

2.1 **Aesthetics**

This section summarizes the existing conditions for scenic vistas, scenic resources (e.g., natural landforms, scenic highways), visual character, and dark skies/light/glare within the County, and the potential effects that implementation of the project may have on these aesthetic and visual resources. Potential impacts of the project are analyzed, and mitigation measures are provided for those impacts determined to be significant.

During the Notice of Preparation (NOP) scoping process, some commenters raised general concerns about the potential for locating future large-scale renewable energy projects outside of commercially and industrially zoned properties, and within rural areas. A copy of the NOP and comment letters received in response to the NOP are included in Appendix A of this Draft Supplement to the 2011 General Plan Update (GPU) Program Environmental Impact Report (2011 GPU PEIR) (Draft SEIR).

2.1.1 **Existing Conditions**

The 2011 GPU PEIR included a discussion of existing conditions related to aesthetics in Section 2.1.1 of the Aesthetics chapter, which includes all lands within the unincorporated County. No changes to the existing conditions have been identified that would alter the conclusions in the 2011 GPU PEIR. As described on pages 2.1-1 through 2.1-8 of the 2011 GPU PEIR, the County maintains a diverse array of geographically distinct scenic vistas and visual resources, including several designated Resource Conservation Areas (RCAs). Since 2011, there have been no newly designated visual resources, or RCAs. Similarly, as described on pages 2.8- through 2.12 there have been no newly identified scenic highways or premier astronomical sites within the County. Lastly, while some Community Plans have been updated since 2011, the community character of these Community Plan Areas remains largely the same as it appeared in 2011. Therefore, the existing conditions described by the 2011 GPU PEIR are hereby incorporated by reference.

2.1.2 **Regulatory Framework**

Chapter 2.1 of the 2011 GPU PEIR, pages 2.1-27 through 2.5-22 describes the Regulatory Framework related to aesthetics and visual resources and is hereby incorporated by reference. Specific regulations discussed in the 2011 GPU PEIR and applicable to the project include the following:

Federal

- National Highway System (NHS) Designation Act of 1995
- National Historic Preservation Act (NHPA) of 1962
- Telecommunications Act of 1996

State

- California Energy Code
- California Street and Highways Code

- State Scenic Highways Program

Local

- San Diego County Board of Supervisors (BOS) Policy I-73, Hillside Development Policy
- Community Plans; County Community Right-of-Way Development Standards
- Design Review Guidelines; I-15 Corridor: Scenic Preservation Guidelines
- County of San Diego Code of Regulatory Ordinances Sections 86.601-86.608
- Resource Protection Ordinance (RPO)
- County of San Diego Code of Regulatory Ordinances Sections 59.101-59.115
- Light Pollution Code (LPC)
- Multiple Species Conservation Program (MSCP) and the County of San Diego Code of Regulatory Ordinances Sections 86.501-86.509, Biological Mitigation Ordinance (BMO)
- San Diego County Scenic Highway Program
- San Diego County Zoning Ordinance

The regulatory framework discussed in the 2011 GPU PEIR regarding aesthetic and visual resources has not changed since adoption of the General Plan in August 2011, and continues to apply to the unincorporated County as addressed in the Draft SEIR.

Adopted 2011 GPU Policies

The policies applicable to aesthetic and visual resources that were adopted as part of the 2011 GPU and are applicable to the project include the following:

Policy LU-6.6: Integration of Natural Features into Project Design. Require incorporation of natural features (including mature oaks, indigenous trees, and rock formations) into proposed development and require avoidance of sensitive environmental resources.

Policy LU-6.9: Development Conformance with Topography. Require development to conform to the natural topography to limit grading; incorporate and not significantly alter the dominant physical characteristics of the site; and to utilize natural drainage and topography in conveying stormwater to the maximum extent practicable.

Policy LU-10.2: Development Environmental Resource Relationship. Require development in Semi-Rural and Rural areas to respect and conserve the unique natural

features and rural character, and avoid sensitive or intact environmental resources and hazard areas.

Policy LU-11.2: Compatibility with Community Character. Require that commercial, office, and industrial development be located, scaled, and designed to be compatible with the unique character of the community.

Policy LU-12.4: Planning for Compatibility. Plan and site infrastructure for public utilities and public facilities in a manner compatible with community character, minimize visual and environmental impacts, and whenever feasible, locate any facilities and supporting infrastructure outside preserve areas. Require context sensitive Mobility Element road design that is compatible with community character and minimizes visual and environmental impacts; for Mobility Element roads identified in Table M-4, an LOS D or better may not be achieved.

Policy COS-11.1: Protection of Scenic Resources. Require the protection of scenic highways, corridors, regionally significant scenic vistas, and natural features, including prominent ridgelines, dominant landforms, reservoirs, and scenic landscapes.

Policy COS-11.3: Development Siting and Design. Require development within visually sensitive areas to minimize visual impacts and to preserve unique or special visual features, particularly in rural areas, through the following:

- Creative site planning;
- Integration of natural features into the project;
- Appropriate scale, materials, and design to complement the surrounding natural landscape;
- Minimal disturbance of topography;
- Clustering of development to preserve a balance of open space vistas, natural features, and community character; and
- Creation of contiguous open space networks.

Policy COS-11.5: Collaboration with Private and Public Agencies. Coordinate with the California Public Utilities Commission, power companies, and other public agencies to avoid siting energy generation, transmission facilities, and other public improvements in locations that impact visually sensitive areas, wherever feasible. Require the design of public improvements within visually sensitive areas to blend into the landscape.

Policy COS-11.7: Underground Utilities. Require new development to place utilities underground and encourage “undergrounding” in existing development to maintain viewsheds, reduce hazards associated with hanging lines and utility poles, and to keep pace with current and future technologies.

Policy COS-12.2: Development Location on Ridges. Require development to preserve the physical features by being located down and away from ridgelines so that structures are not silhouetted against the sky.

Policy COS-13.1: Restrict Light and Glare. Restrict outdoor light and glare from development projects in Semi-Rural and Rural Lands and designated rural communities to retain the quality of night skies by minimizing light pollution.

Policy COS-13.2: Palomar and Mount Laguna. Minimize, to the maximum extent feasible, the impact of development on the dark skies surrounding Palomar and Mount Laguna observatories to maintain dark skies which are vital to these two world-class observatories by restricting exterior light sources within the impact areas of the observatories.

Policy H-2.1: Development that Respects Community Character. Require that development in existing residential neighborhoods be well-designed so as not to degrade or detract from the character of surrounding development consistent with the Land Use Element.

Adopted 2011 GPU PEIR Mitigation Measures

The mitigation measures applicable to aesthetic and visual resources that were adopted as a part of the 2011 GPU PEIR and are applicable to the project include the following:

Aes-1.2 Protect sensitive biological habitats and species through regulations that require avoidance and mitigation of impacts. Existing programs include the County MSCP and associated BMOs, RPO, and California Environmental Quality Act (CEQA) Guidelines. While protecting biological resources, these programs also preserve natural open space that contributes to the quality of many of the County's scenic vistas.

Aes-1.6 Require that project approvals with significant potential to adversely affect the scenic quality of a community require community review and specific findings of community compatibility. Examples can be found in the Zoning Ordinance with the numerous special uses or exceptions allowed pursuant to Administrative and Use Permits, and Site Plans. This practice has been proven useful for reducing impacts to aesthetic resources and their usefulness will increase as community plans and design guideline are updated pursuant to Aes-1.3 and Aes-1.4.

Aes-1.7 Develop and implement programs and regulations that preserve agricultural lands. Agricultural lands are often key components of scenic vistas and community character. Therefore, preservation of these lands will help to minimize potential impacts to scenic resources.

Aes-1.8 Continue to develop and implement programs and regulations that minimize landform alteration and preserve ridgelines and steep slopes where appropriate. Examples include the County's Grading Ordinance, RPO, and CEQA Guidelines.

Aes-1.9 Work with communities and other stakeholders to identify key scenic vistas, viewsheds of County scenic road and highways, and other areas of specific scenic value. Apply Resource Conservation Area designations or other special area designators,

guidelines, and tools to guide future development of parcels within these viewsheds to avoid impacts to the scenic vistas.

Aes-4.1 County to coordinate with communities and stakeholders to review light pollution controls and consider amendments or expansions to those controls as determined necessary to reduce impacts to dark skies that are important to community character. This will ensure that potential artificial lighting impacts from development are monitored and controlled as needed to preserve community character.

Aes-4.2 County to maintain light and glare regulations that minimize impacts to adjacent properties, sensitive areas, community character, observatories, and dark skies. These regulations are currently found in the Light Pollution Code and Zoning Ordinance. Additional reviews are implemented on discretionary projects in accordance with CEQA and the County's CEQA guidelines. These efforts will help protect the existing unincorporated area and surrounding environment from excessive artificial lighting impacts.

2.1.3 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 County's General Plan (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 greenhouse gas (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 including through implementation of GHG reduction measures. 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, GHG Threshold, and Guidelines 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.

2.1.4 Analysis of Project and Cumulative Impacts

The project and cumulative impact analysis study area for aesthetic and visual resources in the 2011 GPU PEIR was identified as the immediate vicinity of view corridors, viewsheds, or scenic resources in the County, as well as areas near existing community development, and areas surrounding the two astronomical observatory sites (as described on page 2.1-53 of the 2011 GPU PEIR). This analysis uses the same scope identified in the 2011 GPU PEIR.

Proposed GHG Reduction Measures

Table 1-1 of the Draft SEIR, provides a list of all the proposed GHG reduction measures and supporting efforts that would be implemented by the CAP. However, only those measures that are relevant to aesthetic and visual resources and could potentially result in a significant impact within the unincorporated County are described and evaluated below. None of the proposed measures or actions 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 and actions, 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. Implementation of this measure could result in improvements to existing traffic infrastructure, which may affect special-status species near the roadway.

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

Measure T-3.5: Install a total of 2,040 Level 2 electric vehicle charging stations (EVCS) through public-private partnerships at priority locations in the unincorporated county by 2030. This measure would result in the installation of EVCS as part of efforts to decarbonize the regional vehicle fleet. Implementation of this measure would occur within developed and commercial areas.

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

Measure T-4.1: Establish a Local Direct Investment Program. Close the 2030 GHG emissions target gap of ~~495,514~~ 175,460 MTCO_{2e} through direct investments in local projects that would offset carbon emissions within the unincorporated county by 2030. This measure would result in funding 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, and
- 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.
- 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 percent 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 non-residential development to meet the state's Zero Net Energy (ZNE) standards 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. Visual impacts would be attributed to the installation, operation, and maintenance of small-scale solar systems and battery storage, or small-scale wind turbines with new non-residential construction which may include roof or ground-mounted systems.

