

5.6. Energy

ENERGY	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance criteria established by CEQA Guidelines, Appendix G.

5.6.1. Setting

The proposed Project would construct and operate a BESS facility and 66 kV interconnection line. Battery energy storage units would be charged from the electrical grid and would discharge as a California Independent System Operator (CAISO) market participant. An interconnection application was approved by Southern California Edison (SCE) and the BESS interconnection studies are underway. It is anticipated that the BESS would interconnect to the existing SCE 66-kV electrical transmission line that runs along Las Armas Road.

In June 2021, the CPUC approved a decision ordering utilities to procure 11.5 gigawatts of new zero-emitting electricity resources to come online between 2023 and 2026, since battery energy storage will be needed to achieve California’s clean energy goals. The proposed Project would supplement SCE’s power supply by receiving electricity through the existing power grid system, including power generated from solar and wind sources, and storing the energy until it is needed during peak demand periods. The BESS facility would also support electricity grid resiliency in the event of an emergency or disaster and would replace electricity generation capacity in the event the Ellwood Generating Station (EGS) is retired. The EGS natural gas peaking plant is currently used to supplement the region’s peak power demand requirements.

The energy sources that make up the mix of power supplied to SCE’s customers, relative to the 2023 California power mix, are summarized from utility-specific Power Content Label data gathered by the California Energy Commission shown in Table 5.6-1 (CEC, 2024).

Table 5.6-1. Energy Sources of Electricity Supplied to Customers (2023 Power Content)

Energy Resources	SCE Power Mix	SCE Community Renewable	2023 California Power Mix
Eligible Renewable	37.6%	64.6%	36.9%
Biomass & biowaste	0.1%	0.1%	2.1%
Geothermal	5.2%	3.0%	4.8%
Eligible hydroelectric	0.7%	0.4%	1.8%
Solar	19.8%	54.5%	17.0%
Wind	11.7%	6.6%	11.2%
Coal	0.0%	0.0%	1.8%
Large Hydroelectric	4.5%	2.5%	11.7%
Natural Gas	20.0%	11.3%	36.6%
Nuclear	9.1%	5.1%	9.3%
Other	0.1%	0.0%	0.1%
Unspecified sources of power*	28.8%	16.4%	3.7%
Total	100%	100%	100%

* “Unspecified sources of power” means electricity from transactions that are not traceable to specific generation sources. Source: CEC 2023a, 2023 Power Content Label for SCE.

5.6.2. Regulatory Background

Energy Action Plan and Loading Order. California has mandated and implemented aggressive energy-use reduction programs for electricity and other resources. In 2003, California’s first Energy Action Plan (EAP) established a high-level, coherent approach to meeting California’s electricity and natural gas needs and set forth the “loading order” to address California’s future energy needs. The “loading order” established that the state, in meeting its energy needs, would invest first in energy efficiency and demand-side resources, followed by renewable resources, and only then in clean conventional electricity supply (CPUC, 2008). Since that time, the California Public Utilities Commission (CPUC) and California Energy Commission (CEC) have overseen the plans, policies, and programs for prioritizing the preferred resources, including energy efficiency and renewable energy.

California’s Renewables Portfolio Standard (RPS). Electric utilities in California must procure a minimum quantity of the electricity sales from eligible renewable energy resources as specified by RPS requirements. The most-recent update to the RPS targets was set forth in 2018 with the “100 Percent Clean Energy Act of 2018” [Senate Bill 100 (SB 100)], which establishes the policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to California end-use customers by December 31, 2045. SB 100 requires the CPUC and CEC to ensure that implementation of this policy does not cause or contribute to greenhouse gas emissions increases elsewhere in the western grid.

Integrated Resource Planning. An Integrated Resource Plan (IRP) is an electricity system planning document that lays out the energy resource needs, policy goals, physical and operational constraints, and the general priorities or proposed resource choices of an electric utility, including customer-side preferred resources. Through Senate Bill 350 (De León, Chapter 547, Statutes of 2015) (SB 350), the publicly owned utilities (POU) such as SCE must adopt and file an IRP that is subject to a review by the CEC for consistency with statewide targets for energy efficiency, renewable resources, and greenhouse gas emissions reductions. The IRP must also consider how renewable generation, grid operational efficiencies, energy storage, and distributed resources (including energy efficiency) serve to meet the peak hour energy and reliability needs.

Energy Storage Targets. Assembly Bill 2514 (Skinner, Chapter 469, Statutes of 2010) (AB 2514), amended by Assembly Bill 2227 (Bradford, Chapter 606, Statutes of 2012), requires California’s publicly owned utilities to develop energy storage procurement targets. Partially in response to these requirements, SCE released measures in the Clean Power and Electrification Pathway including expanding transmission and distribution infrastructure to accommodate large-scale and distributed generation and adding up to 10 GW of energy storage for grid balancing, in addition to current mandates.

State CEQA Guidelines. The California Natural Resources Agency adopted certain amendments to the State CEQA Guidelines effective in 2019 to change how CEQA Lead Agencies consider the environmental impacts of energy use. CEQA Guidelines Section 15126.2(b) and CEQA Appendix F require analysis of a project’s energy use, in order to ensure that energy implications are considered in Project decisions. CEQA requires a discussion of the potential environmental effects of energy resources used by projects, with particular emphasis on avoiding or reducing the “wasteful, inefficient, and unnecessary consumption of energy” (see Public Resources Code section 21100(b)(3)).

