

GREENHOUSE GAS EMISSIONS

5.8 GREENHOUSE GAS EMISSIONS

This chapter describes the potential greenhouse gas (GHG) emissions impacts from buildout of the General Plan Update and Upper Ridge Community Plan (URCP) in Butte County. This chapter describes the regulatory framework and existing conditions related to GHGs, identifies criteria used to determine impact significance, provides an analysis of the potential GHG emissions impacts, and identifies proposed project policies and strategies and feasible mitigation measures that could minimize any potentially significant impacts.

Terminology

- **Greenhouse gases (GHG).** Gases in the atmosphere that absorb infrared light, thereby retaining heat in the atmosphere and contributing to a greenhouse effect.
- **Global warming potential (GWP).** Metric used to describe how much heat a molecule of a GHG absorbs relative to a molecule of carbon dioxide (CO₂) over a given period of time (20, 100, and 500 years). CO₂ has a GWP of 1.
- **Carbon dioxide-equivalent (CO₂e).** The standard unit to measure the amount of GHGs in terms of the amount of CO₂ that would cause the same amount of warming. CO₂e is based on the GWP ratios between the various GHGs relative to CO₂.
- **MTCO₂e.** Metric ton of CO₂e.
- **MMTCO₂e.** Million metric tons of CO₂e.

5.8.1 ENVIRONMENTAL SETTING

5.8.1.1 GREENHOUSE GASES AND CLIMATE CHANGE

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO₂), methane (CH₄), and ozone (O₃)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contributes to global warming to a lesser extent are nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).^{1,2} The major GHGs applicable to the proposed project are briefly described.

¹ Water vapor (H₂O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals); however, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

² Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. The share of black carbon emissions from transportation is dropping rapidly and is expected to continue to do so between now and 2030 as a result of California’s air quality programs. The remaining black carbon emissions will come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion (CARB 2022). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

GREENHOUSE GAS EMISSIONS

- **Carbon dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N₂O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high GWP gases. The GWP of GHG emissions are shown in Table 5.8-1, *GHG Emissions and Their Relative Global Warming Potential Compared to CO₂*. The GWP is used to convert GHGs to CO₂-equivalence (CO₂e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under the IPCC Fifth Assessment Report (AR5), GWP values for CH₄, 10 MT of CH₄ would be equivalent to 280 MT of CO₂.

TABLE 5.8-1 GHG EMISSIONS AND THEIR RELATIVE GLOBAL WARMING POTENTIAL COMPARED TO CO₂

GHGs	Second Assessment Report Global Warming Potential Relative to CO ₂ ¹	Fourth Assessment Report Global Warming Potential Relative to CO ₂ ¹	Fifth Assessment Report Global Warming Potential Relative to CO ₂ ¹
Carbon Dioxide (CO ₂)	1	1	1
Methane (CH ₄) ²	21	25	28
Nitrous Oxide (N ₂ O)	310	298	265

Notes: The IPCC published updated GWP values in its Fifth Assessment Report (AR5) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO₂. However, GWP values identified in AR4 are used by BAAQMD to maintain consistency in statewide GHG emissions modeling. In addition, the 2017 Scoping Plan Update was based on the GWP values in AR4.

¹ Based on 100-year time horizon of the GWP of the air pollutant compared to CO₂.

² The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

Source: IPCC 1995, 2007, 2013.

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHGs in the atmosphere remained relatively constant. During the 20th century, scientists observed a rapid change in the climate and the quantity of climate change pollutants in the Earth's atmosphere that is attributable to human activities. The recent Sixth Assessment Report (AR6) of the IPCC summarizes the latest scientific consensus on climate change. It finds that atmospheric concentrations of CO₂ have increased by 50 percent since the industrial revolution and continue to increase at a rate of two parts per million each year. By the 2030s, and no later than 2040, the world will exceed 1.5 degrees Celsius (°C) warming (CARB 2022). These recent changes in the quantity and concentration of climate change pollutants far exceed the extremes of the ice ages, and

GREENHOUSE GAS EMISSIONS

the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006). In the past, gradual changes in the Earth's temperature changed the distribution of species, availability of water, etc. Human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic time frame but within a human lifetime (IPCC 2007).