Strategy E-2: Increase Renewable Electricity

Measure E-2.1: Increase Renewable Electricity. Achieve 90 renewable electricity for the unincorporated county by 2030. This measure would result in the construction of distributed generation (small-scale renewables) on new and existing buildings, including solar photovoltaics, small wind-turbines, and energy storage solutions. This may also directly or indirectly require the construction of large-scale renewable energy generation systems to satisfy increased demand. This could include the construction of large-scale photovoltaic solar arrays fields, photovoltaic concentrator technology, geothermal and/or wind turbines. Aesthetic impacts may result in physical changes resulting from construction, operation, and maintenance of infrastructure.

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. Visual impacts could result from the addition of photovoltaic solar and small wind turbines in new development resulting in construction impacts.

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 related to changing visual context and construction impacts.

Measure E-2.4: Increase Use of On-Site Renewable Electricity Generation for County Operations. Generate 10 percent of the County's operational electricity with renewables by 2020 and 20 percent 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 may result in construction, operation, and maintenance-related impacts and impacts related to a changing visual context.

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

Measure SW-1.1: Increase Solid Waste Diversion. Achieve 75 percent solid waste diversion by 2030. This measure would result in new/expanded composting projects and facilities throughout the unincorporated County. This could result in a variety of visual impacts related to the construction and operation of such facilities dependent upon the scale of facilities.

Supporting Effort for the Water and Wastewater Category

Work with the Padre Dam Municipal Water District (MWD) on the Advanced Water Purification (AWP) Program.

2.1.4.1 Issue 1: Scenic Vistas or Scenic Resources

This section describes potential project and cumulative impacts on scenic vistas and scenic resources with implementation of the project. The evaluation of scenic vistas and scenic resources has been consolidated into one discussion for the sake of brevity because the physical changes resulting from implementation of the GHG reduction measures would result in the same impacts to each aesthetics issue.

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Visual Resources, which is reflective of the guidelines that were utilized in the 2011 GPU PEIR, the project would result in a significant impact if it would obstruct, interrupt, or detract from a scenic vista that is visible from a:

- public road,
- trail within an adopted County or State trail system,
- scenic vista or highway,
- recreational area.

The project would also have a significant impact if it would result in the removal or substantial adverse change in one or more features that contribute to the valued scenic resources in the unincorporated County including, but not limited to, landmarks

(designated), historic resources or unique structures, County public trails, public views of bays, lagoons, canyons, trees, rock outcroppings, established native vegetation, or agricultural lands in the Coastal Plain region, public views of water resources (e.g., reservoirs) and extensive open space including County reserves and parks in the Peninsular Ranges, as well as public views supporting unique or memorable landforms, native habitat, and desert valleys.

Impact Analysis

2011 GPU PEIR Determination

The 2011 GPU PEIR evaluated impacts to scenic vistas and visual resources related to the adoption of the goals and policies contained within the plan and buildout of the land use map and determined that buildout under the 2011 GPU would result in potentially significant project and cumulative impacts to scenic vistas and visual resources in the unincorporated County.

The 2011 GPU PEIR determined that the impacts to scenic vistas and scenic resources would be reduced to less than significant through the implementation of a combination of federal, state, and local regulations (e.g., County Zoning Ordinance, Resource Protection Ordinance, design review guidelines); existing County regulatory processes; the adopted 2011 GPU goals and policies; and the mitigation measures identified in the 2011 GPU PEIR. The discussion of impacts related to scenic vistas and scenic resources can be found in 2011 GPU PEIR Chapter 2.1 Aesthetics, pages 2.1-32 through 2.1-37; and 2.1-54 through 2.1-55, and is hereby incorporated by reference. Specific policies and mitigation measures related to the protection of scenic vistas and visual resources are listed above under Section 2.1.2, Regulatory Framework.

CAP Impact Analysis

Implementation of the CAP has the potential to result in significant impacts to scenic vistas and scenic resources for bicycle and pedestrian projects, park and ride facilities, direct investment projects, solid waste facilities, and small-scale distributive renewable energy systems including small wind turbines, photovoltaic solar systems, as well as large-scale photovoltaic solar, concentrated solar, wind turbines, and geothermal energy systems that were not explicitly evaluated within the 2011 GPU PEIR. The 2012 Wind Energy Ordinance EIR (2012 Wind Energy EIR) evaluated impacts specifically related to the development of small and large-scale wind turbines and impacts from that project are summarized below and hereby incorporated by reference (San Diego County 2012). Additionally, the Padre Dam MWD's Comprehensive Facilities Master Plan PEIR (Padre Dam PEIR) evaluated impacts related to the development/expansion of water purification infrastructure and impacts that are associated with the Supporting Effort for the Water and Wastewater Category. The analysis from that document is summarized below and hereby incorporated by reference (Padre Dam MWD 2017).

The following section describes the potentially significant impacts to scenic vistas and scenic resources that could result from the implementation of the measures.

Bicycle, Pedestrian, Park-and-Ride, EVCS, and Solid Waste Expansion Infrastructure Improvements

Implementation of the CAP would result in new park-and-ride facilities, new or expanded pedestrian and bicycle improvements, EVCS, and new or expanded solid waste facilities. Specific locations for such improvements have not been identified. Future discretionary projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts to scenic vistas and scenic resources to the extent feasible in compliance with CEQA Guidelines Section 15126.4. However, because of the nature of such improvements (i.e., limited size, along existing roadways, not accompanied by tall or expansive buildings) it is likely that most infrastructure improvements would occur within existing developed residential and commercial centers throughout the County or as part of new development as it is approved and would not result in substantial changes to the visual landscape compared to that contemplated under the 2011 GPU. All future development projects would be required to follow County development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protection of scenic vistas and scenic resources. In addition, as explained in the 2011 GPU PEIR, implementation of the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures pertaining to visual resources located in Chapter 2.1, Aesthetic and Visual Resources, on pages 2.1-32 through 2.1-36 and listed above would reduce project impacts to scenic vistas and scenic resources. Adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures would ensure that new development would conserve and protect unique and sensitive visual features and the scenic quality of the environment. With implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures, overall impacts to scenic vistas and scenic resources from implementation of bicycle, pedestrian, park-and-ride, EVCS, and solid waste infrastructure improvements would be **less than significant**.

Cumulative Impacts

Project impacts would be cumulative in nature if the project in combination with cumulative development would contribute to the loss or impairment of scenic vistas or scenic resources in the County. 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.

The 2011 GPU PEIR concluded that cumulative impacts to scenic vistas and scenic resources would be less than significant with implementation of 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above. Implementation of the GHG Reduction Measure T-2.1, GHG Reduction Measure T-3.5, Supporting Efforts within the Built Environment and Transportation Category, and SW-1.1, could result in infrastructure improvements that are not substantially different than the type of development anticipated with the build-out of the 2011 GPU. All development proposals would be required to undergo review by the County and would be required to comply with applicable local and state regulations, and adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures that would protect visual resources. Therefore, implementation of measures that could result in the construction of bicycle, pedestrian, park-and-ride, EVCS, and solid waste facilities improvements **would not result in a considerable contribution** such that a new significant cumulative impact to scenic vistas and scenic resources would occur.

Local Direct Investment Program

Implementation of GHG Reduction Measure T-4.1 would require the County to implement or fund a variety of direct investment in local projects that would offset carbon emissions within the unincorporated county by 2030. A direct investment project is created when a specific action is taken that reduces, avoids, or sequesters GHG emissions. As described in detail in Chapter 2.7 and Appendix B of this Draft SEIR, projects that could result from implementation of this measure could include but are not limited to: biomass conversion to energy or soil application (i.e., conversion of biomass waste to fuel for electricity generation, or conversion of forestry and agricultural residues to soil compost), boiler efficiency upgrades (i.e., implementing retrofits to increase thermal efficiency in natural-gas fired boilers or process heaters), coastal wetlands creation (i.e., restoring degraded wetlands to recapture soil carbon stock), reforestation projects (i.e., planting of trees to recapture CO₂ sinks), compost additions to rangeland (i.e., increasing soil carbon sequestration and improving quality of soils), organic waste digestion (i.e., diverting organic waste and/or wastewater to a biogas control system), livestock management (i.e., installing biogas control systems for manure management on dairy cattle and swine farms), urban forest and urban tree planting projects (i.e., tree planting, maintenance, and/or improved management activities to increase carbon storage through trees), and winterization (i.e., energy efficiency upgrades to buildings). This list is not intended to be exhaustive, but represents some of the types of projects that could be considered in the future. Protocols for these projects and others that could be considered are described in Chapter 2.7 with page numbers to review the protocols contained in Appendix B.

Most offset projects would involve some level of construction and physical disturbance of the land. This analysis assumes that implementation of offset projects under GHG Reduction Measure T-4.1 would result in construction activities that could include: the use of heavy equipment for earthmoving, materials processing, or compost spreading; vehicle trips during construction/equipment replacement/monitoring activities; possible changes in land form and views; and installation or upgrades of mechanical equipment or facilities. Construction activities and project operations associated with these measures could result in changes to the visual environment or context during construction activities, but would not be expected to result in permanent significant impacts.

All projects would be required to comply with applicable existing federal, state, and local regulations that are intended to preserve scenic vistas and scenic resources. Specifically, projects would be evaluated for their consistency with 2011 GPU policies, 2011 GPU PEIR mitigation measures, County Grading Ordinance regulations, County Resources Protection Ordinance regulations, etc. Future discretionary projects may also be required to undergo additional CEQA analysis to evaluate their project-specific impacts. If a determination is made that potentially significant impacts would result from implementation of direct investment projects, then all feasible mitigation would be required to be implemented in accordance with CEQA Guidelines Section 15126.4. Therefore, impacts related to scenic vistas and scenic resources would be **less than significant**.

Cumulative Impacts

Project impacts would be cumulative in nature if the project in combination with cumulative development would contribute to the loss or impairment of scenic vistas or scenic resources in the unincorporated County. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.1.4.1 above applies for this cumulative discussion.

The 2011 GPU PEIR concluded that cumulative impacts to scenic vistas and scenic resources resulting from the build-out associated with the General Plan would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above. Future discretionary projects implementing GHG Reduction Measure T-4.1 would be required to be evaluated under CEQA and to reduce and minimize impacts to the maximum extent feasible, as well as comply with existing federal, state, and local regulations that protect sensitive resources. Therefore, implementation of GHG Reduction Measure T-4.1 **would not have a considerable contribution** such that a new significant cumulative impact would occur.

Ground or Roof-Mounted Photovoltaic Solar, Small Wind Turbines, and other Building Retrofits

Implementation of GHG Reduction Measures E-1.1, E-2.1, E-2.2, E-2.3, and E-2.4 could result in energy efficiency retrofits on existing residential and non-residential structures, and County facilities, and could include rooftop or ground-mounted photovoltaic solar arrays or small wind turbines, upgraded mechanical systems, and other similar improvements. Specific locations for projects have not been identified. Future discretionary projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts to scenic vistas and scenic resources to the extent feasible in compliance with CEQA Guidelines Section 15126.4.

