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12.0 Energy

12.1 CEQA Requirements

Public Resources Code section 21100 (b)(3) requires that an environmental impact report include a detailed statement setting forth mitigation measures proposed to minimize significant effects on the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy.

Development of the proposed project will result in an increased demand for energy during construction and operations, once the facility has been developed and occupied. Primary sources of energy use will be transportation fuels, electricity, and natural gas.

For purposes of this analysis, implementation of the project would be considered to result in wasteful or inefficient consumption of energy if it failed to comply with related general plan policies and failed to implement energy demand reduction/efficiency measures. A multitude of state regulations and legislative acts are aimed at improving vehicle fuel efficiency, energy efficiency, and energy conservation. Several of these are described below. Through the CEQA and development review processes, the county will implement these state regulations and guide development of the project to reduce energy consumption.

12.2 Methodology

Estimates of projected energy demand are based on a number of sources cited in this section including the greenhouse gas emissions (GHG) modeling. The GHG modeling assumes that full buildout of project would occur by 2020.

12.3 Energy Setting

Pacific Gas and Electric, one of the largest utilities in the state of California, is the primary purveyor of electricity and natural gas in the county. Pacific Gas and Electric operates a major network of electricity and natural gas transmission lines within its service area, including Monterey County.

For more than a decade, federal, state and regional energy agencies and energy providers have been focused on reducing growth in fossil-fuel based energy demand, especially in the form of transportation fuels and electricity. Key environmental goals have been to reduce air

pollutants and GHGs. As a result, investments in a range of energy efficiency and conservation programs and technologies to improve transportation fuel efficiency have been increasing, as has the focus on land use planning as a tool to reduce vehicle trips/lengths and transportation related energy use as well as the promotion of alternative modes of transportation.

Population growth is a key driver for increasing residential and commercial energy demands and for water pumping and other energy-intensive services, and the county's population and energy demand will continue to grow. In order to minimize the need for additional electricity generation facilities, both the state and regional energy purveyors have focused investments on energy conservation and efficiency over the past decades. Further, as required under the state's Renewable Portfolio Standard, Pacific Gas and Electric is well on its way to obtaining a minimum of 33 percent of its retail power from renewable sources by 2020 based on data from the California Public Utilities Commission (http://www.cpuc.ca.gov/rps_homepage/). The state has recently passed legislation requiring that by 2030, 50 percent of the power supply provided by retail power providers, including Pacific Gas and Electric, must be obtained from renewable sources.

As the project site is vacant, it does not contain any developed uses that are sources of energy demand.

12.4 ENERGY 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 EnergyStar™ program) and transportation (e.g., vehicle fuel efficiency standards). At the state level, Title 24 of the California Administrative Code sets energy standards for buildings, rebates/tax credits are provided for installation of renewable energy systems, and the Flex Your Power program promotes conservation in multiple areas. Refer also to Section 3.8 Greenhouse Gas Emissions.

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission is an independent agency that regulates the interstate transmission of electricity, natural gas, and oil. The Federal Energy Regulatory Commission reviews proposals to build liquefied natural gas terminals and interstate natural gas pipelines; it also licenses hydropower projects. Licensing of hydroelectric under the authority of Federal Energy Regulatory Commission includes input from state and federal energy, environmental protection, fish and wildlife, and water quality agencies.

National Energy Policy

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

California Energy Commission

The California Energy Commission is California's primary energy policy and energy planning agency. Created by the California Legislature in 1974, the California Energy Commission has five major responsibilities: 1) forecasting future energy needs and keeping historical energy data; 2) licensing thermal power plants 50 megawatts or larger; 3) promoting energy efficiency through appliance and building standards; 4) developing energy technologies and supporting renewable energy; and 5) planning for and directing state response to energy emergencies. Under the requirements of the California Public Resources Code, the California Energy Commission, in conjunction with the Department of Commerce's Division of Oil, Gas, and Geothermal Resources, is required to assess electricity and natural gas resources on an annual basis or as necessary. The Systems Assessment and Facilities Siting Division of the California Energy Commission provides coordination to ensure that needed energy facilities are authorized in an expeditious, safe, and environmentally acceptable manner.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) is the State agency responsible for regulating services and utilities, protecting consumers, safeguarding the environment and assuring Californians' access to safe and reliable utility infrastructure and services. The essential services regulated by the CPUC include electric, natural gas, telecommunications, water, railroad, rail transit and passenger transportation companies. The CPUC was established by the State Legislature as the Railroad Commission in 1911; it was subsequently redesignated through a Constitutional Amendment as the Public Utilities Commission in 1946.

