

3.4 Energy

This section identifies and evaluates issues related to energy to determine whether the PCRCP, including its revisions to the 2011 Creek Restoration Plan that are a component of the 2012 Reclamation Plan Amendment, would cause one or more new significant impacts or a substantial increase in the severity of significant impacts than were disclosed in the 2012 EIR. To do this, as explained in Section ES.1, *Introduction*, and in Section 2.3, *Focus of the Supplemental EIR*, including as summarized in Table 2-1, *Specific Areas of Focus for the Supplemental EIR*, this analysis focuses on three things: (1) PCRCP areas that are outside of the existing Reclamation Plan boundary (for which Grading Approval would be required); (2) PCRCP areas within the Reclamation Plan boundary and within the 120-acre PCRA but outside of the PCRA's 49.2-acre disturbance area; and (3) more generally, whether the PCRCP would include work at a greater intensity than previously considered in the 2012 EIR. As a result, Reaches 6–13 and Reaches 17 and 18 are key areas for evaluation.¹

This section identifies and evaluates issues related to energy in the context of the Project. It includes the physical and regulatory setting, the criteria used to evaluate the significance of potential impacts, the methods used in evaluating these impacts, and the results of the impact assessment. This analysis is based in part on the Air Quality and Greenhouse Gas Emissions Technical Report provided in **Appendix D**, *Air Quality and Greenhouse Gas Emissions*. The technical report provided in Appendix D was prepared on the County's behalf. No scoping comments were received regarding energy (**Appendix A**, *Scoping Report*).

3.4.1 Setting

3.4.1.1 Study Area

The study area for this analysis of potential impacts related to energy consists of Santa Clara County, as well as statewide.

3.4.1.2 Environmental Setting

Section 4.6.1.1 of the Draft 2012 EIR described the environmental setting for the 2012 EIR's consideration of energy conservation, including information about energy production and distribution in California and local energy production and distribution (page 4.6-1 et seq.). These descriptions remain accurate for purposes of this analysis of the PCRCP, except as supplemented or emphasized below. However, the energy resources associated with the PCRCP would be limited to construction and transportation fuels (i.e., diesel fuel and gasoline). Therefore, these specific energy resources are the focus of this analysis.

¹ See Section 2.4, *Correlation between 2012 EIR PCRA and the PCRCP*, for a cross reference between the restoration activities described and analyzed in the 2012 EIR and the restoration activities described in the PCRCP and analyzed in this SEIR. Section 2.5, *Permanente Creek Restoration Plan*, details the PCRCP's proposed activities on a reach-by-reach basis.

California Fuel Use

California's energy system includes electricity, natural gas, and petroleum. According to the California Energy Commission (CEC), California's energy system generated 72 percent of the electricity, 48 percent of the natural gas, and less than 1 percent of the petroleum consumed or used in the state in 2019. The rest of the state's energy is imported and includes petroleum crude oil imported from Alaska and foreign sources (CEC 2021a, 2021b). Construction of the Project would require the use of construction and transportation fuels in the form of gasoline and diesel.

Gasoline

Gasoline is by far the largest transportation fuel by volume used in California. Nearly all the gasoline used in California is obtained through the retail market. In 2020, approximately 12.5 billion gallons of gasoline were sold in California's retail market, which was a 19 percent drop compared to gallons sold in 2019 (CDTFA 2021a). The drop in 2020 gasoline sales could be related to reduced economic activity associated with the Covid-19 pandemic.

Diesel

Diesel fuel is the second largest transportation fuel by volume used in California behind gasoline. According to the U.S. Department of Energy's Energy Information Administration, nearly all semi-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm, construction, and military vehicles and equipment have diesel engines. In 2020, 3.0 billion gallons of diesel were sold in California, which was a 3 percent drop compared to gallons sold in 2019 (CDTFA 2021b). The drop in 2020 diesel sales could be related to reduced economic activity associated with the Covid-19 pandemic.

