

# **APPENDIX H**

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Energy Impacts



# ENERGY IMPACTS

## 1.1 PREFACE

This appendix was prepared to document the EIR’s consideration of Appendix F of the California Environmental Quality Act (CEQA) Guidelines, which requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, or unnecessary consumption of energy. It requires that an EIR consider “potentially significant energy implications of a project to the extent relevant and applicable to the project.” It suggests detailed energy contents for an EIR project description, environmental impact analysis, and mitigation measures that may be included in an EIR where applicable or relevant to the project:

Appendix F of the *CEQA Guidelines* addresses three ways to achieve the goal of wise and efficient use of energy:

- ▶ decreasing overall per capita energy consumption,
- ▶ decreasing reliance on fossil fuels such as coal, natural gas and oil, and
- ▶ increasing reliance on renewable energy sources.

This appendix analyzes Amador County General Plan energy impacts, describes how the EIR text has considered potential impacts associated with the use and supply of energy, and describes how the General Plan helps achieve the above mentioned energy conservation goals. Because the General Plan’s energy impacts are less than significant, it does not present new mitigation measures to reduce energy impacts. (Mitigation measures are not required for impacts that are less than significant; CEQA Guidelines Section 15126.4(a)(3).) Although this appendix has been added to the Final EIR, it does not trigger Draft EIR recirculation because it does not represent “significant new information” added to the EIR under CEQA Guidelines Section 15088.5.<sup>1</sup>

Following is the organization of this appendix: (1) Amador County Energy Supply and Development; (2) Regulatory Setting; (3) Energy Use Associated with the Amador County General Plan; (4) Energy Use Addressed in Other Parts of the General Plan EIR; (5) General Plan Energy Conservation Strategies; and (6) Conclusions.

## 1.2 AMADOR COUNTY ENERGY SUPPLY AND DEVELOPMENT

### 1.2.1 ENERGY PROVIDERS

The primary service provider in Amador County for natural gas and electricity for homes and businesses is Pacific Gas and Electric Company (PG&E) and is regulated by the California Public Utilities Commission (CPUC). Power plants and natural gas fields in northern California, as well as energy purchased outside the PG&E service area and delivered through high voltage transmission lines, provide energy supplies to PG&E. Both gas and electrical power are purchased by PG&E from a variety of sources, including utility companies in other western states and Mexico (Amador County 2012). Forecasted electricity consumption for 2012-2024 is estimated to increase by approximately 1.35 percent, based on various modeled scenarios (CEC 2013a). Natural gas

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<sup>1</sup> Significant new information includes a disclosure showing a new significant impact, a substantial increase in the severity of an impact, a new feasible alternative or mitigation measure, or that the Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded (CEQA Guidelines Section 15088.5).

consumption is expected to decrease for the same time period by less than one percent (CEC 2013b). Energy conservation programs enforced through regulation (i.e., Title 24), and also through demand response (i.e., financial reduction incentive programs) contribute to the overall consumption efficiency of electricity (CEC 2013a; PG&E 2016). Lower natural gas consumption can be contributed to climate change (i.e., less days needed to heat homes), and the effectiveness of efficiency standards (i.e., Title 24) (CEC 2013b). As of December 31, 2014, California had approximately 2,260 billion cubic feet of natural gas in reserve, and exports surplus supply to Mexico (EIA 2016a; 2016b). California’s electricity is generated by hydroelectric generation within the State, but also from other states (i.e., wind power from Oregon) as demand warrants (EIA 2016b). Both natural gas and electricity future supply tends to fluctuate based on market volatility and fluctuating supply and demand.

## 1.2.2 ENERGY DEVELOPMENT

Amador County hosts eight power plants, including six hydroelectric facilities, one natural gas plant (at Mule Creek State Prison), and one cogeneration plant/facility (not currently operating). Because of Amador County’s relatively small population and high energy production capacity, the County is a large energy exporter of electricity (see page C-7 of the General Plan Conservation Element).

Large hydroelectric facilities are located at several creeks, dams, and waterways throughout the County, including Pardee Dam, Tiger Creek, Salt Springs, and Lake Amador Dam (see **Table H-1**). Most electricity generated in Amador County originates from one of these six hydroelectric facilities.