California 2008 Energy Action Plan Update

The state adopted the *California Energy Action Plan* in 2003, followed by the *Energy Action Plan II* in 2005. The current plan, the *California 2008 Energy Action Plan Update*, is California's principal energy planning and policy document. The updated document examines the state's ongoing actions in the context of global climate change, describes a coordinated implementation plan for state energy policies, and identifies specific action areas to ensure

that California's energy resources are adequate, affordable, technologically advanced, and environmentally sound. The *California 2008 Energy Action Plan Update* establishes energy efficiency and demand response (i.e., reduction of customer energy usage during peak periods) as the first-priority actions to address California's increasing energy demands. Additional priorities include the use of renewable sources of power and distributed generation (i.e., the use of relatively small power plants near or at centers of high demand). To the extent that these actions are unable to satisfy the increasing energy demand and transmission capacity needs, clean and efficient fossil-fired generation is supported. The *California 2008 Energy Action Plan Update* examines policy changes in the areas of energy efficiency, demand response, renewable energy, electricity reliability and infrastructure, electricity market structure, natural gas supply and infrastructure, research and development, and climate change (California Energy Commission 2008).

California Building Codes

California's *Energy Efficiency Standards for Residential and Nonresidential Buildings* (California Code of Regulations, Title 24, Part 6) were first established in 1978 to reduce California's energy consumption. The standards were most recently updated in January 2013. Energy efficient buildings require less electricity, natural gas, and other fuels, the use of which creates GHG emissions. Since initial adoption in 1978, California's per capita building energy use has increased about nine percent, while the national per capita building energy use has increased by more than 50 percent (California Energy Commission 2008, 2012).

The *Green Building Standards Code* (also known as CALGreen), which requires all new buildings in the state to be more energy efficient and environmentally responsible, took effect in January 2011 and was most recently updated in January 2013. These comprehensive regulations are intended to achieve major reductions in greenhouse gas emissions, energy consumption, and water use (California Building Standards Commission 2015).

Energy Efficiency Act of 2006 (AB 2021)

This bill encourages all investor-owned and municipal utilities to aggressively invest in achievable, cost-effective, energy efficiency programs in their service territories. The results of this bill were expected to reduce forecasted electricity demand by 10 percent over 10 years from 2006 through 2016, offsetting the projected need to build 11 new major power plants.

California Assembly Bill No. 1493 ("Pavley I Rule")

AB 1493 was enacted on July 22, 2002. It requires CARB to develop and adopt regulations that improve fuel efficiency of vehicles and light-duty trucks. Pavley I requirements apply to these vehicles in the model years 2009 to 2016.

Advanced Clean Cars

In January 2012, CARB adopted an Advanced Clean Cars program, which is aimed at increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as electricity and hydrogen readily available for these vehicle technologies.

Renewable Energy Legislation/Orders

The California Renewable Portfolio Standard Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20 percent of their retail sales with renewable power by 2017, was established by SB 1078 in 2002. The renewable portfolio standard was accelerated by seven years, to 20 percent by 2010, through SB 107 in 2006. The program was subsequently expanded by the renewable electricity standard approved by CARB in September 2010, requiring all utilities to meet a 33 percent target by 2020. SB 350, adopted in September 2015, increases the standard to 50 percent by 2030.