Santa Clara County Fuel Use

Regular unleaded gasoline is primarily used to fuel passenger cars and small trucks. Diesel fuel is primarily used in large trucks and construction equipment. Both are widely used within and across all parts of Santa Clara County. It is estimated that there were 397 fuel stations in Santa Clara County in 2020, which is a drop of seven fuel stations in the county relative to 2019 (CEC 2021d). The CEC estimates that in 2020 the total sales of gasoline and diesel in Santa Clara County were 511 million gallons and 71 million gallons, respectively. These gasoline and diesel fuel use amounts represent decreases of approximately 18 percent and 17 percent, respectively, relative to the estimated fuel use amounts for 2019 (CEC 2021d). Similar to as mentioned above for statewide fuel use, the countywide drop in 2020 fuel sales could be related to reduced economic activity associated with the Covid-19 pandemic.

3.4.1.3 Regulatory Setting

Section 4.6.1.2 of the Draft 2012 EIR (page 4.6-3 et seq.) described the regulatory setting for the analysis of potential impacts related to energy conservation, including federal, state, and local laws, regulations, plans, and policies applicable to the analysis of the proposed creek restoration; and other Project components that were considered in the 2012 EIR. The section summarized the federal Energy Policy and Conservation Act and the Energy Policy Act of 2005, as well as the State of California Integrated Energy Policy and the County of Santa Clara General Plan. The description

of the regulatory setting remains accurate for purposes of this analysis of the PCRCP, except as supplemented or emphasized below.

Federal

National Energy Conservation Policy Act

The National Energy Conservation Policy Act (NECPA) serves as the underlying authority for federal energy management goals and requirements. Signed into law in 1978, it has been regularly updated and amended by subsequent laws and regulations. This act is the foundation of most federal energy requirements. NECPA established energy-efficiency standards for consumer projects and includes a residential program for low-income weatherization assistance, grants, and loan guarantees for energy conservation in schools and hospitals, and energy-efficiency standards for new construction. Furthermore, the NECPA established fuel economy standards for on-road motor vehicles in the United States. The National Highway Traffic and Safety Administration (NHTSA), which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and revising existing standards under the NECPA. The USDOT is authorized to assess penalties for noncompliance. This regulatory program has resulted in improved fuel economy throughout the United States' vehicle fleet (NHTSA 2014, 2018).

State

California Integrated Energy Policy

In 2002, the Legislature passed Senate Bill 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emissions vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

The CEC has adopted the latest update, 2019 Integrated Energy Policy Report, which assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The 2019 Integrated Energy Policy Report covers a broad range of topics, including energy efficiency, building energy efficiency standards, achieving 60 percent renewables by 2030, and the California Energy Demand Forecast (CEC 2021c).

Construction Equipment Idling

The California Air Resources Board also has adopted a regulation for the use of off-road diesel vehicles that is designed to reduce emissions from diesel-powered construction vehicles by imposing idling limitations on owners, operators, renters, or lessees of off-road diesel vehicles. The regulation requires an operator of applicable off-road vehicles (self-propelled diesel-fueled

vehicles 25 horsepower and up that were not designed to be driven on-road) to limit idling to no more than 5 minutes.

Advanced Clean Truck Regulation

The Advanced Clean Truck Regulation is part of a holistic approach to accelerate a large-scale transition of zero-emissions medium-and heavy-duty vehicles from Class 2b to Class 8. The regulation requires manufacturers who certify Class 2b-8 chassis or complete vehicles with combustion engines to sell zero-emissions trucks as an increasing percentage of their annual California sales from 2024 to 2035. By 2035, zero-emissions truck/chassis sales would need to be 55 percent of Class 2b to 3 truck sales, 75 percent of Class 4 to 8 straight truck sales, and 40 percent of truck tractor sales. When compared to diesel vehicles, zero-emissions vehicles are two to five times more energy efficient, reduce dependence on petroleum, and reduce greenhouse gas (GHG) emissions substantially (CARB 2021).

Local

Santa Clara County General Plan

Part 2, *Countywide Issues & Policies*, and Part 3, *Rural Unincorporated Area Issues & Policies*, of the Santa Clara County General Plan include the following policy, which is relevant to the Project (County of Santa Clara 1994).

Policy C-RC 78²: The objectives of the state energy plan should be implemented at the local and regional level through an overall strategy consisting of:

- a. reducing transportation energy demand and oil-dependency;
- b. conserving energy in residential, commercial, agricultural, and industrial sectors; and
- c. increasing consumer and general public awareness through education.