The placement of small-scale photovoltaic solar renewable energy equipment on new and existing buildings is regulated by the existing County Renewable Energy Zoning Ordinance Section 6954(a) that regulates the height and scale of these facilities. Rooftop photovoltaic solar energy panels generally do not involve construction that would substantially change roof lines or add substantial massing or height such that the altered

buildings would result in the potential to substantially alter or obstruct views. However, the County's Renewable Energy Zoning Ordinance Section 6954(a) requires the height of on-site photovoltaic solar energy systems be no taller than the height designator of the zone, except for on-site energy use systems that may extend no more than 5-feet above the roofline.

Wind turbines of all sizes are regulated by the County's Wind Energy Ordinance Section 6950-6952 and would be required to comply with regulations specific to the size, scale of the turbines. A small wind turbine is defined as a wind turbine, with or without a tower, which has a rated capacity of not more than 50 kilowatts (kW); is consistent with the requirements of existing Zoning Ordinance Sections 6156 and 6951; and generates electricity primarily for use on the same lot on which the wind turbine is located. These turbines would be allowed as an accessory use in all zones, provided the turbine complies with the Renewable Energy Regulations commencing at Zoning Ordinance Section 6950 and obtains a Zoning Verification Permit prior to issuance of a building permit. Because of the nature of the solar photovoltaic and other building retrofits and improvements (with exception of wind turbines), it is likely that retrofits would occur in areas of existing development. In addition, the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures pertaining to visual resources (listed above) would further limit project impacts to scenic vistas and scenic resources. As described above, adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures would ensure that new development would conserve and protect unique and sensitive visual features and the scenic quality of the environment.

However, small wind turbines could result in significant direct impacts to scenic vistas and scenic resources as described on pages 2.1-9 to 2.1-10 Scenic Vistas- Small Turbines and 2.1-11 to 2.1-12 Scenic Resources- Small Turbines of the 2012 Wind Energy EIR (County of San Diego 2012). Small wind turbines are limited to a height of no more than 80 feet (but not more than the height designator of the Zoning District in which they are located) and have relatively small blades on a vertical or horizontal axis. In addition, these structures cannot include guy wires for structural support or aboveground power lines. However, these facilities may introduce a new vertical element within the viewshed of a scenic vista that would not be subject to environmental or design review because the County's Wind Energy Zoning Ordinance allows for three to five small wind turbines to be developed on a legal lot as an accessory use to the primary use of the property without a discretionary permit. While a single, small wind turbine would not likely have a substantial visual impact on a scenic vista as these are usually located in expansive areas, the Zoning Ordinance does allow for multiple small turbines on an individual parcel. Therefore, the 2012 Wind Energy EIR concluded that multiple small turbines may result in a potentially significant adverse impact to a scenic vista or scenic resources because it could potentially introduce new vertical elements within the viewshed that would have the potential to interrupt or detract from a visual resource that previously did not include infrastructure or development. The 2012 Wind Energy EIR considered, but rejected as infeasible, mitigation that would have required a visual resources study for small wind turbines and the prohibition of small wind turbines within scenic viewsheds because it would conflict with the County's goal of expanding renewable energy resources.

Therefore, with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, overall impacts related to scenic vistas and scenic resources associated with implementation of ground or roof-mounted photovoltaic solar arrays and other building retrofits would be less than significant. However, impacts related to scenic vistas and scenic resources resulting from small wind turbines would remain **potentially significant** because of the lack of discretionary review and subsequent inability to mitigate impacts (**Impact AES-1**).

Cumulative Impacts

Impacts would be cumulative in nature if the project, in combination with cumulative development, would contribute to the loss or impairment of scenic vistas or scenic resources in the County. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.1.4.1 above applies for this cumulative discussion.

Cumulative scenic vistas and scenic resources impacts were determined to be less than significant in the 2011 GPU PEIR as described above. Implementation of the GHG Reduction Measures E-1.1, E-2.1, E-2.2, E-2.3, and E-2.4 would result in retrofits and new, photovoltaic renewable energy infrastructure. Generally, these project types would not result in significant cumulative impacts because all development proposals would be required to undergo County discretionary review and would be required to comply with adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures that would protect visual resources with exception of solar photovoltaic systems under 500 square feet that are allowed by-right and described above. Therefore, these projects **would not result in a considerable contribution** such that a new significant cumulative impact related to scenic vistas and scenic resources would occur.

However, implementation of GHG reduction measures that could result in small-scale wind turbines as described on pages 2.1-16 to 2.1-17 of the 2012 Wind Energy EIR, were determined to be potentially significant because the County's Wind Energy Zoning Ordinance allows for three to five small wind turbines to be developed on a legal lot as an accessory use to the primary use of the property without a discretionary permit. This could result in potentially significant impacts because of the ability to detract from a nearby scenic vista or scenic resources and the lack of ability to mitigate for such impacts because of the lack of discretionary oversight. Therefore, the project **could result in a considerable contribution** such that a new significant cumulative impact related to scenic vistas and scenic resources would occur (**Impact AES-2**).

Large-Scale Renewable Energy Infrastructure

Implementation of GHG Reduction Measure E-2.1 could result in the construction of new large-scale renewable energy systems, including large-scale photovoltaic solar, concentrated solar power geothermal systems, and/or wind turbines. Because the amount of demand generated by such a program and the mix of renewable energy types that would be constructed to satisfy demand is unknown, this Draft SEIR evaluates the potential for impacts at the program level. The potential for construction of large-scale

renewable energy infrastructure was not evaluated in the 2011 GPU PEIR but potential wind energy impacts were evaluated in the 2012 Wind Energy EIR and are incorporated by reference as applicable.

Large-scale renewable energy infrastructure would generally be constructed in primarily undeveloped locations that are productive for generating the renewable energy source. Specific locations that may be chosen for these large-scale utility projects are unknown; however, it is likely that suitable locations would include areas that are not highly developed with residential and commercial uses because of the size, massing, coverage, and scale of this type of infrastructure which relies upon large amounts of land unencumbered by buildings or shadowed by buildings or trees.

Implementation of GHG Reduction Measure E-2.1 would result in the physical construction of new, large-scale renewable energy systems including associated infrastructure such as roads and accessory uses. Typical construction activities would require the use of trucks, staging areas for supplies and equipment, parking for workers, and signage and grading. All construction activities would be temporary effects of the construction process and would not likely result in permanent significant impacts to scenic vistas and scenic resources. Below is a description of the types of infrastructure and facilities that would likely accompany large-scale renewable energy systems.

Photovoltaic Solar or Concentrator Solar Systems

The large-scale production of energy from photovoltaic (PV) solar systems or concentrator solar generally includes the following components:

- PV arrays or concentrated solar on ground-mounted posts, or systems that track the sun;
- A collector substation site, including concrete pad and switchgear, and battery storage;
- A direct-current (DC) underground collection system and an overhead and underground transmission system that steps up the voltage to alternating current (AC), linked to the substation;
- An operations and maintenance site (unless remotely monitored), including concrete pad with building(s);
- Transmission lines;
- Water tanks;
- Internal and external access roads; and
- Security and open space fencing.

Large-scale renewable solar systems can range in size from 2 to several thousand acres. The location of large-scale photovoltaic solar systems is limited by the County's Zoning Ordinance Section 6954(b)(3) which requires a Major Use Permit (MUP) for projects over 10 acres. Projects that would require less than 10 acres would be required to apply for and receive an Administrative Permit in accordance with Section 6954(b)(1). If PV systems are utilized, the dark panels which absorb sunlight are mounted to fixed or tracking systems. Fixed-tilt mounted PV are oriented towards the sun as it rises and sets. Tracking systems allow the panels to move as the sun moves. If the concentrator photovoltaic solar panels are used, the system utilizes curved and mirrored panels mounted on a tracker, which allows direct sunlight to be concentrated and captured at higher efficiencies. A typical size for trackers is approximately 50 feet wide and 25 feet tall. At the maximum height during the day, the trackers would not exceed approximately 30 feet at grade. However, many systems, especially fixed-mounted PV arrays are as low as 8 to 12 feet above grade.

Both solar photovoltaic and solar concentrator systems could result in direct impacts related to scenic vistas and scenic resources. Any solar PV system that would result in the operation of curved panels of solar trackers or fixed tilt-mounted arrays in pastures, meadows, and desert environments could interrupt and degrade existing views scenic vistas available to motorists along public roads or scenic highways, to persons utilizing County or state trails, or to recreational areas as they pass the large arrays and associated components. Depending upon the proximity to roadways, trails, or recreational areas, motorists and recreationists could be drawn visually to the solar farm sites because of the juxtaposition of the solar elements against the natural landscape. The degree of interruption would vary depending upon the height and width of trackers (horizontal with the earth to nearly vertical) as the trackers move with the sun during the day, or the degree of reflectivity that accompanies the solar PV concentrators. As a result, the solar systems would be apparent from some distance away. While adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures would require new development to conserve and protect unique and sensitive visual features and the scenic quality of the environment, because of the size and magnitude of the development associated with these systems it may be infeasible for future individual projects to fully mitigate the impact to scenic vistas to below a level of significance.

Large-Scale Wind Turbine Systems

Large-scale wind energy systems generally include the following components:

- Wind turbines ranging in height from approximately 200 to 330 feet to the wind turbine hub, and approximately 300 feet to 500 feet to the topmost blade tip;
- An overhead and underground collector cable system linking the wind turbines to the collector substation;
- A collector substation site and an operations and maintenance building (unless remotely monitored) with battery storage;

- Several permanent meteorological towers and one sonic detecting and ranging unit or one light detecting and ranging unit;
- An overhead transmission line running from the collector substation to the nearest substation;
- Water tanks;
- Internal and external access roads; and
- Security and open space fencing.

As described on pages 2.1-9, Scenic Vistas- Large Turbines, and 2.1-11 to 2.1-12, Scenic Resources- Large Turbines, of the 2012 Wind Energy EIR, large-scale production of energy from wind turbines could result in direct impacts related to scenic vistas and scenic resources as described below (San Diego County 2012).

The size of large-scale wind turbine farms can range from 30 acres to several hundred or thousand acres. However, wind turbines are spaced in a linear fashion and often require less direct acreage compared to solar systems. The location of large-scale wind turbine farms would be limited by the County's Wind Energy Ordinance which sets forth requirements related to setbacks, noise, height and locations where large turbines are permissible. All large turbine projects would be required to obtain a MUP and undergo CEQA review, and as part of the County's discretionary review process, all large wind turbine projects would also be required to implement measures to minimize visual impacts to the extent feasible. However, required setbacks would still allow large turbines to locate near the viewshed of a scenic vista or scenic resource; and the allowable heights may result in tall vertical elements near or within the viewshed of a scenic vista or scenic resources. Therefore, implementation of the project may result in a potentially significant adverse impact to a scenic vista or scenic resource because it could potentially introduce tall vertical elements near viewsheds of a scenic vista or scenic resource, and large turbines would have the potential to interrupt or detract from a scenic vista or scenic resources that previously did not include infrastructure or development. The 2012 Wind Energy EIR adopted Mitigation Measure M-AES-1 described below in Section 2.1.5, which requires through the MUP discretionary review process that all new large-scale wind turbine projects apply the County Guidelines for Determining Significance for Visual Resources and Dark Skies and Glare, and when aesthetic impacts are determined to be significant, implement feasible and appropriate project-specific mitigation measures. Additional mitigation was considered in the 2012 Wind Energy EIR that would have prohibited large-scale wind turbines within the viewshed of scenic vistas, but it was determined to be infeasible because it would conflict with the County's goal of expanding renewable energy. While adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures would require new development to conserve and protect unique and sensitive visual features and the scenic quality of the environment, because of the size and magnitude of the development associated with these systems it may be infeasible for future individual projects to fully mitigate the impact to scenic vistas or resources to below a level of significance.