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are hard to predict. Projections of climate change depend heavily on future human activity. Therefore, climate models are based on different emission scenarios that account for historical trends in emissions and on observations of the climate record that assess the human influence of the trend and projections for extreme weather events. Climate-change scenarios are affected by varying degrees of uncertainty. For example, there are varying degrees of certainty on the magnitude of the trends for:

- Warmer and fewer cold days and nights over most land areas.
- Warmer and more frequent hot days and nights over most land areas.
- An increase in the frequency of warm spells and heat waves over most land areas.
- An increase in frequency of heavy precipitation events (or proportion of total rainfall from heavy falls) over most areas.
- Larger areas affected by drought.
- Intense tropical cyclone activity increases.
- Increased incidence of extreme high sea level (excluding tsunamis).

Potential Climate Change Impacts for California

There is at least a greater than 50 percent likelihood that global warming will reach or exceed 1.5°C in the near-term, even for the very low GHG emissions scenario (IPCC 2022). Climate change is already impacting California and will continue to affect it for the foreseeable future. For example, the average temperature in most areas of California is already 1°F higher than historical levels, and some areas have seen average increases in excess of 2°F (CalOES 2020). The California Fourth Climate Change Assessment identifies the following climate change impacts under a business-as-usual scenario:

- Annual average daily high temperatures in California are expected to rise by 2.7°F by 2040, 5.8°F by 2070, and 8.8°F by 2100 compared to observed and modeled historical conditions. These changes are statewide averages. Heat waves are projected to become longer, more intense, and more frequent.
- Warming temperatures are expected to increase soil moisture loss and lead to drier seasonal conditions. Summer dryness may become prolonged, with soil drying beginning earlier in the spring and lasting longer into the fall and winter rainy season.
- High heat increases the risk of death from cardiovascular, respiratory, cerebrovascular, and other diseases.

GREENHOUSE GAS EMISSIONS

- Droughts are likely to become more frequent and persistent through 2100.³
- Climate change is projected to increase the strength of the most intense precipitation and storm events affecting California.
- Mountain ranges in California are already seeing a reduction in the percentage of precipitation falling as snow. Snowpack levels are projected to decline significantly by 2100 due to reduced snowfall and faster snowmelt.
- Marine layer clouds are projected to decrease, though more research is needed to better understand their sensitivity to climate change.
- Extreme wildfires (i.e., fires larger than 10,000 hectares or 24,710 acres) would occur 50 percent more frequently. The maximum area burned statewide may increase 178 percent by the end of the century.
- Exposure to wildfire smoke is linked to increased incidence of respiratory illness.
- Sea-level rise is expected to continue to increase erosion of beaches, cliffs, and bluffs. (CalOES 2020)

Global climate change risks to California are shown in Table 5.8-2, *Summary of GHG Emissions Risks to California*, and include impacts to public health, water resources, agriculture, coastal sea level, forest and biological resources, and energy.

³ Overall, California has become drier over time, with five of the eight years of severe to extreme drought occurring between 2007 and 2016, and with unprecedented dry years in 2014 and 2015 (OEHHA 2018). Statewide precipitation has become increasingly variable from year to year, with the driest consecutive four years occurring from 2012 to 2015 (OEHHA 2018).

GREENHOUSE GAS EMISSIONS

TABLE 5.8-2 SUMMARY OF GHG EMISSIONS RISKS TO CALIFORNIA

Impact Category	Potential Risk
Public Health Impacts	Heat waves will be more frequent, hotter, and longer Fewer extremely cold nights Poor air quality made worse Higher temperatures increase ground-level ozone levels
Water Resources Impacts	Decreasing Sierra Nevada snowpack Challenges in securing adequate water supply Potential reduction in hydropower Loss of winter recreation
Agricultural Impacts	Increasing temperature Increasing threats from pests and pathogens Expanded ranges of agricultural weeds Declining productivity Irregular blooms and harvests
Coastal Sea-Level Impacts	Accelerated sea-level rise Increasing coastal floods Shrinking beaches Worsened impacts on infrastructure
Forest and Biological Resource Impacts	Increased risk and severity of wildfires Lengthening of the wildfire season Movement of forest areas Conversion of forest to grassland Declining forest productivity Increasing threats from pests and pathogens Shifting vegetation and species distribution Altered timing of migration and mating habits Loss of sensitive or slow-moving species
Energy Demand Impacts	Potential reduction in hydropower Increased energy demand

