

4.7 Energy

This section describes the effects on energy that would be caused by construction and operation of the proposed Project. The following discussion addresses existing conditions in the Project area, identifies and analyzes energy-related impacts as a result of the Project, and recommends measures to reduce or avoid adverse impacts anticipated from Project-related activities. In addition, existing laws and regulations relevant to energy are described.

4.7.1 Environmental Setting

As discussed in the LWEP EIR, Pacific Gas and Electric Company (PG&E) is the electrical service provider for northern Santa Barbara County. PG&E maintains a number of distribution lines and substation facilities in the Lompoc area, which include the 115-kV power line serving the Celite facility, and the Cabrillo Substation in the City of Lompoc. The 2006 percentage mix of PG&E's energy sources was provided in the LWEP EIR. This information is updated below with data from PG&E's 2016 power content label as reported to the California Energy Commission (CEC, 2017).

In 2016, PG&E obtained power from the following sources:

- Renewable - 33 percent
- Nuclear - 24 percent
- Natural Gas - 17 percent
- Large Hydroelectric - 12 percent
- Unspecified Source - 14 percent¹

PG&E's renewable energy sources are further broken down as follows (CEC, 2017):

- Solar - 13 percent
- Wind - 8 percent
- Geothermal - 5 percent
- Biomass and Biowaste - 4 percent
- Eligible hydroelectric - 3 percent

PG&E's wind energy is currently purchased outside of the County as no utility-scale wind energy facilities are present within the County. Through the SWEP, the Applicant would operate as a wholesale power producer with 100 percent of the wind energy output to be exported to the PG&E distribution system. The Project has an interconnection agreement with PG&E that was executed on July 27, 2017, to connect to their facilities located adjacent to the Cabrillo Substation on the east side of 12th Street (see SEIR Section 2.5.5). The SWEP would have an aggregate electrical generating capacity of approximately 102 MW, which is enough power to supply approximately 44,700 homes with electricity, annually.

¹ "Unspecified sources of power" is defined as electricity from transactions that are not traceable to specific generation sources.

4.7.2 Regulatory Setting

4.7.2.1 Federal

The LWEP EIR identified a U.S. Department of Energy (DOE) goal for wind energy generation in the year 2020. The following is an update to this DOE goal:

- **DOE's Wind Vision.** In 2008, the DOE released a report entitled 20% Wind Energy by 2030, which examined the costs, major impacts, and challenges associated with producing 20 percent of wind energy by 2030. In 2015, DOE's Wind and Water Power Technologies Office prepared a comprehensive update to the 2008 report through analysis of scenarios of wind power supplying 10 percent of national end-use electricity demand by 2020, 20 percent by 2030, and 35 percent by 2050 (DOE, 2015). The 2015 Wind Vision analysis provides a roadmap of technical, economic, and institutional opportunities for expanding wind development in the United States.

4.7.2.1 State

The following State regulations were identified in the 2008 LWEP Final EIR. Recent updates to these regulations are identified as applicable.

- **California's Renewables Portfolio Standard (RPS).** In September 2018, Governor Brown signed SB 100 requiring eligible renewable energy resources and zero-carbon resources to supply 100 percent of retail sales of electricity to California end-use customers by December 31, 2045. SB 100 requires the California Public Utilities Commission and California Energy Commission to ensure that implementation of this policy does not cause or contribute to greenhouse gas emissions increases elsewhere in the western grid.
- **Assembly Bill (AB) 32 (California Global Warming Solutions Act of 2006).** As required by AB 32, the California Air Resources Board released a 2017 update to the Scoping Plan to identify how best to reach the targeted 1990 level of greenhouse gas emissions. The 2017 Scoping Plan update emphasizes the need to switch from natural gas to electricity from renewable resources to reduce GHGs (ARB, 2017).
- **Senate Bill 1107.** There is no update to this regulation. Please refer to the LWEP for a full description.
- **Senate Bill 1368.** There is no update to this regulation. Please refer to the LWEP for a full description.