Geothermal Energy Systems

Geothermal energy is produced by pumping heated groundwater from geothermal reservoirs that are located deep below the earth's surface. The heat is utilized to power turbines within a geothermal power plant to generate electricity. The electricity produced by this process is conveyed to the grid via transmission lines. The components of a geothermal project would generally include drilling equipment and multiple wells, a power plant to convert the heat to electricity, transmission lines, and smaller related accessory uses. The amount of energy generated by the power plant determines the size of the buildings; however, the typical plant includes a one-story building with three or four stacks that are associated with the release of steam (TEEIC 2017).

Geothermal energy systems could result in direct impacts related to scenic vistas and scenic resources. Depending upon the size and scale of the facility, it could result in the placement of energy producing facility with several protruding stacks in pastures, meadows, and desert environments which could interrupt and degrade existing views available to motorists along public roads or scenic highways, or persons utilizing County or state trails, or recreational areas as they pass the geothermal systems and associated components. Depending upon the proximity to roadways, trails, or recreational areas, motorists and recreationists could be drawn visually to the sites because of the juxtaposition of the geothermal system elements against the natural landscape. The degree of interruption would vary depending upon the size of the facility. As a result, geothermal energy systems may be apparent from some distance away. While adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures would require new development to conserve and protect unique and sensitive visual features and the scenic quality of the environment, because of the size the development associated with these systems it may be infeasible to fully mitigate the impact to scenic vistas and scenic resources to below a level of significance.

Summary

All large-scale renewable energy projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts related to scenic resources and scenic vistas to the extent feasible in compliance with CEQA Guidelines Section 15126.4. However, it may be infeasible to fully mitigate the impacts to below a level of significance because of the size and magnitude of the development associated with these systems.

As described on page 2.1-7 and 2.1-12 of the 2012 Wind Energy EIR, large-scale production of energy from wind turbines could result in impacts related to scenic resources and scenic vistas because large turbines may be located near the viewshed of resources and vistas or introduce tall vertical elements into the viewshed. The 2012 Wind Energy EIR adopted Mitigation Measure M-AES-1, described below in Section 2.1.5, which requires that all new large-scale wind turbines projects are reviewed for compliance with the County's Guidelines for Determining Significance for Visual Resources and Dark Skies and Glare, and if significant impacts are identified, implement feasible project-specific mitigation measures. However, the 2012 Wind Energy EIR concluded that

because there is no guarantee on a project-specific level that mitigation measures would reduce impacts to a level below significant, the project may result in significant impacts related to scenic vistas and scenic resources. The 2012 Wind Energy EIR considered additional mitigation that would have prohibited large wind turbines within the viewshed of scenic vistas or scenic resources; however, this mitigation was determined to be infeasible because it would have conflicted with the County's goal of expanding renewable energy resources. This mitigation is also infeasible when applied to large-scale solar and geothermal systems for the same reason.

Therefore, while all large-scale renewable energy projects would be required to obtain a MUP, undergo a discretionary review, evaluate project-specific impacts under CEQA, and mitigate the extent feasible, it is not possible to ensure that impacts related to scenic vistas or scenic resources would be reduced to a level below significance. Therefore, implementation of GHG Reduction Measure E-2.1 would result in a **potentially significant** impact to scenic vistas and scenic resources (**Impact AES-3**).

Cumulative Impacts

Impacts would be cumulative in nature if the project, in combination with cumulative development would contribute to the loss or impairment of scenic vistas or scenic resources in the unincorporated County. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.1.4.1 above applies for this cumulative discussion.

The 2011 GPU PEIR concluded that cumulative impacts resulting from the build-out associated with the 2011 GPU would be less than significant with implementation of the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above. However, as described on pages 2.1-17 to 2.1-18 of the 2012 Wind Energy EIR, because of the possibility of locating large and tall wind turbines near viewsheds of scenic vistas and scenic resources, future large-scale wind projects could result in a considerable contribution to significant cumulative impacts. Additionally, as described above, even with implementation of adopted 2011 GPU policies and mitigation of the 2011 GPU PEIR, and mitigation measure M-AES-1 from the 2012 Wind Energy EIR, it is possible that significant impacts to scenic vistas and scenic resources could result from the construction of all large-scale renewable energy systems, including solar and geothermal systems. If multiple large-scale renewable energy projects are constructed in close proximity, they could combine to magnify impacts. Therefore, the project **would result in a considerable contribution** such that a new significant cumulative impact to scenic vistas and scenic resources could occur (**Impact AES-4**).

Padre Dam Water and Wastewater Supporting Effort

As described in Chapter 1, Project Description, the CAP includes a Water and Wastewater Supporting Effort that would support participation in the Padre Dam AWP project. The Padre Dam MWD, prepared the Padre Dam PEIR and that analysis is hereby incorporated by reference. As described on pages 4.1-6 through 4.1-8 of the Padre Dam PEIR, potentially significant direct and indirect impacts were identified for scenic

resources. However, all impacts were reduced to a level below significance with implementation of mitigation measure AES-3 as described in the Padre Dam PEIR. Therefore, potential impacts related to scenic vistas and scenic resources because of the Padre Dam AWP would be **less than significant**.

Cumulative Impacts

The Padre Dam PEIR evaluated the cumulative scenic vistas and scenic resources impacts of the project on page 6-12. As described therein, the AWP project would result in less-than-significant impacts to scenic vistas and scenic resources with implementation of mitigation measure AES-3 and it **would not have a considerable contribution** to a significant cumulative impact.

Impact Summary

Implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above would ensure that the project and cumulative impacts associated with the deterioration of scenic vistas and scenic resources because of implementation of bicycle, pedestrian, park-and-ride facilities, solid waste expansion, and direct investment projects, ground or roof-mounted photovoltaic solar would be **less than significant** and **would not result in a considerable contribution** such that a new significant cumulative impact to scenic vistas or scenic resources would occur. The County's participation in the AWP project would result in **less than significant** project impacts related to scenic vistas and scenic resources, and **would not have a considerable contribution** to a significant cumulative impact to scenic resources.

However, project impacts related to implementation of GHG Reduction Measures E-1.1, E-2.1 and E-2.4 that could result in the development of small-scale wind turbines and large-scale renewable energy systems would remain **potentially significant** even with implementation of the adopted 2011 GPU policies, 2011 GPU PEIR mitigation measures, and 2012 Wind Energy EIR Mitigation Measure M-AES-1. No feasible mitigation was identified in the 2012 Wind Energy EIR to reduce significant impacts to scenic vistas and scenic resources related to small wind turbines because they are permitted without discretionary review and cannot be mitigated. Therefore, implementation of GHG reduction measures that could result in small-and large-scale renewable energy systems **could result in a considerable contribution** such that a new significant cumulative impact to scenic vista and scenic resources would occur.

2.1.4.2 Issue 2: Visual Character or Quality

This section describes potential project and cumulative impacts on visual character or quality with implementation of the project.

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines and the County of San Diego Guidelines for Determining Significance, Visual Resources, implementation of the project would result in

a significant impact if it would substantially degrade the existing visual character or quality of the site and its surroundings by introducing features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area by conflicting with important visual elements or the quality of the area (such as theme, style, setbacks, density, size, massing, coverage, scale, color, architecture, building materials, etc.) or by being inconsistent with applicable design guidelines.

Impact Analysis

2011 GPU PEIR Determination

The 2011 GPU PEIR evaluated impacts to visual character related to the adoption of the goals and policies contained within the plan, and the buildout of the land use map and determined that buildout under the 2011 GPU would result in potentially significant project and cumulative impacts on visual character or quality in the unincorporated County.

The 2011 GPU PEIR determined that the impacts to visual character and quality would be reduced through the implementation of a combination of federal, state, and local regulations; existing County regulatory processes; the adopted 2011 GPU goals and policies; and mitigation measures identified in the 2011 GPU PEIR; however, even with these programs, implementation measures, and identified mitigation measures, the impacts would not be reduced to below a level of significance because the full suite of these and other mitigation measures considered and addressed in the 2011 GPU PEIR were found to be infeasible by the County because restrictions on development would conflict with goals to provide housing and the preparation of detailed plans for all development within the County to match existing community character would be infeasible. Mitigation rejected as infeasible within the 2011 GPU PEIR is described in detail in Section 2.1.6.1 of the 2011 GPU PEIR. The discussion of impacts related to visual character and quality can be found in Section 2.1, Aesthetics, on pages 2.1-37 through 2.1-49; and 2.1-55, and is hereby incorporated by reference.

CAP Impact Analysis

Implementation of the CAP has the potential to result in significant impacts to visual character and quality from implementation of GHG reduction measures and supporting efforts that would improve alternative transportation infrastructure and result in the construction of small-scale renewable energy systems including small wind turbines, photovoltaic solar systems, as well as large-scale photovoltaic solar, concentrated solar, wind turbines, and geothermal energy systems that were not explicitly evaluated within the 2011 GPU PEIR. The 2012 Wind Energy EIR evaluated impacts specifically related to the development of small and large-scale wind turbines and that analysis is summarized below and is hereby incorporated by reference (County of San Diego 2012). Additionally, the Padre Dam Municipal Water District's Comprehensive Facilities Master Plan PEIR (Padre Dam PEIR 2017) evaluated impacts related to the development/expansion of water purification infrastructure and impacts that are associated with the Supporting Effort for the Water and Wastewater Category. The analysis from that document is summarized below and hereby incorporated by reference (Padre Dam MWD 2017).

The following section describes the potentially significant impacts to visual character or quality that could result from the implementation of the measures.

Bicycle, Pedestrian, Park-and-Ride, EVCS and Solid Waste Expansion Infrastructure Improvements

Implementation of the CAP would result in the construction of new park-and-ride facilities, new or expanded pedestrian and bicycle improvements, EVCS, and new or expanded solid waste facilities. These improvements would likely be located throughout the County and would occur in areas that are developed with existing residential and commercial uses. While these improvements may alter the visual quality or character of a community, these alterations would not generally result in a degradation of visual character or quality by introducing incompatible uses, bulk, scale, or materials to the area. Also, while it is possible that temporary impacts related to construction and the introduction of features that may detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area, it is not likely that the development of new or expanded facilities would cause permanent significant impacts related to visual character or quality and would not result in substantial changes to the visual landscape compared to that contemplated under the 2011 GPU. All future development projects would be required to follow County development requirements, including compliance with local policies, ordinances, and applicable permitting procedures related to protection of visual character. In addition, as explained in the 2011 GPU PEIR, implementation of adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures located in Chapter 2.1, Aesthetic and Visual Resources, on pages 2.1-37 through 2.1-49 and listed above, would ensure that new development would conserve and protect visual character or quality. With implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures, impacts to visual character or quality associated with implementation of bicycle, pedestrian, park-and-ride, EVCS, and solid waste expansion infrastructure improvements would be **less than significant**.

