

2.6 **Energy**

This section evaluates existing energy production/consumption within the county, as well as potential energy use and related impacts from the project. The following discussion is based in part on California Environmental Quality Act (CEQA) Guidelines Appendix F, Energy Conservation (2010). The 2011 General Plan Update (GPU) did not contain a focused discussion about energy, but rather integrated the topic throughout the Land Use and Conservation and Open Space Elements as part of broader sustainability goals and policies. Therefore, this discussion of baseline conditions is intended to serve as a standalone comprehensive description of the existing environmental setting related to energy use and consumption within the unincorporated County.

Comments received during the Notice of Preparation (NOP) scoping process included concerns regarding the implementation of county-wide renewable energy targets through a Community Choice Energy program or similar, the impacts of new large-scale renewable energy projects, the location of new large-scale renewable energy projects, implementation of mandatory green building/energy efficiency, and energy consumption for groundwater pumping. A copy of the NOP and comment letters received in response to the NOP are included in Appendix A of this Draft Supplemental Environmental Impact Report (Draft SEIR).

2.6.1 **Existing Conditions**

San Diego Gas & Electric (SDG&E) is a regulated public utility that provides electric service to 3.4 million customers within a 4,100-square-mile service area that encompasses 25 cities throughout San Diego and southern Orange counties. In 2003, the three key energy agencies in California—the California Energy Commission (CEC), the California Power Authority, and the California Public Utilities Commission (CPUC) came together to adopt an Energy Action Plan that identifies joint goals for California's energy future and sets forth a commitment to achieve these goals through specific actions. SDG&E's Long-Term Resource Plan sets forth a strategy of mixed resources to ensure long-term, reliable, and affordable power in the region, as established by the CPUC. The CPUC regulates energy issues related to supply, delivery, rates, and tariffs for all SDG&E customers in the County (County 2011).

The need for increasing energy resources is expected to grow in the county. Because population is the primary driver of increasing demand for new housing, and the San Diego Association of Governments (SANDAG) has projected that the population of the San Diego region will grow 38% by 2030, the demand for energy will rise as this new population seek ways to cool/heat and light their homes and power their cars. Additionally, large amounts of energy are required to import most water that is utilized in Southern California (County 2011).

Electricity is generated by a combination of sources including natural gas, nuclear, hydroelectric, geothermal, wind, and coal power. Electrical power is delivered to the consumer through the power distribution grid made up of substations, transformers, and high-voltage transmission lines. Large amounts of energy cannot be stored based on

current technologies and electricity must be produced as it is used. Therefore, the power grid must respond quickly to shifting demand and continuously generate electricity to where it is required. SDG&E owns and contracts with generation facilities within and outside their service territory and can generate 3,100 megawatts of electricity. SDG&E's 2015 power mix included the following energy resources: 2% biomass and waste; 18% solar; 15% wind; 54% natural gas; and 11% from sources that are not traceable to specific generation sources (CEC 2015c).

Natural gas is used in electricity generation, cooking, heating, industrial processes, and transportation fuel. Approximately 88% of California's natural gas demand is met from out-of-state supplies, with 12% coming from in-state production. Natural gas is delivered through 234 miles of transmission pipeline, 8,000 miles of lower pressure distribution lines, and 6,000 miles of distribution service lines to nearly 873,000 SDG&E customers. SDG&E distributes a total of 360 million cubic feet of natural gas per year (SDG&E 2016).

Based on data from CEC, transportation accounts for nearly 37% of California's total energy consumption and approximately 37% of the state's greenhouse gas (GHG) emissions (CEC 2016). In 2015, California consumed 12,044 million gallons of gasoline fuel and 1,592 million gallons of diesel fuel (CEC 2017). California has been providing incentives, implementing strategies, policies, regulations, and rules to reduce petroleum use in California, improve vehicle efficiency, increase the use of alternative fuels and zero-emission technologies, and reduce vehicle miles traveled (VMT). It is anticipated that California gasoline consumption will continue to decline, while there will be an increase in alternative fuels (CEC 2016).

Energy consumed at a construction site typically includes gasoline fuel, diesel fuel, electricity, and natural gas. In 2002, the construction industry nationwide consumed 52 terawatt-hour of electricity, 10.6 billion gallons of gasoline and diesel fuel, 267 billion cubic feet (cf) of natural gas. Construction represents 1% of the overall electricity use in the U.S. Diesel fuel is used to power bulldozers, excavators, cranes, generators, graders, pavers, trenchers, and other heavy-duty construction equipment. Smaller equipment such as air compressors and forklifts may be electric-, gasoline-, or natural-gas fueled. Generators are often used to meet additional electricity demands such as lighting, welding, elevators, or supply electricity to locations that are unable to obtain electricity from the grid (Sharrard et al. 2007).

The California Air Resources Board (ARB) has adopted regulations requiring the retrofitting, repowering, or replacement of diesel-fueled heavy-duty on- and off-road equipment. ARB has adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling. The ATCM prohibits diesel-fueled commercial vehicles greater than 10,000 pounds from idling for more than 5 minutes at any given time. ARB has also approved the Truck and Bus regulation which requires diesel-fueled trucks and buses greater than 14,000 pounds to comply with particulate matter filter requirements and replacement of older heavier trucks. ARB implemented emission standards for off-road diesel construction equipment greater than 25 horsepower to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, less-efficient engines with newer emission- controlled models.

