construction practices would be implemented. Project operations would result in additional energy consumption but would be required to comply with the most recent version of the California Energy Code and the City of Elk Grove CAP. The Project would incorporate measures included in the City's CAP, including zero net energy requirements in 2030 for commercial development. The Project would include on-site photovoltaic solar systems to supply electricity to the Project site. In addition, the Project would be fully electric with on-site EV charging and bicycle infrastructure for visitors and employees. Therefore, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy during Project construction or operations. This impact would be **less than significant**.

Construction-Related Energy Use

Energy use would be required to construct each phase of the proposed New Zoo from 2025 to 2042. Most of the construction-related energy consumption for the Project would be associated with off-road equipment and the transport of equipment, animals, and materials using on-road haul trucks. For example, energy would be required to transport construction equipment, waste, and excavated materials. The one-time energy expenditure required to construct development would be nonrecoverable. Additional gasoline and diesel would be consumed for worker

commute trips associated with Project construction. An estimated 19,521 gallons of gasoline (worker trips) and 679,467 gallons of diesel fuel (off-road equipment, hauling trips) may be used during Project construction. Emissions from trips associated with moving the animals are speculative at the time of this analysis, and thus those emissions were not included in this analysis. The animals housed at the New Zoo would be from either the existing Sacramento Zoo or another AZA accredited zoo. The determination of where animals at the New Zoo would arrive from would be determined closer to the opening of the New Zoo and subsequent phases. Therefore, quantifying emissions from these vehicle trips would be speculative and is not included in this analysis. (See Appendix E for a summary of construction calculations). Table 3.5-1 summarizes the anticipated construction fuel consumption for each year of construction.

The energy needs for construction would be spread throughout the Project site. The energy needs for Project construction would be temporary and would not increase energy demand in a wasteful or inefficient manner. There would be no atypical construction-related energy demand associated with the development, because construction would follow standard practices related to energy consumption. Nonrenewable energy would not be consumed in a wasteful, inefficient, or unnecessary manner when compared to other construction activity in the region. In addition, on-road gasoline and diesel fuel consumption associated with construction activity would go down every year as the vehicle fleet becomes more fuel-efficient over time.

Table 3.5-1 Construction-Related Fuel Consumption

Year	Diesel (Gallons)	Gasoline (Gallons)
2025	93,188	2,829
2026	78,574	6,196
2027	78,106	6,088
2028	40,499	1,661
2029	38,492	1,506
2030	34,858	1,241
2031	34,799	1,219
2032	22,271	1,412
2033	37,414	2,175
2034	29,072	2,006
2035	18,862	569
2036	18,731	479
2037	18,714	473
2038	18,698	469
2039	13,386	810
2040	41,136	2,859
2041	36,317	3,132
2042	26,350	2,394
Total	679,467	19,521

Note: Gasoline gallons are gallons used for on-road worker trips. Diesel gallons are gallons used by off-road equipment and for on-road worker and vendor trips.

Source: Calculations prepared by Ascent Environmental in 2023.

Operation-Related Energy Use

Table 3.5-2 summarizes the anticipated energy use by sector associated with operation of the Project. Modeling assumptions, and details can be found in Appendix E. Energy expenditure for Project operations would be typical for

an operating zoo and would include electricity for lighting, space and water heating, climate control, and landscape maintenance activities.

To ensure that no wasteful, inefficient, or unnecessary consumption of energy would occur during Project operations, the Project would be designed to be all electric. In addition, a 20-kilowatt (kW) solar array would be installed on the proposed retail building, and a 14-kW array would be installed on the proposed office building. The Project would not use natural gas or natural gas infrastructure, complying with the Title 24 Part 6 and the CAP's mission to reduce natural gas use and GHG emissions. Therefore, operational energy consumption for the Project would not be wasteful or inefficient.

Table 3.5-2 Operation-Related Building Energy Consumption (2043)

Energy Sector	Energy Consumption (MMBtu/year)
Mobile	42,800.7
Area	38.6
Energy	540.8
Water	397.1
Wastewater	3,943.2
Refrigerants	197.2
Total	48,725

Note: MMBtu/year = million British thermal units per year.

Source: Calculations prepared by Ascent Environmental in 2023.