Sources: CEC 2006, 2009; CCCC 2012; CNRA 2014; CalOES 2020

5.8.1.2 REGULATORY FRAMEWORK

This section discusses the federal, State, and local policies and regulations that are relevant to the analysis of climate change in Butte County.

Federal Regulations

The U.S. Environmental Protection Agency (EPA) announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The U.S. EPA’s final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings did not themselves impose any emission-reduction requirements but allowed the U.S. EPA to finalize the GHG

GREENHOUSE GAS EMISSIONS

standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the California Department of Transportation (USEPA 2009a).

To regulate GHGs from passenger vehicles, the U.S. EPA issued an endangerment finding (USEPA 2009b). The finding identifies emissions of six key GHGs—carbon dioxide, methane, nitrous oxide, hydrochlorofluorocarbons, hydrofluorocarbons, and sulfur hexafluoride—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world.

Mandatory Reporting Rule for GHGs (2009)

In response to the endangerment finding, the U.S. EPA issued the Mandatory Reporting of GHG Rule that requires substantial emitters of GHG emissions (e.g., large stationary sources) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO₂e per year are required to submit an annual report.

Update to Corporate Average Fuel Economy (CAFE) Standards

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. In addition, on March 31, 2022, the National Highway Traffic Safety Administration finalized new fuel standards, which will increase fuel efficiency 8 percent annually for model years 2024 to 2025 and 10 percent annually for model year 2026. Overall, the new CAFE standards require a fleet average of 49 miles per gallon (MPG) for passenger vehicles and light trucks for model year 2026, which will be a 10 MPG increase relative to model year 2021 (NHTSA 2022).

State Regulations

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in Executive Order (EO) S-03-05, EO B-30-15, EO B-55-18, Assembly Bill (AB) 32, Senate Bill (SB) 32, AB 1279, and SB 375.

Executive Order S-03-05

EO S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for the state:

- Reduce GHG emissions to 2000 levels by 2010.
- Reduce GHG emissions to 1990 levels by 2020.
- Reduce GHG emissions to 80 percent below 1990 levels by 2050.

Assembly Bill 32, the Global Warming Solutions Act (2006)

AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05. CARB prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32 (CARB 2008).

GREENHOUSE GAS EMISSIONS*Executive Order B-30-15*

EO B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. EO B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in EO S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaptation strategy, *Safeguarding California*, to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the EO goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

EO B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlined potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan established a new emissions limit of 260 MMTCO_{2e} for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017c).

California's climate strategy will require contributions from all sectors of the economy, including an enhanced focus on zero-emission and near-zero-emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low-carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands. Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and toxic air contaminants emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy-efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, uses NZE technology and deployment of ZE trucks.

GREENHOUSE GAS EMISSIONS

- Implementing the Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California’s land base as a net carbon sink.

To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from vehicle miles traveled (VMT), and direct investments in GHG reductions within the project’s region that contribute to potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits (CARB 2017c).

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal “to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter.” EO B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO₂e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

2022 Climate Change Scoping Plan Update

CARB released the Draft 2022 Scoping Plan on May 10, 2022. The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18. Previous Scoping Plans focused on specific GHG reduction targets for our industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. Carbon neutrality takes it one step further by expanding actions to capture and store carbon, including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution at the same time. The measures in the Scoping Plan would achieve 80 percent below 1990 levels by 2050. Final adoption of the 2022 Scoping Plan is anticipated in late fall 2022 (CARB 2022).

