3.5 Energy

This section of the Draft EIR evaluates potential impacts to energy resources associated with implementation of the proposed Golden State Natural Resources Forest Resiliency Demonstration Project (project or proposed project). This section describes the existing air quality conditions at feedstock source locations (Sustainable Forest Management Projects), proposed pellet processing facility sites in Northern California (Lassen Facility) and the Central Sierra Nevada foothills (Tuolumne Facility), and the export terminal at the Port of Stockton, and evaluates the potential for project-related energy impacts, considering proposed project design features that could reduce or eliminate associated impacts.

Scoping comments were received regarding energy in response to the Notice of Preparation (NOP) (see Appendix A). The energy related comments included concerns about energy demand for the proposed project, specifically construction, operations (including impact on electricity grid from pellet plants), and transportation. Concerns related to the proposed project's potential impacts on energy resources are addressed in Section 3.5.4.2.

3.5.1 Environmental Setting

3.5.1.1 Existing Environmental Conditions

Electricity

According to the U.S. Energy Information Administration, California used approximately 251,869,136 megawatt-hours of electricity in 2022 (EIA 2023a). California ranks second in the nation, after Georgia, in the most utility-scale electricity generation from biomass. In 2023, biomass fueled 2% of the state's total net generation, and more than half of that was from wood and wood-derived fuels. Electricity usage in California for different land uses varies substantially based on the types of uses in a building, type of construction materials used in a building, and the efficiency of all electricity-consuming devices within a building. Based on California's electricity sales in 2023, the industrial sector accounted for 18%, the commercial sector accounted for 47%, and the residential sector accounted for 35% (EIA 2023a). California's electricity use per capita is lower than any other state except Hawai'i (EIA 2023a).

Pacific Gas and Electric (PG&E) would provide electricity to the Project at the Lassen Facility, the Tuolumne Facility, and the Port of Stockton. PG&E provides natural gas and electric service to approximately 16 million people throughout a 70,000-square-mile service area in northern and central California. PG&E has 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines. According to the 2022 PG&E Power Content Label, with the Base Plan, eligible renewable accounts for 38.3% of PG&E's energy sources, with solar at 22%. The remaining energy resources are large hydroelectric at 7.6%, natural gas at 4.8%, and nuclear at 49.3% (PG&E 2023).

Natural Gas

According to the U.S. Energy Information Administration, California used approximately 2,056,267 million cubic feet of natural gas in 2022 (EIA 2023b). The majority of California's natural gas customers are residential and small commercial customers (core customers). These core customers account for approximately 35% of the natural gas delivered by California utilities (CPUC 2021). Large consumers, such as electric generators and industrial customers (noncore customers), account for approximately 65% of the natural gas delivered by California utilities (CPUC 2021).

The California Public Utilities Commission (CPUC) regulates California natural gas rates and natural gas services, including in-state transportation over transmission and distribution pipeline systems, storage, procurement, metering, and billing. Most of the natural gas used in California comes from out-of-state natural gas basins. California gas utilities may soon also begin receiving biogas into their pipeline systems (CPUC 2022).

PG&E is the natural gas utility provider to the Lassen Facility, the Tuolumne Facility, and the Port of Stockton areas. PG&E has 42,141 miles of natural gas distribution pipelines and 6,438 miles of transmission pipelines (PG&E 2023).

Petroleum

According to the U.S. Energy Information Administration, California used approximately 628 million barrels of petroleum in 2022, with the majority (534 million barrels) used for the transportation sector (EIA 2023c). There are 42 U.S. gallons in a barrel, so this equates to a total daily use of approximately 14.95 million gallons of petroleum among all sectors and 12.71 million gallons for the transportation sector. In California, petroleum fuels refined from crude oil are the dominant source of energy for transportation sources. Petroleum usage in California includes petroleum products such as motor gasoline, distillate fuel, liquefied petroleum gases, and jet fuel. California has implemented policies to improve vehicle efficiency and to support use of alternative transportation, which are described in the "State" subsection in Section 3.5.2.2, Regulatory Setting, as well as Section 3.7, Greenhouse Gas Emissions. California has led the United States in the most electric vehicles (EVs) and EV charging locations every year since 2016 (EIA 2023a).

3.5.1.2 Sustainable Forest Management Projects

In 2019, the Golden State Finance Authority (GSFA) and the U.S. Forest Service signed a Master Stewardship Agreement (MSA) for the general purpose of achieving resilient forests within U.S. Forest Service Region 5, which includes all of the 18 national forests located in California. Feedstock for manufacturing of wood pellets will be wood byproducts sourced from Sustainable Forest Management Projects such as hazardous fuel reduction projects, construction of shaded fuel breaks, and salvage harvests (see Chapter 2, Project Description, for a full description). While the MSA applies to the entirety of Region 5, only Sustainable Forest Management Projects within the Working Area described in Section 2.4 are contemplated under the proposed project. The feedstock would originate from private, state, tribal, and federal timberlands located within the Working Area of the two wood pellet production facilities.

Sustainable forest management projects would not consume electricity or natural gas, and therefore, would not require a utility provider. Sustainable forest management projects would require petroleum for transportation to and from the forests, and for off-road equipment during feedstock acquisition. Fuel would be provided by current and future commercial vendors in the area.

3.5.1.3 Northern California (Lassen Facility) Site

Existing electrical infrastructure on the project site is minimal, serving the two existing structures (pump house and water tower). Pacific Gas & Electric Company (PG&E) is currently the electrical provider. PG&E provides electric services to 5.1 million customers, including 106,681 circuit miles of electric distribution lines and 18,466 circuit miles of interconnected transmission lines over a 70,000-square-mile service area in northern and central California (PG&E 2023).

As set forth in Chapter 3.16 (Utilities and Service Systems"), it is anticipated that electrical services would be provided to the project through a substation owned by the Surprise Valley Electrification Corporation (SVEC), through a wheeling or similar arrangement between PG&E and SVEC.

3.5.1.4 Central Sierra Nevada (Tuolumne Facility) Site

PG&E provides electrical services to the majority of the County. As previously stated, PG&E covers a 70,000 square mile service area in northern and central California. The project site is currently served by PG&E. The existing infrastructure consists of overhead powerlines on the eastern boundary which serve the existing on-site structures.

3.5.1.5 Port of Stockton

PG&E provides electricity to the majority of the City of Stockton, including the Port of Stockton. The Port owns and maintains the electrical utility system in the West Complex, which receives wholesale electricity from PG&E (Port of Stockton 2022).

PG&E also supplies the City of Stockton with natural gas. In 2022, natural gas consumption for San Joaquin County totaled approximately 187,299,397 therms, of which just 96,816,200 therms were consumed by non-residential uses; the remainder were consumed by residential uses (CEC 2022a).

3.5.2 Regulatory Setting

3.5.2.1 Federal

Federal Energy Policy and Conservation Act

In 1975, Congress enacted the Federal Energy Policy and Conservation Act, which established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration is responsible for establishing additional vehicle standards. In 2012, new fuel economy standards for passenger cars and light trucks were approved for model years 2017 through 2021 (77 FR 62624–63200). Fuel economy is determined based on each manufacturer's average fuel economy for the fleet of vehicles available for sale in the United States.

Energy Policy Act of 2005

In January 2005 the Energy Policy Act was signed into law. It addresses energy production in the United States, including energy efficiency; renewable energy; oil and gas; coal; tribal energy; nuclear matters and security; vehicles and motor fuels, including ethanol; hydrogen; electricity; energy tax incentives; hydropower and geothermal energy; and climate change technology. The Energy Policy Act provides loan guarantees for entities that develop or use innovative technologies that avoid the by-production of greenhouse gases (GHGs). Another provision of the Energy Policy Act is the Renewable Fuel Standard (RFS), which increases the amount of biofuel that must be mixed with gasoline sold in the United States.

Energy Independence and Security Act of 2007

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law. In addition to setting increased corporate average fuel economy standards for motor vehicles, the EISA includes the following other provisions related to energy efficiency:

- RFS (Section 202)
- Appliance and lighting efficiency standards (Sections 301–325)
- Building energy efficiency (Sections 411–441)

This federal legislation (the RFS) requires ever-increasing levels of renewable fuels to replace petroleum (EPA 2022). The U.S. Environmental Protection Agency (EPA) is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. RFS program regulations were developed in collaboration with refiners, renewable fuel producers, and many other stakeholders.

The RFS program was created under the Energy Policy Act of 2005 and established the first renewable fuel volume mandate in the United States. As required under the act, the original RFS program (RFS1) required 7.5 billion gallons of renewable fuel to be blended into gasoline by 2012. Under the EISA, the RFS program was expanded in several key ways that laid the foundation for achieving significant reductions of GHG emissions through the use of renewable fuels, for reducing imported petroleum, and for encouraging the development and expansion of our nation's renewable fuels sector. The updated program ("RFS2") includes the following:

- EISA expanded the RFS program to include diesel, in addition to gasoline.
- EISA increased the volume of renewable fuel required to be blended into transportation fuel from 9 billion gallons in 2008 to 36 billion gallons by 2022.
- EISA established new categories of renewable fuel and set separate volume requirements for each one.
- EISA required EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces.

Additional provisions of the EISA 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."

Transportation Equity Act for the 21st Century

The Transportation Equity Act for the 21st Century was signed into law in 1998 and builds on the initiatives established in the Intermodal Surface Transportation Efficiency Act legislation. The Transportation Equity Act authorizes highway, highway safety, transit, and other efficient surface transportation programs. The act continues the program structure established for highways and transit under Intermodal Surface Transportation Efficiency Act, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of transportation decisions. The Transportation Equity Act also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of intelligent transportation systems to help improve operations and management of transportation systems and vehicle safety.

Infrastructure Investment and Jobs Act

The Infrastructure Investment and Jobs Act (Infrastructure Deal) was signed into law November 15, 2021. The legislation includes $39 billion of new investment to modernize transit, in addition to continuing the existing transit programs for 5 years as part of surface transportation reauthorization. The Infrastructure Deal would also invest $7.5 billion to build out a national network of electric vehicle (EV) chargers. The Infrastructure Deal would provide funding for deployment of EV chargers along highway corridors to facilitate long-distance travel and within communities to provide convenient charging where people live, work, and shop to support a goal of building a nationwide network of 500,000 EV chargers. This would accelerate the adoption of EVs, which would help reduce emissions and improve air quality. In addition, the Infrastructure Deal would include more than $65 billion of investments in clean energy transmission including upgrading existing power infrastructure through expanding transmission lines to facilitate the expansion of renewables and clean energy.

The Inflation Reduction Act of 2022

The Inflation Reduction Act was signed into law by President Biden in August 2022. The act includes specific investment in energy and climate reform and is projected to reduce GHG emissions within the United States by 40% as compared to 2005 levels by 2030. The act allocates funds to boost renewable energy infrastructure (e.g., solar panels and wind turbines), includes tax credits for the purchase of electric vehicles, and includes measures that will make homes more energy efficient.

3.5.2.2 State

Warren-Alquist Act

The California Legislature passed the Warren–Alquist Act in 1974, which created the California Energy Commission (CEC). The legislation also incorporated the following three key provisions designed to address the demand side of the energy equation:

- It directed the CEC to formulate and adopt the nation's first energy conservation standards for both buildings constructed and appliances sold in California.
- The act removed the responsibility of electricity demand forecasting from the utilities, which had a financial interest in high-demand projections, and transferred it to a more impartial CEC.
- The CEC was directed to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources.

State of California Energy Action Plan

The CEC and the CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure the provision of adequate, reliable, and reasonably priced electrical power and natural gas supplies; it also identified cost-effective and environmentally sound energy policies, strategies, and actions for California's consumers and taxpayers. In 2005, the CEC and CPUC adopted a second Energy Action Plan to reflect various policy changes and actions of the prior 2 years.

At the beginning of 2008, the CEC and the CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based, in part, on a finding that the state's energy policies have been significantly influenced by the passage of Assembly Bill (AB) 32, the California Global Warming Solutions Act

of 2006 (discussed below). Rather than produce a new energy action plan, the CEC and CPUC prepared an "update" that examines the state's ongoing actions in the context of global climate change.