2.6.2 Regulatory Framework

Federal

Energy Policy and Conservation Act, and CAFE Standards

The Energy Policy and Conservation Act of 1975 established nationwide fuel economy standards to conserve oil. Pursuant to this Act, the National Highway Traffic and Safety Administration, part of the U.S. Department of Transportation (DOT), is responsible for revising existing fuel economy standards and establishing new vehicle fuel economy standards.

The Corporate Average Fuel Economy (CAFÉ) program was established to determine vehicle manufacturer compliance with the government's fuel economy standards. Compliance with CAFE standards is determined based on each manufacturer's average fuel economy for the portion of their vehicles produced for sale in the United States. The U.S. Environmental Protection Agency (EPA) calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. The CAFE values are a weighted harmonic average of the EPA city and highway fuel economy test results. Based on information generated under the CAFE program, DOT is authorized to assess penalties for noncompliance. Under the Energy Independence and Security Act of 2007 (described below), the CAFE standards were revised for the first time in 30 years.

Energy Policy Act of 1992

The Energy Policy Act of 1992 (EPAAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAAct requires certain federal, state, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 provides renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 is designed to improve vehicle fuel economy and help reduce U.S. dependence on oil. It represents a major step forward in expanding the production of renewable fuels, reducing dependence on oil, and confronting global climate change. The Energy Independence and Security Act of 2007:

- Increases the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022, which represents a nearly five-fold increase over current levels; and
- Reduces U.S. demand for oil by setting a national fuel economy standard of 35 mpg by 2020—an increase in fuel economy standards of 40%.

By addressing renewable fuels and CAFE standards, the Energy Independence and Security Act of 2007 will build on progress made by the Energy Policy Act of 2005 in setting out a comprehensive national energy strategy for the 21st century.

State

California Environmental Quality Act

Appendix F of the CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce “wasteful, inefficient and unnecessary” energy usage (Public Resources Code Section 21100, subdivision [b][3]). However, neither the statute nor the CEQA Guidelines establish thresholds that define wasteful, inefficient, or unnecessary use. Therefore, this section includes a qualitative discussion of the potential for the project to result in the unnecessary, inefficient, or wasteful consumption of energy.

Warren-Alquist Act

The 1975 Warren-Alquist Act established the California Energy Resources Conservation and Development Commission, now known as CEC. The Act established a state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures. The CPUC regulates privately-owned utilities in the energy, rail, telecommunications, and water fields.

State of California Energy Plan

CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The current plan is the 1997 California Energy Plan. 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 many strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero-emission vehicles and addressing their infrastructure needs; and encouragement of urban designs that reduce VMT and accommodate pedestrian and bicycle access.

Assembly Bill 2076: Reducing Dependence on Petroleum

Pursuant to AB 2076 (Chapter 936, Statutes of 2000), CEC and ARB prepared and adopted in 2003 a joint agency report, *Reducing California’s Petroleum Dependence*.

Included in this report are recommendations to increase the use of alternative fuels to 20% of on-road transportation fuel use by 2020 and 30% by 2030, significantly increase the efficiency of motor vehicles, and reduce per-capita vehicles miles traveled (ARB 2003). Further, in response to the CEC's 2003 and 2005 *Integrated Energy Policy Reports*, the Governor directed CEC to take the lead in developing a long-term plan to increase alternative fuel use.

A performance-based goal of AB 2076 was to reduce petroleum demand to 15% below 2003 demand.

Senate Bill X1-2: California Renewable Energy Portfolio Standard

In 2011, Governor Brown signed SB X1-2, which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 33% of their electricity supply (portfolio) from renewable sources by 2020. CPUC and CEC jointly implement the Statewide RPS program through rulemakings and monitoring the activities of electric energy utilities in the state.

Integrated Energy Policy Report

SB 1389 (Chapter 568, Statutes of 2002) required CEC to: “[C]onduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices. The Energy Commission shall use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the state’s economy, and protect public health and safety.” (Public Resources Code Section 25301(a)) This work culminated in the Integrated Energy Policy Report (IEPR).

CEC adopts an IEPR every two years and an update every other year. The 2015 IEPR is the most recent IEPR, which was adopted in February 24, 2016. The 2015 IEPR provides a summary of priority energy issues currently facing the state, outlining strategies and recommendations to further the state’s goal of ensuring reliable, affordable, and environmentally responsible energy sources. Energy topics covered in the report include progress toward state-wide renewable energy targets and issues facing future renewable development; efforts to increase energy efficiency in existing and new buildings; progress by utilities in achieving energy efficiency targets and potential; improving coordination among the state’s energy agencies; streamlining power plant licensing processes; results of preliminary forecasts of electricity, natural gas, and transportation fuel supply and demand; future energy infrastructure needs; the need for research and development efforts to support state-wide energy policies; and issues facing California’s nuclear power plants.