Cumulative Impacts

Impacts would be cumulative in nature if the project in combination with cumulative development would substantially degrade the existing visual character or quality of the site and its surroundings by introducing features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.1.4.1 applies for this cumulative discussion.

The 2011 GPU PEIR concluded that cumulative impacts to visual character or quality would be significant and unavoidable in the 2011 GPU PEIR even with implementation of 2011 GPU policies and 2011 GPU PEIR mitigation measures because restrictions on development would conflict with goals to provide housing and the preparation of detailed plans for all development within the County to match existing community character would be infeasible. Implementation of the CAP could result in small and dispersed infrastructure improvements within urban areas that are not substantially different than

the type of development anticipated with the build-out of the 2011 GPU or other cumulative projects. All development proposals resulting from implementation of the GHG reduction measures and supporting efforts would be required to undergo review by the County and comply with applicable local and state regulations, and adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures that would protect visual resources. Therefore, implementation of measures that could result in the construction of bicycle, pedestrian, park-and-ride, and solid waste facilities infrastructure improvements **would not have a considerable contribution** to this significant cumulative visual character and quality impact.

Local Direct Investment Program

GHG Reduction Measure T-4.1 would result in direct investment projects to offset carbon emissions. As described in detail in Chapter 2.7 and Appendix B of this Draft SEIR and Impact AES-3 above, there are a variety of projects that could result from implementation of this measure. See above and Chapter 2.7 for a detailed list. This list is not intended to be exhaustive, but represents some of the types of projects that could be considered in the future.

Most direct investment projects would involve some level of construction and physical disturbance of the land. This analysis assumes that implementation of projects under GHG Reduction Measure T-4.1 would result in construction activities that could include: the use of heavy equipment for earthmoving, materials processing, or compost spreading; vehicle trips during construction/equipment replacement/monitoring activities; possible changes in land form and views; and installation or upgrades of mechanical equipment or facilities. Construction activities and project operations associated with these measures could result in changes to the visual environment or context during construction activities, but would not be expected to result in significant permanent impacts.

All projects would be required to comply with applicable existing federal, state, and local regulations that are intended to preserve visual character and quality. Specifically, projects would be evaluated for their consistency with 2011 GPU policies, 2011 GPU PEIR mitigation measures, County Grading Ordinance regulations, County Resources Protection Ordinance regulations, etc. Future discretionary projects may also be required to undergo additional CEQA analysis to evaluate their project-specific impacts. If a determination is made that potentially significant impacts would result from implementation of direct investment projects, then all feasible mitigation would be required to be implemented in accordance with CEQA Guidelines Section 15126.4. Therefore, impacts related to visual character and quality would be **less than significant**.

Cumulative Impacts

Impacts would be cumulative in nature if the project in combination with cumulative development would substantially degrade the existing visual character or quality of the site and its surroundings by introducing features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area. The methodology for determining the cumulative environment described in Chapter

1, Project Description, and summarized above in Section 2.1.4.1 above applies for this cumulative discussion.

Implementation of GHG Reduction Measure T-4.1 would result in direct investment projects as described above. The 2011 GPU PEIR concluded that although cumulative impacts to visual character and quality resulting from the buildout associated with the General Plan would be reduced with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, and compliance with applicable state and federal regulations, they would remain significant and unavoidable. Future discretionary projects would be required to be evaluated under CEQA and to reduce and minimize impacts to the maximum extent feasible, as well as comply with existing federal, state, and local regulations that protect visual character and quality. Because the nature of the disturbance would primarily be temporary construction activities, it is unlikely that these projects would result in significant permanent visual impacts. Therefore, implementation of direct investment projects **would not have a considerable contribution** to this significant visual character cumulative impact.

Ground or Roof-Mounted Photovoltaic Solar, Small Wind Turbines, and other Building Retrofits

Implementation of the project could result in energy efficiency retrofits on existing residential and non-residential structures, and County facilities, and could include rooftop or ground-mounted solar arrays or small wind turbines, modern mechanical systems, and other similar improvements. Future discretionary projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts to scenic vistas and scenic resources to the extent feasible in compliance with CEQA Guidelines Section 15126.4.

As described in detail in Section 2.1.4.1, Scenic Vistas and Scenic Resources, above physical impacts would include retrofits of mechanical equipment, and the installation of rooftop or ground-mounted solar arrays or small wind turbines on new or existing buildings. The placement of small-scale photovoltaic solar renewable energy equipment on new and existing buildings is regulated by the existing County Renewable Energy Zoning Ordinance Section 6954(a) that limits the height and scale of these facilities. Rooftop photovoltaic solar energy panels generally do not involve construction that would substantially change roof lines or add substantial massing or height such that the altered buildings would have the potential to substantially affect visual character or quality. The County's Renewable Energy Zoning Ordinance Section 6954(a) requires the height of on-site photovoltaic solar energy systems be no taller than the height designator of the zone, except for on-site energy use systems that may extend no more than 5-feet above the roofline.

Because of the nature of the solar photovoltaic and other building retrofits and improvements (with the exception of wind turbines), it is likely that retrofits would occur in areas of existing development, and new development would install energy-efficient mechanical equipment at the time of construction. Implementation of new mechanical equipment or new renewable energy equipment would generally occur in developed areas of the County, would be regulated by existing County codes and policies, and would be

consistent with the existing visual character of the area. In addition, the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures pertaining to visual resources (listed above) would further limit the project impacts to visual character and quality. However, as described above, wind turbines of all sizes are regulated by the County's Wind Energy Ordinance Section 6950-6952 and would be required to comply with regulations specific to size and scale of the turbines. Small wind turbines that meet the zoning verification requirements would be limited to a height of no more than 80 feet for small turbines, will have relatively small blades on a vertical or horizontal axis, and will be prohibited on ridgelines. In addition, these structures cannot include guy wires for structural support or aboveground power lines. As described in the 2012 Wind Energy EIR, small wind turbines could result in significant direct impacts to visual character and quality because there is the possibility for increased visual contrasts, view blockage, or skylining (showing the outline of the facilities) from sensitive viewing locations (County of San Diego 2012). The 2012 Wind Energy EIR considered, but rejected as infeasible, mitigation that would require the preparation of a visual resources study, engagement with the appropriate community planning group design review process, and prohibition of turbines within the viewshed of scenic vistas because it would conflict with the County's goal to expand renewable energy resources.

Therefore, with implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above, overall impacts related to visual character and quality associated with implementation of ground or roof-mounted photovoltaic solar arrays and other building retrofits would be less than significant. However, impacts to visual character and quality resulting from the installation of small wind turbines would be **potentially significant** because of the lack of discretionary review and feasible mitigation to reduce impacts (**Impact AES-5**).

Cumulative Impacts

Impacts would be cumulative in nature if the project in combination with cumulative development would substantially degrade the existing visual character or quality of the site and its surroundings by introducing features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.1.4.1 above applies for this cumulative discussion.

Cumulative visual character and quality impacts were determined to be significant and unavoidable in the 2011 GPU PEIR as described above. Implementation of retrofits and new, small-scale renewable energy infrastructure would not result in significant impacts because the improvements would be made in urban environments, and are not different than the type of development that was anticipated by the 2011 GPU. All development proposals would be required to undergo County discretionary review and would be required to comply with adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures that would protect visual resources with exception of solar photovoltaic systems under 500 square feet that are allowed by-right and described above. Therefore, implementation of ground or roof-mounted photovoltaic solar arrays and other building retrofits **would not have a considerable contribution** to a significant cumulative impact.

However, as described on page 2.1-18 of the 2012 Wind Energy EIR, the Zoning Ordinance allows three to five turbines to be developed on a legal lot as an accessory use to the primary use of the property without a discretionary permit. Impacts to visual character and quality resulting from the installation of small wind turbines would be potentially significant because of the lack of discretionary review and feasible mitigation to reduce impacts. Therefore, the project **could result in a considerable contribution** to this significant cumulative impact (**Impact AES-6**).

Large-Scale Renewable Energy Infrastructure

As described in detail in Section 2.1.4.1, Scenic Vistas and Scenic Resources, implementation of GHG Reduction Measure E-2.1 could result in new large-scale renewable energy systems including solar photovoltaic, solar concentrator, geothermal, and wind turbines. Because the amount of demand generated by such a program and mix of renewable energy types that would be constructed to satisfy demand is unknown, this Draft SEIR evaluates the potential for impacts at the program level. As previously noted, large-scale renewable energy infrastructure would generally be constructed in primarily undeveloped locations that are productive for generating renewable energy source. Specific locations for projects have not been identified. Also, it is likely that suitable locations would include areas that are not highly developed with residential and commercial uses because of the size, massing, coverage, and scale of this type of infrastructure which relies upon large amounts of land unencumbered by buildings or shadowed by buildings or trees. However, because of the size of large-scale renewable energy infrastructure, impacts related to visual character or quality could be potentially significant. In remote areas of the unincorporated County, there are land uses that are considered sensitive to visual changes to their settings, which include residential areas; designated park areas, recreation (including off-highway vehicle staging and use), and natural areas; major transportation systems; and designated and eligible state historic routes and scenic highways.

Similar to the description of impacts described in detail in Section 2.1.4.1, permanent impacts could result from the alteration of the visual landscape with the introduction of, for example, geothermal energy facilities, large buildings for equipment, and photovoltaic arrays. If feasible based on location and height, screening and landscaping of the facilities would provide some visual relief from some aspects of the facilities including accessory buildings; however, large-scale renewable energy facilities would likely remain visible from varying distances.

Implementation of GHG Reduction Measure E-2.1 would result in the construction of renewable energy systems. Typical construction activities require the use of trucks, staging areas for supplies and equipment, parking for workers, and grading. All activities would be temporary effects of the construction process, but have the potential to result in temporary but potentially significant impacts related to the disruption of visual character or quality of the area.

All large-scale renewable energy projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation

would minimize or eliminate impacts related to visual character and quality to the extent feasible in compliance with CEQA Guidelines Section 15126.4. However, it may be infeasible to fully mitigate the impacts to below a level of significance because of the size of the development associated with these systems. As described on page 2.1-13 of the 2012 Wind Energy EIR, all large-scale wind turbine projects would be required to obtain an MUP. As part of the County's discretionary review process, all large wind turbine projects would also be subject to environmental review and would be required to implement measures to minimize visual impacts to the extent feasible. However, because of the allowable height, direct or indirect effects may occur related to increased visual contrasts, view blockage, or skylining (showing the outline of the facilities) from sensitive viewing locations. The 2012 Wind Energy EIR adopted Mitigation Measure M-AES-1 as described below in Section 2.1.5 that would require compliance with the County Guidelines for Determining Significance for Visual Resources and Dark Skies and Glare. In addition, the County considered, but rejected as infeasible mitigation that would have prohibited large-scale wind turbines that would degrade the visual character or quality of the site and its surroundings because it would conflict with the County's goal for expanding renewable energy resources. Large-scale solar and geothermal systems would have similar results.