CARB’s 2022 Scoping Plan identifies strategies that would be most impactful at the local level for ensuring substantial progress towards the State’s carbon neutrality goals (see Table 5.8-3, *Priority Strategies for Local Government Climate Action Plans*).

GREENHOUSE GAS EMISSIONS

TABLE 5.8-3 PRIORITY STRATEGIES FOR LOCAL GOVERNMENT CLIMATE ACTION PLANS

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV).
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as permit streamlining, infrastructure siting, consumer education, or preferential parking policies).
VMT Reduction	Reduce or eliminate minimum parking standards in new developments,
	Adopt and implement Complete Streets policies and investments, consistent with general plan circulation element requirements,
	Increase public access to shared clean mobility options (such as planning for and investing in electric shuttles, bike share, car share, transit).
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, and compact infill development (such as increasing allowable density of the neighborhood).
	Preserve natural and working lands.
Building Decarbonization	Adopt policies and incentive programs to implement energy efficiency retrofits (such as weatherization, lighting upgrades, replacing energy intensive appliances and equipment with more efficient systems, etc.).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings.
	Adopt policies and incentive programs to reduce electrical loads from equipment plugged into outlets (such as purchasing Energy Star equipment for municipal buildings, occupancy sensors, smart power strips, equipment controllers, etc.).
	Facilitate deployment of renewable energy production and distribution and energy storage.

Source: CARB 2022

For California Environmental Quality Act (CEQA) projects for proposed land use developments, CARB recommends demonstrating that they are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously advancing fair housing. Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 have all the following attributes:

- At least 20 percent of the units are affordable to lower-income residents;
- Result in no net loss of existing affordable units;
- Utilize existing infill sites that are surrounded by urban uses, and reuse or redevelop previously developed, underutilized land presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer);
- Include transit-supportive densities (minimum of 20 residential dwelling units/acre), or are in proximity to existing transit (within a half mile), or satisfy more detailed and stringent criteria specified in the region’s Sustainable Communities Strategy (SCS), for “SCS consistency” that would go further to reduce emissions;
- Do not result in the loss or conversion of the state’s natural and working lands;

GREENHOUSE GAS EMISSIONS

- Use all electric appliances, without any natural gas connections, and would not use propane or other fossil fuels for space heating, water heating, or indoor cooking;
- Provide electric vehicle (EV) charging infrastructure at least in accordance with the California Green Building Standards Code (CalGreen) Tier 2 standards; and
- Relax parking requirements by:
 - Eliminating parking requirements or including maximum allowable parking ratios.
 - Providing residential parking supply at a ratio of <1 parking space per unit;
 - Unbundling residential parking costs from costs to rent or lease (CARB 2022).

The second approach to project-level alignment with State climate goals is net-zero GHG emissions. The third approach to demonstrating project-level alignment with State climate goals is to align with GHG thresholds of significance, which many local air quality management districts (AQMDs) and air pollution control districts (APCDs) have developed or adopted (CARB 2022).

Assembly Bill 1279

On August 31, 2022, the California Legislature passed AB 1279, which requires California to achieve net-zero GHG emissions no later than 2045 and to achieve and maintain negative GHG emissions thereafter. Additionally, AB 1279 also establishes a GHG emissions reduction goal of 85 percent below 1990 levels by 2045. CARB will be required to update the scoping plan to identify and recommend measures to achieve the net-zero and GHG emissions-reduction goals.

Senate Bill 375

SB 375, the Sustainable Communities and Climate Protection Act, was adopted in 2008 to connect the GHG emissions-reduction targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce VMT and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions-reduction targets for each of the 18 metropolitan planning organizations (MPO). Butte County Association of Governments (BCAG) is the MPO for Butte County and the cities of Biggs, Chico, Gridley, Oroville, and the Town of Paradise. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per-capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and released another update in February 2018, which became effective in October 2018. CARB adopted the updated targets and methodology on March 22, 2018. All SCSs adopted after October 1, 2018, are subject to these new targets. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities.