Senate Bill 1078: California Renewables Portfolio Standard Program

SB 1078 (Chapter 516, Statutes of 2002) establishes a renewable portfolio standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity, including investor-owned utilities and community choice aggregators, provide 20% of their supply from renewable sources by 2017. This target date was moved forward by SB 1078 to

require compliance by 2010. In addition, electricity providers subject to the RPS must increase their renewable share by at least 1% each year. The outcomes of this legislation will impact regional transportation powered by electricity. As of 2016, the state has reported that 21% of electricity is sourced from certified renewable sources (see Section 2.6.1, Environmental Setting).

Assembly Bill 1007: State Alternative Fuels Plan

AB 1007 (Chapter 371, Statutes of 2005) required CEC to prepare a state plan to increase the use of alternative fuels in California. CEC prepared the State Alternative Fuels Plan (SAF Plan) in partnership with the ARB and in consultation with other federal, state, and local agencies. The SAF Plan presents strategies and actions California must take to increase the use of alternative non-petroleum fuels in a manner that minimizes costs to California and maximizes the economic benefits of in-state production. The SAF 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.

Assembly Bill 1493: Reduction of Greenhouse Gas Emissions

AB 1493 (Chapter 200, Statutes of 2002), known as the "Pavley bill," amended Health and Safety Code sections 42823 and 43018.5 requiring ARB to develop and adopt regulations that achieve maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles, light-duty trucks, and other vehicles used for noncommercial personal transportation in California.

Implementation of new regulations prescribed by AB 1493 required that the State of California apply for a waiver under the federal Clean Air Act. Although EPA initially denied the waiver in 2008, EPA approved a waiver in June 2009, and in September 2009, ARB approved amendments to its initially adopted regulations to apply the Pavley standards that reduce GHG emissions to new passenger vehicles in model years 2009 through 2016. According to ARB, implementation of the Pavley regulations is expected to reduce fuel consumption while also reducing GHG emissions (ARB 2010).

Bioenergy Action Plan, Executive Order #S-06-06

Executive Order (EO) S-06-06, April 25, 2006, establishes targets for the use and production of biofuels and biopower, and directs state agencies to work together to advance biomass programs in California while providing environmental protection and mitigation. The EO establishes the following target to increase the production and use of bioenergy, including ethanol and biodiesel fuels made from renewable resources: produce a minimum of 20% of its biofuels within California by 2010, 40% by 2020, and 75% by 2050. EO S-06-06 also calls for the state to meet a target for use of biomass electricity. The 2011 Bioenergy Action Plan identifies those barriers and recommends actions to address them so that the state can meet its clean energy, waste reduction, and

climate protection goals. The 2012 Bioenergy Action Plan updates the 2011 Plan and provides a more detailed action plan to achieve the following goals:

- increase environmentally and economically sustainable energy production from organic waste;
- encourage development of diverse bioenergy technologies that increase local electricity generation, combined heat and power facilities, renewable natural gas, and renewable liquid fuels for transportation and fuel cell applications;
- create jobs and stimulate economic development, especially in rural regions of the state; and
- reduce fire danger, improve air and water quality, and reduce waste.

As of 2015, 3% of the total electricity system power in California was derived from biomass (CEC 2015c).

Senate Bill 375 (Chapter 728, Statutes of 2008)

SB 375, adopted September 30, 2008 helps meet the AB 32 goals of reducing emissions from cars and light duty trucks. SB 375 requires regional planning agencies to include a Sustainable Communities Strategy (SCS) in their regional transportation plan (RTP) that demonstrates how the region could achieve GHG emission reductions set by ARB through integrated land use and transportation planning. Local governments retain control of land use planning authority; however, SB 375 amended CEQA (Pub. Resources Code Section 21000 et seq.) to ease environmental review of specific types of developments that are anticipated to reduce emissions. SANDAG's San Diego Forward: The Regional Plan, integrates the RTP and SCS, which is consistent with SB 375.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The Clean Energy and Pollution Reduction Act of 2015 (SB 350) requires the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50% by December 31, 2030. This act also requires doubling of the energy efficiency savings in electricity and natural gas for retail customers, through energy efficiency and conservation by December 31, 2030.

Executive Order B-30-15

On April 20, 2015, Governor Edmund G. Brown, Jr., signed EO B-30-15 to establish a California GHG reduction target of 40% below 1990 levels by 2030. (This EO preceded SB 32.) The Governor's EO aligns California's GHG reduction targets with those of leading international governments such as the 28-nation European Union which adopted the same target in October 2014. California's emission reduction target of 40% below 1990 levels by 2030 will make it possible to reach the goal of reducing emissions 80% below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below two degrees Celsius, the warming threshold at

which there will likely be major climate disruptions such as super droughts and rising sea levels.

California Building Code- Title 24

California Building Energy Efficiency Standards

Energy consumption in new buildings in California is regulated by the California Code of Regulations, Title 24, Part 6 California Energy Code. Title 24 applies to all new construction of both residential and non-residential buildings, and governs energy consumed by major building envelope systems such as space heating and cooling, ventilation, water heating, and some aspects of the fixed lighting system. Non-building energy use, “plug-in” energy use (such as appliances, equipment, electronics, and plugin lighting), are independent of building design and not subject to Title 24. The Energy Code is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available.