Transportation Energy Use

The Project would require an increased amount of energy related to employees and visitors driving and taking public transportation to and from the Project site. The Project would include at least 120 bicycle parking stalls and 327 total EV parking spaces, 87 of which would be EV ready and 240 of which would be EV-capable parking spaces. As described in Kimley Horn's *Elk Grove Zoo Relocation – VMT Analysis*, at full buildout, the Project is anticipated to result in 44,211 daily, or 16,137,015 annual, VMT, a daily increase of 30,040, or annual increase of 10,964,600, VMT from baseline operations at the existing Sacramento Zoo (Kimley Horn 2023). The VMT analysis recommended that the Project coordinate with the City to implement a local transit stop on the Project site and designate carpool parking for high-occupancy vehicles to decrease the net VMT increase associated with the Project. These measures could further decrease gasoline and diesel fuel consumption. By full buildout in 2043, when passenger vehicles would be more efficient and cleaner, the VMT impact would also decrease. In addition, bicycle parking stalls and EV parking spaces consistent with EGMC Section 23.58.120 would be installed on-site. Therefore, the use of transportation-related energy during Project construction and operation would not be wasteful, inefficient, or unnecessary.

Summary

The Project would result in energy consumption from Project construction, operations on the site, and transportation. Construction energy would be a one-time energy expenditure required to construct development and would not include atypical construction-related energy demand. The Project would be fully electric and would include solar arrays for renewable energy. In addition, the Project would include EV parking spaces and bicycle infrastructure, which would reduce gasoline and diesel fuel consumption associated with new trips generated by the Project. Therefore, implementing the Project would not result in the wasteful, inefficient, or unnecessary consumption of energy. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.5-2: Conflict with or Obstruct a State or Local Plan for Renewable Energy or Energy Efficiency

The Project would incorporate various design features that are similar to the GHG reduction measures included in the City's CAP, such as prohibiting on-site natural gas infrastructure, including EV charging and bicycle infrastructure, and including on-site solar photovoltaic systems. As a result, implementation of the Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. This impact would be **less than significant**.

The Project would be consistent with the City of Elk Grove CAP, which would result in reduced energy demand and GHG emissions. The CAP, although designed to reduce GHG emissions, also plays a role in improving energy efficiency and enhancing renewable energy resources and therefore serves as the renewable energy or energy efficiency plan applicable to the Project. Several measures in the City's CAP that would reduce energy demand and increase the City's capacity to generate renewable resources would apply to the Project:

- ▶ **BE-3. Building Stock: Nonresidential Appliances in Existing Development.** Equip City businesses to reduce operational expenses and maximize energy efficiency using energy-efficient and cost-effective indoor and outdoor appliances and equipment.
- ▶ **BE-7. Building Stock: Solar Photovoltaics in New and Existing Residential and Commercial Development.** Encourage and require installation of on-site solar photovoltaic (PV) in new single-family and low-rise multi-family developments. Promote installation of on-site PV systems in existing residential and commercial development.
- ▶ **TACM-4. Pedestrian and Bicycle Travel.** Provide for safe and convenient pedestrian and bicycle travel through implementation of the Bicycle, Pedestrian, and Trails Master Plan and increased bicycle parking standards.
- ▶ **TACM-9. EV Charging Requirements.** Adopt an electric vehicle (EV) charging station ordinance that establishes minimum EV charging standards for all new residential and commercial development. Increase the number of EV charging stations at municipal facilities throughout the City.

The Project would be consistent with CAP Measure BE-3 by eliminating on-site natural gas and using the solar array that would be installed on the site. Similarly, the Project would be consistent with CAP Measure BE-7 by promoting the future PV installations. By installing bike parking stalls, the Project would be consistent with CAP Measure TACM-4. Lastly, by installing 327 EV-capable parking spaces, the Project would be consistent with CAP Measure TACM-9.

In addition, EGMC Chapter 16.07 provides streamlined permitting for EV charging stations. Construction and operation of the EV charging stations in the Project would be entitled to use the streamlining permitting mechanisms outlined in Municipal Code Chapter 16.07. Municipal Code Section 23.58.120 requires a minimum of 20 percent of the parking spaces in nonresidential developments with more than 200 parking spaces to be EV-capable and 25 percent of the EV-capable spaces to be EV-ready parking spaces. Through installation of 327 total EV-capable spaces and 87 EV-ready spaces among the 1,600 total guest spaces and employee spaces, the Project would comply with EGMC Section 23.58.120. This section of the EGMC also implements the requirements of Part 6 of the 2022 Title 24 California Building Code (CALGreen) for nonresidential land uses, which the Project would comply with by at least installing the two PV systems. Therefore, the Project would be consistent with CALGreen. The Project would be consistent with energy reduction measures in both the CAP and the EGMC. Therefore, the Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency. This impact would be **less than significant**.

Mitigation Measures

No mitigation is required.