Assembly Bill 1007

AB 1007 (2005) required CEC to prepare a statewide plan to increase the use of alternative fuels in California (State Alternative Fuels Plan). CEC prepared the plan in partnership with the California Air Resources Board (CARB) and in consultation with other state agencies, plus federal and local agencies. The State Alternative Fuels Plan assessed various alternative fuels and developed fuel portfolios to meet California's goals to reduce petroleum consumption, increase alternative fuels use, reduce GHG emissions, and increase in-state production of biofuels without causing a significant degradation of public health and environmental quality.

California Code of Regulations, Title 24, Part 6

The California Building Standards Code was established in 1978 and serves to enhance and regulate California's building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically established Building Energy Efficiency Standards that are designed to ensure that new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. These energy efficiency standards are reviewed every 3 years by the Building Standards Commission and CEC and revised if necessary (California Public Resources Code Section 25402[b][1]). The regulations receive input from members of industry, as well as the public, to "reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy" (California Public Resources Code Section 25402). These regulations are carefully scrutinized and analyzed for technological and economic feasibility (California Public Resources Code Section 25402[d]) and cost effectiveness (California Public Resources Code Section 25402[b][2–3]). As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

The current Title 24, Part 6 standards, referred to as the 2022 Title 24 Building Energy Efficiency Standards, became effective on January 1, 2023. The 2022 energy code focuses on four key areas in newly constructed homes and businesses quality (CEC 2021):

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking, and EV charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available on site and complement the state's progress toward a 100% clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

If approved, the 2025 Title 24 Standards will be effective on January 1, 2026. The 2025 Draft Energy Code introduces new areas compared to the 2022 Title 24 standards, including a stronger emphasis on electric heat pumps for space and water heating in new buildings. It also establishes electric-ready requirements for commercial kitchens and some multifamily buildings, mandates the replacement of end-of-life rooftop HVAC units with high-efficiency systems, and updates solar and storage standards for assembly buildings (CEC 2024).

California Code of Regulations, Title 24, Part 11

In addition to CEC's efforts, in 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24), which is commonly referred to as CALGreen, establishes minimum mandatory standards and voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. CALGreen took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential and state-owned buildings and schools and hospitals.

The 2022 CALGreen standards are the current applicable standards. For residential projects, some of the key mandatory CALGreen standards involve requirements related to EV parking spaces and charging infrastructure, indoor and outdoor water efficiency and conservation, construction waste management, low volatile organic compound paints and finishes, and formaldehyde limits in wood products (24 CCR, Part 11). For nonresidential projects, some of the key mandatory CALGreen standards involve requirements related to bicycle parking, designated parking for clean air vehicles, EV charging stations for passenger vehicles, shade trees, water conserving plumbing fixtures and fittings, outdoor potable water use in landscaped areas, recycled water supply systems, construction waste management, excavated soil and land clearing debris, and commissioning (24 CCR, Part 11).

California Code of Regulations, Title 20

Title 20 of the California Code of Regulations requires manufacturers of appliances to meet state and federal standards for energy and water efficiency (20 CCR 1401–1410). CEC certifies an appliance based on a manufacturer's demonstration that the appliance meets the standards. New appliances regulated under Title 20 include refrigerators, refrigerator-freezers, and freezers; room air conditioners and room air-conditioning heat pumps; central air conditioners; spot air conditioners; vented gas space heaters; gas pool heaters; plumbing fittings and plumbing fixtures; fluorescent lamp ballasts; lamps; emergency lighting; traffic signal modules; dishwaters; clothes washers and dryers; cooking products; electric motors; low voltage dry-type distribution transformers; power supplies; televisions and consumer audio and video equipment; and battery charger systems. Title 20 presents protocols for testing each type of appliance covered under the regulations and appliances must meet the standards for energy performance, energy design, water performance, and water design. Title 20 contains three types of standards for appliances: federal and state standards for federally regulated appliances, state standards for federally regulated appliances, and state standards for non-federally regulated appliances.

Senate Bill 1078, Senate Bill 1368, Executive Order S-14-08, Executive Order S-21-09 and Senate Bill X1-2, Senate Bill 350, Senate Bill 100, and Senate Bill 1020

Senate Bill (SB) 1078 (2002) (California Public Utilities Code Section 399.11 et seq.) established the Renewables Portfolio Standard (RPS) program, which required an annual increase in renewable generation by the utilities equivalent to at least 1% of sales, with an aggregate goal of 20% by 2017. This goal was subsequently accelerated, requiring utilities to obtain 20% of their power from renewable sources by 2010 (see SB 107, Executive Order [EO] S-14-08, and EO S-21-09).

SB 1368 (2006) required CEC to develop and adopt regulations for GHG emission performance standards for the long-term procurement of electricity by local publicly owned utilities (California Public Utilities Code Section 8340-8341). These standards must be consistent with the standards adopted by CPUC.

EO S-14-08 (2008) focused on the contribution of renewable energy sources to meet the electrical needs of California while reducing the GHG emissions from the electrical sector. This EO required that all retail suppliers of electricity in California serve 33% of their load with renewable energy by 2020. Furthermore, the EO directed state agencies to take appropriate actions to facilitate reaching this target. California Natural Resources Agency, in collaboration with CEC and the California Department of Fish and Wildlife, was directed to lead this effort.

EO S-21-09 (2009) directed CARB to adopt a regulation consistent with the goal of EO S-14-08 by July 31, 2010. CARB was further directed to work with CPUC and CEC to ensure that the regulation builds upon the RPS program and was applicable to investor-owned utilities, publicly owned utilities, direct access providers, and community choice providers. Under this order, CARB was to give the highest priority to those renewable resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health, as well as those that can be developed the most quickly in support of reliable, efficient, cost-effective electricity system operations. On September 23, 2010, CARB initially approved regulations to implement a Renewable Electricity Standard; however, this regulation was not finalized because of subsequent legislation (SB X1-2) signed by Governor Brown in April 2011.

SB X1-2 (April 2011) expanded RPS by establishing a renewable energy target of 20% of the total electricity sold to retail customers in California per year by December 31, 2013, and 33% by December 31, 2020, and in subsequent years. Under the bill, a renewable electrical generation facility is one that uses biomass, solar thermal, photovoltaic, wind, geothermal, fuel cells using renewable fuels, small hydroelectric generation (30 megawatts or less), digester gas, municipal solid waste conversion, landfill gas, ocean wave, ocean thermal, or tidal current and that meets other specified requirements with respect to its location. SB X1-2 applies to all electricity retailers in the state, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All these entities must meet the renewable energy goals listed above.

SB 350 (2015) further expanded the RPS program by establishing a goal of 50% of the total electricity sold to retail customers in California per year by December 31, 2030. In addition, SB 350 included the goal to double the energy efficiency savings in electricity and natural gas final end uses (such as heating, cooling, lighting, or class of energy uses on which an energy-efficiency program is focused) of retail customers through energy conservation and efficiency. The bill also requires CPUC, in consultation with CEC, to establish efficiency targets for electrical and gas corporations consistent with this goal.

SB 100 (2018) increased the standards set forth in SB 350, establishing that 44% of the total electricity sold to retail customers in California per year by December 31, 2024; 52% by December 31, 2027; and 60% by December 31, 2030, be secured from qualifying renewable energy sources. SB 100 states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100% of the retail sales of electricity to California. This bill requires that the achievement of 100% zero-carbon electricity resources does not increase the carbon emissions elsewhere in the western grid and that the achievement not be achieved through resource shuffling.

SB 1020 (September 2022) revises the standards from SB 100, requiring the following percentage of retail sales of electricity to California end-use customers to come from eligible renewable energy resources and zero-carbon resources: 90% by December 31, 2035; 95% by December 31, 2040; and 100% by December 31, 2045.

State Vehicle Standards (Assembly Bill 1493 and Executive Order B-16-12)

AB 1493 (July 2002) was enacted in response to the transportation sector accounting for a large share of California's CO_2 emissions. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles determined by CARB to be vehicles that are primarily used for noncommercial personal transportation in the state. The bill required that CARB set GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. CARB adopted the standards in September 2004. EO B-16-12 (March 2012) required that state entities under the governor's direction and control support and facilitate the rapid commercialization of ZEVs. It ordered CARB, CEC, CPUC, and other relevant agencies to work with the Plug-In Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve benchmark goals by 2015, 2020, and 2025. On a statewide basis, EO B-16-12 identified a target reduction of GHG emissions from the transportation sector equaling 80% less than 1990 levels by 2050. This directive did not apply to vehicles that have special performance requirements necessary for the protection of the public safety and welfare. As explained under the "Federal Vehicle Standards" description above, EPA and NHTSA approved the SAFE Vehicles Rule Part One and Two, which revoked California's authority to set its own GHG emissions standards and set ZEV mandates in California.

In March 2022, EPA reinstated California's authority under the Clean Air Act to implement its own GHG emission standards and ZEV sales mandate. EPA's action concludes its reconsideration of the 2019 SAFE-1 rule by finding that the actions taken under the previous administration as a part of SAFE-1 were decided in error and are now entirely rescinded.

Heavy-Duty Diesel

CARB adopted the final Heavy-Duty Truck and Bus Regulation on December 31, 2014, to reduce DPM, a major source of black carbon, and NO_x emissions from heavy-duty diesel vehicles (13 CCR, Part 2025). The rule requires that DPM filters be applied to newer heavier trucks and buses by January 1, 2012, with older vehicles required to comply by January 1, 2015. The rule will require nearly all diesel trucks and buses to be compliant with the 2010 model year engine requirement by January 1, 2023. CARB also adopted an Airborne Toxics Control Measure to limit idling of diesel-fueled commercial vehicles on December 12, 2013. This rule requires diesel-fueled vehicles with gross vehicle weights greater than 10,000 pounds to idle no more than 5 minutes at any location (13 CCR, Part 2485).

Executive Order S-1-07

EO S-1-07 (January 2007, implementing regulation adopted in April 2009) sets a declining Low Carbon Fuel Standard for GHG emissions measured in CO_2e grams per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least 10% by 2020 (17 CCR 95480 et seq.). The carbon intensity measures the amount of GHG emissions in the lifecycle of a fuel—including extraction/feedstock production, processing, transportation, and final consumption—per unit of energy delivered.

Senate Bill 375

SB 375 (California Government Code Section 65080) addresses GHG emissions associated with the transportation sector through regional transportation and sustainability plans. SB 375 requires CARB to adopt regional GHG-reduction targets for the automobile and light-truck sector for 2020 and 2035 and to update those targets every 8

years. SB 375 requires the state's 18 regional metropolitan planning organizations to prepare a sustainable communities strategy as part of their regional transportation plan that will achieve the GHG-reduction targets set by CARB. If a metropolitan planning organization is unable to devise a sustainable communities strategy to achieve the GHG-reduction target, the metropolitan planning organization must prepare an alternative planning strategy demonstrating how the GHG-reduction target would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies.

A sustainable communities strategy does not (1) regulate the use of land; (2) supersede the land use authority of cities and counties; or (3) require that a city's or county's land use policies and regulations, including those in a general plan, be consistent with it (California Government Code Section 65080[b][2][K]). Nonetheless, SB 375 makes regional and local planning agencies responsible for developing those strategies as part of the federally required metropolitan transportation planning process and the state-mandated housing element process.

Advanced Clean Cars Program and Zero-Emissions Vehicle Program

The Advanced Clean Cars (ACC) I program (January 2012) is an emissions-control program for model years 2015 through 2025. The program combines the control of smog- and soot-causing pollutants and GHG emissions into a single coordinated package of regulations: the low-emission vehicle regulation for criteria air pollutant and GHG emissions and a technology forcing regulation for ZEVs that contributes to both types of emission reductions (CARB 2012). The package includes elements to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. To improve air quality, CARB has implemented new emission standards to reduce smog-forming emissions beginning with 2015 model year vehicles. It is estimated that in 2025 cars will emit 75% less smog-forming pollution than the average new car sold in 2015. The ZEV program will act as the focused technology of the ACC I program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid EVs in the 2018 to 2025 model years.