GREENHOUSE GAS EMISSIONS

Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks compared to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies, such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translates into proposed targets that either match or exceed the emission-reduction levels in the MPOs' currently adopted SCS. As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 MMTCO_{2e} in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the BCAG region are a 6 percent per-capita GHG reduction in 2020 from 2005 levels (compared to the positive 1 percent of the 2010 target) and a 7 percent per-capita GHG reduction in 2035 from 2005 levels (compared to the positive 1 percent of the 2010 target) (CARB 2018).

Butte County Association of Governments Regional Transportation Plan/Sustainable Communities Strategy

SB 375 requires each MPO to prepare an SCS in its regional transportation plan (RTP). For the BCAG region, the 2020 RTP/SCS was adopted on December 10, 2020. In general, the SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources.

The 2020 RTP/SCS focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land-use strategies in the development of the BCAG region through the horizon year 2040 (BCAG 2020). It forecasts that the BCAG region will meet its GHG per-capita reduction targets of 6 percent by 2020 and 7 percent by 2035 by resulting in a 14 percent reduction for 2020 and an 8 percent reduction for 2035 (BCAG 2020).

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles. (See also the previous discussion in federal regulations under "Update to Corporate Average Fuel Economy (CAFE) Standards.") In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025, new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions (CARB 2017a).

GREENHOUSE GAS EMISSIONS

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. EO S-01-07 set a declining standard for GHG emissions measured in CO₂e gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applied to refiners, blenders, producers, and importers of transportation fuels, and used market-based mechanisms to allow these providers to choose the most economically feasible methods for reducing emissions during the "fuel cycle."

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., EV charging stations). EO B-16-2012 also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The EO also established a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20

On September 23, 2020, Governor Newsom signed EO N-79-20, whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for trucks are that 100 percent of drayage trucks are ZE by 2035, and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The EO's goal for the state is to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible. On August 25, 2022, CARB adopted the Advanced Clean Cars II (ACC II) regulations that codifies the EO goal of 100 percent of in-state sales of new passenger vehicles and trucks be ZE by 2035. Starting in year 2026, ACC II requires that 35 percent of new vehicles sold be ZE or plug-in hybrids.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2 and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under SBs 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent to reach at least 20 percent by December 30, 2010. EO S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

GREENHOUSE GAS EMISSIONS

Senate Bill 350

SB 350 (de Leon) was signed into law in September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Senate Bill 1020

SB 1020 was signed into law on September 16, 2022. It requires renewable energy and zero-carbon resources to supply 90 percent of all retail electricity sales by 2035 and 95 percent by 2040. Additionally, SB 1020 requires all state agencies to procure 100 percent of electricity from renewable energy and zero-carbon resources by 2035.

Energy Efficiency

California Building Energy Code: Building Energy-Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for the consideration and possible incorporation of new energy-efficiency technologies and methods. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and went into effect on January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require the installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: (1) smart residential photovoltaic systems; (2) updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa); (3) residential and nonresidential ventilation requirements; (4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient than under the 2016 standards, and single-family homes are 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

GREENHOUSE GAS EMISSIONS

Furthermore, on August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation’s first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as “CALGreen”) was adopted as part of the California Building Standards Code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.⁴ The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective on January 1, 2020.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are now often viewed as “business as usual,” they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Diversion Regulations

AB 939: Integrated Waste Management Act of 1989

California’s Integrated Waste Management Act of 1989 (AB 939, Public Resources Code Section 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per-capita requirement rather than tonnage. To help achieve this, the act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

⁴ The green building standards became mandatory in the 2010 edition of the code.

GREENHOUSE GAS EMISSIONS

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code Section 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

Water Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to SB 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of a 20 percent reduction in urban per-capita water use by 2020 compared to 2005 baseline use.

AB 1881: Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves, to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

GREENHOUSE GAS EMISSIONS

Short-Lived Climate Pollutant Reduction Strategy

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state's approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017b). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Local Regulations

Butte County General Plan 2030

The following policies are included in the existing General Plan regarding greenhouse gas emissions. The numbering is from the existing General Plan and therefore may not be consecutive.