4.7.2.3 Local

The LWEP EIR identified one applicable local planning document: Energy Element of the Santa Barbara County Comprehensive Plan. There have been no relevant changes to this document since 2008. Please refer to the LWEP for a description of this plan, and to Section 4.13, *Land Use and Planning*, for an analysis of policy consistency:

4.7.3 Significance Thresholds

The following significance thresholds have been developed by the County to address the Project’s energy use and are identical to the thresholds used in the LWEP EIR. The proposed Project would have a significant impact associated with energy if it would:

- Be inconsistent with federal goals and state legislation related to the use of renewable energy.
- Use nonrenewable energy resources in a wasteful and inefficient manner.
- Result in a need for new systems or substantial alterations to existing power utilities.

4.7.4 Environmental Impacts and Mitigation Measures

Table 4.7-1 below lists the impacts and mitigation measures identified for energy in Section 3.7.3 of the LWEP Final EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or mitigation measures have been modified for the SWEP.

Table 4.7-1. LWEP Impacts and Mitigation Measures – Energy/Electric Utilities

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
EEU-1	Federal and State Renewable Energy Goals. The Project could generate up to 285 million kWh of electricity annually.	None	Modified impact statement. Updated impact discussion.
EEU-2	Nonrenewable Energy Resources. Construction and operation of the Project would result in consumption of diesel fuel and gasoline.	None	Updated impact discussion.
EEU-3	New/Altered PG&E Facilities. Temporary and long-term modifications to the PG&E system would be required to implement the Project, including upgrades to PG&E’s existing electrical system.	None	Updated impact discussion.

The energy-related impacts of the proposed SWEP are discussed below.

EEU-1 Federal and State Renewable Energy Goals. The Project could be consistent with federal goals and state legislation related to the use of renewable energy.

The LWEP concluded that the Project would have a beneficial effect on federal and state renewable energy goals. The Project could generate up to approximately 300 gigawatt-hours (GWh) of electricity annually. Impacts under the SWEP would remain the same, as this Project would support both the DOE’s goal of increasing the overall use of wind power to generate electricity as well as California’s RPS target of 100 percent of retail sales to be sourced from renewable energy. The SWEP would also provide PG&E with a renewable energy alternative to natural gas, thereby supporting AB 32’s GHG reduction requirements. The SWEP would have a beneficial impact to renewable energy goals (Class IV).

EEU-2 Nonrenewable Energy Resources. Construction and operation of the Project could result in consumption of diesel fuel and gasoline.

The LWEP concluded that the use of nonrenewable energy sources during construction would be less than significant, and that operation would not consume unusually high amounts of fuel. Construction of the SWEP would require a comparable consumption of diesel fuel and gasoline from the use of heavy equipment that includes excavators, bulldozers, trucks, compactors, backhoes, graders, and cranes. A full list of the construction equipment is provided in SEIR Table 2-9. Total fossil fuels used by construction vehicles and equipment, including construction worker commute and the Applicant's conservative helicopter use assumptions, would be approximately 31,000 gallons of gasoline, 314,000 gallons of diesel fuel, and 103,000 gallons of Jet A fuel.

Similar to the LWEP, the SWEP's consumption of nonrenewable resources would be generally attributable to the short-term construction period. Fuel consumption during operation would be considered minimal as it would be limited to employee commute trips for approximately seven staff members and occasional off-road equipment use.

The SWEP includes the same measures as the LWEP to ensure that fuel consumption is neither wasteful nor inefficient (see Construction Equipment Emission Reduction Plan in Section 4.4, *Air Quality*). Impacts to nonrenewable energy resources would not be significant (Class III).

EEU-3 New/Altered PG&E Facilities. Impacts from temporary and long-term modifications to the PG&E system to implement the Project could occur.