The ACC II program, which was adopted in August 2022, established the next set of low-emission vehicle and ZEV requirements for model years after 2025 to contribute to meeting federal ambient air quality ozone standards and California's carbon neutrality standards (CARB 2022). The main objectives of ACC II are as follows:

- Maximize criteria and GHG emission reductions through increased stringency and real-world reductions.
- Accelerate the transition to ZEVs through both increased stringency of requirements and associated actions to support wide-scale adoption and use.

The ACC II rulemaking package also considers technological feasibility, environmental impacts, equity, economic impacts, and consumer impacts.

Executive Order N-79-20

EO N-79-20 (September 2020) requires CARB to develop regulations as follows: (1) Passenger vehicle and truck regulations requiring increasing volumes of new ZEVs sold in the state towards the target of 100% of in-state sales by 2035; (2) medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in the state towards the target of 100% of the fleet transitioning to ZEVs by 2045 everywhere feasible and for all drayage trucks to be zero emission by 2035; and (3) strategies, in coordination with other state agencies, EPA, and local air districts, to achieve 100% zero emissions from off-road vehicles and equipment operations in the state by 2035. EO N-79-20 called for the development of a ZEV Market Development Strategy, which was released February 2021, to be updated every 3 years, that ensures coordination and

implementation of the EO and outlines actions to support new and used ZEV markets. In addition, the EO specifies identification of near-term actions and investment strategies to improve clean transportation, sustainable freight, and transit options and calls for development of strategies, recommendations, and actions by July 15, 2021, to manage and expedite the responsible closure and remediation of former oil extraction sites as the state transitions to a carbon-neutral economy.

Advanced Clean Trucks Regulation

The Advanced Clean Trucks (ACT) Regulation was also approved by CARB in 2020. The purpose of the ACT Regulation is to accelerate the market for ZEVs in the medium- and heavy-duty truck sector and to reduce air pollutant emissions generated from on-road mobile sources (CARB 2024c). The regulation has two components, (1) a manufacturer sales requirement and (2) a reporting requirement:

- Zero-emission truck sales: Manufacturers who certify Class 2b–8 chassis or complete vehicles with combustion engines will be required to sell zero-emission trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emission truck/chassis sales would need to be 55% of Class 2b–3 truck sales, 75% of Class 4–8 straight truck sales, and 40% of truck tractor sales.
- Company and fleet reporting: Large employers including retailers, manufacturers, brokers, and others will be required to report information about shipments and shuttle services. Fleet owners with 50 or more trucks will be required to report about their existing fleet operations. This information will help identify future strategies to ensure that fleets purchase available zero-emission trucks and place them in service where suitable to meet their needs.

Commercial Harbor Craft Regulation

CARB adopted a Commercial Harbor Craft (CHC) Regulation in 2008 to reduce GHG emissions from vessels like tugboats and barges. These regulations required older engines to be replaced with cleaner ones. The 2022 amendments expanded the scope to more vessel types and mandated even cleaner technologies, aiming to improve public health by reducing harmful emissions. These changes began taking effect in early 2023, with ongoing assessments of low-emission technologies by a Technical Working Group until 2032.

Mobile Cargo Handling Equipment Regulation

CARB adopted a Mobile Cargo Handling Equipment (CHE) Regulation in 2005 to reduce GHG emissions at California's ports and intermodal railyards. The regulation was fully implemented in 2017 and targets any motorized vehicle used to handle or perform activities at these ports and yards. Currently, CARB is in the process of implementing further regulation to reduce emissions with the implementation of zero-emission technologies.

Ocean-Going Vessel Fuel Regulation

CARB approved the Ocean-Going Vessel At-Berth Regulation in 2007 to reduce GHG emissions from container ships, passenger ships, and refrigerated-cargo ships at six California ports. CARB is also committed to develop new regulations to further reduce emissions and reduce the exposure to nearby port communities.

3.5.2.3 Local

Lassen County

Lassen County General Plan

In May 1993, the Lassen County Board of Supervisors adopted an Energy Element as part of its General Plan. The General Plan was updated in 2000, and it includes various goals and policies related to directly and indirectly reducing energy consumption. Applicable goals and policies include the following:

Goal N-17. Conservative management of Lassen County's energy resources so that those resources can be developed and utilized for the benefit of County residents with a high degree of efficiency and productivity.

NR61 Policy. The County advocates, and encourages Federal and state agencies to conduct or help fund resource assessments and other studies to evaluate the availability of energy resources, and to facilitate efficient and well-designed projects which can capitalize on those resources with acceptable levels of environmental impact and compatibility with other land uses and resource values.

NR62 Policy. In the course of adopting policies pertaining to energy resources in other County planning elements and area plans, the County may consider additional and more specific policies and measures to manage those resources.

NR63 Policy. The Energy Element of the Lassen County General Plan shall provide specific policies and measures pertaining to the conservation and management of energy resources, as well as the siting and development standards of projects proposing to utilize those resources.

Tuolumne County

Tuolumne County General Plan

Tuolumne County adopted their General Plan Update in 2018. The County's General Plan includes various goals and policies related to directly and indirectly reducing energy consumption. Applicable goals and policies include the following:

Goal 2F. Promote green building design and encourage housing development that is consistent with the County's Healthy Communities Policies.

Policy 2.F.1. Promote land use patterns that encourage energy efficiency. Promote higher density residential development where existing public services are available.

Goal 6E. Encourage the retention and expansion of existing businesses, attraction of new business and industry and assist in entrepreneurial programs to generate local employment opportunities, reduce retail leakage out of the county trade area and diversify the local economy, while maintaining its environmental and cultural integrity.

Policy 6.E.5. Encourage development of alternative energy-producing facilities which conserve the County's natural resources.

Goal 8D. Manage agriculturally-related industrial and commercial uses in agricultural areas to facilitate local agricultural production.

Policy 8.D.1. Facilitate local agricultural production, by allowing the following agricultural support services, where appropriate within agricultural areas: (a) those facilities which supply an agricultural need such as: farm supply, feed sales, agricultural product storage, or feed yards; (b) those facilities that benefit agriculture by processing or packaging agricultural products such as: slaughtering facilities, packing sheds, canneries, wineries or sawmills; (c) those facilities that benefit agriculture by converting agricultural by-products to other uses such as: livestock feed yards or alternative energy power generation, utilizing agricultural by-products; and, (d) those facilities that process rock, aggregate gravel, or minerals.

Goal 15D. Maintain an effective open burning enforcement program that protects the public health and welfare while recognizing the need to reduce vegetative matter for the purposes of fire hazard reduction, wildland vegetation management and forest ecosystem management.

Policy 15.D.1. Work closely with federal, state and local agencies to minimize the emissions and smoke impacts from fire hazard reduction and forest management burn activities and during wildfire episodes.

Goal 18A. Reduce Greenhouse Gas (GHG) emissions from community activities and County government facilities and operations within the County to support the State's efforts under Assembly Bill 32 and other state and federal mandates to mitigate the County's GHG emissions impacts.

Policy 18.A.1. Prepare a Climate Action Plan (CAP), or similar GHG emission reduction plan, that establishes a GHG reduction target consistent with the Senate Bill (SB) 32 goal to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030. The CAP shall identify specific measures to reduce countywide emissions consistent with the established target and will also include adaptation strategies for the County to appropriately adjust to the environmental effects of climate change. Many of the measures in the CAP will overlap with and help implement goals, policies, and implementation programs identified in this General Plan.

Policy 18.A.5. Promote energy efficiency and alternative energy while reducing energy demand.

Policy 18.A.6. Encourage the use of solar power and other innovative energy sources as alternatives to more traditional forms of energy.

Policy 18.A.7. Encourage reduced consumption of fossil fuel energy by promoting alternative transportation methods and encouraging pedestrian oriented development to reduce the use of motor vehicles. See the Transportation Element and the Community Development and Design Element for a detailed listing of policies and implementation programs.

Tuolumne County Climate Action Plan

Tuolumne County adopted their Climate Action Plan in November 2022. The CAP's main objectives are to build resilience to climate related hazards that threaten the community; to reduce (or "mitigate") local GHG emissions; and to preserve and improve the county's natural resources and quality of life. Climate change mitigation and

adaptation strategies are organized into five focus areas: Health and Safety, Conservation and Recreation, Buildings, Infrastructure, and Agriculture and Forestry. The following goals and policies are relevant to the project.

Buildings

Strategy 1. Energy-Efficient and Resilient New Buildings

- Measure 1.1: Increase energy efficiency and climate resiliency in all new buildings.

Infrastructure

Strategy 2. Resilient Transit System

- Measure 2.3: Increase the use of on-demand and vehicle-sharing services.

Strategy 3. Low-Emission and Electric Vehicle Support

- Measure 3.1: Support and encourage the adoption of low-emission vehicles and EVs.

Strategy 4. Resilient and Clean Electrical Grid

- Measure 4.2: Reduce electricity grid demand through load reduction strategies.

City of Stockton

City of Stockton Envision 2040 General Plan

The City of Stockton adopted their General Plan Update on December 4, 2018. The County's General Plan, also called Envision Stockton 2040, includes various goals and policies related to reducing energy consumption. Applicable goals and policies include the following:

Goal LU-5. Protected Resources. Protect, maintain, and restore natural and cultural resources.

Policy LU-5.4. Require water and energy conservation and efficiency in both new construction and retrofits.

Goal TR-3. Sustainable Transportation. Design transportation infrastructure to help reduce pollution and vehicle travel.

Policy TR-3-2. Require new development and transportation projects to reduce travel demand and greenhouse gas emissions, support electric vehicle charging, and accommodate multi-passenger autonomous vehicle travel as much as feasible.

City of Stockton Climate Action Plan

The largest GHG reductions are identified in the areas of building energy (both energy efficiency and renewable energy), transportation, and waste. The GHG reduction measures set forth in the City of Stockton Climate Action Plan related to the project's energy are listed below.

- **Energy-1:** Green Building Ordinance
- **Energy-2b:** Outdoor Lighting Private Upgrades

- **Energy-5:** Solar Powered Parking
- **Energy-6:** Residential and Non-Residential Rooftop Solar

Port of Stockton Clean Air Plan

The Port of Stockton adopted a Clean Air Plan in April 2023 (Port of Stockton 2023). The Port of Stockton Clean Air Plan defines strategies for reducing air emissions in the near term while charting a long-term path for the Port to reach zero emissions. It focuses on the five main sources of Port-related emissions: heavy-duty trucks, cargo-handling equipment, harbor craft, ships, and locomotives, among other strategies. The strategies set forth in the Port of Stockton Clean Air Plan to reduce air- and climate-related community impacts are identified below.

Heavy-Duty Trucks

TRUCKS-5. Assist truck operators in securing grant funds for zero-emission trucks and infrastructure.

TRUCKS-6. Develop the Port of Stockton Electric Vehicle Blueprint to identify the actions needed to support a zero-emissions truck transition.

TRUCKS-7. In partnership with tenants, facilitate the development and implementation of Zero-Emissions Truck Transition Plans at each facility to accelerate the introduction of zero-emission trucks.

Cargo-Handling Equipment

EQUIP-1. Develop the Port of Stockton Electric Vehicle Blueprint to identify the actions needed to support a zero-emissions equipment transition.

EQUIP-2. Seek grants to buy zero-emissions equipment and help terminal operators secure grants.

EQUIP-3. In partnership with tenants, facilitate the development and implementation of Zero-Emissions Terminal Transition Plans at each facility to accelerate the introduction of zero-emissions equipment.

EQUIP-4. Transition all Port-owned equipment to zero emissions by 2030 or in advance of the State regulation, whichever is earlier, when feasible.

EQUIP-5. Set a goal to transition tenant-owned equipment to zero emissions by 2035 or in advance of the State regulation, when feasible.

EQUIP-6. Evaluate the use of renewable diesel in cargo-handling equipment.

Harbor Craft

TUGS-1. Provide assistance for harbor craft operators in securing grant funds to transition to cleaner tugboats and to fund zero-emission tugboat demonstrations.

