

5.3 Energy

5.3.1 INTRODUCTION

This section of the Supplemental EIR assesses the significance of the use of energy, including electricity, natural gas and gasoline, and diesel fuels, that would result from implementation of the proposed Related Bristol Specific Plan Project. It discusses existing energy use patterns and examines whether the proposed Project (including development and operation) would result in the consumption of large amounts of fuel or energy or use such resources in a wasteful manner.

Refer to Section 5.5, *Greenhouse Gas Emissions*, for a discussion of the relationship between energy consumption and greenhouse gas (GHG) emissions, and Section 5.15, *Utilities and Service Systems*, for a discussion of water consumption. This section includes data from the:

- *City of Santa Ana General Plan Update*
- *City of Santa Ana General Plan Update Final EIR*
- *City of Santa Ana Municipal Code*
- *Energy Assessment, Appendix F*

5.3.2 REGULATORY SETTING

Energy Independence and Security Act, Corporate Average Fuel Efficiency Standards

In response to *Massachusetts et al. vs. Environmental Protection Agency et al.*, the Bush Administration issued an executive order on May 14, 2007, directing the U.S. Environmental Protection Agency and the Department of Transportation to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. On December 19, 2007, the Energy Independence and Security Act of 2007 was signed into law, requiring an increased Corporate Average Fuel Economy (CAFE) standard of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by the 2020 model year.

In addition to setting increased CAFE standards for motor vehicles, the Energy Independence and Security Act includes the following additional provisions:

- Renewable Fuel Standard (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

Additional provisions of the Act address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of green jobs.

California Code of Regulations (CCR) Title 13, Motor Vehicles, Section 2449(d)(3)

No vehicle or engines subject to this regulation may idle for more than 5 consecutive minutes. The idling limit does not apply to:

- idling when queuing,
- idling to verify that the vehicle is in safe operating condition,
- idling for testing, servicing, repairing, or diagnostic purposes,

- idling necessary to accomplish work for which the vehicle was designed (such as operating a crane),
- idling required to bring the machine system to operating temperature, and
- idling necessary to ensure safe operation of the vehicle.

California Public Utilities Commission Plans and Programs

The California Public Utilities Commission (CPUC) has authority to set electric rates, regulate natural gas utility service, protect consumers, promote energy efficiency, and ensure electric system reliability. The CPUC has established rules for the planning and construction of new transmission facilities, distribution facilities, and substations. Utility companies are required to obtain permits to construct certain power line facilities or substations. The CPUC also has jurisdiction over the siting of natural gas transmission lines.

The CPUC regulates distributed energy generation policies and programs for both customers and utilities. This includes incentive programs (e.g., California Solar Initiative) and net energy metering policies. Net energy metering allows customers to receive a financial credit for power generated by their onsite system and fed back to the utility. The CPUC is involved with utilities through a variety of energy procurement programs, including the Renewable Portfolio Standard program.

In 2008, the CPUC adopted the Long-Term Energy Efficiency Strategic Plan, which is a road map to achieving maximum energy savings in California through 2020. Consistent with California's energy policy and electricity "loading order," the Energy Efficiency Strategic Plan indicates that energy efficiency is the highest priority resource in meeting California's energy needs. The CPUC also adopted energy goals that require all new residential construction in California to be zero net energy by 2020. The zero-net energy goal means new buildings must use a combination of improved efficiency and distributed renewable energy generation to meet 100 percent of their annual energy need. In addition to the zero net energy goals for residential buildings by 2020, the CPUC has adopted goals that all new commercial construction in California will be zero net energy by 2030, and 50 percent of existing commercial buildings will be retrofit to zero net energy by 2030.

Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased from 33 percent to 50 percent by December 31, 2030, thereby doubling energy efficiency within the State. SB 350 makes revisions to the California Renewable Portfolio Standards (RPS) Program and to certain other requirements on public utilities and publicly owned electric utilities. SB 350 also requires local publicly-owned electric utilities to establish annual targets for energy efficiency savings and demand reduction consistent with a statewide goal established by the CPUC and provides incentives for electrification of rail facilities. Local utilities would be required to develop more detailed strategies and incentives for use of renewable energy sources, resulting in an increased demand for renewable energy generation.

SB 350 emphasizes the important role of electric vehicles in California's overall scheme to combat climate change, declaring that "[d]eploying electric vehicles should assist in grid management, integrating generation from eligible renewable energy resources, and reducing fuel costs for vehicle drivers." The bill promotes the development of additional electric vehicle charging infrastructure to encourage greater use of electric cars and requires electrical utilities to include expansion of electrical vehicle charging facilities as part of their strategies and incentives for reducing overall energy consumption.