Plant Name	Year Online	Service Area	Owner	Online Megawatts
Pardee Dam	1930	PG&E	East Bay Municipal Utility District	23.6
Salt Springs	1931	PG&E	Pacific Gas And Electric Company	44.0
Tiger Creek	1931	PG&E	Pacific Gas And Electric Company	58.0
Electra	1948	PG&E	Pacific Gas And Electric Company	99.0
West Point	1948	PG&E	Pacific Gas And Electric Company	14.5
Jackson Valley Irrigation District	1982	PG&E	Jackson Valley Irrigation District	0.5

Source: General Plan Conservation Element, page C-8

## 1.3 REGULATORY SETTING

Implementation of the General Plan would comply with existing energy standards embodied in a large number of federal, state, and local laws, regulations, and policies. Some energy-related laws, regulations, and policies governing GHG emissions, transportation fuel efficiency, and energy conservation are discussed in Chapter 4.7 of the General Plan EIR, “Greenhouse Gas Emissions” (i.e., AB 32, Title 24, Senate Bill X1 2, Executive Order S-21-09, and Senate Bill 107 and 1078, EPA and NHTSA motor vehicle standards, Executive Order S-1-07). Other applicable laws, regulations, and policies pertaining to energy use and conservation include the following.

### 1.3.1 FEDERAL

- ▶ Energy Policy Act of 2005 – A comprehensive set of provisions to address energy conservation.
- ▶ Energy Independence and Security Act of 2007 – Includes an increase in auto mileage standards, and also addresses biofuels, conservation measures, and building efficiency. The U.S. Environmental Protection Agency (EPA) administers the Corporate Average Fuel Economy (CAFE) program, which determines vehicle manufacturers' compliance with existing fuel economy standards.
- ▶ Energy Star Program – A voluntary labeling program designed to identify and promote energy-efficient products to reduce GHG emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems.
- ▶ Income Tax Credits – Federal income tax credits are available to individuals for installation of qualified energy conservation features in the home such as insulation, replacement windows, and certain high-efficiency heating and cooling equipment.

### 1.3.2 STATE

- ▶ Senate Bill 1 (Million Solar Roofs Bill) – Complements the California Solar Initiative established by CPUC in January 2006 with a goal of building a million solar roofs in 10 years (December 31, 2016). The main component of the bill includes increasing the amount of credit solar customers can receive for excess power generated by their solar systems.
- ▶ Executive Order B-30-15 – Establishes a California GHG reduction target of 40 percent below 1990 levels by 2030.
- ▶ Senate Bill 350 - Increases the renewable portfolio standard for investor-owned utilities, such as PG&E, to 50 percent by 2030.
- ▶ Appliance Efficiency Regulations (Title 20 CCR Sections 1601-1608) – Standards for both federally-regulated appliances and non-federally regulated appliances which exceed the standards imposed by any other state and reduce energy demand.
- ▶ Title 24 (California Energy Efficiency Standards) Updates
  - *2013 Building Energy Efficiency Standards (Title 24 CCR Part 1, 6)* - 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction.
    - *2016 Update* - improves the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. Applies to both residential and non-residential development.
  - *2011 California Green Building Code (Part 11, Title 24)* - developed to enhance the design and construction of buildings and sustainable construction practices through planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental air quality. It is the intent of this code to achieve more than a 15% reduction in energy use

when compared to existing standards, to reduce indoor potable water demand by 20%, to reduce landscape water usage by 50%, and to reduce construction waste by 50%.

### **1.3.3 LOCAL**

#### **1.3.3.1 AMADOR COUNTY HOUSING ELEMENT**

Goal H-3: Support the conservation and rehabilitation of the existing housing stock and promote the reduction of energy use and the conservation of natural resources in the development of housing.

Policy H-3.2: The County and the cities of Ione, Jackson, Plymouth, and Sutter Creek shall promote energy and water conservation designs and features in residential developments.

Program H-3.2: The County and the cities of Ione, Jackson, Plymouth, and Sutter Creek will enforce the State of California's Title 24 energy requirements. Title 24 energy requirements define construction standards that promote energy conservation. In addition, each jurisdiction will consider partnering with Amador-Tuolumne Community Action Agency and ACES, Inc. (formerly Amador County Environmental Services) to promote energy conservation.