TUGS-2. Require harbor craft operators to have shore power infrastructure at their berths and to use this infrastructure to eliminate at-berth idling emissions.

Ships

SHIPS-1. Conduct technology demonstrations for barge- or land-based systems that eliminate at-berth emissions.

SHIPS-2. Develop an incentive program to encourage the deployment of the cleanest ships to Stockton.

Rail

RAIL-1. Secure grants to help rail operators transition to the cleanest available locomotives and to demonstrate advanced zero-emission technologies.

RAIL-2. Evaluate the possibility of contractual conditions to require Central California Traction Company, the short-line rail operator, to deploy cleaner locomotives in advance of the State's locomotive regulation.

Other Strategies

FLEET-1. Transition the Port's fleet of on-road vehicles to zero emissions by 2035.

FLEET-2. Develop the Port of Stockton Electric Vehicle Blueprint to identify the actions needed to support a zero-emissions on-road fleet transition.

3.5.3 Thresholds of Significance

The significance criteria used to evaluate the project impacts to energy are based on Appendix G of the CEQA Guidelines. According to Appendix G of the CEQA Guidelines, a significant impact related to energy would occur if the project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

3.5.4 Impact Analysis

3.5.4.1 Methodology

The project would consist of three primary phases: feedstock acquisition, wood pellet production, and transport to market. The impact analyses below evaluate each of these primary phases as related to energy consumption as detailed below.

Feedstock Acquisition

Sustainable Forest Management Projects

Feedstock acquisition would result in energy consumption primarily associated with use of off-road construction equipment, on-site hauling and vendor (i.e., water) trucks, and worker vehicles.

All details for criteria air pollutants discussed in Section 3.2.4.1.1 within Section 3.2, Air Quality, are also applicable for the estimation of feedstock acquisition-related energy consumption. As such, see Section 3.2.4.1.1 for a discussion of construction calculation methodology and assumptions used in the energy analysis. In addition, the following methodology was used to estimate construction electricity and petroleum consumption.

Electricity

Electricity is not expected to be consumed during Sustainable Forest Management Projects. Operational activities associated with the acquisition of feedstock primarily involve use of offroad equipment to remove wood and transport of wood from the forest to the pellet facilities via truck. The equipment and vehicles are expected to be diesel- and gas-powered.

Natural Gas

Natural gas is not anticipated to be required during construction of the project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection.

Petroleum

Potential Sustainable Forest Management Project petroleum consumption was assessed through projected vehicle trip generation and offroad equipment used as provided by the California Emissions Estimator Model (CalEEMod) and CARB EMFAC2021 outputs in the criteria air pollutant and GHG emissions calculations (Appendix B1). With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in Chapter 3.2, Air Quality, and Chapter 3.14, Transportation, within this EIR, activities in the Lassen feedstock area would generate an estimated 10,154,830 annual VMT. Activities in the Tuolumne feedstock area would generate an estimated 4,381,446 annual VMT. Fuel consumption from construction equipment and vehicles was estimated by converting the total CO_2 emissions from each phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. Heavy-duty construction equipment associated with feedstock acquisition activities, hauling, and water trucks were assumed to use diesel fuel. The conversion factor for gasoline is 8.78 kilograms per metric ton of CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton of CO_2 per gallon (The Climate Registry 2024). It was assumed that workers would travel to and from the project sites in gasoline-powered vehicles. Fuel consumption from worker and vendor trips was estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel.

Wood Pellet Production

The project would implement energy-related site design features (SDFs) at the Lassen Facility and Tuolumne Facility, thereby achieving indirect air quality and GHG co-benefits. As set forth in Chapter 2, SDFs will be incorporated as enforceable contract terms in the public-private partnership agreement between GSFA and GSNR through which GSNR is authorized to perform project activities. The project would implement ENE-AQ-1, as follows:

SDF-ENE-1 Provision of Rooftop Solar – Lassen Facility & Tuolumne Facility. GSNR shall provide rooftop photovoltaic (PV) solar panels on all air-conditioned office buildings to comply with the requirements of the version of Title 24, Part 6, of the California Building Standards Code and California Green Building Standards (CALGreen) in effect at the time of building permit application to provide an on-site source of renewable energy.

Lassen Facility

Construction Energy

Construction of the Lassen Facility would result in energy consumption primarily associated with use of off-road construction equipment, on-site hauling and vendor (material delivery) trucks, and worker vehicles. All details for construction criteria air pollutants discussed in Section 3.2.4.1.2 within Section 3.2, Air Quality are also applicable for the estimation of construction-related energy consumption. As such, see Section 3.2.4.1.2 for a discussion of construction calculation methodology and assumptions used in the energy analysis. In addition, the following methodology was used to estimate construction electricity and petroleum consumption.

Electricity

Electricity is not expected to be consumed in large quantities during Project construction, as construction equipment and vehicles are generally not electric but rather diesel- or gas-powered. Although electrical service will be established to serve construction, the amount of electricity that will be used is likely to be small. Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, is assumed to be minimal and is not estimated herein.

Natural Gas

Natural gas is not anticipated to be required during construction of the Project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection.

Petroleum

Potential Lassen Facility construction petroleum consumption was assessed through projected vehicle trip generation and offroad equipment used as provided by the CalEEMod and CARB EMFAC2021 outputs in the criteria air pollutant and GHG emissions calculations (Appendix B1). Fuel consumption from construction equipment was estimated by converting the total CO_2 emissions from each construction phase to gallons using conversion factors for CO_2 to gallons of gasoline or diesel. The conversion factor for gasoline is 8.78 kilograms per metric ton of CO_2 per gallon, and the conversion factor for diesel is 10.21 kilograms per metric ton of CO_2 per gallon (The Climate Registry 2024). Heavy-duty construction equipment associated with construction activities and vendor trucks were assumed to use diesel fuel. It was assumed that construction workers would travel to and from the Project site in gasoline-powered vehicles. Fuel consumption from worker and vendor trips was estimated by converting the total CO_2 emissions from the construction phase to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel.

Operational Energy

Electricity

The project's operational phase would require electricity for multiple purposes, including, but not limited to, building heating and cooling, lighting, and appliances, including refrigeration, electronics, equipment, and machinery. Electricity would also be consumed during operation of the project related to water usage. CalEEMod was used to analyze electrical usage during operation.

Natural Gas

There would be no natural gas consumption during operation at the Lassen Facility. There would be diesel and propane consumption, which is described below in the subsection "Petroleum" below.

Petroleum

Petroleum would be consumed by project-generated vehicle trips, off-road equipment, and stationary sources.

Energy that would be consumed by project-generated traffic is a function of total VMT and estimated vehicle fuel economies for the vehicles accessing the project site. With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in Chapter 3.2, Air Quality, and Chapter 3.14, Transportation, within this EIR, the Lassen Facility would generate an estimated 1,715,427 annual VMT, which does not include VMT associated with feedstock acquisition (See "Feedstock acquisition" subsection above). Similar to construction worker and vendor trips, fuel consumption was estimated by converting the total CO_2 emissions from project mobile sources to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Based on the annual fleet mix for build-out of the project, approximately 90% of the fleet mix using fossil fuels (with the exception of natural gas) were assumed to run on gasoline and approximately 10% of the fleet mix was assumed to use diesel. In addition, the project would consume propane to power some of the stationary sources. The conversion factor for propane is 5.72 kilograms per metric ton of CO_2 per gallon (The Climate Registry 2024).

Tuolumne Facility

Construction Energy

Construction of the Tuolumne Facility would result in energy consumption primarily associated with use of off-road construction equipment, on-site hauling and vendor (material delivery) trucks, and worker vehicles. All details for the construction energy consumption at the Lassen Facility are also applicable for the estimation of construction-related energy consumption at the Tuolumne. In addition, the following methodology was used to estimate construction electricity and petroleum consumption.

Electricity

Electricity is not expected to be consumed in large quantities during project construction, as construction equipment and vehicles are generally not electric but rather diesel- or gas-powered. Although electrical service will be established to serve construction, the amount of electricity that will be used is likely to be small. Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, is assumed to be minimal and is not estimated herein.

Natural Gas

Natural gas is not anticipated to be required during construction of the project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "petroleum" subsection.

Petroleum

The methodology for calculating the construction petroleum consumption at the Lassen Facility is also applicable for the Tuolumne Facility.

Operational Energy

Electricity

The project's operational phase would require electricity for multiple purposes, including, but not limited to, building heating and cooling, lighting, and appliances, including refrigeration, electronics, equipment, and machinery. Electricity would also be consumed during operation of the project related to water usage. CalEEMod was used to analyze electrical usage during operation.

Natural Gas

There would be no natural gas consumption during operation at the Tuolumne Facility. There would be diesel and propane consumption, which is described below in the subsection "Petroleum" below.

Petroleum

Petroleum would be consumed by project-generated vehicle trips, off-road equipment, and stationary sources.

Energy that would be consumed by project-generated traffic is a function of total VMT and estimated vehicle fuel economies for the vehicles accessing the project site. With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in Chapter 3.2, Air Quality, and Chapter 3.14, Transportation, within this EIR, the project would generate an estimated 1,945,596 annual VMT, which does not include VMT associated with feedstock acquisition (See "Feedstock acquisition" subsection above). Similar to construction worker and vendor trips, fuel consumption was estimated by converting the total CO_2 emissions from project mobile sources to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Based on the annual fleet mix for build-out of the project, approximately 96% of the fleet mix using fossil fuels (with the exception of natural gas) were assumed to run on gasoline and approximately 4% of the fleet mix was assumed to use diesel. In addition, the project would consume propane and diesel to power some of the stationary sources. The conversion factor for propane is 5.72 kilograms per metric ton of CO_2 per gallon (The Climate Registry 2024).

Transport to Market

Rail Transport

The project would consume energy during rail transport from the line haul trains, the switcher locomotive at the Lassen Facility, and the switcher at the Port of Stockton. The energy consumption from the switcher locomotive at the Lassen Facility and the switcher at the Port of Stockton were included in their respective facility sections.

Electricity

There would be electricity consumption during rail transportation.

Natural Gas

There would be no natural gas consumption during rail transportation.

Petroleum

Petroleum, specifically diesel, would be consumed by project-generated rail transport. Fuel consumption was estimated by the converting the total CO_2 emissions from project rail sources to gallons using the conversion factor for diesel.

Port of Stockton

Construction Energy

Construction of the Port of Stockton Facility would result in energy consumption primarily associated with use of off-road construction equipment, on-site hauling and vendor (material delivery) trucks, and worker vehicles. All details for the construction energy consumption at the Lassen Facility are also applicable for the estimation of construction-related energy consumption. In addition, the following methodology was used to estimate construction electricity and petroleum consumption.

Electricity

Electricity is not expected to be consumed in large quantities during project construction, as construction equipment and vehicles are generally not electric but rather diesel- or gas-powered. Although electrical service will be established to serve construction, the amount of electricity that will be used is likely to be small. Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, is assumed to be minimal and is not estimated herein.

Natural Gas

Natural gas is not anticipated to be required during construction of the Port of Stockton. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the "Petroleum" subsection.

Petroleum

The methodology for calculating the construction petroleum consumption at the Lassen Facility is also applicable for the Port of Stockton Facility.

Operational Energy

Electricity

The project's operational phase would require electricity for multiple purposes, including, but not limited to, building heating and cooling, lighting, and appliances, including refrigeration, electronics, equipment, and machinery. Electricity would also be consumed during operation of the project related to water usage. CalEEMod was used to analyze electrical usage during operation.

Natural Gas

There would be no natural gas consumption during operation at the Port of Stockton. There would be diesel and propane consumption, which is described below in the subsection "Petroleum" below.

Petroleum

Petroleum would be consumed by project-generated vehicle trips, off-road equipment, and stationary sources.