Assembly Bill 1007 (Pavley, Chapter 371, Statutes of 2005)

Assembly Bill 1007 required the California Energy Commission (CEC) to prepare a state plan (State Alternative Fuels Plan) to increase the use of alternative fuels in California. The Commission prepared the State Alternative Fuels Plan in partnership with the California Air Resources Board and in consultation with other state, federal, and local agencies. The final State Alternative Fuels Plan, published in December 2007, attempts to achieve an 80-percent reduction in greenhouse gas emissions associated with personal transportation, even as California's population increases. Measures proposed that would reduce petroleum fuel use include:

1. Lowering the energy needed for personal transportation by tripling the energy efficiency of on-road vehicles by 2050 through:
 - a. Conventional gas, diesel, and flexible fuel vehicles (FFVs) averaging more than 40 miles per gallon (mpg).
 - b. Hybrid gas, diesel, and FFVs averaging almost 60 mpg.
 - c. All electric and plug-in hybrid electric vehicles (PHEVs) averaging well over 100 mpg (on a greenhouse gas equivalents [GGE] basis) on the electricity cycle.
 - d. Fuel cell vehicles averaging over 80 mpg (on a GGE basis).
2. Moderating growth in per capita driving, reducing today's average per capita driving miles by about 5 percent or back to 1990 levels.
3. Changing the energy sources for transportation fuels from the current 96 percent petroleum-based to approximately:
 - a. 30 percent from gasoline and diesel from traditional petroleum sources or lower GHG emission fossil fuels such as natural gas.
 - b. 30 percent from transportation biofuels.
 - c. 40 percent from a mix of electricity and hydrogen.
4. Producing transportation biofuels, electricity, and hydrogen from renewable or very low carbon-emitting technologies that result in, on average, at least 80 percent lower life cycle GHG emissions than conventional fuels.
5. Encouraging more efficient land uses and greater use of mass transit, public transportation, and other means of moving goods and people.

Title 24 Energy Efficiency Standards and California Green Building Standards

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code (CalGreen) was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 update that is applicable to building permit applications submitted after January 1, 2023. The updated 2022 standards focus on the following:

- Encouraging electric heat pump technology and use. Heat pumps use less energy and produce fewer emissions than traditional HVACs and water heaters.
- Establishing electric-ready requirements when natural gas is installed to provide for electric heating, cooking, and electric vehicle (EV) charging.
- Expanding solar photovoltaic (PV) system and battery storage standards.
- Strengthening ventilation standards to improve indoor air quality.

In addition to these updated standards, the CALGreen standards that are applicable to the proposed Project include, but are not limited to, the following:

- Short-term bicycle parking. Provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.
- Designated parking for clean air vehicles. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Title 24 Part 6 Table 5.106.5.2.
- Electric vehicle charging stations. Facilitate the future installation of electric vehicle supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight, and glare ratings per Title 24 Part 6 Table 5.106.8.
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste.
- Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
 - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush.
 - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.
 - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute. Metering faucets shall not deliver more than 0.20 gallons per cycle. Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle.
- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELo), whichever is more stringent.
- Water meters. Separate submeters or metering devices shall be installed for new buildings or where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day.
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 SF . Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 SF requiring a building or landscape permit.
- Commissioning. For new buildings 10,000 SF and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements.

The CalGreen Building Standards Code has been adopted by the City of Santa Ana by reference in Municipal Code Section 8-2900.

City of Santa Ana General Plan

The City' General Plan Update contains the following energy related goal and policies that are relevant to the proposed Project:

Conservation Element

- POLICY CN-1.4** Support new development that meets or exceeds standards for energy-efficient building design and site planning.
- POLICY CN-1.11** Continue to invest in low-emission or zero-emission vehicles to replace the City's gasoline powered vehicle fleet and to transition to available clean fuel sources such as bio-diesel for trucks and heavy equipment.
- POLICY CN-1.12** Encourage the use of low or zero emission vehicles, bicycles, non-motorized vehicles, and car-sharing programs by supporting new and existing development that includes sustainable infrastructure and strategies such as vehicle charging stations, drop-off areas for ridesharing services, secure bicycle parking, and transportation demand management programs.
- POLICY CN-1.14** Require and incentivize projects to incorporate Transportation Demand Management (TDM) techniques.
- GOAL CN-3:** Energy Resources Reduce consumption of and reliance on nonrenewable energy and support the development and use of renewable energy sources.
- POLICY CN-3.3** Promote energy-efficient development patterns by clustering mixed use developments and compatible uses adjacent to public transportation.
- POLICY CN-3.4** Encourage site planning and subdivision design that incorporates the use of renewable energy systems.
- POLICY CN-3.5** Promote and encourage the planting of native and diverse tree species to improve air quality, reduce heat island effect, reduce energy consumption, and contribute to carbon mitigation with special focus in environmental justice areas.
- POLICY OS-3.5** Encourage the planting of native and diverse tree species in public and private spaces to reduce heat island effect, reduce energy consumption, and contribute to carbon mitigation.
- POLICY OS-3.6** Integrate drought tolerant or native plantings, waterwise irrigation, design and maintenance efficiencies, and sustainable development practices to reduce water use and energy consumption.

Land Use Element

- POLICY LU-1.6** Encourage residential mixed-use development, within the City's District Centers and Urban Neighborhoods, and adjacent to high quality transit.

- POLICY LU-2.5** Encourage infill mixed-use development at all ranges of affordability to reduce vehicle miles travelled, improve jobs/housing balance, and promote social interaction.
- POLICY LU-2.10** Focus high density residential in mixed-use villages, designated planning focus areas, Downtown Santa Ana, and along major travel corridors.
- POLICY LU-4.3** Encourage land uses and strategies that reduce energy and water consumption, waste and noise generation, soil contamination, air quality impacts, and light pollution.
- POLICY LU-4.4** Encourage the use of natural processes to capture rainwater runoff, sustainable electric power, and passive climate control.
- POLICY LU-4.5** Concentrate development along high-quality transit corridors to reduce vehicle miles traveled (VMT) and transportation related carbon emissions.