Land Use Element

- Goal LU-3 Create communities where there is a sense of well-being where families and neighbors can socialize, interact, and play.
 - LU-P3.2 Newly developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- Goal LU-4 Provide high-quality housing in a range of residential densities and types.
 - LU-P4.2 Residentially-designated land with High Density Residential and Very High Density Residential land use designations shall be developed at or above the minimum density range.
 - LU-P4.3 Generally, higher density housing shall be located along collector and arterial streets and within easy walking distance of public facilities.
- Goal LU-6 Provide adequate land for the development of public and quasipublic uses, as a means to provide necessary public services and facilities in support of existing and new residential, commercial, and industrial land uses.
 - LU-P6.3 New County government buildings and other public and quasi-public uses, such as hospitals, meeting halls, and private schools, shall be located in existing urbanized areas in convenient, central locations that provide maximum access for the maximum number of residents.

GREENHOUSE GAS EMISSIONS

- LU-P6.4 Development projects that provide lands for private open spaces, parks, community service facilities, such as places of worship and daycare facilities, and public facilities may be allowed to transfer density to other portions of the site.
- Goal LU-8 Promote development near existing infrastructure and services, and within already-developed areas.
 - LU-P8.2 The County shall direct projected growth to areas where the appropriate level of transportation infrastructure is or will be available during the planning period.
 - LU-P8.5 Stores providing goods and services to support daily life in neighborhoods should be located within walking distance to the majority of neighborhoods.

Economic Development Element

- Goal ED-2 Promote and support the local agricultural economic sector.
 - ED-P2.6 The County supports programs and projects that would help Butte County farmers provide carbon offsets, if and when new regulations require industries to provide carbon offsets.
 - ED-P2.7 The County supports programs and projects that utilize agricultural by-products for “green” building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to bio-fuels.

Water Resources Element

- Goal W-4 Promote water conservation as an important part of a long-term and sustainable water supply.
 - W-P4.1 Agricultural and urban water use efficiency shall be promoted.
 - W-P4.2 Water conservation efforts of local Resource Conservation Districts, the Natural Resource Conservation Service and irrigation districts should be coordinated.
 - W-P4.3 The County shall work with municipal and industrial water purveyors to implement water conservation policies and measures.
 - W-P4.4 Opportunities to recover and utilize wastewater for beneficial purposes shall be promoted and encouraged.
 - W-P4.5 The use of reclaimed wastewater for non-potable uses shall be encouraged, as well as dual plumbing that allows graywater from showers, sinks and washers to be reused for landscape irrigation in new developments.
 - W-P4.6 New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures.
 - W-P4.7 County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation.

GREENHOUSE GAS EMISSIONS

Circulation Element

- Goal CIR-2 Plan for transportation modes and strategies that ensure good air quality, reduce greenhouse gas emissions, reduce petroleum consumption and reduce the need to devote additional lands to transportation uses.
 - CIR-P2.1 Carpooling shall be encouraged by providing additional carpool pickup and park-and-ride locations near transit centers and at freeway interchanges.
 - CIR-P2.2 Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
 - CIR-P2.3 Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
 - CIR-P2.4 Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
 - CIR-P2.5 Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
 - CIR-P2.6 The County shall incorporate “Complete Streets” policies that are designed and built to be safe for all users, including pedestrians, bicyclists and transit users.
 - CIR-P2.7 Where feasible and appropriate, and where non-motorized travel is reasonably expected, the width of existing streets shall be reduced through bulb outs, medians, pedestrian islands and similar methods, and planting shade trees in landscaped areas within and adjacent to streets, while not jeopardizing emergency response and future capacity requirements as determined by the Butte County Fire Department and Public Works Department.