Energy that would be consumed by project-generated traffic is a function of total VMT and estimated vehicle fuel economies for the vehicles accessing the project site. With respect to estimated VMT and based on the trip frequency and trip length methodologies cited in Chapter 3.2, Air Quality, and Chapter 3.14, Transportation, within this EIR, the project would generate an estimated 101,500 annual VMT[1]. Similar to construction worker and vendor trips, fuel consumption was estimated by converting the total CO_2 emissions from project mobile sources to gallons using the conversion factors for CO_2 to gallons of gasoline or diesel. Based on the annual fleet mix for build-out of the project, approximately 80% of the fleet mix using fossil fuels (with the exception of natural gas) were assumed to run on gasoline and approximately 20% of the fleet mix was assumed to use diesel. In addition, the project would consume diesel to power some of the stationary sources.

Ship Transport

The project would consume energy during ship transport from the Port of Stockton.

Electricity

As explained in the Port of Stockton Clean Air Plan in April 2023 (Port of Stockton 2023), page 32, bulk cargo vessels of the type anticipated to serve the project are unlikely to use shore power at berth at the Port of Stockton. While it is possible that these cargo ships may use shore power at some time in the future, this is speculative, particularly given that GSNR does not have operational control over these vessels. Therefore, it is conservatively assumed that cargo ships would use diesel power while at berth (accounted for under Petroleum below), and that there would thus be no electricity consumption during ship transport.

Natural Gas

There would be no natural gas consumption during ship transportation.

Petroleum

Petroleum, specifically diesel, would be consumed by project-generated ship transport. Fuel consumption was estimated by the converting the total CO_2 emissions from project ship sources to gallons using the conversion factor for diesel.

3.5.4.2 Project Impacts

Impact ENE-1 The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

[1] As the Port of Stockton is a fully operational port, and given that the project's demand for stevedoring services is intermittent, it is anticipated that the eight full-time equivalent stevedores required by the project would be filled by the large existing workforce at and around the Port. As such, the VMT associated with the these stevedores' commute trips would be included in the existing workforce baseline and their petroleum usage would be negligible, and thus only the eight additional GSNR employees have been modeled as new trips for purposes of this analysis..

Feedstock Acquisition

Sustainable Forest Management Projects

Electricity

Electricity is not expected to be consumed during Sustainable Forest Management Projects. Therefore, electricity consumption during Sustainable Forest Management Projects would not be wasteful, inefficient, or unnecessary. Impacts would be less than significant.

Natural Gas

Natural gas is not anticipated to be required during Sustainable Forest Management Projects. Fuels used for off-road equipment would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below. Any minor amounts of natural gas that may be consumed as a result of Sustainable Forest Management Projects would be temporary and negligible and would not have an adverse effect; therefore, impacts would be less than significant.

Petroleum

The estimated diesel fuel usage from off-road equipment, haul trucks, and vendor (i.e., water) trucks and the estimated gasoline fuel usage from worker vehicles in the Lassen feedstock area are shown in Table 3.5-1.

Table 3.5-1. Lassen Feedstock Acquisition Petroleum Demand

Year	Off-Road Equipment (Diesel)	Haul Trucks (Diesel)[a]	Vendor Trucks (Diesel)	Worker Vehicles (Gasoline)	Total
	Gallons				
2025 and Subsequent[2]	1,441,535	812,357	323,881	89,527	**2,667,300**

Source: Appendix B7.
Notes:
[a] Petroleum from haul trucks include on-site and off-site trucks and were modeled separately for air quality modeling purposes.

In summary, Sustainable Forest Management Projects in the Lassen feedstock area are estimated to consume a total of approximately 2,667,300 gallons of petroleum per year.

The estimated diesel fuel usage from off-road equipment, haul trucks, and vendor (i.e., water) trucks and the estimated gasoline fuel usage from worker vehicles in the Tuolumne feedstock area are shown in Table 3.5-2.

[2] The analysis assumes an operational year of 2025, which represents the earliest year feedstock operations could initiate. Assuming the earliest start date for operations represents the worst-case scenario for petroleum fuel usage due to increasing efficiency and technological improvement likely in future years, as well as fleet turnover replacing older equipment and vehicles.

Table 3.5-2. Tuolumne Feedstock Acquisition Petroleum Demand

Year	Off-Road Equipment (Diesel)	Haul Trucks (Diesel)[a]	Vendor Trucks (Diesel)	Worker Vehicles (Gasoline)	Total
	Gallons				
2025 and Subsequent	622,990	396,027	88,006	26,633	**1,166,273**

Source: Appendix B7.

[a] Petroleum from haul trucks include on-site and off-site trucks and were modeled separately for air quality modeling purposes.

In summary, Sustainable Forest Management Projects in the Tuolumne feedstock area are estimated to consume a total of approximately 1,166,273 gallons of petroleum per year.

Notably, the project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. The regulation (1) imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles; (2) requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System) and labeled; (3) restricts the adding of older vehicles into fleets starting on January 1, 2014; and (4) requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing Verified Diesel Emission Control Strategies (i.e., exhaust retrofits). The fleet must either show that its fleet average index was less than or equal to the calculated fleet average target rate or that the fleet has met the Best Achievable Control Technology requirements. Overall, the project would not be unusual as compared to overall local and regional demand for energy resources and would not involve characteristics that require equipment that would be less energy efficient than at comparable construction sites in the region or state.

Therefore, because petroleum use during Sustainable Forest Management Projects would not be wasteful, inefficient, or unnecessary, impacts would be less than significant.

Wood Pellet Production

Lassen Facility

Construction

Electricity

Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, would be provided by PG&E. The electricity used for such activities would be temporary, would be substantially less than that required for project operation, would have a negligible contribution to the project's overall energy consumption, and would not be wasteful, inefficient, or unnecessary. Impacts would be less than significant.

Natural Gas

Natural gas is not anticipated to be required during construction of the project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below. Any minor

amounts of natural gas that may be consumed as a result of project construction would be temporary and negligible and would not have an adverse effect; therefore, impacts would be less than significant.

Petroleum

The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks and the estimated gasoline fuel usage from worker vehicles is shown in Table 3.5-3. See Appendix B7, Energy Calculations, for details.

Table 3.5-3. Total Lassen Facility Construction Petroleum Demand

Year	Off-Road Equipment (Diesel)	Haul Trucks (Diesel)	Vendor Trucks (Diesel)	On-Site Trucks (Diesel)	Worker Vehicles (Gasoline)	Total
	Gallons					
2024[a]	14,117	4,273	3,541	47	1,867	23,845
2025	244,355	7,076	153,311	0	77,347	482,089
					Total	505,934

Source: Appendix B7.

[a] The analysis assumes a construction start date of October 2024, which represents the earliest date construction was anticipated to potentially initiate at the time the analysis was performed. Assuming the earliest start date for construction represents the worst-case scenario for petroleum fuel usage due to increasing efficiency and technological improvement likely in future years, as well as fleet turnover replacing older equipment and vehicles.

In summary, construction of the project is conservatively anticipated to consume approximately 505,934 gallons of petroleum in total. As with Sustainable Forest Management Projects, the Lassen Facility construction would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. Project construction would represent a "single-event" petroleum demand and would not require on-going or permanent commitment of petroleum resources for this purpose. Overall, the project would not involve characteristics that require equipment that would be less energy-efficient than at comparable construction sites in the region or state. Therefore, impacts would be less than significant.

Operation

Electricity

The operational phase would require electricity for multiple purposes, including building heating and cooling, lighting, electronics, electric pumps, etc. CalEEMod was used to estimate project emissions from electricity uses (see Appendix B1). Electricity consumption was provided by the Applicant. Table 3.5-4 shows the estimated annual operational electricity demand.

The Lassen Facility is anticipated to consume approximately 142,677,840 kWh of electricity per year. The project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The project would be required to comply with the applicable Title 24 standards applicable at that time, which would further ensure that the project energy demands would not be inefficient, wasteful, or unnecessary and impacts would be less than significant.

Natural Gas

Natural gas is not anticipated to be required during operation at the Lassen Facility. Fuels used for operation would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below.

Petroleum

During operations, fuel consumption resulting from the project would involve the use of motor vehicles traveling to and from the project site, diesel-fueled off-road equipment, stationary equipment, and the switcher locomotive. Fuel demand estimates for the Lassen Facility are provided in Table 3.5-4.

Table 3.5-4. Lassen Facility Annual Petroleum Demand

Project	Employee Vehicles (gasoline)	Vendor Trucks (diesel)	Off-Road Equipment (diesel)	Stationary Equipment (diesel)	Stationary Equipment (propane)	Switcher Locomotive (diesel)	Total
	Gallons						
Lassen Facility	83,778	8,005	50,940	1,533	1,866,645	1,718	**2,012,619**

Source: Appendix B7.
Switcher locomotive diesel fuel estimated does not include implementation of **MM-AQ-9**, which would reduce fuel use (Operational Switcher Locomotive Exhaust Minimization – Lassen Facility).

As summarized in Table 3.5-4, the project would result in an estimated annual fuel demand of approximately 2,012,619 gallons. Fuel would be provided by current and future commercial vendors. The project does not propose uses or operations that would inherently result in excessive and wasteful activities, nor associated excess and wasteful vehicle energy consumption. In addition, enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. As supported by the preceding discussions, project transportation energy consumption would not be considered inefficient, wasteful, or unnecessary and impacts would be less than significant.

Tuolumne Facility

Construction

Electricity

Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, would be provided by PG&E. The electricity used for such activities would be temporary, would be substantially less than that required for project operation, would have a negligible contribution to the project's overall energy consumption, and would not be wasteful, inefficient, or unnecessary. Impacts would be less than significant.

Natural Gas

Natural gas is not anticipated to be required during construction of the project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below. Any minor

amounts of natural gas that may be consumed as a result of project construction would be temporary and negligible and would not have an adverse effect; therefore, impacts would be less than significant.

Petroleum

The estimated diesel fuel usage from construction equipment, haul trucks, and vendor trucks and the estimated gasoline fuel usage from worker vehicles is shown in Table 3.5-5. See Appendix B7, Energy Calculations, for details.

Table 3.5-5. Total Tuolumne Facility Construction Petroleum Demand

Year	Off-Road Equipment (Diesel)	Haul Trucks (Diesel)	Vendor Trucks (Diesel)	On-Site Trucks (Diesel)	Worker Vehicles (Gasoline)	Total
	Gallons					
2024[a]	16,024	24,282	1,652	446	2,647	45,051
2025	147,104	68,606	53,927	1,276	56,031	326,945
					Total	371,995

Source: Appendix B7.

[a] The analysis assumes a construction start date of October 2024, which represents the earliest date construction was anticipated to potentially initiate at the time the analysis was performed. Assuming the earliest start date for construction represents the worst-case scenario for petroleum fuel usage due to increasing efficiency and technological improvement likely in future years, as well as fleet turnover replacing older equipment and vehicles.

In summary, construction of the project is conservatively anticipated to consume approximately 371,995 gallons of petroleum in total. As with Sustainable Forest Management Projects, the Tuolumne Facility construction would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. Project construction would represent a "single-event" petroleum demand and would not require on-going or permanent commitment of petroleum resources for this purpose. Overall, the project would not involve characteristics that require equipment that would be less energy-efficient than at comparable construction sites in the region or state. Therefore, impacts would be less than significant.

Operation

Electricity

The operational phase would require electricity for multiple purposes, including building heating and cooling, lighting, electronics, and electric pumps. CalEEMod was used to estimate project emissions from electricity uses (see Appendix B1). Electricity consumption was provided by the Applicant. Table 3.5-6 shows the estimated annual operational electricity demand.

The Tuolumne Facility is anticipated to consume approximately 94,807,680 kWh of electricity per year. The project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The project would be required to comply with the applicable Title 24 standards applicable at that time, which would further ensure that the project energy demands would not be inefficient, wasteful, or unnecessary and impacts would be less than significant.

Natural Gas

Natural gas is not anticipated to be required during operation at the Lassen Facility. Fuels used for operation would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below.

Petroleum

During operations, fuel consumption resulting from the project would involve the use of motor vehicles traveling to and from the project site, diesel-fueled off-road equipment, and stationary equipment. Fuel demand estimates for the Tuolumne Facility are provided in Table 3.5-6.