Urban Design Element

- POLICY UD-1.6** Support the creation of citywide public street and site amenities that accommodate and promote an active transportation-friendly environment.
- POLICY UD-2.10** Focus high density residential in mixed-use villages, designated planning focus areas, Downtown Santa Ana, and along major travel corridors.
- POLICY UD-2.11** Encourage sustainable development through the use of drought-tolerant landscaping, permeable hardscape surfaces, and energy-efficient building design and construction.

City of Santa Ana Municipal Code

Chapter 8, Article XVI of the Santa Ana Municipal Code, Green Building Standards Code, incorporates the California Green Building Standards Code by reference.

5.3.3 ENVIRONMENTAL SETTING

Electricity

The Southern California Edison Company (SCE) is the electrical purveyor in the City of Santa Ana. SCE provides electricity service to more than 14 million people in a 50,000 square-mile area of central, coastal and Southern California. California utilities are experiencing increasing demands that require modernization of the electric distribution grid to, among other things, accommodate two-way flows of electricity and increase the grid's capacity. SCE is in the process of implementing infrastructure upgrades to ensure the ability to meet future demands. In addition, as described by the Edison International 2022 Annual Report, the SCE electrical grid modernization effort supports implementation of California requirements to achieve carbon neutrality by 2045. The state has set Renewables Portfolio Standards that require retail sellers of electricity to provide 60 percent of power from renewable resources by 2030. The state also requires sellers of electricity to deliver 100 percent of retail sales from carbon-free sources by 2045, including interim targets of 90 percent by 2035 and 95 percent by 2040. In 2022 approximately 48 percent of power that SCE delivered to customers came from carbon-free resources (SCE 2022).

The GPU FEIR describes that in 2020 the total estimated electricity demand in Santa Ana, based on data provided by SCE, is estimated at 1,570,457,233 kilowatt hours (kWh) per year, as shown in Table 5.3-1.

Table 5.3-1: Estimated Existing City of Santa Ana Electricity Usage

Electricity Usage	Electricity Usage, kWh per year
Residential	380,621,219
Nonresidential	1,189,836,014
Total	1,570,457,233

Source: GPU FEIR Table 5.5-1

The Project site is currently served by the electricity distribution system that exists along the roadways adjacent to the site.

Natural Gas

The Southern California Gas Company (SoCalGas) is the natural gas purveyor in the City of Santa Ana and is the principal distributor of natural gas in Southern California. SoCalGas estimates that gas demand will decline at an annual rate of 1.5 percent from 2022 to 2035 due to modest economic growth, mandated energy efficiency standards and programs, renewable electricity goals, and fuel substitution (CGEU 2022). The gas supply available to SoCalGas is regionally diverse and includes supplies from California sources (onshore and offshore), Southwestern U.S. supply sources, the Rocky Mountains, and Canada (CGEU 2022). SoCalGas designs its facilities and supplies to provide continuous service during extreme peak demands and has identified the ability to meet peak demands through 2035 (CGEU 2022).

The GPU FEIR describes that in 2020 the total estimated natural gas demand in Santa Ana, based on data provided by SoCalGas, was estimated to be 48.9 million therms per year, as shown in Table 5.3-2.

Table 5.3-2: Estimated Existing City of Santa Ana Natural Gas Usage

Electricity Usage	Natural Gas Usage, therms per year
Residential	21,783,050
Nonresidential	27,074,864
Total	48,857,914

Source: GPU FEIR Table 5.5-2

The Project site is currently served by the natural gas distribution system that exists within the roadways that are adjacent to the Project site.

5.3.4 THRESHOLDS OF SIGNIFICANCE

Appendix G of the CEQA Guidelines indicates that a project could have a significant effect if it were to:

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.

5.3.5 METHODOLOGY

A number of factors are considered when weighing whether a project would use a proportionately large amount of energy or whether the use of energy would be wasteful in comparison to other projects. Factors

such as the use of onsite renewable energy features, energy conservation features or programs, and relative use of transit are considered.

According to Appendix F of the CEQA Guidelines, conserving energy is defined as decreasing overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. Neither Appendix F of the CEQA Guidelines nor Public Resources Code Section 21100(b)(3) offer a numerical threshold of significance that might be used to evaluate the potential significance of energy consumption of a project. Rather, the emphasis is on reducing “the wasteful, inefficient, and unnecessary consumption of energy.”

Construction activities would result in wasteful, inefficient, or unnecessary use of energy if, for example, construction equipment is old or not well maintained, if equipment is left to idle when not in use, if travel routes are not planned to minimize vehicle miles traveled, or if excess lighting or water is used during construction activities. Energy usage during project operation would be considered “wasteful, inefficient, and unnecessary” if the project were to violate federal, state, and/or local energy standards, including Title 24 of the California Code of Regulations, inhibit pedestrian or bicycle mobility, inhibit access to transit, or inhibit feasible opportunities to use alternative energy sources, such as solar energy, or otherwise inhibit the conservation of energy.