The 2016 Building Energy Efficiency Standards have improved efficiency requirements from previous codes and the updated standards are expected to result in a statewide energy consumption reduction (CEC 2015b). Specifically, the 2016 Building Energy Efficiency Standards require 5% and 28% more energy efficiency for non-residential and residential compared to the 2013 Building Energy Efficiency Standards, respectively (CEC 2015a). The 2016 Standards went into effect January 1, 2017.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen) establishes mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, state-owned buildings, schools, and hospitals. The 2016 CALGreen went into effect on January 1, 2017. Cities and counties, at their discretion, may adopt voluntary Tier 1 or Tier 2 with stricter environmental performance standards for these same categories of residential and nonresidential buildings. Local jurisdictions must enforce the minimum mandatory requirements and may also adopt Green Building Standards with amendments for stricter requirements. The mandatory standards require:

- new construction shall facilitate future installation and use of electric vehicle chargers;
- 65% construction/demolition waste diverted from landfills; and
- requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

California Global Warming Solutions Act of 2006 (AB 32 as amended by SB 32 of 2016)

AB 32, the California Global Warming Solutions Act (Health and Safety Code Section 38500 et seq.), was signed in September 2006. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. AB 32 also requires that these reductions "...shall remain in effect unless otherwise amended or repealed. (b) It is the intent of the Legislature that the statewide greenhouse gas emissions limit continues in existence and be used to maintain and continue reductions in emissions of greenhouse gases beyond 2020. (c) The [Air Resources Board] shall make recommendations to the Governor and the Legislature on how to continue reductions of greenhouse gas emissions beyond 2020." [California Health and Safety Code, Division 25.5, Part 3, Section 38551]

On December 11, 2008, ARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of the ARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. In May 2014, ARB released and has since adopted the First Update to the Climate Change Scoping Plan to identify the next steps in reaching AB 32 goals and evaluate the progress that has been made between 2000 and 2012 (ARB 2014:4, 5). According to the update, California is on track to meet the near-term 2020 GHG limit and is well positioned to maintain and continue reductions beyond 2020 (ARB 2014:ES-2). The update also reports the trends in GHG emissions from various emission sectors.

On September 8, 2016, Governor Brown approved SB 32 (Pavley, Chapter 249, Statutes of 2016), which added a 2030 target to the Global Warming Solutions Act of 2006. SB 32 requires that statewide GHG emissions are reduced to 40% below 1990 levels by 2030. This bill was tied to passage of a companion bill, AB 197.

On January 20, 2017, ARB released its Proposed 2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update), which lays out the proposed framework for achieving the 2030 reductions as established in EO B-30-15, SB 32, and AB 197. The Proposed 2017 Scoping Plan Update identifies the GHG reductions needed by emissions sector to achieve a statewide emissions level that is 40% below 1990 levels before 2030. At the time of writing this DEIR, the Proposed 2017 Scoping Plan Update has not been approved by CARB.

These measures will have the co-benefits of reducing California's dependency on fossil fuels and making land use development and transportation systems more energy efficient. More details about the statewide GHG reduction goals and Scoping Plan measures are provided in the regulatory setting of Section 2.6, Greenhouse Gas Emissions.

Local

San Diego County Green Building Incentive Program

The County has an optional Green Building Incentive Program designed to promote the use of resource efficient construction materials, water conservation and energy efficiency in new and remodeled residential and commercial buildings. The program offers incentives of reduced plan check turnaround time and a 7.5% reduction in plan check and building permit fees for projects meeting program requirements. To qualify for the incentives, the project must comply with one of the resource conservation measures listed below:

- Natural Resource Conservation,
- Water Conservation, or
- Energy Conservation.

Adopted 2011 GPU Policies

The policies addressing energy that were adopted as part of the 2011 GPU and are applicable to the project include the following:

COS-4.1 Water Conservation. Require development to reduce the waste of potable water through use of efficient technologies and conservation efforts that minimize the County's dependence on imported water and conserve groundwater resources.

COS-4.2 Drought-Efficient Landscaping. Require efficient irrigation systems and in new development encourage the use of native plant species and non-invasive drought tolerant/low water use plants in landscaping.

COS-4.5 Recycled Water. Promote the use of recycled water and grey water systems where feasible.

COS-14.1 Land Use Development Form. Require that development be located and designed to reduce vehicular trips (and associated air pollution) by utilizing compact regional and community-level development patterns while maintaining community character.

COS-14.2 Villages and Rural Villages. Incorporate a mixture of uses within Villages and Rural Villages that encourage people to walk, bicycle, or use public transit to reduce air pollution and GHG emissions.

COS-14.3 Sustainable Development. Require design of residential subdivisions and non-residential development through "green" and sustainable land development practices to conserve energy, water, open space, and natural resources.

COS-14.5 Building Siting and Orientation in Subdivisions. Require that buildings be located and oriented in new subdivisions and multi-structure non-residential projects to

maximize passive solar heating during cool seasons, minimize heat gains during hot periods, enhance natural ventilation, and promote the effective use of daylight.

COS-14.6 Solar Access for Infill Development. Require that property setbacks and building massing of new construction located within existing developed areas maintain an envelope that maximizes solar access to the extent feasible.

COS-14.7 Alternative Energy Sources for Development Projects. Encourage development projects that use energy recovery, photovoltaic, and wind energy.

COS-15.1 Design and Construction of New Buildings. Require that new buildings be designed and constructed in accordance with “green building” programs that incorporate techniques and materials that maximize energy efficiency, incorporate the use of sustainable resources and recycled materials, and reduce emissions of GHGs and toxic air contaminants.