3.4.2 Significance Criteria

Consistent with CEQA, Section 4.6.3 of the 2012 EIR explained that it is appropriate to evaluate the potential energy impacts of proposed projects with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy, and accordingly, determined that the Reclamation Plan Amendment, including creek restoration work within the PCRA, would have a significant impact if it would:

- a) Fail to include means for avoiding or reducing wasteful and/or unnecessary consumption of energy; or
- b) Not comply with existing energy standards, including standards for energy conservation.

² The 2012 EIR mistakenly referred to Policy C-RC 78 as Policy C-RC 77.

Updates to the CEQA Guidelines Appendix G Environmental Checklist that were finalized in December 2018 added for the first time the energy significance criteria noted below.

Implementation of the Project would have a significant impact on energy if it were to:

- Result in wasteful, inefficient, or unnecessary consumption of energy resources during Project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

These new criteria are consistent with those used in the 2012 EIR, which focus on wasteful and/or unnecessary consumption of energy and compliance with existing energy standards, including standards for energy conservation. Accordingly, the criteria used in the 2012 EIR remain relevant to this SEIR's consideration of whether the PCRCP would cause any new significant impact or a substantial increase in the severity of a significant impact than disclosed in the 2012 EIR.

3.4.3 Direct and Indirect Effects

3.4.3.1 Methodology

The 2012 EIR analyzed fuel consumption-related impacts of the restoration activities proposed to occur within the PCRA. Given the similarity in restoration activities analyzed within the PCRA and proposed to occur as a result of the PCRCP, fuel consumption impacts have not been reanalyzed in the areas of overlap as part of this assessment.

This impact analysis evaluates the potential for the Project to result in a substantial increase in energy demand and/or wasteful use of energy. The impact analysis is informed by Appendix F of the CEQA Guidelines. The potential impacts are analyzed based on an evaluation of whether construction energy use estimates for the PCRCP would be considered excessive, wasteful, or inefficient in a way that would cause a new significant impact or a substantial increase in the severity of a significant energy-related impact than was identified in the 2012 EIR.

This fuel use analysis incorporates the assumptions identified in the Air Quality and Greenhouse Gas Emissions Technical Report provided in Appendix D, *Air Quality and Greenhouse Gas Emissions*. Because the California Emissions Estimator Model (CalEEMod) program used for the air quality and GHG emissions technical analysis does not display the amount and fuel type for construction-related sources, additional calculations were conducted and are summarized below and provided in **Appendix F**, *Energy: Fuel Use Calculations*. Off-road equipment inventories and construction activity assumptions were used to estimate the amounts of fuel that would be consumed by off-road equipment during construction of the PCRCP. Fuel consumption factors for off-road equipment were derived from equipment inventory data using the California Air Resources Board (CARB) off-road emissions inventory database. Average off-road equipment inventories and construction activity assumptions identified in the calculations of air pollutant and GHG emissions (see Appendix D) were used to estimate the amounts of fuel that would be consumed by off-road equipment during construction of the PCRCP.

Fuel use associated with commuting workers and truck hauling during construction of the PCRCP were also estimated, using trip data projected for the PCRCP and relevant information about vehicle fuel economy (see Appendix F for all fuel consumption factors and assumptions). As with the criteria pollutants and GHG emissions, the modeled fuel use for each construction phase was multiplied by the percent of emissions to be evaluated for the given construction phase based on the proposed creek reach area outside of the previously evaluated 2012 EIR disturbance areas to allow for evaluation of the applicable fuel use (see *Emissions Applicability Factors* in Section 3.1.3.1, *Methodology*, and Appendix D, Exhibit A). Calculated fuel uses then were summed, averaged over the 6-year PCRCP construction period, and added to the baseline emissions (see Section 3.4.3.2, *Baseline*) to determine if the PCRCP would have the potential for new significant direct, indirect, and/or cumulative environmental effects compared with the creek restoration project previously analyzed in the 2012 EIR. For information about the 2012 Reclamation Plan Amendment fuel use estimates, see Section 3.4.3.2, below, and 2012 Draft EIR Section 4.6. Detailed fuel use assumptions and summaries for the PCRCP, including the fuel consumption factors, are included in Appendix F.