5.3.6 ENVIRONMENTAL IMPACTS

Summary of Impacts Identified in the GPU FEIR

The GPU FEIR addressed impacts related to energy in Chapter 5.5. The GPU FEIR determined that implementation of the GPU policies, in conjunction with and complementary to regulatory requirements, would ensure that energy demand associated with growth under the GPU would not be inefficient, wasteful, or unnecessary. In addition, the GPU FEIR determined that land uses accommodated under the General Plan Update would comply with the current and future iterations of the Building Energy Efficiency Standards and CALGreen. Furthermore, GPU FEIR discussed that the General Plan Update includes conservation element policies 3.1, 3.3, 3.4, 3.6, and 3.9, which would support the statewide goal of transitioning the electricity grid to renewable sources. Therefore, the GPU FEIR concluded implementation of the General Plan Update would not conflict with or obstruct implementation of California’s RPS program or the City of Santa Ana’s CAP, and no significant impact would occur.

Proposed Specific Plan Project

IMPACT E-1: THE PROJECT WOULD NOT RESULT IN A POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACT DUE TO WASTEFUL, INEFFICIENT, OR UNNECESSARY CONSUMPTION OF ENERGY RESOURCES, DURING PROJECT CONSTRUCTION OR OPERATION.

Less than Significant Impact.

Construction

During the construction phases of the proposed Project energy would be consumed in 3 general forms:

1. Petroleum-based fuels used to power off-road construction vehicles and equipment on the Project site, construction worker travel to and from the Project site, as well as delivery truck trips;
2. Electricity associated with providing temporary power for lighting and electric equipment; and

3. Energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Construction activities related to each phase of the proposed Project would not result in demand for fuel greater on a per-unit-of-development basis than other development projects in Southern California. Demolition of the existing buildings and infrastructure that exist onsite would need to be undertaken; however, because much of the demolition materials can be recycled, the demolition needed to implement the proposed Project is not considered to be wasteful. In addition, the extent of construction activities that would occur from implementation of the proposed Project is limited. Construction would occur in three phases and pursuant to the City’s allowable construction hours, with the exception of limited concrete pour activities that would be allowed pursuant to City permitting. The demand for construction-related electricity and fuels would be limited to those time frames and would vary based on construction activities.

Also, CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Additionally, construction contractors are required to demonstrate compliance with applicable California Air Resources Board (CARB) regulations governing the accelerated retrofitting, repowering, or replacement of heavy-duty diesel on- and off-road equipment during the City’s construction permitting process. Compliance with existing CARB idling restrictions and the use of newer engines and equipment would reduce fuel combustion and energy consumption.

As identified in Table 5.3-3, the overall diesel fuel consumption during construction of the proposed Project would be 529,054 gallons for Phase 1, 287,909 gallons for Phase 2, and 637,296 gallons for Phase 3. Gasoline consumption would be 384,969 gallons for Phase 1, 99,845 gallons for Phase 2, and 416,625 gallons for Phase 3. The need for construction fuel is temporary and would cease upon completion of construction activities. There are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in the region or state. Construction activities would comply with all existing regulations, as required through the City’s development permitting process, and would not use large amounts of energy or fuel in a wasteful, inefficient, or unnecessary manner. Thus, impacts related to construction energy usage would be less than significant.

Table 5.3-3: Estimated Project Energy Usage Without Mitigation

Energy Type	Project Annual Energy Consumption
Phase 1	
Operational Electricity and Natural Gas	
Electricity Consumption	17,182,736 kWh
Natural Gas Consumption	279,772 therms
Automotive Fuel Consumption	
Project Construction	
Diesel	529,054 gallons
Gasoline	384,969 gallons
Project Operations	
Diesel	431,837 gallons
Gasoline	1,435,828 gallons

Energy Type	Project Annual Energy Consumption
Phase 2	
Operational Electricity and Natural Gas	
Electricity Consumption	6,100,357 kWh
Natural Gas Consumption	88,107 therms
Automotive Fuel Consumption	
Project Construction	
Diesel	287,909 gallons
Gasoline	99,845 gallons
Project Operations	
Diesel	181,517 gallons
Gasoline	570,283 gallons
Phase 3	
Operational Electricity and Natural Gas	
Electricity Consumption	9,271,206 kWh
Natural Gas Consumption	151,580 therms
Automotive Fuel Consumption	
Project Construction	
Diesel	637,296 gallons
Gasoline	416,625 gallons
Project Operations	
Diesel	261,236 gallons
Gasoline	868,590 gallons
Buildout	
Operational Electricity and Natural Gas	
Electricity Consumption	32,554,299 kWh
Natural Gas Consumption	519,459 therms
Operational Fuel	
Diesel	874,590 gallons
Gasoline	2,874,701 gallons

Source: Energy Assessment, Appendix F

Operation

Once operational, the residential and retail/restaurant commercial uses would generate demand for electricity, natural gas, as well as gasoline for motor vehicle trips. Operational use of energy includes the heating, cooling, and lighting of building areas, water heating, operation of electrical systems and appliances, parking lot and outdoor lighting, and the transport of electricity, natural gas, and water to the areas where they would be consumed. This use of energy is typical for urban development, and no operational activities or land uses would occur that would result in extraordinary energy consumption.