California Senate Bill 350 (Clean Energy and Pollution Reduction Act of 2015)

SB 350 was adopted in October 2015. It has several aspects. Among its requirements are that the State Energy Resources Conservation and Development Commission must establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030. Local publicly owned electric utilities are now required to establish annual targets for energy efficiency savings and demand reduction consistent with this goal. The bill also is intended achieve GHG reductions through increased investments in transportation electrification and notes that reducing GHGs to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 consistent with Executive orders S-03-05 and S-30-15 will require widespread transportation electrification.

California Senate Bill 32 (California Global Warming Solutions Act of 2006: Emissions Limit)

This bill was adopted in September 2006. It established a new statewide GHG emissions reduction target of at least 40 percent below 1990 levels by the end of 2030. It represents an interim GHG reduction target designed to ensure that the state continues to adopt rules and regulations that keep the state on track to meet the 2050 statewide GHG reduction goal of 80 percent below 1990 levels by 2050 set forth in Executive Order S-03-05. The emissions reduction goal set in SB 32 sets expectations for GHG emissions reductions in the state in the

post-AB 32 2020 environment given that emissions reduction goals set forth in AB 32 will have been reached by 2020.

12.5 PROJECTED ENERGY CONSUMPTION

The three primary sources of long-term energy consumption from new development and operations will be fuel use in vehicles traveling within, and to and from the project, use of natural gas, and use of electricity. Each of these energy consumption sources is described below.

Transportation Fuel Use

Table 4.2, Trip Summary, of the CalEEMod presented in Appendix C of this draft EIR, results shows that at buildout, the project would generate approximately 690,549 travel miles annually (approximately 1,892 miles daily). This total is a composite based on total weekday, Saturday, and Sunday vehicle trips. The proposed project would result in an increase in vehicle trips and an increase in the volume of transportation fuel that would be consumed by trucks, light-duty vehicles, passenger cars, relative to existing conditions. The increase will add to the cumulative demand for transportation fuel locally and regionally.

County of Monterey Vehicle Miles Traveled (VMT) data for 2014 was obtained from the *California Department of Transportation (Caltrans) Highway Performance Monitoring System (HPMS) 2014 Public Road Data* (California Department of Transportation 2014; http://www.dot.ca.gov/hq/tsip/hpms/datalibrary.php). Total daily VMT in 2014 was estimated at 10,093,310 miles. At 1,892 daily VMT, the proposed project would represent less than 0.02 percent of the county daily VMT in 2014. At project buildout by 2020, this percentage would be even smaller as anticipated growth in the county would lead to additional total VMT countywide.

Vehicle miles traveled serves as a general proxy for the magnitude of transportation fuel consumption. The change in VMT with the project was input into the Emissions Factors (EMFAC) model (EMFAC2014 v1.0.7) to estimate the change in fuel demand that would result from the VMT increase. The proposed project would result in an increase in fuel demand of about 35,770 gallons per year (approximately 98 gallons per day) relative to the 2020 without project conditions.

Electricity

Section 5.3, Energy by Land Use - Electricity, in the CalEEMod results shows that at buildout, future uses within the site would demand approximately 509,321 kWh of electricity. This demand could be reduced by approximately 11,000 kWh of electricity with installation of energy efficient ENERGY STAR® appliances.

Energy Consumption Data Management System information maintained by the California Energy Commission shows that in 2015, total electricity consumption in the county was 2,660,172,821 kWh; 696,014,751 kWh of this total was attributable to residential uses (http://www.ecdms.energy.ca.gov/elecbycounty.aspx). The project electricity consumption at buildout would represent about 0.02 percent of total 2015 county consumption and likely a smaller percentage of total county consumption in the project buildout year of 2020 as electricity consumption in the county grows over time.

Natural Gas Use

Energy usage is typically quantified using the British Thermal Unit (BTU). The BTU is the amount of energy that is required to raise the temperature of one pound of water by one degree Fahrenheit. As points of reference, the approximate amount of energy contained in a gallon of gasoline, 100 cubic feet (one therm) of natural gas, and a kilowatt hour of electricity are 123,000 BTUs, 100,000 BTUs, and 3,400 BTUs, respectively.