Conservation and Open Space Element

- Goal COS-1 Reduce greenhouse gas emissions to 1990 levels by 2020.
 - COS-P1.1 Greenhouse gas emission impacts from proposed development projects shall be evaluated as required by the California Environmental Quality Act.
 - COS-P1.2 New development projects shall mitigate greenhouse gas emissions on-site or as close to the site as possible.
 - COS-P1.3 New development should use recycled-content construction materials.
 - COS-P1.4 New development should provide above-ground and natural stormwater facilities and use building designs and materials that promote groundwater recharge.
 - COS-P1.5 New developments should have street systems that support the use of Neighborhood Electric Vehicles (NEV).

GREENHOUSE GAS EMISSIONS

- COS-P1.6 Recognize and promote the emerging market for agricultural producers to provide carbon sequestration services.
- COS-P1.7 New commercial and institutional development projects shall provide prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- Goal COS-2 Promote green building, planning and business.
 - COS-P2.1 County staff shall work cooperatively with the municipalities to ensure consistent standards for green building codes and other methods to reduce greenhouse gas emissions throughout the county.
 - COS-P2.2 New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.
 - COS-P2.3 All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary work space are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
 - COS-P2.4 All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- Goal COS-5 Minimize air pollutant emissions.
 - COS-P5.1 Air quality planning efforts shall be coordinated with local, regional and State agencies, and shall encourage community participation in air quality planning.
 - COS-P5.2 Developers shall implement best available mitigation measures to reduce air pollutant emissions associated with the construction and operation of development projects.
 - COS-P5.3 Only EPA Phase II certified wood burning or equivalent devices maybe installed in any residential projects.
 - COS-P5.4 Stationary air pollutant emission sources, such as factories, shall be located more than 500 feet and/or downwind from residential areas and other sensitive receptors.
 - COS-P5.5 Residential developments and other projects with sensitive receptors shall be located more than 500 feet from stationary air pollutant sources. Residential developments and other projects with sensitive receptors (e.g. housing, schools, child care centers, playgrounds, hospitals, and senior centers) that are located within 500 feet of a high-volume roadway that carries over 50,000 vehicles per day shall incorporate feasible mitigation measures to protect sensitive receptors from harmful

GREENHOUSE GAS EMISSIONS

concentrations of air pollutants, as recommended in the California Air Resources Board's (CARB's) Air Quality and Land Use Handbook.

- COS-P5.6 New sources of toxic air pollutants shall comply with the permitting requirements of the Butte County Air Quality Management District and Section 44300 et. seq. of the California Health and Safety Code.
- COS-P5.7 The County shall cooperate with Butte County Air Quality Management District in efforts to reduce traffic-related emissions below levels that violate national ambient air quality standards in Butte County.
- COS-P5.8 The County shall encourage the Butte County Air Quality Management District to work in partnership with fire managers to balance natural resource needs (e.g. prescribed burning) with air quality needs.

Butte County Air Quality Management District

The Butte County Air Quality Management District (BCAQMD) is the local air district responsible for local air quality regulation in Butte County. The BCAQMD's primary responsibility is to regulate stationary sources and develop plans to achieve and maintain air quality standards. CARB and the U.S. EPA have jurisdiction over controlling emissions from mobile sources. The BCAQMD has jurisdiction over air quality matters in Butte County. Formerly a department of the Butte County government, it is now an independent special district under California law.

BCAQMD's mission to improve air quality includes adopting and enforcing rules and regulations to attain and maintain air quality standards, issuing permits for and inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring air quality and meteorological conditions, awarding grants to reduce mobile emissions, implementing public outreach campaigns, assisting Butte County jurisdictions in addressing climate change, and updating and evaluating consistency with the Northern Sacramento Valley Air Quality Attainment Plan.

The stationary "direct" sources of air contaminants over which the BCAQMD has permit authority include, but are not limited to, power plants, gasoline stations, dry cleaners, internal combustion engines, and surface coating operations. BCAQMD does not, however, exercise permit authority over "indirect" emission sources. Indirect sources are contributors to air pollution and include facilities and land uses that may not emit significant amounts of pollution directly themselves, but are responsible for indirect emissions, such as:

- Motor vehicle trips attracted to or generated by a land use;
- On-site combustion of natural gas and propane for heating;
- Architectural coatings (paints, stains) and consumer products; and
- Landscape maintenance.