COS-15.2 Upgrade of Existing Buildings. Promote and, as appropriate, develop standards for the retrofit of existing buildings to incorporate design elements, heating and cooling, water, energy, and other elements that improve their environmental sustainability and reduce GHG.

COS-15.3 Green Building Programs. Require all new County facilities and the renovation and expansion of existing County buildings to meet identified “green building” programs that demonstrate energy efficiency, energy conservation, and renewable technologies.

COS-15.4 Title 24 Energy Standards. Require development to minimize energy impacts from new buildings in accordance with or exceeding Title 24 energy standards.

COS-15.5 Energy Efficiency Audits. Encourage energy conservation and efficiency in existing development through energy efficiency audits and adoption of energy saving measures resulting from the audits.

COS-17.3 Landfill Waste Management. Require landfills to use waste management and disposal techniques and practices to meet all applicable environmental standards.

COS-17.5 Methane Recapture. Promote efficient methods for methane recapture in landfills and the use of composting facilities and anaerobic digesters and other sustainable strategies to reduce the release of GHG emissions from waste disposal or management sites and to generate additional energy such as electricity.

COS-18.1 Alternate Energy Systems Design. Work with San Diego Gas and Electric and non-utility developers to facilitate the development of alternative energy systems that are located and designed to maintain the character of their setting.

COS-18.2 Energy Generation from Waste. Encourage use of methane sequestration and other sustainable strategies to produce energy and/or reduce GHG emissions from waste disposal or management sites.

COS-18.3 Alternate Energy Systems Impacts. Require alternative energy system operators to properly design and maintain these systems to minimize adverse impacts to the environment.

COS-19.1 Sustainable Development Practices. Require land development, building design, landscaping, and operational practices that minimize water consumption.

COS-19.2 Recycled Water in New Development. Require the use of recycled water in development wherever feasible. Restrict the use of recycled water when it increases salt loading in reservoirs.

Adopted 2011 GPU PEIR Mitigation Measures

The 2011 GPU PEIR did not adopt energy conservation mitigation measures.

2.6.3 Issues Not Discussed Further

As described in Chapter 1.0, Project Description, in response to litigation and considering legislative changes that have occurred since preparation of the 2012 CAP, the County prepared a new CAP (subject of this Draft SEIR). The CAP and the targets and strategies identified therein necessitate changes to Goal COS-20 and Policy COS-20.1 of the 2011 GPU and mitigation adopted in the 2011 GPU PEIR, Mitigation Measures CC-1.2, CC-1.7, and CC-1.8 to attain consistency with current legislative requirements. These changes require a General Plan Amendment to the County's General Plan and revision to the associated mitigation monitoring and reporting program (hereafter these two actions collectively refer to as (GPA)) as part of the administrative approval process. The Draft SEIR evaluates the GPA as part of the actions associated with the CAP because the changes reflected in the GPA support and are consistent with implementation of the CAP and its GHG targets and GHG reduction measures. Therefore, the GPA is not addressed as a separate impact discussion below, but its impacts are included within the overall impact analysis of the CAP.

The Draft SEIR also evaluates the impacts associated with the implementation of proposed GHG Threshold, Guidelines for Determining Significance for Climate Change (Guidelines), and the Report Format and Content Requirements. The proposed GHG Threshold requires consistency with the CAP, and is the level below which a project would be determined to result in less-than-significant GHG impacts. To achieve consistency, a project will be required to implement the applicable GHG reduction measures outlined in the CAP. All measures have been evaluated throughout the Draft SEIR. Therefore, adoption of a GHG Threshold that establishes a requirement to be consistent with the CAP, the individual measures of which have been evaluated throughout this Draft SEIR, would not require a separate impact analysis because the impacts of establishing that threshold and what it would take to meet the threshold have been fully evaluated.

The Guidelines would provide direction to project applicants on how a project could achieve consistency with the CAP. The Guidelines are proposed to include a checklist that would require applicants to demonstrate how a project would be consistent with the

CAP. The specific actions that would result from the Guidelines would be project-specific implementation of approved GHG reduction measures, the environmental impacts of which have been evaluated throughout this Draft SEIR. Therefore, evaluation of the Guidelines as a separate impact discussion is not provided below.

Finally, the Report Format and Content Requirements document would not result in any physical impact on the environment as it simply details the format for how reports should be written. As a result, this document is also not separately discussed below.

In summary, the GPA, GHG Threshold, Guidelines, and Report Format and Content Requirements are not addressed as a separate impact discussion below. The GPA, Guidelines, and GHG Threshold are combined in the overall impact analysis of the CAP, while the Report Format and Content Requirement document provides technical direction to future project applicants and will not result in any physical impacts.

2.6.4 Analysis of Project and Cumulative Impacts

This analysis addresses the project's potential energy use, including electricity, natural gas, and transportation fuel consumption. Appendix F of the CEQA Guidelines requires consideration of the potentially significant energy implications of a project and mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). However, neither the law nor the CEQA Guidelines establish thresholds that define wasteful, inefficient, or unnecessary use of energy. Therefore, this section includes a qualitative discussion of the potential for the project to result in the inefficient, wasteful, and unnecessary consumption of energy. This Draft SEIR evaluates potential impacts from implementation of the CAP at a programmatic level. All subsequent discretionary projects that result from the implementation of specific GHG reduction measures would be required to undergo additional analysis under CEQA as needed.