Fuel Demand. As identified in Table 5.3-3, Project operations for Phase 1 are estimated to consume approximately 431,837 gallons of diesel fuel and 1,435,828 gallons of gasoline fuel per year. Project operations for Phase 2 are estimated to consume approximately 181,517 gallons of diesel fuel and 570,283 gallons of gasoline fuel per year. Project operations for Phase 3 are estimated to consume approximately 261,236 gallons of diesel fuel and 868,590 gallons of gasoline fuel per year. Project

operations at buildout are estimated to consume approximately 874,590 gallons of diesel fuel and 2,874,701 gallons of gasoline fuel per year. These estimates provide the operational needs of the proposed Project, and do not subtract the existing energy usage of the site. The proposed Project would not result in any unusual characteristics that would result in excessive long-term operational fuel consumption.

As further detailed in Section 5.13, *Transportation*, the Project site is located within a Transit Priority Area (TPA) and the Southern California Association of Governments (SCAG) identifies that the Project site is located within a High Quality Transit Area. Public transit bus service for the City is provided by the Orange County Transportation Authority (OCTA) by seven OCTA bus routes that operate within the vicinity of the Project site and travel along MacArthur Boulevard, Bristol Street, Sunflower Avenue, South Plaza Drive, and Bear Street. In addition, the proposed Project would install pedestrian and bicycle facilities that would connect to existing facilities near the site. The multi-modal environment of the proposed Project would reduce Vehicle Miles Traveled (VMT) and the associated fuel/energy consumption. Further, the proposed Project would provide a mix of residential, commercial, retail, restaurant, and open space uses that would reduce the need to travel offsite. Overall, fuel consumption associated with vehicle trips generated by the proposed Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

Building Energy Demand. Table 5.3-3 shows that operations of the proposed Project in Phase 1 would require approximately 17,182,736 kWh of electricity per year and approximately 279,772 therms of natural gas per year. Operations of the proposed Project in Phase 2 would require approximately 6,100,357 kWh of electricity per year and approximately 88,107 therms of natural gas per year. Operations of the proposed Project in Phase 3 would require approximately 9,271,206 kWh of electricity per year and approximately 151,580 therms of natural gas per year. Operations of the entire proposed Project at buildout would require approximately 32,554,299 kWh of electricity per year and approximately 519,459 therms of natural gas per year. These estimates provide the operational needs of the proposed Project, and do not subtract the existing energy usage of the existing 16 buildings on the Project site.

Through the City's development permitting process, the proposed Project would be required to comply with most current Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including appliances, water and space heating and cooling equipment, building insulation and roofing, and lighting. Implementation of the Title 24 standards significantly reduces energy usage. In addition, Section 5.1, *Air Quality*, includes Mitigation Measure AQ-3 that requires implementation of a vehicle trip reduction program and Mitigation Measure AQ-4 that prohibits fireplaces. Also, as detailed in Section 5.5, *Greenhouse Gas Emissions*, Mitigation Measure GHG-1 requires installation of solar panels or other source of renewable electricity generation onsite to the maximum roof area available. Mitigation Measure GHG-2 requires the proposed Project to meet CALGreen Tier 2 voluntary energy efficiency standards, which surpass the building code energy efficiency requirements, and Mitigation Measure GHG-5 requires the proposed Project to install Energy Star certified or of equivalent energy efficient appliances in all residential units. As such, the proposed Project would not result in the inefficient, wasteful, or unnecessary consumption of building energy.

Land Use Type and Location Demand. The proposed Project consists of an urban infill redevelopment in a TPA and High Quality Transit Area that would provide mixed residential, open space, and commercial (retail/restaurant) uses. Since it would be undertaken on a currently developed and underutilized site, and would be located near existing offsite employment, commercial, residential, and retail destinations and adjacent to existing public bus stops and in proximity to freeways and destination locations, which would result in reduced vehicle trips and VMT.

The California Air Pollution Control Officers Association (CAPCOA) has provided guidance for mitigating or reducing transportation-related VMT from land use development projects within its guidance document titled

Quantifying Greenhouse Gas Mitigation Measures (CAPCOA 2010). The land use characteristics of the proposed Project are consistent with the CAPCOA guidance related to a reduction of vehicle trip distances that would achieve a reduction in associated transportation-related fuel demand, as described below.

- **Area Density:** CAPCOA identifies that increases in area density, measured in terms of persons, jobs, or dwelling units per unit area, reduces VMT associated with transportation¹, as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies such as enhanced transit services (CAPCOA guidance measure LUT-1). According to CAPCOA, the reduction in VMT from increases in area density applies to urban and suburban settings for residential, retail, office, industrial, and mixed-use projects. The proposed Project would provide both residential, open space, retail/restaurant, and employment uses and is located in an urban infill location near other employment opportunities, services, and retail commercial and development. The proposed Project would provide an increase in area residential density and an improvement to the jobs-housing balance. As detailed in Section 5.10, *Population and Housing*, the Project region has an existing and projected future imbalance between the number of jobs and housing units, and per CAPCOA guidance, the addition of residential units within the area would reduce VMT and the VMT-related fuel demand. Therefore, the proposed Project is consistent with infill development that increases area density as described by CAPCOA. Thus, based on the CAPCOA guidance the proposed Project would not result in wasteful, inefficient, or unnecessary use of fuel, and impacts would be less than significant.
- **Location Efficiency:** Location efficiency describes the location of a project relative to the type of urban landscape such as an urban area, compact infill, or suburban center. CAPCOA guidance measure LUT-2.22 describes that a reduction in VMT and the related use of energy occurs from development within urban areas that include residential, retail, office, industrial, mixed-uses, and transportation access. As described previously, the proposed Project is located in an urban infill location and would provide residential units near employment, retail, and services that would provide for efficient use of transportation energy. The Project site location also provides for efficient energy use to access existing freeways (that include I-405 and SR-55), a regionally serving arterial roadway (Bristol Street), and the OCTA bus lines that run adjacent to the Project site.