3.4.3.2 Baseline

Section 3.0.1, *Environmental Baseline*, explains that, in the context of an SEIR, the CEQA baseline is adjusted such that the originally approved project is assumed to have been implemented. Therefore, the baseline used in this analysis to evaluate the impacts of the PCRCP and alternatives consists of existing environmental conditions plus the 2012 Reclamation Plan Amendment and 2012 EIR, and the creek restoration plans evaluated therein. For purposes of this analysis of potential impacts related to energy, the baseline is described below.

2012 EIR Baseline and Reclamation Plan Amendment Fuel Use

The baseline fuel use identified in the 2012 EIR analysis is based on averages derived from fuel purchases over the 11-year period from January 1, 2000, to December 31, 2010, which includes periods of relatively high production as well as relatively low production at the Permanente Quarry in response to changing market demands. Baseline and maximum annual 2012 Reclamation Plan Amendment fuel use estimates are summarized in **Table 3.4-1**. As shown in Table 3.4-1, the 2012 Reclamation Plan Amendment Phase 1 was found to result in a net increase in diesel use of 183 percent, and a net decrease in gasoline use of 37 percent.

**TABLE 3.4-1
 2012 RECLAMATION PLAN AMENDMENT ANNUAL FUEL USE (GALLONS/YEAR)**

Scenario	Diesel	Gasoline
Baseline Fuel Use	822,554	12,615
Reclamation Plan Amendment Phase 1 Fuel Use	2,327,866	7,933
Maximum Annual Incremental Change	1,505,312	(4,682)
Percent Incremental Change	183%	(37%)

The 2012 EIR found that since the 2012 Reclamation Plan Amendment included a means for avoiding or reducing wasteful and/or unnecessary consumption of fossil fuels by installing a conveyor system that can be powered in part with energy generated by renewable sources, which would result in energy efficiency, it would cause a less-than-significant impact. No mitigation measures were required.

3.4.3.3 Discussion of Criteria with No Energy Impact

Criterion b) as set forth in Section 3.4.2 was eliminated from more detailed consideration in the 2012 EIR for the reasons explained on Draft 2012 EIR pages 4.6-5 and 4.6-6. For similar reasons as explained there, the PCRCP would not have the potential to cause a significant impact related to this criterion, and there are no changes to the compliance with existing energy standards discussion of criterion b).

3.4.3.4 Direct and Indirect Effects of the Project

The analysis in this section evaluates the potential significance of the change in the physical environment that would be caused by implementation of the PCRCP relative to the baseline condition, compares that impact conclusion with the impact conclusion reached in the 2012 EIR regarding the same consideration, and then makes a determination as to whether the implementation of the PCRCP would cause one or more new significant impacts or a substantial increase in the severity of significant impacts than were disclosed in the 2012 EIR. For the reasons discussed below, implementation of the PCRCP would not cause a new significant impact or a substantial increase in the severity of a significant impact than was disclosed in the 2012 EIR.

Impact 3.4-1: The Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction.

This impact analysis corresponds to 2012 EIR significance criterion a) as set forth in Section 3.4.2 and addresses whether the Project, including the restoration activities proposed within the PCRA, would result in the wasteful consumption of energy resources. In the context of Impact 4.6-1 (page 4.6-6 et seq.), the 2012 EIR concluded that interim reclamation activities, including those within the PCRA, would result in a less-than-significant impact with regard to gasoline and diesel use. For the reasons discussed below, the PCRCP would cause **no new significant impact** and **no substantial increase in the severity of a significant impact** related to significance criterion a).

As presented in Section 3.4.3.1, *Methodology*, the fuel use associated with the PCRCP would be short term and periodic in nature and would occur during the dry seasons of 2024 through 2029. Below is a summary of the PCRCP fuel use estimate results in terms of applicable PCRCP fuel use compared to the CEQA baseline. For summaries of the total PCRCP fuel use estimates by phase prior to and after the use of applicability factors to remove the fuel use considered to have already been evaluated in the 2012 EIR, see Appendix F.