Implementation of the CAP would result in several co-benefits related to energy conservation including Measures T-2.2 and T-2.3 which focus on increasing ridesharing throughout the county; T-3.1 through T-3.4 which focus on modernizing the vehicle fleet throughout the county; T-4.1 which could result in direct investments to weatherize buildings and improve mechanical systems; and supporting efforts to improve infrastructure that supports non-automotive transportation; Measures E-1.1 through E-1.4 which focus on reducing building energy consumption; Measures E-2.1 through E-2.4 which promote the development of renewable energy throughout the county; supporting efforts to improve building energy; and W-1.1 through W-1.3, W-2.1, and supporting efforts to conserve water and consume less water.

Proposed GHG Reduction Measures

Table 1-1, provides a list of proposed GHG reduction measures and supporting efforts that would be implemented by the CAP. However, only those measures and efforts that are relevant to energy and could potentially result in a wasteful, inefficient, or unnecessary use of energy are described and evaluated below. None of the proposed measures

indicate where specific improvements would be constructed, their size, or specific characteristics. As a program EIR, the Draft SEIR does not, and cannot, speculate on the individual environmental impacts of specific future projects/improvements. However, implementation of all GHG reduction measures and supporting efforts were considered during preparation of the Draft SEIR, to the degree specific information about implementation is known. Consistent with the requirements of CEQA Guidelines Section 15168, this Draft SEIR provides a programmatic discussion of the potential general impacts of implementing these measures, rather than project-level or site-specific physical impacts of such actions. This is consistent with the scope of analysis in the 2011 GPU PEIR.

Strategy T-2: Shift Towards Alternative Modes of Transportation

Measure T-2.1: Improve Roadway Segments as Multi-Modal. Improve roadway segments, intersections, and bikeways to implement multi-modal enhancements for pedestrian and cyclist comfort and safety along County-maintained public roads by improving 700 centerline miles of roadway segments, including 250 intersections and 210 lane miles of bikeway improvements by 2030 and an additional 500 centerline miles of roadway segments, including 250 intersections and 210 lane miles of bikeway improvements by 2050. This measure would implement roadway improvements to reduce Vehicle Miles Traveled (VMT) by calming traffic and improving the bicyclist and pedestrian infrastructure and would occur as part of resurfacing projects within existing paved areas. This would result in construction activities that use fuels.

Measure T-2.4: Shared and Reduced Parking in New Non-Residential Development. Require shared and reduced parking for all new non-residential development to reduce new commute VMT by 10% by 2030. This measure would result in increased opportunities to minimize the amount of required parking with new non-residential development through a coordinated effort to share parking as feasible. This would result in typical construction activities that use fuels.

Strategy T-3: Decarbonize On-road and Off-road Vehicle Fleet

Measure T-3.1: Use alternative Fuels in New Residential and Non-Residential Construction Projects. Require new residential and non-residential construction projects in the unincorporated county to use alternative fuels in 10% of construction equipment during construction by 2030. This would reduce the amount of diesel used by this sector which would result in reduced GHG emissions and improved air quality. This could result in a nominal increase in electricity consumption.

Measure T-3.2: Use Alternative Fuels in County Initiated Projects. Require County-initiated projects to use alternative fuels in 100% of construction equipment during construction by 2030. This would reduce the amount of diesel

used by this sector which would result in reduced GHG emissions and improved air quality. This could result in a nominal increase in electricity consumption.

Measure T-3.4: Reduce the County's Fleet Emissions. Reduce the County fleet's emissions levels, including on-road and non-construction off-road vehicles, by 10% by 2020 and 20% by 2030. This measure would result in a program to upgrade the County's vehicle fleet to alternative fuels. This would reduce GHG emissions associated with County operations through greater fuel efficiency and improve air quality. This could result in a nominal increase in electricity consumption.

Strategy T-4: Invest in Local Projects to Offset Carbon Emissions

Measure T-4.1: Establish a Direct Investment Program. Close the 2030 GHG emissions target gap of 195,514 MTCO_{2e} through direct investments in local projects that would offset carbon emissions within the unincorporated county by 2030. This measure would result in direct investments for local projects. The specific protocols that would be utilized are not known and evaluation of such actions would be speculative. However, this Draft SEIR conservatively assumes that some construction-related activities may occur with individual project implementation. Please see Chapter 2.7 and Appendix B of this SEIR for additional information on direct investment projects and protocols. Protocols could include the following types of projects:

- Biomass Conversion
- Boiler Efficiency Retrofits
- Wetland Creation
- Forest Restoration
- Compost Additions to Rangeland
- Organic Waste Digestion Capture
- Manure Management
- Building Weatherization Programs
- Urban Forest Management

Supporting Efforts for the Built Environment and Transportation Category

- Collaborate with incorporated cities, California Department of Transportation (Caltrans), and SANDAG to consider additional park-and-ride facilities.
- Install Level 2 EV charging stations in the unincorporated County through a partnership with San Diego Gas & Electric (SDG&E).
- Develop and implement a local Electric Vehicle (EV) Incentive Program.
- Collaborate with SANDAG to encourage installation of EV charging stations in new residential and non-residential developments.