Table 5.2 Energy by Land Use – Natural Gas, in the CalEEMod results shows that at buildout, future uses within the site would demand approximately the equivalent of 1,398,530 BTU (13.98 therms) of energy from natural gas use per year from space heating and other internal building uses. One therm is equivalent to 100,000 BTU.

According to Energy Consumption Data Management System information maintained by the California Energy Commission, in 2015, total natural gas consumption in Monterey County was approximately 102,464,303 therms (http://www.ecdms.energy.ca.gov/gasbycounty.aspx). The project consumption at buildout would represent less than 0.0001 percent of 2015 county consumption and a smaller percentage of total county consumption in the project buildout year of about 2020 as natural gas consumption in the county continues to grow over time.

12.6 GUIDANCE FOR ENERGY EFFICIENCY/CONSERVATION

Reduction of Energy Use - Regulatory Requirements

As described in the Regulatory Setting above, a number of federal and particularly state regulatory programs are being implemented to improve the efficiency of transportation fuel, natural gas, and electricity use. New development within the county must comply with the regulations, many of which are beyond the implementation control of county government and project developers. For example, in the transportation sector, the Pavley I and II standards and the Advanced Clean Car standards will result in improved transportation fuel efficiency. In the building energy use sector, implementation of CALGreen and Title 24 building standards will reduce natural gas and electricity consumption.

Monterey County General Plan

The 2010 general plan includes several policies which will directly and indirectly result in reduced energy consumption. The general plan includes Policy OS-10.11, which adopted a GHG emissions reduction target of 15 percent below 2005 levels by 2020 and required development of a GHG reduction plan for the county by 2013. Policy 0S-10.12 directs the county to adopt a Green Building Ordinance to require green building practices and materials for new development.

Green Building Ordinance

The Green Building Ordinance (18.11- Green Building Standards) was adopted by the county in 2013. The ordinance establishes standards and procedures to require development to comply with GreenPoint or LEED standards or their equivalent. These standards are in addition to, and achieve a greater level of efficiency that the current California Building Code Standards including the CALGreen mandatory requirements.

Las Palmas Ranch Specific Plan

Energy Conservation Policies

> 1. Each residential unit should be should be afforded adequate solar access for the operation of active and passive solar systems. Locating structures with their major axis oriented within 22.5 degrees of true east/west is generally the best means to insure adequate south-facing solar access. For single-family homes, the orientation is fairly simple to implement as is full access to the south wall for passive solar design. For multi-family units, orientation and access are more difficult; generally south roof access for active space hearing or domestic water hearing systems is considered sufficient.
>
> 2. Careful design of structures to utilize solar access and to control heat loss and heat gain can achieve significant energy conservation. When these design elements are coupled with passive design features (thermal storage units, south facing glass, domestic hot water systems and other energy conserving components), the energy conservation potential greatly increases. Support structures built by the developer such as commercial areas, swimming pools, recreation and community buildings should make maximum use of alternate energy sources both to reduce operation costs and to serve as community examples.

12.7 CONCLUSION

As discussed above, the proposed project would represent an extremely small fraction of the county's long-term energy consumption. State and federal regulations regarding fuel efficiency standards for vehicles in California are designed to reduce wasteful, unnecessary

and inefficient use of energy for transportation. The County of Monterey has policies and regulations in place require that new development considers energy reduction and comply with standards that achieve a greater level of efficiency than current California Building Code Standards. Conformance to applicable energy conservation/efficiency regulations and standards would ensure that the proposed project would not result directly or indirectly result in inefficient, wasteful, and unnecessary consumption of energy.

In order to be consistent with the two Las Palmas Ranch Specific Plan policies presented above, the applicant shall implement the following mitigation measure:

Mitigation Measure

ENG-1 Prior to approval of building permits for each of the project components, the applicant shall submit a report to the Director of Planning demonstrating how the project is consistent with the energy conservation policies identified in the Las Palmas Ranch Specific Plan.

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