In addition, the site is surrounded by sidewalks and is within walking and bicycling distance of various existing retail services, such as groceries, restaurants, banks, entertainment, and recreation facilities. According to the CAPCOA guidance, factors that contribute to VMT reductions include pedestrian connectivity between the project site and offsite destinations. The proposed Project would include onsite sidewalks, and offsite sidewalks and bicycle lanes that would connect to existing facilities. Both walking and bicycling to onsite or nearby destinations would reduce transportation energy use. Thus, the Project site location provides efficient use of transportation energy supplies and is consistent with policies for reducing VMT. Thus, the proposed Project would not result in wasteful, inefficient, or unnecessary use of fuel, and impacts would be less than significant.

In addition, the Project site is within an area where existing infrastructure would provide for efficient delivery of electricity and natural gas to the proposed Project and the proposed Project would not inhibit the development of other alternative energy sources. Furthermore, other existing and future regulations are likely to result in more efficient use of all types of energy, and reduction in reliance

¹ CalEEMod, by default, assumes that trip distances in the South Coast Air Basin (Basin) are slightly longer than the statewide average. This is because the commute patterns in the Basin involve a substantial portion of the population commuting relatively far distances, which is documented in the Southern California Association of Governments (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which shows that in existing and future plan conditions, more than 50 percent of all work trips are 10 miles or longer (SCAG, Performance Measures Appendix, page 13, 2016). Thus, work trips that would be less than 10 miles would assist in meeting the 2016 RTP/SCS goal of reducing overall VMT in the region.

on non-renewable sources of energy. These include the Federal Energy Independence and Security Act, the State Long Term Energy Efficiency Strategic Plan, SB 350 and AB 1007 (described above), which are designed to reduce reliance on non-renewable energy resources and reduce demand by providing federal tax credits for purchasing fuel-efficient items and improving the renewable fuel, appliance, and lighting standards. Thus, operation of the proposed Project would not use large amounts of energy or fuel in a wasteful, inefficient, or unnecessary manner, and impacts would be less than significant.

This is consistent with the findings of the GPU FEIR, which determined that implementation of existing regulatory requirements would ensure that energy demand associated with growth under the GPU would not be inefficient, wasteful, or unnecessary; and that energy impacts associated with implementation and operation of the GPU land uses would be less than significant.

IMPACT E-2: THE PROJECT WOULD NOT CONFLICT WITH OR OBSTRUCT A STATE OR LOCAL PLAN FOR RENEWABLE ENERGY OR ENERGY EFFICIENCY.

No Impact. As described previously, the proposed Project would be required to meet the CCR Title 24 energy efficiency standards in effect during permitting of the proposed Project. The City’s administration of the CCR Title 24 requirements includes review of design components and energy conservation measures that occurs during the permitting process, which ensures that all requirements are met. In addition, the proposed Project would not conflict with or obstruct opportunities to use renewable energy, such as solar energy. Redevelopment of the site would not result in obstruction of opportunities for use of renewable energy. The proposed Project incorporates the use of solar energy. Through the City’s development permitting process, the proposed Project would be required to comply with most current Title 24 Building Energy Efficiency Standards, which provide minimum efficiency standards related to various building features, including water and space heating and cooling equipment, building insulation and roofing, and lighting. In addition, Section 5.5, *Greenhouse Gas Emissions*, Mitigation Measure GHG-1 requires installation of solar panels or other source of renewable electricity generation onsite to the maximum roof area available. Mitigation Measure GHG-2 requires the proposed Project to meet CALGreen Tier 2 voluntary energy efficiency standards, which surpass the building code energy efficiency requirements, and Mitigation Measure GHG-5 requires the proposed Project to install Energy Star certified or of equivalent energy efficient appliances in all residential units. Thus, the proposed Project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would not occur.

The City’s General Plan also includes various goals and policies related to energy. The applicable goals and the proposed Project’s consistency are described in Table 5.3-4.

Table 5.3-4: Consistency with General Plan Energy Policies

General Plan Policy	Project Consistency
Conservation Element	
Policy 1.4 Development Standards. Support new development that meets or exceeds standards for energy-efficient building design and site planning.	Consistent. As detailed in Section 5.5, <i>Greenhouse Gas Emissions</i> , Mitigation Measure GHG-1 requires installation of solar panels or other source of renewable electricity generation onsite to the maximum roof area available. Mitigation Measure GHG-2 requires the proposed Project to meet or exceed CALGreen Tier 2 voluntary energy efficiency standards, which surpass the building code energy efficiency requirements, and Mitigation Measure GHG-5 requires the proposed Project to install Energy Star certified or of equivalent energy efficient appliances in all residential units.