Therefore, while all large-scale renewable energy projects would be required to obtain a MUP, undergo a discretionary review, evaluate project-specific impacts under CEQA, and mitigate to the extent feasible, it is not possible to ensure that impacts related to visual character and quality would be reduced to a level below significance at the program level. Projects would be required to implement the adopted 2011 GPU policies and 2011 GPU mitigation measures listed above that would require new development to protect visual character and quality. However, because of the size and magnitude of the development associated with these systems it would may be infeasible to fully mitigate the impact to visual character and quality from future individual projects to below a level of significance. Therefore, implementation of GHG Reduction Measure E-2.1 would result in a **potentially significant** impact to visual character or quality (**Impact AES-7**).

Cumulative Impacts

Impacts would be cumulative in nature if the project, in combination with cumulative development would substantially degrade the existing visual character or quality of the site and its surroundings by introducing features that would detract from or contrast with the existing visual character and/or quality of a neighborhood, community, or localized area. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.1.4.1 above applies for this cumulative discussion.

The 2011 GPU PEIR concluded that cumulative impacts resulting from build-out associated with the 2011 GPU would be significant and unavoidable, even with implementation of 2011 GPU policies and 2011 GPU PEIR mitigation measures listed above because of the size and height of these facilities. Implementation of GHG Reduction Measure E-2.1 could result in new, large-scale renewable energy infrastructure, the location of which is unknown. However, it is possible that the projects, depending on their size would disrupt the visual character or quality of an area. As

described on page 2.1-18 of the 2012 Wind Energy EIR, the analysis concluded that because of the allowable height of wind turbines, direct or indirect effects related to long-term visibility of increased visual contrasts, view blockage, or skylining from sensitive viewing locations could result in a considerable contribution to a significant cumulative impact (San Diego County 2012). Large-scale solar and geothermal systems would result in similar impacts on visual character and quality and could result in a considerable contribution to a significant cumulative impact. Implementation of Reduction Measure E-2.1 would contribute to the 2011 GPU PEIR significant and unavoidable impact if the location of renewable energy projects were concentrated such that they would substantially degrade the existing visual character or quality of the area. Additionally, as described above, even with implementation of 2011 GPU policies and 2011 GPU PEIR mitigation measures, and 2012 Wind Energy EIR mitigation measure M-AES-1, it is possible that significant impacts to visual character and quality could occur. Therefore, implementation of GHG Reduction Measure E-2.1 **could result in a considerable contribution** to a significant cumulative impact related to visual character and quality (**Impact AES-8**).

Padre Dam Water and Wastewater Supporting Effort

As described in Chapter 1, Project Description, the CAP includes a Water and Wastewater Supporting Effort, that would support participation in the Padre Dam AWP project. The Padre Dam MWD prepared the Padre Dam PEIR and that analysis is hereby incorporated by reference. As described on pages 4.1-11 through 4.1-12 of the Padre Dam PEIR, potentially significant direct and indirect impacts were identified for visual character and quality. However, all impacts were reduced to a level below significance with implementation of Mitigation Measures AES-1 and AES-2 as described in the Padre Dam PEIR. Impacts related to visual character and quality were determined to be less than significant. Therefore, potential impacts related to visual character and quality because of the Padre Dam AWP would be **less than significant**.

Cumulative Impacts

The Padre Dam PEIR evaluated the cumulative visual character and quality impacts of the project on page 6-11. As described therein, the AWP project would result in less-than-significant impacts to visual character and quality with implementation of Mitigation Measures AES-1 and AES-2 and it **would not have a considerable contribution** to a significant cumulative impact.

Impact Summary

Implementation of the above described 2011 GPU policies and 2011 GPU PEIR mitigation measures would reduce the project and cumulative impacts associated with the deterioration of visual character and quality associated with construction of bicycle, pedestrian, direct investment projects, solid waste expansion improvements, and ground or roof-mounted solar photovoltaic to **less than significant** and these measures **would not have a considerable contribution** to a significant cumulative impact. The County's participation in the AWP project would result in **less than significant** project impacts

related to visual character and quality, and **would not have a considerable contribution** to a significant cumulative impact to visual character and quality.

However, even with implementation of 2011 GPU policies, 2011 GPU PEIR mitigation measures, and 2012 Wind Energy EIR Mitigation Measure M-AES-1, impacts related to new small-scale wind turbines and large-scale renewable energy facilities could result in **potentially significant** impacts to visual character and/or quality and **could result in a considerable contribution** to a significant cumulative impact.

2.1.4.3 Issue 3: Light and Glare

This section describes potential project and cumulative impacts resulting from light or glare effects with implementation of the project.

Guidelines for Determination of Significance

Based on Appendix G of the CEQA Guidelines implementation of the project would have a significant impact if it would:

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Specifically, the County of San Diego Guidelines for Determining Significance, Dark Skies and Glare state that a project will generally be considered to have a significant effect if it proposes any of the following, absent specific evidence to the contrary. Conversely, if a project does not propose any of the following, it will generally not be considered to have a significant effect on dark skies or from glare, absent specific evidence of such an effect:

- 1) The project will install outdoor light fixtures that do not conform to the lamp type and shielding requirements described in Section 59.105 (Requirements for Lamp Source and Shielding) and are not otherwise exempt pursuant Section 59.108 or Section 59.109 of the San Diego County Light Pollution Code.
- 2) The project will operate Class I or Class III outdoor lighting between 11:00 p.m. and sunrise that is not otherwise exempted pursuant Section 59.108 or Section 59.109 of the San Diego County Light Pollution Code.
- 3) The project will generate light trespass that exceeds 0.2 foot-candles measured five feet onto the adjacent property.
- 4) The project will install highly reflective building materials, including but not limited to reflective glass and high-gloss surface color, that will create daytime glare and be visible from roadways, pedestrian walkways or areas frequently used for outdoor activities on adjacent properties.
- 5) The project does not conform to applicable federal, state or local statute or regulation related to dark skies or glare, including but not limited to the San Diego County Light Pollution Code.

The project would result in a cumulative impact related to light and glare if the project, in combination with cumulative development would have the potential to result in a new source of substantial light or glare, which would adversely affect day or nighttime views in the area or that could result in a lighting impact to the Palomar Mountain and Mount Laguna Observatories.

Impact Analysis

2011 GPU PEIR Determination

The 2011 GPU PEIR evaluated impacts from light and glare related to the adoption of the goals and policies contained within the General Plan, and buildout of the land use map and determined that buildout under the 2011 GPU would result in potentially significant project impacts from light and glare and potentially significant cumulative impacts resulting from nighttime lighting effects within the County.

The 2011 GPU PEIR determined that the impacts from light and glare would be reduced through the implementation of a combination of federal, state, and local regulations; existing County regulatory processes; the adopted 2011 GPU goals and policies; and mitigation measures identified in the 2011 GPU PEIR. However, even with these programs in place, the impacts would not be reduced to below a level of significance because the full suite of these and other mitigation measures considered and addressed in the 2011 GPU PEIR were found to be infeasible by the County because the measures would have required restrictions on future development identified for growth in the 2011 GPU. Mitigation rejected as infeasible within the 2011 GPU PEIR is described in detail in Section 2.1.6.4 of the 2011 GPU PEIR. The discussion of impacts related to light or glare can be found in Chapter 2.1, Aesthetics, on pages 2.1-49 through 2.1-53; and 2.1-55 through 2.1-56 of the 2011 GPU PEIR, and is hereby incorporated by reference.

CAP Impact Analysis

Implementation of the CAP has the potential to result in significant impacts related to light and glare from implementation of GHG reduction measures that would result in the construction of small-scale distributive renewable energy systems including small wind turbines, photovoltaic solar systems, as well as large-scale photovoltaic solar, concentrated solar, wind turbines, and geothermal energy systems that were not explicitly evaluated within the 2011 GPU PEIR. The 2012 Wind Energy EIR evaluated impacts specifically related to the development of small and large-scale wind turbines and this analysis is summarized below and is hereby incorporated by reference (County of San Diego 2012). Additionally, the Padre Dam Municipal Water District's Comprehensive Facilities Master Plan PEIR (2017 Padre Dam PEIR) evaluated impacts related to the development/expansion of water purification infrastructure and impacts that are associated with the Supporting Effort for the Water and Wastewater Category. The analysis from that document is summarized below and hereby incorporated by reference (Padre Dam MWD 2017).

The following section describes the potentially significant impacts related to light and glare that could result from the implementation of the measures.

Ground or Roof-Mounted Photovoltaic Solar Arrays, Small Wind Turbines, and other Building Retrofits

Implementation of the project could result in energy efficiency retrofits on existing residential and non-residential structures, and County facilities, and could include rooftop or ground-mounted solar arrays or small wind turbines, modern mechanical systems, and other similar improvements. Future discretionary projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts to scenic vistas and scenic resources to the extent feasible in compliance with CEQA Guidelines Section 15126.4. As described in detail in Section 2.1.4.1, Scenic Vistas and Scenic Resources, above, physical impacts that would occur because of implementation of these measures would be related to retrofits of mechanical equipment, and the installation of rooftop or ground-mounted solar arrays or small wind turbines on new or existing buildings.

Retrofits to mechanical equipment would not be anticipated to introduce a new potential source of light or glare. Photovoltaic solar arrays that could be installed on the ground or mounted on rooftops for on-site energy use would be relatively small and are regulated by height, scale, and placement by the County's Zoning Ordinance Section 6954(a). In addition, while in certain situations the glass surfaces of solar photovoltaic systems can produce glint (a momentary flash of bright light) and glare (a reflection of bright light for a longer duration), light absorption, rather than reflection, is central to the function of a solar photovoltaic panel. Solar photovoltaic panels are constructed of dark-colored materials and are coated with anti-reflective coatings. Modern photovoltaic solar panels reflect as little as 2 percent of incoming sunlight, which is about the same as water and less than soil or wood shingles (U.S. DOE 2014). Additionally, as described on page 2.1-15 of the 2012 Wind Energy EIR, small wind turbines would not require FAA obstruction lighting and are required to comply with the County Light Pollution Code. The code addresses and minimizes the impact of new sources of light pollution on nighttime views.

As a result, implementation of retrofits and new mechanical equipment, which would be integrated into an existing developed setting, would not result in a new substantial source of light or glare. In addition, the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures pertaining to light and glare (listed above) would further limit impacts within the County. As described above, adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures would ensure that new development would comply with the County's light and glare regulations to protect the scenic values of the County and minimize light and glare impacts. With implementation of the 2011 GPU policies and 2011 GPU PEIR mitigation measures, impacts associated with implementation of ground or roof-mounted photovoltaic solar arrays and other building retrofits would be **less than significant**.