Some measures the County and the cities could undertake jointly or individually to assist in the implementation of the ATCAA program include providing brochures at public counters, providing brochures to senior centers, or applying for funds either jointly or individually to assist homeowners in undertaking weatherization projects in conjunction with government-assisted rehabilitation projects.

Policy H-3.3: The County and the cities of Ione, Jackson, Plymouth, and Sutter Creek should consider working together with local utility companies to implement energy awareness programs.

Program H-3.3: The County and cities of Ione, Jackson, Plymouth, and Sutter Creek shall continue to support PG&E's weatherization program as an important means of lowering housing costs and preserving housing affordability.

Program H-3.4: The County and the cities of Ione, Jackson, Plymouth, and Sutter Creek will consider partnering with Pacific Gas & Electric (PG&E) to promote energy saving programs by notifying home builders of the design tools offered by PG&E and by posting a link on each jurisdictions website to notify ratepayers of the variety of programs. The County and cities of Ione, Jackson, Plymouth, and Sutter Creek will also consider partnering with the California Alternate Rates for Energy (CARE), the Relief for Energy Assistance through Community Help (REACH) and the Family Electric Rate Assistance (FERA).

## 1.4 ENERGY USE ASSOCIATED WITH THE AMADOR COUNTY GENERAL PLAN

Implementation of the General Plan would consume energy as a result of its short-term construction activities and long-term operational activities. Construction activities would consume energy in the form of fossil fuels (i.e., gasoline and diesel fuel) to power heavy-duty construction equipment, material haul trucks, and construction worker vehicles. Operational activities would consume energy in the form of natural gas combustion and electricity consumption for building heating, cooling, and lighting. Mobile sources (vehicles) would consume energy in the form of gasoline and diesel fuel, as well as electricity.

As described in Chapters 4.3, “Air Quality” (page 4.3-12) and 4.7, “Greenhouse Gas Emissions” (page 4.7-10) of the General Plan EIR, construction-related energy consumption would decrease over time as fuel efficiency for on- and off-road vehicles continues to increase. Increasing fuel efficiency standards and emission standards will result in cleaner and more efficient vehicles used in the statewide fleet. In addition, as older vehicles are retired or taken off-line, the total fleet average will become more energy efficient, as well.

Projects accommodated under the General Plan would not require unusual construction techniques or equipment. Rather, under the General Plan, development projects would generally be constructed using industry standard construction equipment, vehicles, and construction techniques. Since fuel efficiency and emission standards are becoming more stringent over time, future construction for projects that fall under the umbrella of the General Plan would have lower emissions and be more energy efficient than current projects.

Regarding operational activities, **Table H-2** presents the building and mobile source energy consumption associated with the existing land uses within the County, with implementation of the General Plan, and the net change in energy consumption. Energy data in Table H-2 was derived from projections used in the EIR to analyze air quality and GHG impacts (see Appendix B).

<b>Table H-2</b>			
<b>Amador County General Plan Operational Energy Consumption</b>			
Operational Activity	Existing	Proposed General Plan	Net Change
<b>Building Energy</b>			
Natural Gas (MMBtu/year)	389,405	476,307	86,902
Electricity (MWh/year)	111,049	166,818	55,770
<b>Transportation</b>			
Vehicle Miles Traveled (1,000 miles/year)	413,651	527,718	114,067
Gasoline Fuel Consumption (1,000 gallons/year)	19,356	24,050	4,694
Diesel Fuel Consumption (1,000 gallons/year)	2,941	4,253	1,313
<b>Total Transportation Energy</b> (MMBtu/year)	2,812,538	3,577,797	765,259
Notes: MMBtu = million British thermal units; MWh = megawatt-hours Totals may not appear to add exactly due to rounding. Source: AECOM 2016, CCAR 2009			

As shown in **Table H-2**, implementation of the General Plan would result in an increase of total building and transportation energy consumption. However, as illustrated in **Table H-3**, which divides each annual energy consumption value by the corresponding service population<sup>2</sup>, the energy consumption rate per service population would decrease substantially for all building- and transportation-related energy uses. Therefore, implementation of the General Plan would result in more efficient consumption of energy per service population than under existing conditions.