General Plan Policy	Project Consistency
<p>Policy 1.11 Public Investment in Low- or Zero Emission Vehicles. Continue to invest in low-emission or zero-emission vehicles to replace the City’s gasoline powered vehicle fleet and to transition to available clean fuel sources such as bio-diesel for trucks and heavy equipment.</p>	<p>Consistent. As detailed in Section 5.5, Greenhouse Gas Emissions, Mitigation Measure GHG-2 requires Project EV charging to meet CALGreen Tier 2 standards, which would promote the use of zero emission vehicles.</p>
<p>Policy 1.12 Sustainable Infrastructure. Encourage the use of low or zero emission vehicles, bicycles, non-motorized vehicles, and car-sharing programs by supporting new and existing development that includes sustainable infrastructure and strategies such as vehicle charging stations, drop-off areas for ridesharing services, secure bicycle parking, and transportation demand management programs.</p>	<p>Consistent. As noted above, Mitigation Measure GHG-2 requires Project EV charging to meet CALGreen Tier 2 standards, which would promote the use of zero emission vehicles. Additionally, the proposed Project would provide bicycle parking facilities in accordance with Santa Ana Municipal Code Section 41.1307.1. The proposed Project would include a variety of connectivity points for vehicles, bicycles, transit, and pedestrians. The proposed Project has multiple bus lines that stop at the existing public transit stops along the northern, eastern, and southern boundaries of the Project site.</p>
<p>Policy 1.14 Transportation Demand Management. Require and incentivize projects to incorporate Transportation Demand Management (TDM) techniques.</p>	<p>Consistent. Air Quality Assessment Mitigation Measure AQ-3 requires a Transportation Demand Management program. Single-occupancy vehicle trips would be discouraged and alternative modes of transportation such as carpooling, taking transit, walking, and biking would be encouraged and facilitated. In addition to onsite employment opportunities, the Project site is within walking distance of major office developments.</p>
<p>Policy 3.3 Development Patterns. Promote energy efficient-development patterns by clustering mixed use developments and compatible uses adjacent to public transportation.</p>	<p>Consistent. The proposed Project would redevelop an underutilized shopping center with an urban mixed-use infill project that would include retail, housing, and hotel uses near OCTA transit routes, major freeways, and roadways.</p>
<p>Policy 3.4 Site Design. Encourage site planning and subdivision design that incorporates the use of renewable energy systems.</p>	<p>Consistent. MM GHG-1 requires the installation of photovoltaic solar panels (i.e., the proposed Project would use renewable energy systems).</p>
<p>Policy 3.7 Energy Conservation Design and Construction. Incorporate energy conservation features in the design of new construction and rehabilitation projects.</p>	<p>Consistent. The proposed Project would install energy conservation features that comply with most current Title 24 Building Energy Efficiency Standards, as implemented by the City. In addition, Mitigation Measure GHG-1 requires installation of solar panels or other source of renewable electricity generation onsite to the maximum roof area available. Mitigation Measure GHG-2 requires the proposed Project to meet CALGreen Tier 2 voluntary energy efficiency standards, which surpass the building code energy efficiency requirements, and Mitigation Measure GHG-5 requires the proposed Project to install Energy Star certified or of equivalent energy efficient appliances in all residential units.</p>
Land Use Element	
<p>Policy 1.6 Transit Oriented Development. Encourage residential mixed-use development, within the City’s District Centers and Urban Neighborhoods, and adjacent to high quality transit.</p>	<p>Consistent. As noted above, the proposed Project would include retail, open space, housing, senior community, and hotel uses at an urban infill location near transit, major freeways, and roadways. The inclusion of 3,750 residential dwelling units would be conducive to the increased use of transit.</p>
<p>Policy 2.5 Benefits of Mixed Use. Encourage infill mixed-use development at all ranges of affordability to reduce vehicle miles travelled, improve jobs/housing balance, and promote social interaction.</p>	<p>Consistent. As noted above, the proposed Project would include retail, housing, senior community, and hotel uses (i.e., mixed-use) at an urban infill location near transit, major freeways, roadways, and bike routes.</p>