Cumulative Impacts

Impacts related to light and glare would be cumulative in nature if the project, in combination with cumulative development would have the potential to result in a new source of substantial light or glare, which would adversely affect day or nighttime views in the area or that could result in a potential lighting impact to the Palomar Mountain and Mount Laguna Observatories. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.1.4.1 above applies for this cumulative discussion.

Cumulative light and glare impacts were determined to be significant and unavoidable in the 2011 GPU PEIR as described above. Implementation of the project would result in mechanical retrofits and small-scale renewable energy infrastructure that would primarily be located within urbanized areas. Therefore, these improvements would not result in a new substantial source of light or glare and would not be substantially different than the development that was anticipated by the 2011 GPU. All development proposals would be required to undergo the discretionary review process by the County and would be required to comply with adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures that would minimize light and glare, with exception of solar photovoltaic systems under 500 square feet and small wind turbines that are allowed by-right as an accessory use. Therefore, implementation of ground or roof-mounted photovoltaic solar arrays and other building retrofits **would not have a considerable contribution** to this significant cumulative impact.

Large-Scale Renewable Energy Infrastructure

As described in detail in Section 2.1.4.1, Scenic Vistas and Scenic Resources, above, implementation of GHG Reduction Measure E-2.1 could result in the construction of new large-scale renewable energy infrastructure including photovoltaic solar, concentrator solar, geothermal energy, and wind turbines. Specific locations for projects have not been identified. Future discretionary projects would be required to be evaluated for project-specific impacts under CEQA at the time of application and project-specific mitigation would minimize or eliminate impacts to scenic vistas and scenic resources to the extent feasible in compliance with CEQA Guidelines Section 15126.4. Large-scale renewable energy infrastructure would be constructed in primarily undeveloped locations that are productive for generating wind, solar, and geothermal energy. Also, it is likely that suitable locations would include areas that are not highly urbanized because of the size, massing, coverage, and scale of this type of infrastructure which relies upon large amounts of land unencumbered by buildings or shadowed by buildings or trees. The exact locations of new infrastructure are unknown; however, wind turbines, solar concentrator, photovoltaic solar arrays, and geothermal power plants are typically a source of light and glare.

Concentrator solar systems utilize curved mirrors mounted on a tracker, which allows direct sunlight to be concentrated and captured at higher efficiencies; however, these systems may result in instances of glare. Solar photovoltaic panels are typically dark in color, coated to be non-reflective, and designed to be highly absorptive of all light that strikes their glass surfaces. It is not likely that these panels would emit significant amounts

of glare. However, solar energy systems have other components such as steel support structures and steel shipping containers that house battery storage systems, as well as minimal amounts of glare that could be caused by transmission lines. Future solar energy projects would be required to obtain a MUP, undergo a discretionary review, evaluate project-specific impacts under CEQA, and mitigate to the extent feasible. Future large-scale solar projects could also orient photovoltaic panels and supporting structures away from highways, roads, or trails where potential impacts from glare could be experienced by motorists and recreationists. Though it is unlikely that solar photovoltaic panels would emit glare because they are designed to be efficient and absorb all the light that strikes their surface, it is possible that other components of renewable energy systems could emit some glare. Future discretionary projects would be required to mitigate their impacts from glare to the extent feasible, such as by painting reflective supporting components to reduce glare. However, mitigation to ensure this impact would be less than significant cannot be applied at this program level and would be highly speculative at this stage of analysis. Therefore, a potentially significant impact from glare could occur.

In the case of geothermal energy, stacks that allow for the release of steam during the geothermal power conversion process could be equipped with lighting for aviation safety but would not result in glare.

As described on pages 2.1-15 to 2.1-16 of the 2012 Wind Energy EIR, most large wind turbines would meet FAA height regulations and would be subject to the obstruction lighting or other forms of aviation impact avoidance including markers and paint colors or patterns (San Diego County 2012). Nighttime lighting at these facilities could be visible to residences in rural and undeveloped areas because of a lack of existing nighttime lighting in the area. Lighting may also be visible to motorists in the general area. Also, the height of wind turbines and the repetitive flashing of FAA-required safety lighting may result in a strong, constant source of highly visible light, and nighttime views for area residents may be affected. Large wind turbine projects may be prone to causing shadow flicker which is commonly defined as alternating changes in light intensity at a given stationary location if sensitive receptors are within 2,000 meters (6,562 feet) of the proposed turbines. The 2012 Wind Energy EIR adopted Mitigation Measures M-AES-2 and M-AES-3 described below in Section 2.1.5 which require a Lighting Mitigation Plan and Shadow Flicker Study at the time of discretionary review. Additional mitigation was considered, but rejected as infeasible, that would require an Obstacle Collision Avoidance System because the technology is not widely available. Therefore, even though large wind turbine projects would be required to comply with the County's Light Pollution Code, and would be required to minimize the impact of new sources of light pollution, potential impacts would remain significant. Similar impacts could result from lighting atop the stacks required for geothermal energy systems. Solar energy systems would not require significant sources of nighttime lighting, as they only require minimal perimeter security lighting.

Therefore, while all large-scale renewable energy projects would be required to obtain a MUP, undergo a discretionary review, evaluate project-specific impacts under CEQA, and mitigate to the extent feasible, it is not possible to ensure that impacts related to light and glare would be reduced to a level below significance because it would be infeasible to fully mitigate the impacts of light and glare as described above. Therefore, implementation

of GHG Reduction Measure E-2.1 would result in **potentially significant** light and glare impacts (**Impact AES-9**).

Cumulative Impacts

Impacts related to light would be cumulative in nature if the project in combination with cumulative development would have the potential to result in nighttime light pollution that could contribute to light pollution and decrease the County's dark skies, resulting in a potential lighting impact to the Palomar Mountain and Mount Laguna Observatories. Impacts to glare would be cumulative in nature if a project would install highly reflective building materials, including but not limited to reflective glass and high-gloss surface color, that would create daytime glare and be visible from roadways, pedestrian walkways or areas frequently used for outdoor activities on adjacent properties. The methodology for determining the cumulative environment described in Chapter 1, Project Description, and summarized above in Section 2.1.4.1 above applies for this cumulative discussion.

The 2011 GPU PEIR concluded that cumulative impacts resulting from build-out associated with the 2011 GPU would be significant and unavoidable even with implementation of adopted policies and mitigation measures listed above. As described on page 2.1-19 of the 2012 Wind Energy EIR, the lighting required for FAA compliance on large-scale wind turbines could result in a considerable contribution to the significant cumulative impacts associated with nighttime lighting. Implementation of the GHG Reduction Measure E-2.1 would result in the development of large-scale renewable energy infrastructure in largely undeveloped areas within the unincorporated County. Because the location of new infrastructure is unknown, proposed facilities could be in areas that would result in adverse nighttime lighting impacts to Palomar Mountain and Mount Laguna Observatories. Though not typical of solar energy systems, there is the potential that these projects could result in impacts from glare.

Implementation of the project would contribute to the 2011 GPU PEIR significant and unavoidable impact if the location of renewable energy projects were located in areas that could result in adverse impacts to Palomar Mountain and Mount Laguna Observatories or in areas where significant amounts of glare could impact motorists or recreationists. As described above, even with implementation of adopted 2011 GPU policies and mitigation of the 2011 GPU PEIR, it is possible that significant light and glare impacts could result from GHG Reduction Measure E-2.1. Therefore, implementation of GHG Reduction Measure E-2.1 **could result in a considerable contribution** to a significant cumulative impact (**Impact AES-10**).

Padre Dam Water and Wastewater Supporting Effort

As described in Chapter 1, Project Description, the CAP includes a Water and Wastewater Supporting Effort that would support participation in the Padre Dam AWP project. The Padre Dam MWD prepared the Padre Dam PEIR and that analysis is hereby incorporated by reference. As described on pages 4.1-12 through 4.1-13 of the Padre Dam PEIR, potentially significant direct and indirect impacts were identified for light and glare. However, all impacts were reduced to a level below significance with

implementation of Mitigation Measures AES-1, AES-4, and AES-5 as described in the Padre Dam PEIR. Impacts related to light and glare were determined to be less than significant. Therefore, potential impacts related to light and glare because of the Padre Dam AWP would be **less than significant**.

Cumulative Impacts

The Padre Dam PEIR evaluated the cumulative light and glare impacts of the project on page 6-12 through 6-13. As described therein, the AWP project would result in less-than-significant impacts to light and glare with implementation of Mitigation Measures AES-1, AES-4, AES-5 and it **would not have a considerable contribution** to a significant cumulative impact.

Impact Summary

Implementation of the above described 2011 GPU policies and 2011 GPU PEIR mitigation measures would reduce the project and cumulative light and glare impacts from ground or roof-mounted renewable energy systems including small wind turbines to **less than significant** and these projects **would not have a considerable contribution** to a significant cumulative impact. The County's participation in the AWP project would result in **less than significant** project impact to light or glare impacts, and **would not have a considerable contribution** to a significant cumulative impact.

However, implementation of GHG Reduction Measure E-2.1 which would result in the development of large-scale renewable energy systems could result in **potentially significant** light and glare impacts and **would result in a considerable contribution** to a significant cumulative impact.

2.1.5 Mitigation

2.1.5.1 Issue 1: Scenic Vistas and Scenic Resources

The 2012 Wind Energy EIR included the following mitigation measure to minimize the potentially significant impacts related to large wind turbine projects:

Mitigation Measure-M-AES-1: During the environmental review process for future Major Use Permits for wind turbines, the County Guidelines for Determining Significance for Visual Resources and Dark Skies and Glare shall be applied. When aesthetic impacts are determined to be significant, feasible and appropriate project-specific mitigation measures shall be incorporated. Examples of standard mitigation measures within the County Guidelines include: siting/location considerations; minimizing development and grading of steep slopes; natural screening and landscaping; undergrounding utilities; inclusion of buffers; and lighting restrictions.

As described in Section 2.1.4.1, additional wind turbine mitigation was considered but rejected as infeasible through the Wind Energy EIR. Mitigation Measure M-AES-1 shall

be incorporated into the Mitigation Monitoring and Reporting Program (MMRP) for the CAP and shall be applied to all large-scale renewable energy projects including but not limited to solar photovoltaic, solar concentrator, wind turbine, and geothermal systems during the discretionary review process which would be implemented as a condition of receiving a MUP. As described during the impacts analysis, future large-scale renewable energy projects would be required to be evaluated for project-specific impacts under CEQA at the time of discretionary review and project-specific mitigation would minimize or eliminate impacts to scenic vistas and scenic resources to the extent feasible in compliance with CEQA Guidelines Section 15126.4. Mitigation Measure M-AES-1 from the 2012 Wind Energy EIR has been revised to include all large-scale renewable energy projects as follows:

CAP Mitigation Measure-M-AES-1: During the environmental review process for future Major Use Permits for all large-scale renewable energy projects, the County Guidelines for Determining Significance for Visual Resources and Dark Skies and Glare shall be applied. When aesthetic impacts are determined to be significant, feasible and appropriate project-specific mitigation measures shall be incorporated. Examples of standard mitigation measures within the County Guidelines include: siting/location considerations; minimizing development and grading of steep slopes; natural screening and landscaping; undergrounding utilities; inclusion of buffers; and lighting restrictions.