<b>Table H-3</b>			
<b>Amador County General Plan Operational Energy Consumption By Service Population</b>			
<b>Operational Activity</b>	<b>Existing</b>	<b>Proposed General Plan</b>	<b>Net Change</b>
<b>Building Energy</b>			
Natural Gas (MMBtu/SP/year)	13.71	11.12	(2.59)
Electricity (MWh/SP/year)	3.91	3.90	(0.01)
<b>Transportation</b>			
Vehicle Miles Traveled (1,000 miles/SP/year)	14.56	12.32	(2.24)
Gasoline Fuel Consumption (1,000 gallons/SP/year)	681.32	561.56	(119.76)
Diesel Fuel Consumption (1,000 gallons/SP/year)	103.51	99.31	(4.20)
<b>Total Transportation Energy</b> (MMBtu/SP/year)	99.00	83.54	(15.46)
Notes: MMBtu = million British thermal units; SP = service population MWh = megawatt-hours Totals may not appear to add exactly due to rounding. ( ) = negative values Source: AECOM 2016, CCAR 2009			

## 1.5 ENERGY USE ADDRESSED IN OTHER PARTS OF THE GENERAL PLAN ENVIRONMENTAL IMPACT REPORT

### 1.5.1 AIR QUALITY

Chapter 4.3, “Air Quality,” addresses physical environmental impacts associated with construction- and operational-related energy consumption with respect to regional and local air quality. Construction-related energy consumption (i.e., gasoline and diesel fuel consumption) contributed to a significant impact on air quality in Impact 4.3-1 and Mitigation Measures 4.3-1a and 4.3-1b were recommended to help reduce construction-related air quality impacts.

For operational energy consumption, Impact 4.3-2 addresses the air quality impacts associated with mobile- and area-source energy consumption. Mobile source energy consumption includes gasoline and diesel fuel consumed for the County’s residents, employees, visitors, and delivery trucks. Area source energy consumption includes natural gas combustion associated with space and water heating, hearths, and fuel consumption for landscape

<sup>2</sup> Service population is the sum of residential population and local employment.



maintenance equipment. These long-term operational energy consumption activities were evaluated for their air quality impacts as summarized in Table 4.3-4, which determined that ROG and NO<sub>x</sub> emissions would decrease with implementation of the General Plan. The analysis also determined that although total vehicle miles traveled (VMT) would increase with implementation of the General Plan, the VMT per service population (SP) would decrease from 41.96 to 35.51 VMT/SP. Therefore, with implementation of the General Plan, mobile source energy consumption would occur at a more efficient rate than the existing conditions. Furthermore, as discussed in Impacts 4.3-1 and 4.3-2, fuel efficiency of on- and off-road vehicles would continue to increase over time as advancements in emissions technology and more stringent standards come into effect. Thus, the average on- and off-road vehicle fleet fuel efficiency throughout the County would continue to increase over time, which would also decrease air quality impacts associated with these energy consumption activities.

Nevertheless, the EIR determined that Impact 4.3-2 was significant, and Mitigation Measure 4.3-2a was recommended to further reduce operational emissions.

## **1.5.2 GREENHOUSE GASES**

Chapter 4.7, “Greenhouse Gas Emissions,” addresses construction-related energy consumption in the form of fuel consumption of on- and off-road vehicles. Fuel consumption for annual construction activities associated with the buildout of the General Plan were converted to GHG emissions and evaluated in Impact 4.7-1.

For operational energy consumption, GHG emissions associated with natural gas combustion, electricity consumption in buildings, and embedded energy for water consumption were estimated and evaluated in Impact 4.7-1. The General Plan’s GHG efficiency, which accounts for energy consumption for buildings, mobile sources, and water-related services, would be less than existing conditions, but would continue to exceed the 2030 GHG significance threshold. Mitigation Measures 4.7-1a and 4.7-1b were recommended to help reduce GHG impacts.