City of Goleta

In July of 2014, the City of Goleta adopted the Climate Action Plan to identify measures to meet GHG reduction targets. In 2019, it adopted the Strategic Energy Plan to meet its 100 percent renewable electricity supply for the community by 2030 goal, which was unanimously adopted in December 2017 by the City of Goleta City Council. The Strategic Energy Plan is a partnership between the City of Goleta, City of Carpinteria, and County of Santa Barbara to meet the 100 percent renewable electricity goal and

improve resiliency of the local electricity system. The Strategic Energy Plan includes recommendations for increased battery storage to achieve electricity bill reductions and provide backup capacity for shorter outages, increasing electricity resiliency.

5.6.3. Environmental Impacts and Mitigation Measures

Thresholds of Significance

Thresholds of significance for energy use have not been established in the County of Santa Barbara's Environmental Thresholds and Guidelines Manual (2021), which has been adopted by the City of Goleta (adopted by Resolution 08-40). The proposed Project would be expected to have a significant impact on energy use if it demonstrably resulted in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation or conflict or obstruct a plan for renewable energy or energy efficiency as discussed in the CEQA Guidelines Appendix G Checklist above.

Impact Analysis

(a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

LESS THAN SIGNIFICANT. The proposed Project would construct, operate, and maintain a BESS facility and 66 kV interconnection line. The objectives of the proposed Project are to increase the reliability and flexibility of SCE's electrical grid and to help solve California's "duck curve" power production problem. The proposed Project would achieve these objectives by utilizing the BESS to store energy. The proposed Project would allow SCE to store energy and discharge it to the electrical grid during periods of high demand.

Energy storage would improve SCE's ability to efficiently integrate renewable resources. The growth of zero-carbon resources, especially solar resources, has shifted the reliability concerns from the peak hour (hour with the highest energy demand) to net peak hours (hours when energy demand minus wind and solar generation is largest). The changing resource mix is driving a change in the characteristics of the electricity system and requires consideration of the net demand curve, total electricity demand less the wind and solar generation. The "duck curve" is characterized by more drastic increases in net demand in the evening hours as solar decreases, and a net peak that occurs later in the evening when solar generation is substantially diminished or nonexistent (CEC, 2022). By charging during low net demand periods and discharging in higher net demand periods, the proposed Project would increase SCE's ability to use renewable energy when demand is highest.

Construction activity associated with the proposed Project would require the consumption of fossil fuel resources. For example, diesel fuel and gasoline to power the off-road construction equipment and construction vehicles. Additionally, construction would require the manufacture and delivery of new equipment and materials, which would require energy use. Decommissioning of the Project would require similar activities as construction, and therefore impacts due to decommissioning are similar to impacts due to construction.

Operation and maintenance of the proposed Project components would also require use of fossil fuel resources for routine upkeep. Operation of the BESS also consumes energy through round-trip losses. The ratio of discharged to charged energy over the course of one full cycle, or round-trip efficiency, would be approximately 85 percent for the proposed lithium iron phosphate (LFP) battery modules (DOE, 2023).

The Project would supplement SCE's power supply by receiving electricity through the existing power grid system, including power generated from solar and wind sources, and storing the energy until it is needed during peak demand periods. The BESS facility would also support electricity grid resiliency in the event of an emergency or disaster and would replace electricity generation capacity in the event of EGS

retirement. The EGS peaking plant is currently used to supplement the region's peak power demand requirements. As a result, the energy discharged by the BESS would be likely to displace the use of fossil fuel resources during periods of high demand.

The energy resources used by the proposed Project during construction, operation, and decommissioning, including both renewable and non-renewable sources of electricity in the power mix, and petroleum products in vehicles, would not be wasteful, inefficient, or unnecessary in light of the new facilities that would increase capacity and system reliability. No potentially significant environmental impact would occur due to the direct or indirect consumption of energy resources by the proposed Project.

(b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

LESS THAN SIGNIFICANT. The proposed Project would construct, operate, maintain, and eventually decommission a BESS facility and 66 kV interconnection line. The proposed Project would be interconnected to SCE's existing system and would increase the reliability and flexibility of SCE's electrical grid. Energy storage provides benefits to utilities by efficiently integrating increased amounts of renewable energy resources into the electrical transmission and distribution grid in a manner that can avoid use of fossil fuel resources during peak hours and minimize GHG emissions. The City of Goleta's 2019 Strategic Energy Plan set out measures to achieve their 2017 goal of achieving 100 percent renewable electricity supply for the community by 2030. In the 2020 IRP SCE includes a proposed reliability methodology "centered on ensuring [load-serving entities] provide sufficient capacity to meet their net peak load and provide sufficient energy to meet their net load duration curve and charge any energy storage used to meet their needs" (SCE, 2020). The proposed Project would contribute to SCE's efforts to achieve the benefits of energy storage on the electrical grid and would contribute to the City's goals for 100 percent renewable electricity use and increased energy storage. The proposed Project would not conflict with any state or local plan for prioritizing renewable energy or energy efficiency. Impacts would be less than significant.

5.6.3.1. Impact Conclusions and Mitigation Measures

The proposed Project would not result in significant energy impacts, and thus, no mitigation measures are recommended.