General Plan Policy	Project Consistency
Policy 2.10 Smart Growth. Focus high density residential in mixed-use villages, designated planning focus areas, Downtown Santa Ana, and along major travel corridors.	Consistent. The proposed Project is a mixed-use infill development in a transit priority area and designated focus area within the City.
Policy 4.3 Sustainable Land Use Strategies. Encourage land uses and strategies that reduce energy and water consumption, waste and noise generation, soil contamination, air quality impacts, and light pollution.	Consistent. The proposed Project is a mixed-use infill development within an urbanized area of the City that implements sustainable strategies near transit, pedestrian and bicycle facilities. Also, Mitigation Measure GHG-1 requires the installation of photovoltaic solar panels to offset energy emissions; Mitigation Measure GHG-2 requires the proposed Project to meet or exceed CALGreen Tier 2 standards to further improve energy efficiency. Mitigation Measure GHG-3 requires the proposed Project to divert 75 percent of waste from landfills.
Policy 4.4 Natural Resource Capture. Encourage the use of natural processes to capture rainwater runoff, sustainable electric power, and passive climate control.	Consistent. Mitigation Measure GHG-1 requires the proposed Project to include renewable solar energy to offset the proposed Project’s energy demand. Mitigation Measure GHG-2 requires the proposed Project to meet or exceed CALGreen Tier 2 standards to further improve energy efficiency.
Policy 4.5 VMT Reduction. Concentrate development along high-quality transit corridors to reduce vehicle miles traveled (VMT) and transportation related carbon emissions.	Consistent. As noted above, the proposed Project is located within a high quality transit corridor and would include retail, housing, open space, senior community, and hotel uses (i.e., mixed-use) at an urban infill location near transit, major freeways, and roadways.
Urban Design Element	
Policy 1.6 Active Transportation Infrastructure. Support the creation of citywide public street and site amenities that accommodate and promote an active transportation-friendly environment.	Consistent. Although this is a citywide measure, the proposed Project is a mixed-use infill development that would include pedestrian and bicycle amenities, plazas, and paseos that would promote pedestrian and bicycle mobility and access.
Policy 2.10 Greening the Built Environment. Promote planting of shade trees and require, where feasible, preservation and site design that uses appropriate tree species to shade parking lots, streets, and other facilities with the goal of reducing the heat island effect.	Consistent. The proposed Project would comply with City landscaping and shade tree requirements. The proposed Project includes landscaping throughout the site adjacent to buildings, walkways, and roadways; and throughout open space areas.
Policy 2.11 Sustainable Practices. Encourage sustainable development through the use of drought tolerant landscaping, permeable hardscape surfaces, and energy efficient building design and construction.	Consistent. The proposed Project would comply with City landscaping and shade tree requirements and include drought tolerant landscaping and efficient irrigation. The proposed Project would increase the amount of pervious surfaces on the site, and provide for energy efficient buildings and Project designs, as detailed previously.

This is consistent with the findings of the GPU FEIR, which determined that implementation of the City’s GPU would not interfere with any plan for renewable energy or energy efficiency, and that no impacts would occur.

5.3.7 CUMULATIVE IMPACTS

The geographic context for analysis of cumulative impacts regarding energy includes past, present, and future development within Southern California because energy supplies (including electricity, natural gas, and petroleum) are generated and distributed throughout the Southern California region.

All development projects throughout the region would be required to comply with the energy efficiency standards in the Title 24 requirements. Additionally, some of the developments could provide for additional

reductions in energy consumption by use of solar panels, sky lights, or other LEED type energy efficiency infrastructure. With implementation of the existing energy conservation regulations, cumulative electricity and natural gas consumption would not be cumulatively wasteful, inefficient, or unnecessary.

Petroleum consumption associated with the proposed mixed uses would be primarily attributable to transportation, especially vehicular use. However, state fuel efficiency standards and alternative fuels policies (per AB 1007 Pavely) would contribute to a reduction in fuel use, and the Federal Energy Independence and Security Act and the State Long Term Energy Efficiency Strategic Plan would reduce reliance on non-renewable energy resources. For these reasons, the consumption of petroleum would not occur in a wasteful, inefficient, or unnecessary manner and would be less than cumulatively considerable.

5.3.8 EXISTING STANDARD CONDITIONS AND PLANS, PROGRAMS, OR POLICIES

The following standard regulation would reduce potential impacts related to energy:

- California Energy Code (Code of Regulations, Title 24 Part 6).

5.3.9 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Upon implementation of regulatory requirements, Impacts E-1 and E-2 would be less than significant.

5.3.10 MITIGATION MEASURES

GPU FEIR Mitigation Measures

The GPU FEIR determined that impacts related to energy would be less than significant and no mitigation measures were required.

Proposed Specific Plan Project Mitigation Measures

Although impacts related to energy would be less than significant, the following mitigation measures from Section 5.1, *Air Quality* and Section 5.5, *Greenhouse Gas Emissions*, would further reduce Project effects related to energy.

Mitigation Measure AQ-3: Vehicle Trip Reduction. As listed previously in Section 5.1, *Air Quality*.

Mitigation Measure AQ-4: Prohibition of Fireplaces. As listed previously in Section 5.1, *Air Quality*.

Mitigation Measure GHG-1: Solar Panels. As listed in Section 5.5, *Greenhouse Gas Emissions*.

Mitigation Measure GHG-2: LEED, Charging Stations, and Bus Stops. As listed in Section 5.5, *Greenhouse Gas Emissions*.

Mitigation Measure GHG-5: Energy Efficient Appliances. As listed in Section 5.5, *Greenhouse Gas Emissions*.

5.3.11 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impacts related to energy would be less than significant.

REFERENCES

- California Air Pollution Control Officers Association Quantifying Greenhouse Gas Mitigation Measures, 2010. Accessed at: <http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>.
- California Energy Commission Title 24 Building Energy Standards (CEC 2023). Accessed: <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>
- California Gas and Electric Utilities 2022 California Gas Report (CGEU 2022). Accessed: <https://www.socalgas.com/regulatory/cgr.shtml>.
- City of Santa Ana General Plan Update. April 2022. Accessed: <https://www.santa-ana.org/general-plan-documents/>
- City of Santa Ana General Plan Update Final Recirculated Draft Program Environmental Impact Report - October 2021. Accessed: <https://www.santa-ana.org/general-plan-environmental-documents/>
- Energy Assessment. May 2023. Prepared by Kimley-Horn (Appendix F)
- Edison International 2022 Annual Report (SCE 2022). Accessed: <https://www.edison.com/investors/financial-reports-information/annual-reports>
- Southern California Edison. Accessed: <http://sce.com/wps/portal/home/about-us/reliability>.

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