PCRP Fuel Use Estimates Compared to CEQA Baseline

Table 3.4-2 presents the PCRP fuel use amounts that were not evaluated in the 2012 EIR, the 2012 Reclamation Plan Amendment annual incremental fuel use change disclosed in 2012 EIR (see Section 3.4.3.2 for details), and the net change associated with the combined two fuel use amounts. As shown in the table, the PCRP annual fuel use volumes reflect 3 percent and 19 percent increases in net diesel fuel and gasoline consumption, respectively, compared to the annual incremental change in fuel use disclosed in the 2012 EIR. Most of the fuel that would be consumed associated with the PCRP would be from the use of trucks and automobiles. It should be noted that current and future vehicle fleets will operate more efficiently and consume less fuel due to federal and statewide regulatory programs compared to those that were in place in 2012.

PCRP fuel use would represent a short-term increase of less than 0.06 percent of diesel and less than 0.0002 percent of gasoline sold in Santa Clara County in 2020 (CEC 2021d). Construction activities and the corresponding fuel energy consumption would be temporary, localized, and necessary. In addition, as described in Section 3.6, *Greenhouse Gas Emissions*, the continued implementation of 2012 EIR Mitigation Measure 4.8-1b to reduce the GHG emissions impact to a less-than-significant level would require reclamation-related replacement of on-road and off-road vehicles and construction equipment with lower GHG-emitting engines, such as electric or hybrid, which would also reduce PCRP vehicle and equipment fuel use. Therefore, construction-related fuel consumption by the PCRP would not result in inefficient, wasteful, or unnecessary energy use, and implementation of the PCRP would result in **no new significant impact and no substantial increase in the severity of a significant impact** regarding the wasteful or inefficient use of energy than was disclosed in the 2012 EIR., The impact that was disclosed in the 2012 EIR would remain less than significant even taking into account the additional fuel use for the PCRP.

**TABLE 3.4-2
 2012 RECLAMATION PLAN AMENDMENT ANNUAL FUEL USE (GALLONS/YEAR)**

Scenario	Diesel	Gasoline
Reclamation Plan Amendment Incremental Change Disclosed in 2012 EIR ^a	1,505,312	(4,682)
PCRP Fuel Use not Evaluated in the 2012 EIR	38,077	898
Net Fuel Use	1,543,389	(3,784)
Percent Incremental Increase	3%	19%

NOTES:

a Values in parentheses are net reductions for Reclamation Plan Amendment presented in the 2012 EIR minus baseline emissions.

SOURCE: Draft 2012 EIR Section 4.6.5; Appendix F.

Baseline Mitigation from 2012 EIR: None required.

Additional Mitigation: None required.

3.4.4 Cumulative Analysis

The Draft 2012 EIR analyzed potential cumulative effects in Section 6.2.6, *Energy Conservation* (pages 6-20 and 6-21), and concluded that the Reclamation Plan Amendment, including creek restoration within the PCRA, would not have a cumulatively significant impact on energy resources. For the reasons discussed below, the PCRCP would cause **no new significant impact** and **no substantial increase in the severity of a previously identified significant impact** in the cumulative context.

As discussed above, there would be no impact with respect to compliance with existing energy standards, including standards for energy conservation. Therefore, the PCRCP could not cause or contribute to any potential significant cumulative impact in this regard. The potential for the PCRCP to cause or contribute to a potential significant cumulative impact with respect to the remaining energy-related consideration is evaluated below.

The geographic context for potential cumulative impacts related to equipment and vehicle fuel use is within the Project's construction equipment and truck trip delivery radius and workers' average travel radius because these are the areas within which energy resources would be demanded and supplied for the PCRCP. The PCRCP would use energy resources during construction; therefore, it could contribute to potential cumulative impacts during this phase.

Regarding the efficiency of fuel use, there is no existing significant adverse condition (such as a shortage) that would be worsened or intensified by the PCRCP. Past, present, and reasonably foreseeable future projects in proximity of the PCRCP site could require gasoline or diesel but would not combine with the fuel demands of the PCRCP to cause a significant adverse cumulative impact relating to the wasteful, inefficient, or unnecessary consumption or use of fuel. In the event of a future shortage, higher prices at the pump would curtail unnecessary trips that could be termed "wasteful" and would moderate choices regarding vehicles, equipment, and fuel efficiency. Under these conditions, the PCRCP's less-than-significant impact identified in Section 3.4.3, *Direct and Indirect Effects*, for Impact 3.4-1 relating to wasteful, inefficient, or unnecessary consumption or use of fuel would not be cumulatively considerable.

3.4.5 References

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