Strategy E-1: Increase Building Energy Efficiency

Measure E-1.1: Improve Building Energy Efficiency in New Development. Achieve a 10% greater building energy efficiency in all new non-residential development than is required by the current State Energy Code (Title 24 Part 6) by 2020; require all new residential development to meet the State's Zero Net Energy (ZNE) standards by 2020; and all new non-residential development to meet the State's ZNE standards by 2030. This measure would result in energy-efficient upgrades in new development. This may result in nominal increase in electricity consumption.

Measure E-1.2: Use Alternatively-Powered Water Heaters in Residential Development. Require all new and replacement water heaters in residential development to be either solar, electrically-powered, or tankless natural gas by 2020. This measure would result in an increase in more efficient water heaters. This may result in a nominal increase in electricity consumption.

Strategy E-2: Increase Renewable Energy Use

Measure E-2.1: Increase Renewable Electricity. Achieve 90% renewable electricity for the unincorporated county by 2030. This measure would result in energy efficiency regulations that are more efficient than current standards. This would result in GHG emissions reductions related to increased energy efficiency. Physical changes would be attributed to the installation, operation, and maintenance of small-scale solar systems and battery storage, or small-scale wind turbines with new residential construction which may include roof or ground-mounted systems. This would result in typical construction activities that use fuels.

Measure E-2.2: Increase Renewable Electricity in Non-Residential Development. Require installation of renewable energy systems (e.g., solar photovoltaics, wind) on new non-residential development. This measure would result in an increase in solar photovoltaic and small-scale wind turbines on new non-residential buildings throughout the unincorporated County. Physical changes could result from the addition of photovoltaic solar and small wind turbines in new development resulting in construction activities that would require the use of fuels.

Measure E-2.3: Install Solar Photovoltaics in Existing Homes. Increase installation of photovoltaic (PV) electrical systems in 52,273 existing residential homes by 2020 and additional 77,902 homes by 2030. This measure would result in an increase in photovoltaic solar on existing residential buildings throughout the unincorporated County. Physical changes from installing new solar systems on existing buildings could result in construction activities which would require consumption of fuels.

Measure E-2.4: Increase Use of Renewable Electricity for County Operations. Generate 10% of the County's operational electricity with renewables by 2020 and 20% by 2030. This measure would result in the development of County-owned renewable energy projects. This could result new photovoltaic, small-scale wind turbines, and other renewables on County facilities. This could result in fuel use during construction and installation.

Strategy SW-1: Increase Solid Waste Diversion in the Unincorporated County

Measure SW-1.1: Increase Solid Waste Diversion. Achieve 75% solid waste diversion by 2030. This measure would result in new/expanded composting projects and facilities throughout the unincorporated County. This could result in construction and operation of such facilities that would require the consumption of fuels.

Strategy A-1: Support Conversion of Agricultural Equipment to Alternative Fuels

Measure A-1.1: Convert Farm Equipment to Electric. Convert farm equipment used in the unincorporated county from gas- and petroleum-diesel-powered to electric to achieve 8% conversion by 2030. This measure would result in the development of an incentive program that would aid in the transition from gas and diesel-powered engines to electric engines in agricultural equipment. May result in a small increase in electricity consumption.

Measure A-1.2: Convert Stationary Irrigation Pumps to Electric. Convert stationary petroleum-diesel or gas-powered irrigation pumps to electric to achieve four electric stationary irrigation pumps by 2020 and an additional 40 electric stationary irrigation pumps by 2030. This measure would result in an incentive program that would aid in the conversion from diesel or gas-powered irrigation pumps to electric- powered pumps. Would result in beneficial physical impacts including improved air quality, and a reduction in GHGs. Nominal physical impacts related to conversion activities and an increase in energy consumption may result from the replacement of pumps.

Strategy A-2: Increase Carbon Sequestration

Measure A-2.1: Increase Residential Tree Planting. Require trees to be planted per every new residential dwelling unit constructed in the unincorporated county at a rate of two trees per new dwelling unit. This measure would result in the development of a county-wide tree planting program to increase tree canopy coverage. Physical impacts may occur related to the consumption of water during the tree establishment period, however, preference would be given to areas with recycled and graywater infrastructure. A nominal increase in energy consumption related to distribution, installation, and early maintenance of trees could occur.

Measure A-2.2: Increase County Tree Planting. Prepare and adopt a tree planting program for the unincorporated county to plant a minimum of 3,500 trees annually starting in year 2017. This measure would result in the

development of a county-wide tree planting program to increase tree canopy coverage. Physical impacts may occur related to the consumption of water during the tree establishment period, however, preference would be given to areas with recycled and graywater infrastructure. A nominal increase in energy consumption related to distribution, installation, and early maintenance of trees could occur.

2.6.4.1 Issue 1: Energy Requirements and Local Energy Supplies

This section describes potential project and cumulative impacts on energy consumption and local energy supplies because of implementation of the CAP.

Guidelines for Determination of Significance

Based on Appendix F of the CEQA Guidelines, the CAP would result in a significant impact related to energy if it would cause wasteful, inefficient, and unnecessary consumption of energy during construction, operation, maintenance, and/or removal. The project would also have a significant impact on local energy supplies if it would result in an increase in demand for energy that exceeds available supply or distribution infrastructure capabilities resulting in the construction of new energy facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts.