## **1.5.3 ENERGY**

As discussed in Chapter 6.3 of the General Plan EIR, “Significant Irreversible Environmental Changes,” future land uses associated with the General Plan represent a long-term commitment to the consumption of energy, such as fossil fuels and natural gas. Also, residential and commercial buildings in Amador County would be built to meet the 2013 Title 24 building code standards, which improve energy efficiency by 25% over the 2008 standards (see page 4.7-11 of the General Plan EIR, “GHG Emissions”).

# **1.6 GENERAL PLAN ENERGY CONSERVATION STRATEGIES**

## **1.6.1 APPLICABLE POLICIES FROM THE GENERAL PLAN**

The General Plan Conservation Element (under Goals C-6, C-9 and C-10.5) has fundamental goals to reduce energy use and promote renewable and locally available sources of energy. Other relevant goals are stated in the Land Use Element (Under Goal LU-2) and also in Circulation and Mobility (Goal CM-3). The County hopes to accomplish these goals by implementing the following policies:

### **1.6.1.2 CONSERVATION ELEMENT**

Goal C-6: Reduce energy use and promote renewable and locally available sources of energy.

- Policy C-6.1: Encourage new development to be pedestrian-friendly, and located near existing activity centers to limit energy use associated with automobile transportation.
- Policy C-6.2: Encourage energy-efficient businesses and manufacturers of green products to locate in Amador County.
- Policy C-6.3: Promote increased energy efficiency and green building practices through the County's use of these practices and through use of incentives.
- Policy C-6.4: Encourage development of renewable energy generation options.
- Policy C-6.5: Support use of renewable and locally-available sources of energy where feasible.

Goal C-9: Maintain and improve air quality.

- Policy C-9.4: Encourage energy conservation and energy efficient design in new development projects.

Goal C-10: Reduce GHG emissions associated with automobile travel, electric power generation and energy use.

- Policy C-10.5: Require new development projects to incorporate building placement and design features to increase energy efficiency in new structures.
- Policy C-10.6: Support green building through incentives for Leadership in Energy and Environmental Design (LEED) certification of new commercial, industrial, public, and multi-family residential buildings. Promote incentives for compliance with this standard as a way to increase the energy efficiency of new structures. Promote increased energy efficiency and green building practices through the County's use of these practices.
- Policy C-10.7: Support parcel-scale energy generation, including addition of solar panels for residential structures and cogeneration for larger commercial or industrial uses.

### **1.6.1.3 LAND USE**

Goal LU-2: Enhance and maintain separate and distinct community areas within the county.

- Policy LU-2.1: Direct development to areas with existing urban services and infrastructure, or to areas where extending of urban services is feasible given distances from development areas and topography, capacity, or land capability.
- Policy LU-2.3: Promote higher density or intensity development in infill areas, or areas adjacent to existing communities or activity centers.

#### **1.6.1.4 CIRCULATION AND MOBILITY**

Goal CM-3: Provide transportation alternatives to the automobile.

Policy CM-3.1: Identify priorities for the expansion of bicycle and pedestrian transportation that respects the rights of private property owners.

Policy CM-3.2: The County will seek funding for, and include pedestrian and bicycle facilities in Capital Improvements Planning, as feasible. These improvements should connect residents to communities, activity centers, and adjacent developments, and offer an alternative to automobile transportation.

Policy CM-3.4: Consider transportation needs in the context of new development proposals. Promote land use patterns which place residents near activity centers and essential services to reduce the need for frequent automobile travel.

Policy CM-3.5: Coordinate with Amador Transit and other agencies to improve the availability of public transit connecting residents to services.

Policy CM-3.7: The County will work cooperatively with Caltrans and local jurisdictions to identify priority alternative transportation improvements for bicycles, pedestrians, and transit users for state routes that intersect cities and town and serve as main streets for these communities.

### **1.6.2 GENERAL PLAN IMPLEMENTATION PLAN**

The Implementation Plan, although not a formal component of the General Plan, has the following additional energy conservation and renewable energy programs.

#### **1.6.2.5 DEVELOPMENT PROPOSAL REVIEW**

Program D-1: Development Proposal Evaluation

17. Energy conservation and greenhouse gas emissions. The County will consider energy consumption, energy use, and greenhouse gas emissions when evaluating development proposals. This review will include compatibility with an Action Plan compatible with federal, state, and local requirements and building placement and design features to increase energy efficiency.