Table 3.5-6. Tuolumne Facility Annual Petroleum Demand

Project	Employee Vehicles (gasoline)	Vendor Trucks (diesel)	Off-Road Equipment (diesel)	Stationary Equipment (diesel)	Stationary Equipment (propane)	Total
	Gallons					
Tuolumne Facility	85,694	3,071	57,572	1,533	1,253,267	**1,401,136**

Source: Appendix B7.

As summarized in Table 3.5-6, the project would result in an estimated annual fuel demand of approximately 1,401,136 gallons. Fuel would be provided by current and future commercial vendors. The project does not propose uses or operations that would inherently result in excessive and wasteful activities, nor associated excess and wasteful vehicle energy consumption. In addition, enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. As supported by the preceding discussions, project transportation energy consumption would not be considered inefficient, wasteful, or unnecessary and impacts would be less than significant.

Transport to Market

Rail Transport

Petroleum

Line haul rail transport would result in an estimated annual fuel demand of approximately 512,662 gallons of diesel. Fuel would be provided by current and future commercial vendors. The project does not propose uses or operations that would inherently result in excessive and wasteful activities, nor associated excess and wasteful rail energy consumption. Finally, enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of rail to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future diesel fuel demands. As supported by the preceding discussions, project rail transportation energy consumption would not be considered inefficient, wasteful, or unnecessary and impacts would be less than significant.

Port of Stockton

Construction

Electricity

Temporary electric power for as-necessary lighting and electronic equipment, such as computers inside temporary construction trailers, would be provided by PG&E. The electricity used for such activities would be temporary, would be substantially less than that required for project operation, would have a negligible contribution to the project's overall energy consumption, and would not be wasteful, inefficient, or unnecessary. Impacts would be less than significant.

Natural Gas

Natural gas is not anticipated to be required during construction of the project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below. Any minor amounts of natural gas that may be consumed as a result of project construction would be temporary and negligible and would not have an adverse effect; therefore, impacts would be less than significant.

Petroleum

The estimated diesel fuel usage from construction equipment, haul trucks, vendor trucks, and worker vehicles is shown in Table 3.5-7. See Appendix B7, Energy Calculations, for details.

Table 3.5-7. Total Port of Stockton Construction Petroleum Demand

Year	Off-Road Equipment (Diesel)	Haul Trucks (Diesel)	Vendor Trucks (Diesel)	On-Site Trucks (Diesel)	Worker Vehicles (Gasoline)	Total
	Gallons					
2024	11,792	1,602	340	0	511	14,244
2025	172,780	0	4,719	0	4,643	182,142
					Total	196,386

Source: Appendix B7.

In summary, construction of the project is conservatively anticipated to consume approximately 196,386 gallons of petroleum in total. As with Sustainable Forest Management Projects, the project would be subject to CARB's In-Use Off-Road Diesel Vehicle Regulation that applies to certain off-road diesel engines, vehicles, or equipment greater than 25 horsepower. Project construction would represent a "single-event" petroleum demand and would not require on-going or permanent commitment of petroleum resources for this purpose. Overall, the project would not involve characteristics that require equipment that would be less energy-efficient than at comparable construction sites in the region or state. Therefore, impacts would be less than significant.

Operation

Electricity

The operational phase would require electricity for multiple purposes, including building heating and cooling, lighting, electronics, electric pumps, etc. CalEEMod was used to estimate project emissions from electricity uses (see Appendix B7). Electricity consumption was provided by the Applicant. Table 3.5-8 shows the estimated annual operational electricity demand.

The Port of Stockton is anticipated to consume approximately 12,060,000 kWh of electricity per year. The project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. Uses proposed by the project are not abnormally energy intensive as compared with other industrial or port uses. Finally, the project would be required to comply with the applicable Title 24 standards applicable at that time, which would further ensure that the project energy demands would not be inefficient, wasteful, or unnecessary and impacts would be less than significant.

Natural Gas

Natural gas is not anticipated to be required during operation at the Port of Stockton. Fuels used for operation would primarily consist of diesel and gasoline, which are discussed under the subsection "Petroleum," below.

Petroleum

During operations, fuel consumption resulting from the Port of Stockton would involve the use of motor vehicles traveling to and from the project site, diesel-fueled off-road equipment, stationary equipment, and the on-site switcher. Fuel demand estimates for the Lassen Facility are provided in Table 3.5-8.

Table 3.5-8. Port of Stockton Annual Petroleum Demand

	Employee Vehicles (gasoline)	Vendor Trucks (diesel)[a]	Off-Road Equipment (diesel)	Stationary Equipment (diesel)	Switcher (diesel)	Total
Project	Gallons					
Port of Stockton	5,357	1,152	13,916	511	6,026	**26,961**

Source: Appendix B7.
Notes:
[a] As described in Section 3.2, Air Quality, within this EIR, the assumption of the number of vendor trucks traveling to and from the Port of Stockton are a conservative estimate.

As summarized in Table 3.5-8, the project would result in an estimated annual fuel demand of approximately 26,961 gallons. Fuel would be provided by current and future commercial vendors. The project does not propose uses or operations that would inherently result in excessive and wasteful activities, nor associated excess and wasteful vehicle energy consumption. Finally, enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the project proximate to regional and local railroad systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands by utilizing rail instead of heavy-duty trucks. As supported by the preceding discussions,

project transportation energy consumption would not be considered inefficient, wasteful, or unnecessary and impacts would be less than significant.

Ship Transport

Electricity

For the reasons discussed above, it is not assumed that there will be electricity consumption as part of ship transport, and electricity consumption would therefore not be considered inefficient, wasteful, or unnecessary and impacts would be less than significant.

Petroleum

Ship transport would result in an estimated annual fuel demand of approximately 184,124 gallons of diesel. Fuel would be provided by current and future commercial vendors. The project does not propose uses or operations that would inherently result in excessive and wasteful activities, nor associated excess and wasteful vehicle energy consumption. Finally, enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of ships to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future diesel fuel demands. As supported by the preceding discussions, project ship transportation energy consumption would not be considered inefficient, wasteful, or unnecessary and impacts would be less than significant.

Local and Regional Energy Supplies and Capacity, and Energy Resources

Electricity

As discussed in Section 3.5.1.1, PG&E would provide electricity to the Project at the Lassen Facility, the Tuolumne Facility and the Port of Stockton. In 2021, PG&E's total electricity sales were 87,782 GWh, approximately 12% of which were in the industrial sector.

Construction (All). During construction at the Lassen Facility, Tuolumne Facility, and Port of Stockton, electricity use would be nominal and would be intermittently consumed during the conveyance of the water used to control fugitive dust, as well as to provide electricity for temporary lighting and other general construction activities. The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed and would cease upon completion of construction. When not in use, electrical equipment would be powered off so as to avoid unnecessary energy consumption. The electricity used for project construction activities would be temporary and minimal. The project's minimal construction electricity needs would be within the supply and infrastructure service capabilities of PG&E, and it would not require additional capacity. Furthermore, construction of the project would not impact energy resources.

Feedstock Acquisition Operation. No electricity would be used to operate the heavy-duty trucks associated with feedstock acquisition.

Lassen Facility Operation. The Lassen site is currently served by electrical power via overhead utility lines. To support project operations, an electrical load of 12 kV would be required. As described in Chapter 3.16, Utilities and Service Systems, the existing infrastructure will require upgrades to accommodate the required electrical load and project will require electrical transmission upgrades to serve the project site. Electrical power will be supplied from an existing substation located on Susanville Road between Highway 299 and Valley Cutoff Road,

approximately 4 miles northeast of the project site. (This substation is presently operated by SVEC, and use of this substation for the proposed project will require a wheeling or similar arrangement between PG&E and SVEC). Existing electrical transmission lines running along the public roads between the substation and the project site would be upgraded to meet the demands of the proposed facility. The proposed transmission upgrades would be approximately 4.5 miles in length and would utilize existing utility poles that run parallel to State Route (SR) 299 and Susanville Road. Some utility poles may be replaced if they are in disrepair and not suitable for repowering.

As noted above, the Lassen Facility is anticipated to consume approximately 142,677,840 kWh of electricity per year. The Lassen Facility would account for approximately 0.1% of PG&E's total projected sales during 2025 for the project's 2025 operational year; therefore, PG&E has supply and capacity for the project.

Tuolumne Facility Operation. The site is currently served by electrical power via overhead utility lines. To support project operations, an electrical load of 12 kV would be required. As described in Chapter 3.16, Utilities and Service Systems, the existing infrastructure will require upgrades to accommodate the required electrical load and project will require electrical transmission upgrades to serve the project site. The existing transmission lines that run along the public roads between the project site and an existing electrical substation, located west of the project site, would be upgraded. The proposed transmission upgrades would be approximately 4.54 miles in length and would utilize existing utility poles adjacent to SR 108 (see Figure 3.16-2, Proposed Transmission Upgrades – Tuolumne Facility). Some utility poles may be replaced if they are in disrepair and not suitable for repowering.

As noted above, the Tuolumne Facility is anticipated to consume approximately 94,807,680 kWh of electricity per year. The Tuolumne Facility would account for less than 0.1% of PG&E's total projected sales during 2025 for the project's 2025 operational year; therefore, PG&E has supply and capacity for the project.

Port of Stockton Operation. The proposed facility would connect to existing electrical infrastructure available to Port tenants. The existing electrical infrastructure at the Port has adequate existing capacity and will not require new or expanded facilities to serve the project's needs.

The Port of Stockton is anticipated to consume approximately 12,060,000 kWh of electricity per year. The Port of Stockton would account for approximately 0.01% of PG&E's total projected sales during 2025 for the project's 2025 operational year; therefore, PG&E has supply and capacity for the project.

Transport to Market Operation. No electricity would be used to operate the trains and ships associated with transport to market, and therefore there is no impact related to electricity arising from this portion of the project.

The project's operation would result in an increase in electricity use at the project site; however, as described in SDF-ENE-1, the project would include photovoltaic (PV) panels on rooftops at the Lassen and Tuolumne facilities. Moreover, it is anticipated that PG&E's existing and planned local and regional electricity capacity and electricity supplies would be sufficient to support the project's electricity demand and would not require additional capacity, as noted above.

Project impacts related to local and regional electricity supplies and need for additional capacity, and electricity resources, would be less than significant.

Natural Gas

As discussed in Section 3.5.1.1, PG&E would be the utility to provide natural gas to the Lassen Facility, the Tuolumne Facility, and the Port of Stockton.

Construction (All). Construction activities, including the construction of new buildings, facilities, and associated infrastructure at the Lassen Facility, Tuolumne Facility, and Port of Stockton, typically do not involve the consumption of natural gas. Accordingly, natural gas would not be expected to be supplied to support project construction activities; thus, there would be no natural gas demand estimated to be generated by project construction.

Feedstock Acquisition Operation. No natural gas would be used to operate the heavy-duty trucks associated with feedstock acquisition.

Lassen Facility Operation. Operation of the Lassen Facility would not require natural gas consumption at the project site.

Tuolumne Facility Operation. Operation of the Tuolumne Facility would not require natural gas consumption at the project site.

Port of Stockton Operation. Operation of the Port of Stockton would not require natural gas consumption at the project site.

Transport to Market Operation. No natural gas would be used to operate the trains and ships associated with transport to market.

Accordingly, potential project impacts related to local and regional natural gas supplies and need for additional capacity, and natural gas resources, would be less than significant.

Petroleum

In 2024, annual on-road fuel usage in California was estimated to be approximately 17 billion gallons, which is similar to 2025 (approximately 17 billion gallons). In 2024, which is the earliest construction of the project could occur, annual off-road fuel usage for in California for construction equipment was estimated to be approximately 218 million gallons. In 2025, which is the earliest operation of the project could occur, annual fuel usage for off-road equipment in the forestry sector in California is estimated to be approximately 29 million gallons. In 2025, annual fuel usage for off-road equipment in the industrial sector in California is estimated to be approximately 83 million gallons.