However, while CAP Mitigation Measure M-AES-1 would reduce the potential for significant impacts related to scenic vistas and scenic resources, because of the uncertainty of the types, locations, and scale of future renewable energy projects, it is not possible to guarantee that all project and cumulative impacts to scenic vistas and scenic resources would be reduced to a level below significance. Additional mitigation was contemplated as part of this Draft SEIR that would implement a development cap upon large-scale renewable energy projects. However, this potential mitigation measure was rejected as infeasible because it may reduce the effectiveness of GHG Reduction Measure E-2.1 and diminish the potential for the County to achieve the 2030 GHG emissions reduction target established by the CAP. This mitigation would also be infeasible because it would conflict with the County's goal for expanding renewable energy resources. It is unknown how many individual projects and specific type of large-scale renewable energy systems would be required to meet the GHG reduction goals of the CAP because the design, siting, and economic feasibility characteristics of the options under consideration vary widely. No other additional feasible mitigation is available.

Therefore, as described above in Section 2.1.4.1, Scenic Vistas and Scenic Resources, even with implementation of the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures that prevent significant impacts to scenic vistas and scenic resources, and CAP Mitigation Measure M-AES-1, impacts from large-scale renewable energy projects could remain significant. No other feasible project-related mitigation beyond compliance with the County's adopted 2011 GPU policies, 2011 GPU PEIR mitigation measures, and MUP discretionary process is available and could be applied to large-scale renewable energy projects. The project's impacts related to scenic vistas and scenic resources from development of new small wind turbines and large-scale

renewable energy facilities would remain **significant and unavoidable** and the project **would result in a considerable contribution** such that a new significant cumulative impact to scenic vistas and resources could occur.

2.1.5.2 Issue 2: Visual Character or Quality

As described above in Section 2.1.5.1, the 2012 Wind Energy EIR adopted Mitigation Measure M-AES-1 (described above) which would be implemented at the discretionary review process for large wind turbines.

Also, as described above in Section 2.1.4.2, Visual Character and Quality, additional wind turbine mitigation was considered but rejected as infeasible through the Wind Energy EIR. CAP Mitigation Measure M-AES-1 shall be incorporated into the MMRP for the CAP and shall be applied to all large-scale renewable energy projects including but not limited to solar photovoltaic, solar concentrator, wind turbine, and geothermal systems during the discretionary review process which would be implemented as a condition of receiving a MUP. As described during the impacts analysis, future large-scale renewable energy projects would be required to be evaluated for project-specific impacts under CEQA at the time of a discretionary review application and project-specific mitigation would minimize or eliminate impacts to visual character and quality to the extent feasible in compliance with CEQA Guidelines Section 15126.4.

However, while CAP Mitigation Measure M-AES-1 would reduce the potential for significant impacts related to visual character and quality, because of the uncertainty of the types, locations, and scale of future renewable energy projects, it is not possible to guarantee that all project and cumulative impacts to visual character and quality would be reduced to a level below significance. Additional mitigation was contemplated as part of this Draft SEIR that would implement a development cap upon large-scale renewable energy projects. However, this potential mitigation measure was rejected as infeasible because it may reduce the effectiveness of GHG Reduction Measure E-2.1 and diminish the potential for the County to achieve the 2030 GHG emissions reduction target established by the CAP. This mitigation would also be infeasible because it would conflict with the County's goal for expanding renewable energy resources. It is unknown how many individual projects and specific type of large-scale renewable energy systems would be required to meet the GHG reduction goals of the CAP because the design, siting, and economic feasibility characteristics of the options under consideration vary widely. No other additional feasible mitigation is available.

Therefore, even with implementation of the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures, and CAP Mitigation Measure M-AES-1 that prevent significant impacts to visual character, impacts could remain significant. No other feasible project-related mitigation beyond compliance with the County's adopted 2011 GPU policies or 2011 GPU PEIR mitigation measures is available and could be applied to large-scale renewable energy projects. The project's impacts related to visual character or quality from development of small wind turbines and large scale renewable energy facilities would remain **significant and unavoidable** and the project **would result in a considerable contribution** to this significant and unavoidable cumulative impact.

2.1.5.3 Issue 3: Light and Glare

The 2012 Wind Energy EIR adopted Mitigation Measures M-AES-1 (described above) M-AES-2 and M-AES-3 which would be implemented at the discretionary review process for large wind turbines.

Mitigation Measure-M-AES-2 Require that a Lighting Mitigation Plan be prepared as part of the MUP discretionary review process. The Lighting Mitigation Plan would demonstrate that the design and installation of all permanent lighting for large wind turbine ancillary facilities is such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. The Lighting Mitigation Plan would demonstrate consistency with the Light Pollution Code (Section 59.100 et al.) and Sections 6322 and 6324 of the Zoning Ordinance to ensure outdoor light fixtures emitting light into the night sky do not result in a detrimental effect on astronomical research and to ensure reflected glare and light trespass is minimized.

Mitigation Measure-M-AES-3 Require that a Shadow Flicker Study be prepared as part of the MUP discretionary review process. The Shadow Flicker Study would utilize a shadow flicker model run to determine the potential shadow flicker that could occur at sensitive receptors within 2,000 meters (6,562 feet) of the proposed turbines. Due to the fact that some receptors may lie within 60° due north of the turbines, outside of the sun's path at any given point in the year, those receptors may be excluded from the study. Beyond 2,000 meters, the human eye would not be able to discern a shadow cast from a wind turbine. The modeling should utilize many different inputs, including:

1) Real Data

- Actual coordinates of turbines
- Actual coordinates of receptors
- Actual topographic data

2) Conservative Assumptions

- Specifications of the turbines being considered with the highest hub height and longest rotor diameter
- 100 percent turbine operation
- No vegetative screening
- Receptors can be impacted from all directions (i.e., "greenhouse mode")

3) Realistic Features

- Actual wind data from a local meteorological tower to account for the percentage of time wind blows from each direction
- National Weather Service sunshine probability data to approximate average cloud cover.

As described in Section 2.1.4.3, additional wind turbine mitigation was considered but rejected as infeasible through the 2012 Wind Energy EIR. An Obstacle Collision Avoidance Systems (OCAS) was considered and would alert pilots if their aircraft is in immediate danger of flying into an obstacle by using ground based radar to provide detection and tracking of an aircraft's proximity to an obstacle. This capability allows the visual warning lights to remain passive until an aircraft is detected and known to be tracking on an unsafe heading. However, this mitigation was determined to be infeasible because the technology is not widely available.

As described during the impacts analysis, future large-scale renewable energy projects would be required to be evaluated for project-specific impacts under CEQA at the time of a discretionary review application and project-specific mitigation would minimize or eliminate impacts to light and glare to the extent feasible in compliance with CEQA Guidelines Section 15126.4. Mitigation Measure M-AES-1 from the 2012 Wind Energy EIR has been revised to include all large-scale renewable energy projects as described above. Mitigation Measure M-AES-2 from the 2012 Wind Energy EIR has been revised to include all large-scale renewable energy projects as follows:

CAP Mitigation Measure-M-AES-2 Require that a Lighting Mitigation Plan be prepared as part of the MUP discretionary review process for all large-scale renewable energy projects. The Lighting Mitigation Plan would demonstrate that the design and installation of all permanent lighting for large wind turbines or large geothermal stacks ancillary facilities is such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; and illumination of the project facilities, vicinity, and nighttime sky is minimized. The Lighting Mitigation Plan would demonstrate consistency with the Light Pollution Code (Section 59.100 et al.) and Sections 6322 and 6324 of the Zoning Ordinance to ensure outdoor light fixtures emitting light into the night sky do not result in a detrimental effect on astronomical research and to ensure reflected glare and light trespass is minimized.

CAP Mitigation Measure-M-AES-3 Require that a Shadow Flicker Study be prepared as part of the MUP discretionary review process for all wind turbine projects. The Shadow Flicker Study would utilize a shadow flicker model run to determine the potential shadow flicker that could occur at sensitive receptors within 2,000 meters (6,562 feet) of the proposed turbines. For wind turbine projects, because some receptors may lie within 60° due north of the turbines, outside of the sun's path at any given point in the year, these receptors may be excluded from the study. Beyond 2,000 meters, the human eye would not be able to discern a shadow cast from a wind turbine for example. The modeling should utilize many different inputs, including:

4) Real Data

- Actual coordinates of turbines
- Actual coordinates of receptors
- Actual topographic data

5) Conservative Assumptions

- Specifications of the turbines being considered with the highest hub height and longest rotor diameter
- 100 percent turbine operation
- No vegetative screening
- Receptors can be impacted from all directions (i.e., “greenhouse mode”)

6) Realistic Features

- Actual wind data from a local meteorological tower to account for the percentage of time wind blows from each direction
- National Weather Service sunshine probability data to approximate average cloud cover.

However, while CAP Mitigation Measures M-AES-1, M-AES-2, and M-AES-3 would reduce the potential for significant impacts related to light and glare, because of the uncertainty of the types, locations, and scale of all future renewable energy projects, it is not possible to guarantee that all project and cumulative impacts to light and glare would be reduced to a level below significance. Additional mitigation was contemplated as part of this Draft SEIR that would implement a development cap upon large-scale renewable energy projects. However, this potential mitigation measure was rejected as infeasible because it may reduce the effectiveness of GHG Reduction Measure E-2.1 and diminish the potential for the County to achieve the 2030 GHG emissions reduction target established by the CAP. This mitigation would also be infeasible because it would conflict with the County’s goal for expanding renewable energy resources. It is unknown how many individual projects and specific type of large-scale renewable energy systems would be required to meet the GHG reduction goals of the CAP because the design, siting, and economic feasibility characteristics of the options under consideration vary widely. No other additional feasible mitigation is available.

Therefore, as described above in Section 2.1.4.3, even with implementation of the adopted 2011 GPU policies and 2011 GPU PEIR mitigation measures, and ~~2012 Wind Energy EIR~~ and CAP Mitigation Measures M-AES-1, M-AES-2, and M-AES-3 ~~(as modified for the CAP)~~ that prevent significant light and glare impacts, impacts could remain significant and unavoidable. No other feasible project-related mitigation beyond compliance with the County’s adopted 2011 GPU policies or 2011 GPU PEIR mitigation

measures is available and could be applied to large-scale renewable energy projects. The project's light and glare impacts from large scale renewable energy facilities would remain **significant and unavoidable** and the project **would result in a considerable contribution** to a significant cumulative impact.