Impact Analysis

2011 GPU PEIR Determination

The 2011 GPU PEIR did not analyze energy impacts, therefore, no prior determinations are reported here.

CAP Impact Analysis

Implementation of GHG Reduction Measures T-2.1, T-2.4, T-3.1, T-3.2, T-3.4, T-4.1, E-1.1, E-1.2, E-2.1, E-2.2, E-2.3, E-2.4, SW-1.1, A-1.1, A-1.2, A-2.1, A-2.2 and all supporting efforts listed above have the potential to result in the consumption of energy resources during construction and operation of new infrastructure that would increase the County's ability to reduce GHG emissions. These measures and actions were not explicitly evaluated within the 2011 GPU PEIR.

The goal of the CAP is to reduce GHG emissions related to community and County operations consistent with state legislative requirements. To that end, the GHG reduction measures and supporting efforts identified in the CAP would encourage a shift towards alternative modes of transportation or fuel sources, would reduce total VMT within the county, would implement small and large-scale renewable energy projects including EV charging stations, would increase renewable energy sources, would increase the diversion of solid waste within the county, would result in the conversion of agricultural equipment to alternative fuels, and would result in increased tree canopy across the county.

During construction of facilities and projects required to implement the GHG reduction measures and supporting efforts, energy resources would be consumed including electricity, fuels, and non-renewable resources. Demand for energy resources during construction would vary throughout the construction period and would generally cease upon completion of construction. Standard construction practices would discourage unnecessary idling and the operation of poorly maintained equipment. Further, developments would be required to comply with goals and policies of the 2011 GPU related to energy conservation. Therefore, wasteful or inefficient consumption of energy during construction would not occur.

During operation, some projects would consume energy resources to operate and maintain the facilities. However, all new facilities would be required to meet current building code requirements including requirements for achieving appropriate energy efficiency standards (e.g., Title 24 standards or better), and would be required to comply with goals and policies of the 2011 GPU related to energy. Further, operation of renewable energy infrastructure would generate electricity, which would be added to the power grid. The increase in renewable energy resources would result in a reduction in fossil fuel-based energy production and would add supply resources to the overall energy grid. The necessary connection and transmission facilities as part of new large-scale renewable energy projects would be implemented such that they avoid impacts to grid resources. With implementation of these renewable energy projects, fossil fuel-based energy displaced over the life of these facilities would more than compensate for any temporary increases in energy use from construction or decommissioning activities. Therefore, wasteful or inefficient consumption of energy during construction or operations would not occur.

Implementation of the project GHG reduction measures would not result in wasteful, inefficient, or unnecessary consumption of energy, during project construction or operation. Moreover, these effects also decrease the region's reliance on fossil fuels. Further, with exception of renewable energy projects that would be constructed because of the project, the environmental impacts of which are evaluated throughout the Draft SEIR, none of the measures included in the project would result in substantial demand such that new or expanded energy facilities would need to be constructed. Therefore, this impact would be **less than significant**.

Cumulative Impacts

Impacts would be cumulative in nature if the project, in combination with cumulative development, would cause wasteful, inefficient, and unnecessary consumption of energy or require new or expanded facilities, the construction of which could result in significant environmental effects. CEQA Guidelines Section 15130 describes two methods for establishing the cumulative environment in which the project is to be considered: the use of a list of past, present, and probable future projects, or the use of adopted projections from a general plan, other regional planning document, or a certified EIR for such a planning document. This analysis uses a combination of the list and planning document approach, as described further below. Physical improvements resulting from implementation of the CAP have the potential to combine with the physical impacts of

other past, present, or probable future projects in the unincorporated County and could result in a cumulative impact based upon proximity and construction schedule. **Table 1-3** in the Project Description contains a list of past, present, and probable future projects that when combined with the project, could result in a cumulatively considerable effect. Cumulative impacts could also result when the physical improvements resulting from implementation of the CAP interact with development associated with build-out of the County's General Plan and potentially increase those impacts resulting in a cumulatively considerable effect.

While other cumulative development within the county could result in the consumption of energy resources, all development would be required to comply with current building code requirements including requirements for achieving appropriate energy efficiency standards (e.g., Title 24 standards or better), and would be required to comply with goals and policies of the 2011 GPU related to energy. Further, the project would not result in any significant cumulative energy impacts because the project would decrease the region's reliance on fossil fuels and would reduce energy consumption in the unincorporated area. Finally, many of the measures proposed in the CAP would apply new standards and requirements that would apply to all development projects to reduce GHG emissions related to community and County operations and overall energy demand. Therefore, with implementation of the project, cumulative development would become more energy efficient. This would be a benefit of the project. Overall, implementation of the project **would not result in a considerable contribution** such that a new significant energy impact would occur.

Impact Summary

The project would result in **less-than-significant** energy impacts, and the project **would not result in a considerable contribution** such that a new significant cumulative energy impact would occur.

2.6.5 Mitigation

2.6.5.1 Issue 1: Energy Requirements and Local Energy Supplies

Project level impacts and contributions to cumulative impacts were determined to be less than significant; therefore, no mitigation measures are required.