As discussed in LWEP EIR Section 3.7.3.3, temporary and long-term modifications to the PG&E electrical system would be required in order to connect the SWEP. Necessary upgrades include an interconnection facilities upgrade, reliability network upgrades, and distribution upgrades, which are described in SEIR Table 2-5. In addition to these upgrades, PG&E proposes to reconnector the existing Manville 115-kV power line from the POI (at the switchyard) to an existing pole location in the City of Lompoc outside of the Cabrillo Substation. The reconnectoring would involve replacing wires and possibly poles along the 115-kV line for a distance of 0.8 miles.

All construction activities by PG&E would occur within the existing PG&E right-of-way and would take place on existing or replacement poles. Following construction activities, a single power line would remain as it exists today between the Project switchyard at the POI and the pole location outside of the Cabrillo Substation. The activities would be short-term and would not cause a substantial disruption to PG&E's existing system. Furthermore, the Applicant has an interconnection agreement with PG&E. Given that the proposed modifications would occur on existing infrastructure and within an existing right-of-way, impacts would not be significant (Class III).

4.7.5 Cumulative Effects

Geographic Extent/Context

The geographic context for energy considers the extent to which construction and operation of the Project affects energy resources when combined with the impacts from other projects. The LWEP did not include a detailed cumulative analysis for Energy. This section considers whether there are any

notable cumulative effects from the SWEP given the most recent list of cumulative projects provided in Table 3-1. The geographic extent for this cumulative energy analysis includes projects within PG&E’s service area that would be proximate in distance or in the nature of the project to combine with the effects of the SWEP regarding renewable energy goals, to the use of nonrenewable resources, and to the need for new or altered PG&E Facilities.

Cumulative Effects

Federal and State Renewable Energy Goals. The Project would support federal wind power goals and State legislation pertaining to retail sales comprised of renewable energy, as well as to GHG reduction requirements. The Project would not combine with the effects of another project listed in Section 3.3, Table 3-1, to create an inconsistency with renewable energy goals and legislation. No cumulative impact would occur to renewable energy goals.

Nonrenewable Energy Resources. The Project would require the use of nonrenewable resources (primarily diesel fuel and gasoline) during construction. The amount of fuel required for the SWEP would be similar to other large construction projects, and the SWEP includes measures to ensure that fuel consumption is neither wasteful nor inefficient. Other projects listed in Section 3.3 could require a similar use of diesel fuel and gasoline during their construction periods. However, the Project’s contribution to impacts on nonrenewable resources would be minimal due to required Project measures. Cumulative impacts would not be significant.

New/Altered PG&E Facilities. The Project would require modifications to the PG&E electrical system that would create temporary nuisance impacts associated with construction noise and traffic, but would occur entirely within the exiting PG&E right-of-way. None of the other projects listed in Section 3.3 include electrical utility modifications. Cumulative impacts associated with existing power utilities are not anticipated.

4.7.6 Residual Impacts

Residual impacts to energy would be less than significant.

4.7.7 Impact and Mitigation Summary

Table 4.7-2 below provides a summary of the SWEP’s impacts related to energy. No mitigation measures are required to reduce impacts to this resource.

Table 4.7-2. SWEP Impact and Mitigation Summary – Energy

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
EEU-1	Federal and State Renewable Energy Goals. The Project could be consistent with federal goals and state legislation related to the use of renewable energy.	None.	Class IV
EEU-2	Nonrenewable Energy Resources. Construction and operation of the Project could result in consumption of diesel fuel and gasoline.	None	Class III
EEU-3	New/Altered PG&E Facilities. Impacts from temporary and long-term modifications to the PG&E system to implement the Project could occur.	None	Class III

Class I. Significant unavoidable adverse impact.

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Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

4.7.8 References

ARB (California Air Resources Board). 2017. California's 2017 Climate Change Scoping Plan. November.

CEC (California Energy Commission). 2017. 2016 Power Content Label, Pacific Gas and Electric Company. September. [online]: https://www.energy.ca.gov/pcl/labels/2016_index.html. Accessed November 6, 2018.

DOC (U.S. Department of Energy). 2015. Wind Vision: A New Era for Wind Power in the United States. March 12.