#### **1.6.2.6 PUBLIC INFORMATION OR OUTREACH**

Program O-4: Energy Efficient Businesses

- a. Provide information to help existing businesses become more energy-efficient.
- b. Consider incentives to energy-efficient or “green” businesses that relocate to Amador County.

### **1.6.2.7 FUNDING, PHYSICAL IMPROVEMENTS, OR CAPITAL PROJECTS**

#### Program F-6: Energy Efficiency, Renewable Energy, and Green Building

- a. The County will identify procedures to:
  1. Support Leadership in Energy and Environmental Design (LEED) certification or other energy saving programs or methods for new commercial, industrial, public, and multi-family residential buildings;
  2. Support increased energy efficiency in new and existing structures;
  3. Encourage the use of green building techniques beyond the County’s basic requirements; and
  4. Support parcel-scale energy generation.
- b. Identify methods to expand renewable and alternative energy production in the county. Methods may include incentives such as expedited permit processing, reduced fees, and technical assistance to encourage energy-efficiency technology, research and practices.

### **1.6.2.8 APPLICABLE MITIGATION MEASURES IDENTIFIED IN THE GENERAL PLAN EIR**

The General Plan EIR includes mitigation measures for non-energy impacts that would reduce energy consumption and promote renewable energy use. Applicable provisions relating to energy reduction and conservation are listed below from pertinent mitigation measures found in the General Plan EIR.

#### **Mitigation Measure 4.3-1b: Reduce Exhaust Emissions from Construction Equipment**

- a. The County will require each project applicant, as a condition of development project discretionary approval, to implement measures to reduce exhaust emissions from construction equipment. Example measures include:
  - Where feasible, equipment requiring the use of fossil fuels (e.g., diesel) shall be replaced or substituted with electrically driven equivalents (provided that they are not run via a portable generator set).
  - To the extent feasible, alternative fuels and emission controls shall be used to further reduce exhaust emissions.
  - Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes (as required by the state airborne toxics control measure [Title 13, Section 2485 of the California Code of Regulations]). Provide clear signage that posts this requirement for workers at the entrances to the site.

#### **Mitigation Measure 4-3.2a: Implement Reduction Measures for Discretionary Projects**

- a. The County will require each project applicant, as a condition of development project discretionary approval, to implement measures to reduce operational emissions of criteria air pollutants. Measures to

reduce operational emissions will only be required for projects that exceed the applicable thresholds of significance for ROG, NO<sub>x</sub>, PM<sub>10</sub>, or PM<sub>2.5</sub> emissions, as demonstrated by project-level CEQA analysis. It should be noted that measures and programs implemented as a result of the climate action plan would also reduce air quality emissions from new and existing projects. Example measures include:

- Install solar, wind, and geothermal power systems and solar hot water heaters.
- Install solar panels on unused roof and ground space and over carports and parking areas.
- Incorporate bicycle lanes, routes and facilities into roadway systems.
- Require amenities for non-motorized transportation, such as secure and convenient bicycle parking.
- Institute teleconferencing, telecommute and/or flexible work hour programs to reduce unnecessary employee transportation
- Provide information on alternative transportation options for consumers, residents, tenants and employees to reduce transportation-related emissions.
- Purchase, or create incentives for purchasing, low or zero-emission vehicles.
- Create a ride sharing program. Promote existing ride sharing programs e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading for ride sharing vehicles, and providing a web site or message board for coordinating rides.

**Mitigation Measure 4.7-1a: Develop and Implement a Greenhouse Gas Reduction Plan**

- ▶ Emission reduction measures and actions. This will include a description of the feasible measures and actions that are necessary to reduce emissions in the County and achieve the reduction targets. Measures could include, but are not limited to the following and the Attorney General’s Office mitigation measures (CAPCOA 2010) (CAPCOA 2010 documents the effectiveness of many of these measures in reducing GHG emissions):
  1. Increase density and location efficiency of new development.
  2. Improve pedestrian and transit access and amenities in new development.
  3. Implement trip reduction and carpool programs.
  4. Support telecommuting and alternative work schedules for new job-generating uses.
  5. Install programmable thermostat timers for new buildings.
  6. Use on-site renewable energy systems.
  7. Limit outdoor lighting requirements for new commercial properties.