Construction (All). The project would consume petroleum during construction of the Lassen Facility, Tuolumne Facility, and Port of Stockton associated with use of offroad equipment and vehicles (worker vehicles, delivery trucks, and haul trucks). As energy consumption during project construction activities would be short-term, the project would not substantially affect regional energy consumption during the construction period and would not require additional capacity.

Feedstock Acquisition Operation. The project would consume petroleum during operation of sustainable forest management projects or acquisition of feedstock. Petroleum use would be associated with offroad equipment and vehicles (worker vehicles, water trucks, and logging/haul trucks). Overall, in the Lassen feedstock area, the project

would consume 89,527 gallons of gasoline and 2,577,773 gallons of diesel per year, or 2,667,300 gallons of petroleum-based fuels per year. Overall, in the Tuolumne feedstock area, the project would consume 26,633 gallons of gasoline and 1,107,023 gallons of diesel per year, or 1,133,656 gallons of petroleum-based fuels per year.

Lassen Facility Operation. Project operation would consume 82,342 gallons of gasoline, 60,395 gallons of diesel, and 1,866,645 gallons of propane per year, or 2,009,382 gallons of petroleum-based fuels per year. The project would include EV parking and charging stations in accordance with applicable CALGreen requirements to encourage reduction in transportation fuel usage.

Tuolumne Facility Operation. Project operation would consume a total of 85,760 gallons of gasoline, 62,222 gallons of diesel, and 1,253,267 gallons of propane per year, or a total of 1,401,249 gallons of petroleum-based fuels per year. The project would include EV parking and charging stations in accordance with applicable CALGreen requirements to encourage reduction in transportation fuel usage.

Port of Stockton Operation. Project operation would consume a total of 3,537 gallons of gasoline and 15,578 gallons of diesel per year, or a total of 19,115 gallons of petroleum-based fuels per year.

Transport to Market Operation. Project operation would consume a total of 520,406 gallons of diesel during line-haul rail transport, and 184,124 gallons of diesel per year during ship transport.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT.

The project does not propose uses or operations that would inherently result in excessive and wasteful activities, nor associated excess and wasteful off-road equipment or stationary source energy consumption. The Petroleum usage for the project's operational off-road equipment and stationary sources would not likely have a significant effect on local and regional energy supplies or require additional capacity. Impacts would be less than significant.

As supported by the preceding discussions, project transportation energy consumption would not be considered inefficient, wasteful, or unnecessary and impacts would be less than significant.

Peak and Base Period Demands for Electricity and Other Forms of Energy

As discussed above, the electricity used for project construction activities would be temporary and minimal and would be within the supply and infrastructure service capabilities of PG&E. Furthermore, it was assumed that there would be no electricity consumption during feedstock acquisition, rail, or ship transportation.

Operation of the Lassen Facility, Tuolumne Facility, and the Port of Stockton would result in an increase in electricity demand. PG&E forecasts that its total electricity sales in 2025 will be 97,049 GWh of electricity (CEC 2022b). Based on the Lassen Facility's estimated electrical consumption of 142,677,840 kWh/year, the Lassen Facility would account for approximately 0.1% of PG&E's total projected sales during 2025 for the project's 2025 operational year. Based on the Tuolumne Facility's estimated electrical consumption of 94,807,680 kWh/year, the Tuolumne Facility would account for less than 0.1% of PG&E's total projected sales during 2025 for the project's 2025 operational year. Based on the Port of Stockton's estimated electrical consumption of 12,060,000 kWh/year, the Port of Stockton would account for approximately 0.01% of PG&E's total projected sales during 2025 for the

project's 2025 operational year. Overall, the project would account for approximately 0.2% of PG&E's total projected sales during 2025 for the project's 2025 operational year.

The CEC forecasts to 2035, which estimates total electricity sales of 119,038 GWh. As such, if the project would be built out in a future year, demand is anticipated to be accommodated within the PG&E load forecasting, which generally increases over time.

Based on CEC estimates in 2022, the peak demand for the PG&E planning area was 22,379 MW (CEC 2022c). Under peak conditions, the Lassen Facility would have a daily peak load of 94 kW.[3] In comparison to the PG&E planning area peak load in 2022, the Lassen Facility would represent approximately 0.0004% of the PG&E planning area peak load conditions. Under peak conditions, the Tuolumne Facility would have a daily peak load of 32 kW. In comparison to the PG&E planning area peak load in 2022, the Tuolumne Facility would represent approximately 0.0003% of the PG&E planning area peak load conditions. Under peak conditions, the Port of Stockton would have a daily peak load of 15 kW. In comparison to the PG&E planning area peak load in 2022, the Tuolumne Facility would represent approximately 0.00006% of the PG&E planning area peak load conditions. In addition, PG&E's annual growth projection in peak demand of the electrical power grid would be sufficient to account for future electrical demand by the Project.

Natural gas would not be supplied to support project construction activities or operational activities, and there would be no natural gas demand generated by the project.

As consumption of fuel for transportation and off-road equipment during Project construction activities would be short-term and relatively negligible,[4] the project would not likely affect regional energy consumption in years during the construction period and would not require additional capacity.

Overall, project operation would consume a total of 292,561 gallons of gasoline, 4,588,563 gallons of diesel per year, and 3,119,912 gallons of propane per year, or a total of 7,971,037 gallons of petroleum-based fuels per year for transportation, off-road equipment, stationary equipment, and rail switchers.[5] The geographic context for impacts on petroleum is statewide, and therefore, petroleum-based fuel usage caused by the project would not likely have a significant effect on local and regional energy supplies or require additional capacity. Impacts would be less than significant.

Electricity, natural gas, and transportation energy supplies would be sufficient to serve the project's peak energy consumptions as discussed above, and impacts would be less than significant.

Locational Efficiency, Transportation Energy Use Requirements, and Overall Use of Efficient Transportation Alternatives

During operation of the project, the majority of fuel consumption would involve the use of motor vehicles traveling to and from the Project site. Petroleum fuel consumption associated with the proposed Project is a function of the

3 Load factor calculations to estimate peak load is based on California Public Utilities Commission, Report: System Efficiency of California's Electric Grid, p.11, Figure 6, May 22, 2017.

4 For context, within California, transportation fuel usage during total Project construction activities over less than 2 years would represent approximately 0.0001% of the 2024 annual on-road energy consumption (17 billion gallons) and 0.01% percent of the 2024 annual off-road diesel energy consumption for construction equipment (218 million gallons).

5 For context, within California, the transportation-related fuel usage for total Project operation would represent approximately 0.01% percent of the annual on-road petroleum (17 billion gallons) and approximately 5% of the 2025 annual off-road diesel-related energy consumption for forestry and industrial sectors (112 million gallons).

VMT as a result of proposed Project operation. As discussed in Chapters 3.2, Air Quality; 3.7, Greenhouse Gas Emissions, and 3.14, Transportation, the analysis has estimated the number of trips associated with the project, which would result in additional fuel consumption and energy use associated with transportation. Overall, operation of the project would result in 18,298,799 VMT annually when combining the transportation for feedstock activities, and operation at the Lassen Facility, the Tuolumne Facility, and the Port of Stockton. Annual mobile-source fuel consumption are provided in Tables 3.5-1 through 3.5-8.

The three project sites were primarily selected for their locational efficiency. The Lassen and Tuolumne sites are situated near major forests, which serves as the primary source of feedstock. This proximity minimizes the transportation distance for logging/haul trucks as much as possible. Furthermore, the Burlington Northern Santa Fe Railroad forms the eastern boundary of the Lassen site, and the Sierra Northern Railroad borders the western boundary of the Tuolumne site. Being adjacent to the main railroad routes provides a direct and efficient route for transporting the finished pellets to the Port of Stockton for international shipping. While the project's VMT is high due to the project's scale, the use of rail transport significantly mitigates this by offering a more sustainable and cost-effective alternative to road transport. Overall, the site's location leverages natural resources and existing transportation infrastructure to optimize operational transportation efficiency.

Overall, the project would minimize transportation fuel consumption to the extent feasible and through the reduction of VMT. The project would optimize its locational efficiency and use efficient transportation alternatives, such as rail and ship transport. Project impacts would be less than significant.

Renewable Energy Potential

As part of the project's design process, the project applicant considered how the project could increase its reliance on renewable energy sources to meet its energy demand. Renewable energy sources that were considered for their potential to be used to power the project, consistent with CEC's definition of eligible renewables, include biomass, geothermal, solar, wind, and small hydroelectric facilities.

Regarding wind power, a general rule of thumb is to install a wind turbine on a tower with the bottom of the rotor blades at least 30 feet above anything within a 500-foot horizontal radius and to be sited upwind of buildings and trees (APA 2011; NREL 2015), which due to the nature of the Lassen Facility, Tuolumne Facility, and Port of Stockton sites and surrounding land uses, wind turbines are generally not feasible because they would represent an incompatible use.

Lassen Facility. Given the project site's location in rural area and the nature of the project (i.e., wood pellet processing facility), there are considerable site constraints, including limited land availability, incompatibility with on-site and surrounding land uses for large-scale power generation facilities, unknown interconnection feasibility, compatibility with utility provider systems, and no known water or geothermal resources to harness, that would eliminate the potential for geothermal and hydroelectric renewable energy to be installed on site. Regarding wind power, the Lassen site would not be in an optimal location for wind power due to the low average wind speed and it being designated as not a wind resource area (EIA 2024, CEC [ND], CEC 2023). The project also uses unmarketable renewable biomass as fuel during processing (i.e., drying). The project includes solar power as part of SDF-ENE-1, which would be provided by solar PV panels installed on the air-conditioned office buildings as required by the current California Building Code. As solar power technology improves in the future and regulations require additional solar, it is reasonable to assume that additional solar power may be provided to the project site. The project would comply with the current energy code requirements regarding battery energy storage, which are

based on solar PV requirements. In addition, the project does not preclude installation of additional battery storage in the future.

Tuolumne Facility. Given the project site's location in rural area and the nature of the project (i.e., wood pellet processing facility), there are considerable site constraints, including limited land availability, incompatibility with on-site and surrounding land uses for large-scale power generation facilities, unknown interconnection feasibility, compatibility with utility provider systems, and no known water or geothermal resources to harness, that would eliminate the potential for geothermal, and hydroelectric renewable energy to be installed on site. Regarding wind power, the Tuolumne site would not be in an optimal location for wind power due to the low average wind speed and it being designated as not a wind resource area (EIA 2024, CEC [ND], CEC 2023). The project also uses unmarketable renewable biomass as fuel during processing (i.e., drying). The project includes solar power as part of SDF-ENE-1, which would be provided by solar PV panels installed on the air-conditioned office buildings as required by the current California Building Code. As solar power technology improves in the future and regulations require additional solar, it is reasonable to assume that additional solar power may be provided to the project site. The project would comply with the current energy code requirements regarding battery energy storage, which are based on solar PV requirements. In addition, the project does not preclude installation of additional battery storage in the future.

Port of Stockton. Given the project site's location in an urbanized, developed area and the nature of the project (i.e., pellet storage and loadout facility), there are considerable site constraints, including limited land availability, incompatibility with on-site and surrounding land uses for large-scale power generation facilities, unknown interconnection feasibility, compatibility with utility provider systems, and no known water or geothermal resources to harness, that would eliminate the potential for biomass, geothermal, and hydroelectric renewable energy to be installed on site. Regarding wind power, the Stockton site would not be in an optimal location for wind power due to the low average wind speed and it being designated as not a wind resource area (EIA 2024, CEC [ND], CEC 2023). The project does not include solar or battery storage at the Port of Stockton due to site constraints. Nonetheless, in the event of changed circumstances, the project does not preclude installation of solar or battery storage in the future.

Summary

In summary, the project includes the on-site renewable energy source (i.e., solar and biomass) that was determined to be feasible for the appropriate sites and does not include the on-site renewable energy sources that were determined to be infeasible.

Conclusion

As demonstrated through the above analysis, the project would result in a **less-than-significant** environmental impact related to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Impact ENE-2 The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Title 24

The project would be subject to and would comply with, at a minimum, the California Building Energy Efficiency Standards (24 CCR Part 6). Part 6 of Title 24 establishes energy efficiency standards for non-residential buildings

constructed in California in order to reduce energy demand and consumption. As such, the project would comply with the California code requirements for energy efficiency.

Part 11 of Title 24 sets forth voluntary and mandatory energy measures that are applicable to the project under CALGreen. CALGreen institutes mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential, high-rise residential, state-owned buildings, schools, and hospitals, as well as certain residential and non-residential additions and alterations. On this basis, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. This impact would be less than significant.

CARB 2022 Scoping Plan

The project would support energy-related strategies of the state including the 2022 CARB Scoping Plan by supporting all electric development. California's RPS program outlines the pathway for the state's electricity grid to transition to renewable energy; however, statewide RPS requirements do not apply to individual development projects like the project. Nonetheless, as PG&E meets the RPS milestones, the project would benefit from cleaner electricity provided by PG&E.

Lassen County General Plan

The Lassen County General Plan includes three applicable policies that aim to increase energy efficiency and productivity to achieve the county's goal of conserving its energy resources. The project would not conflict with this Goal N-17 or the applicable policies therein. Policies NR61 through NR63 state the County's emphasis on facilitating energy-efficient projects that manage resources with acceptable levels of environmental impact. The project explores an efficient, alternative energy resource production pathway and would not conflict with the General Plan's goal of conserving the county's resources.

Tuolumne County General Plan

The Tuolumne County General Plan includes policies and overarching goals intended to reduce countywide energy consumption. The project would not conflict with any of the energy reduction goals or policies determined to be relevant to the project's scope. The project would directly support Policy 8.D.1, which allows for agricultural facilities that convert by-products to other uses like alternative energy generation, by creating the wood pellet production pathway. Similarly, the project would support Policies 6.E.5 and 18.A.6, which encourage the development oof solar power or other alternative energy-producing facilities and the use of 'other innovative energy sources', respectively. The project, through implementation of SDF-ENE-1 would be required to incorporate solar power generation at the Tuolumne Facility, which would further support Policy 18.A.6; SDF-ENE-1 is described in greater detail in Section 3.5.4.4. Overall, the project aligns with the goals and policies within the General Plan.

Tuolumne County CAP

Tuolumne County's CAP aims to build climate resilience, reduce local GHG emissions, and to preserve the county's natural resources; the CAP includes measures that support an increase in energy efficiency in buildings, resiliency within the transit system and electrical grid, and other sustainable features. The project would specifically support Strategy 4 and Measure 4.2, which aims to reduce electricity grid demand, through the implementation of SDF-ENE-1, which is described further in Section 3.5.4.4. Through the production of an alternative fuel source, as well

as its incorporation of solar power generation at the Tuolumne Facility, the project promotes energy efficiency and climate resiliency and would not conflict with any of the applicable measures of the CAP.

City of Stockton General Plan

The project supports the City of Stockton's General Plan's goals of protecting resources and promoting sustainable development. Specifically, the project supports Policy LU-5.4, which requires energy conservation and efficiency, by producing an alternative energy fuel source. Overall, the project would not conflict with the relevant goals or policies within the General Plan.

City of Stockton CAP

The City of Stockton CAP primarily addresses GHG reduction measures and strategies; however, GHG reduction can be viewed as a co-benefit of energy reduction action because a decrease in energy consumption directly decreases the demand for the combustion of GHG-emitting fuels. The project would support the GHG reduction goals established in the CAP, such as Energy-1, Green Building Ordinance, and would accordingly support energy efficiency.

Port of Stockton Clean Air Plan

The Port of Stockton Clean Air Plan establishes strategies for emissions reduction within each of its operational sectors—trucks, cargo, ships, crafts, locomotives—with the goal of net-zero emissions. The project would include activity within the anticipated operations of the Port. The project, therefore, would not conflict with the Port's strategies or path towards zero emissions.

Conclusion

The project's impact related to the potential to conflict with or obstruct a state or local plan for renewable energy or energy efficiency would be **less than significant**.

3.5.4.3 Cumulative Impacts

The geographic context for cumulative energy impacts is generally considered to be the service area for the electrical and natural gas utilities, and statewide for petroleum. Potential cumulative impacts on energy would result if the proposed project, in combination with past, present, and future projects, would result in the wasteful or inefficient use of energy. This could result from development that does not incorporate sufficient building energy efficiency features, would not achieve building energy efficiency standards, or would result in the unnecessary use of energy during construction and/or operation.

Impact ENE-1 The project would not result in a cumulatively considerable environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

As analyzed in Section 3.5.4.2, consumption of electricity, natural gas, and petroleum during construction would be temporary in nature, would not be unusual as compared to overall local and regional demand for energy resources, and would not involve characteristics that require equipment that would be less energy-efficient than at comparable construction sites in the region or state.

During operation, electricity consumption, natural gas demand, and petroleum use would increase due to project implementation. However, the analysis in Section 3.5.4.2 determined that the project would be designed to maximize energy performance and would use renewable energy on site as determined to be feasible, as described in SDF-ENE-1. The project would have a minimal effect on local and regional energy supplies and capacities. The project would have a minimal effect on peak and base period demands for electricity and other forms of energy. The project's would also use efficient transportation alternatives. The additional demand for energy resources during project operation would not be wasteful, inefficient, or unnecessary as compared to overall local and regional demand for energy resources. Thus, the project would not result in wasteful, inefficient, or unnecessary consumption of energy during operation of the project.

Cumulative projects would be subject to CEQA and would require an energy analysis related to wasteful, inefficient or unnecessary consumption of energy resources and mitigation, if necessary to avoid wasteful, inefficient or unnecessary consumption of energy resources. Further, like the project, cumulative projects would be subject to state law, including the mandatory energy requirements found in Title 24, Part 6 of the California Energy Code, the California Building Energy Efficiency Standards (Title 24 CCR Part 6) and Part 11, California Green Building Standards (Title 24 CCR Part 6). Like the project, cumulative projects would also be required to demonstrate consistency with the applicable general plan measures related to energy efficiency and resource consumption and other energy-related plans, which would promote renewable energy use and minimize the wasteful, inefficient, or unnecessary consumption of energy resources. Therefore, the project's contribution to cumulative impacts would **not be cumulatively considerable**.

Impact ENE-2 The project would not result in a cumulatively considerable impact related to the potential to conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Cumulative projects that could exacerbate the project's impacts include any projects in the region that conflict with an applicable state or local plan for renewable energy or energy efficiency (see Section 3.0.3.2, Cumulative Projects and Scope of Analysis). As described above, the project would be designed to maximize energy performance and would use renewable energy on site as determined to be feasible, including through solar power generated on site. The project would be consistent with the mandatory requirements of state law, including Parts 6 and 11 of Title 24, and would be consistent with applicable general plan measures related to energy efficiency energy use. Furthermore, the project would not conflict with applicable state or local plans for renewable energy or energy efficiency, including the CARB 2022 Scoping Plan, the Lassen County General Plan, the Tuolumne County General Plan and CAP, the City of Stockton General Plan and CAP, and the Port of Stockton Clean Air Plan.

Like the project, cumulative projects would be subject to CEQA and would require an energy analysis, including an analysis of the potential to conflict with plans for renewable energy and energy efficiency, and implementation of control measures and mitigation, if avoid a conflict. Further, like the project, cumulative projects would be subject to state law, including the mandatory energy requirements found in Title 24, Part 6 of the California Energy Code, the California Building Energy Efficiency Standards (Title 24 CCR Part 6) and Part 11, California Green Building Standards (Title 24 CCR Part 6). Like the project, cumulative projects would also be subject to appliable general plan measures related to energy efficiency and resource consumption, which would promote renewable energy use and minimize the wasteful, inefficient, or unnecessary consumption of energy resources. On this basis, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and the project's contribution to cumulative impacts would **not be cumulatively considerable**.

3.5.4.4 Mitigation Measures

No mitigation measures are required as impacts would be less than significant.

Furthermore, the project would include EV parking and charging stations in accordance with applicable CALGreen requirements to encourage reduction in transportation fuel usage, and would exceed CALGreen requirements at the Lassen Facility, Tuolumne Facility, and Port of Stockton, per **MM-TRF-4**. EV parking and charging stations would encourage a reduction in transportation fuel usage, thereby reducing energy consumption.

In addition, the project would implement **MM-AQ-4**, which would require educational materials to be provided to encourage workers to carpool or use public transportation for their commutes during feedstock acquisition, and at the Lassen Facility, Tuolumne Facility, and Port of Stockton. Coupled with **MM-TRF-1** and **MM-TRF-4**, the project would provide employee sponsored vanpool for sustainable forest management projects and at the Lassen Facility. These measures would decrease annual VMT associated with project operation, thereby encouraging a reduction in transportation fuel usage.

3.5.4.5 Significance After Mitigation

Impact ENE-1 The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. The project would result in a **less than significant** energy impact and no mitigation is required.

Impact ENE-2 The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project would result in a **less than significant** energy impact and no mitigation is required.

3.5.5 Additional Energy Considerations

Purpose

CEQA is intended to inform government decisionmakers and the public about the potential environmental effects of proposed activities and to prevent significant, avoidable environmental damage. An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure. (CEQA Guidelines, § 15151).

As discussed in greater detail in Chapters 3.2, Air Quality, and 3.7, Greenhouse Gas Emissions, while analysis of the full wood pellet lifecycle, including those aspects occurring outside of California, is highly speculative, some evaluation of a product's lifecycle "may well be a useful guide for the decision maker when a project entails

substantial production or consumption of the product." As such, this section will provide such analysis as is reasonably feasible regarding the energy implications of the larger wood pellet lifecycle, in an effort to show good-faith analysis and comply with CEQA's information disclosure requirements. Specifically, this section will consider compare the total energy consumed in production of wood pellets by the project to the total energy produced by those wood pellets when used for fuel.

Total Energy Consumed Compared to Energy Produced

The purpose of the project is to reduce the risks of catastrophic wildfire, and to help restore California forests, watersheds, and ecosystems to a more natural and resilient condition. The project processes excess biomass into a pelletized fuel source for renewable energy generation as a mechanism to support the project. Because the project creates a renewable energy source, a comparison of the energy consumed to produce 1 million metric tons of pellets, compared to the energy produced by 1 million metric tons of pellets, is provided below.

The project would consume energy through a variety of activities, primarily from transportation and industrial processing and manufacturing, and in four fuel types—diesel, gasoline, propane, and electricity. In sum, project construction (amortized over the project lifetime) and operations, including feedstock acquisition, activity at the Lassen Facility, Tuolumne Facility, Port of Stockton, as well as rail transport in California, and ship transport within California and outside of California, would altogether constitute approximately 4.4 million gigajoules (GJ)[6] of energy consumption annually; this figure represents the amount of energy consumed to produce 1 million metric tons of pellets per year. The energy produced by 1 million metric tons of wood pellets per year as proposed by the project, on the other hand, is estimated to be 15.4 million GJ per year[7], for a net benefit of approximately 11 million G per year. Details of these energy calculations are provided Appendix B7.

While the production of pellets may be energy-intensive process, the comparison above elicits a comparative benefit in the amount of energy that the pellets provide. These potential energy benefits are identified here for informational purposes only, and have not been taken into account for purposes of the energy impact significance determinations in this chapter.

3.5.6 References

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6 The total energy use associated with the project's components within California is approximately 1.9 million GJ/year. The energy use associated with the ship transportation beyond California's jurisdiction is approximately 2.5 million GJ/year. The energy use associated with ship travel outside of California was estimated based on the GHG emissions calculated in Section 3.7 of this EIR, similar to the methodology for estimating ship travel within California. Therefore, the total energy use outside of California is approximately 4.4 million GJ/year.

7 The amount of energy produced by wood pellets is based on the industry standard assumption that 17 GJ is produced per U.S. ton of wood pellets (which equates to 15.4 GJ per metric ton). The 17 GJ per U.S. ton estimate is conservative for this calculation because based on project-specific fiber testing, the wood pellets are anticipated to generate greater energy content closer to 18 GJ per U.S. ton (Appendix B7).

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