8. For new commercial land uses, employers allow telecommuting and alternative work schedules for employees.
9. Provide electrical vehicle and carpool vehicle priority parking in new commercial sites.
10. Install low-flow water fixtures in all new residential and commercial developments.
11. Adopt a water conservative strategy applicable to all residential and commercial developments.
12. Require commercial building landscaping to be water-efficient (e.g., native or drought-resistant plants, minimize turf and lawn area).
13. Recycle demolished construction materials.
14. Use alternative fuels, electric, and/or hybrid construction equipment.
15. Protection and adaptation strategies. This section will describe strategies, policies, and measures that will be used to protect the County from, and facilitate adaptation to, the potential effects of climate change.
16. Benchmarks, monitoring procedures, amendment requirements, and other steps needed to ensure the County achieves its emissions reduction, protection, and adaptation goals.
17. Re-evaluation of policies, and measures relevant to climate change in the General Plan each time the General Plan is updated.

**Mitigation Measure 4.7-1b: Implement Interim Project-Specific Greenhouse Gas Reduction Measures**

- ▶ Assessing energy consumption and implementing measures to reduce energy use. Sample measures include but are not limited to installing energy efficient appliances and boilers, “cool” roofs and pavements, higher-efficiency interior and exterior lighting, and on-site renewable energy generation.

## **1.7 CONCLUSIONS**

As discussed in Chapter 6.3 of the General Plan EIR, “Significant Irreversible Environmental Changes,” future land uses associated with the General Plan represent a long-term commitment to the consumption of energy, such as fossil fuels and natural gas. The increased energy demand relates to construction, lighting, heating and cooling of residences and buildings, and transportation. Even though implementation of the General Plan would increase the overall net consumption of energy (Table H-2), implementation of the General Plan would reduce the energy consumption rate per service population (see Table H-3). Furthermore, as discussed in Table H-1 above, PG&E generates substantial electricity within the County. The increased demand for electricity and natural gas created by General Plan implementation can be accommodated by existing and projected supplies. As discussed above (see “Amador County Energy Supply and Development”), demand within the PG&E service area is not expected to increase over the next eight years by more than 1.35 percent for electricity, and is not expected to increase at all for natural gas. California has substantial reserves of natural gas (USEIA 2016a), and exports surplus supply to Mexico (USEIA 2016b). PG&E relies on both hydroelectric power and also sources outside of California. PG&E imports electricity to augment local supply (i.e., hydroelectric dams), as necessary (USEIA 2016b).

The policies and programs outlined in the General Plan and Implementation Plan referenced above were created in the context of the County's existing setting and long-term planning objectives. Implementation of the General Plan would be further guided by all applicable federal and State laws, policies and regulations pertaining to energy use and conservation as discussed above and/or referenced from the General Plan EIR. Projects accommodated under the County's General Plan would be required to comply with the current energy performance standards found in Title 24 of the California Code of Regulations, resulting in reductions in energy demand, including the 2010 California Green Building Code (Part 11 of Title 24), 2012 Appliance Efficiency Regulations, and revised 2013 Building Energy Efficiency Standards. In addition, any construction would be required to reduce construction waste and demolition debris by 50% per the 2010 California Green Building Code requirements. Overall, there would be a total reduction in the electricity consumption rate per service population as a result of these and other policies and programs.

Therefore, the implementation of the General Plan would not have a significant impact on energy resources. As demonstrated above, it would not result in the wasteful, inefficient and unnecessary consumption of energy during construction or operation. Furthermore, as discussed above, General Plan policies would incorporate renewable energy and energy efficiency measures into building design and transportation. Although no new energy mitigation measures are required under CEQA because energy impacts are less than significant, it should be noted that implementation of EIR Mitigation Measures 4.3-1b, 4.3-2a, 4.7-1a, and 4.7-1b (discussed above) would further minimize energy consumption and use during construction and operations associated with General Plan implementation, below the levels shown in **Tables H-2** and **H-3**.

## 1.8 REFERENCES

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