The BCAQMD works with BCAG to ensure a coordinated approach in the development and implementation of transportation plans throughout the county. This coordination ensures compliance with pertinent provisions of the Clean Air Act and California Clean Air Act, as well as with related transportation legislation.

GREENHOUSE GAS EMISSIONS*Butte County Climate Action Plan*

The Butte County Board of Supervisors approved the County's first Climate Action Plan (CAP) on February 25, 2014. Butte County General Plan 2030 directed preparation, adoption, and implementation of the CAP to assist the State of California in meeting the GHG reduction goals for 2020. The CAP incorporates programs and actions to reduce GHG emissions, address climate change adaptation, improve community resilience to hazardous conditions associated with climate change, and improve quality of life in the county. The County updated the CAP in 2021 to include reduction targets for 2030 and 2050 along with reductions strategies and an implementation program to achieve the targets. The latest 2021 CAP is projected to reduce Butte County's GHG emissions to 512,940 MTCO₂e by 2030 and 195,660 MTCO₂e by 2050. This would reduce emissions to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050 (Butte County 2021).

5.8.1.3 EXISTING CONDITIONS**California's GHG Sources and Relative Contribution**

In 2021, the statewide GHG emissions inventory was updated for 2000 to 2019 emissions using the GWPs in IPCC's AR4 (IPCC 2013). Based on these GWPs, California produced 418.2 MMTCO₂e GHG emissions in 2019. California's transportation sector was the single-largest generator of GHG emissions, producing 39.7 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.1 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (10.5 percent), agriculture and forestry (7.6 percent), high GWP (4.9 percent), and recycling and waste (2.1 percent) (CARB 2021).

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2016, California statewide GHG emissions dropped below the AB 32 target for year 2020 of 431 MMTCO₂e and have remained below this target since then. In 2019, emissions from routine GHG-emitting activities statewide were almost 13 MMTCO₂e lower than the AB 32 target for year 2020. Per-capita GHG emissions in California have dropped from a 2001 peak of 14.0 MTCO₂e per person to 10.5 MTCO₂e per person in 2019, a 25 percent decrease.

Transportation emissions continued to decline in 2019 statewide as they had done in 2018, with even more substantial reductions due to a significant increase in renewable diesel. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2019, solar power generation continued its rapid growth since 2013. Emissions from high-GWP gases made up 4.9 percent of California's emissions in 2019. This continues the increasing trend as the gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product) has declined 45 percent since the 2001 peak, though the state's gross domestic product grew 63 percent during this period (CARB 2021).

GREENHOUSE GAS EMISSIONS

Existing Communitywide GHG Emissions

Table 5.8-4, *Existing Butte County GHG Emissions Inventory*, shows the total GHG emissions in 2019 for Butte County. The shown emissions are based on the emissions inventory prepared for the County’s 2021 CAP.

TABLE 5.8-4 EXISTING BUTTE COUNTY GHG EMISSIONS INVENTORY

Sector	2019 MTCO ₂ e	Percentage of Total
Residential energy	90,720	9%
Nonresidential energy	37,350	4%
Transportation	229,110	23%
Solid waste	61,120	6%
Water and wastewater	16,960	2%
Agriculture	501,620	50%
Off-road equipment	59,310	6%
Total Annual	996,190	100%
Land use and sequestration	(346,340)	—
Total Annual (with land use and sequestration)	649,860	—
Informational Items		
<i>Wildfire and controlled burns¹</i>	<i>15,730</i>	—
<i>Stationary sources</i>	<i>108,259</i>	—

Notes: All numbers are rounded to the nearest 10; () = negative value.

¹ Includes emissions from the Swedes and Forbestown fires.

Source: Butte County 2021.

In 2019, the agriculture sector accounted for the largest share of GHG emissions in Butte County, with 50 percent of emissions. The transportation sector accounted for approximately 23 percent of emissions. Residential energy accounted for approximately 9 percent of total emissions, while solid waste and off-road equipment each made up 6 percent of total emissions. Nonresidential energy accounted for 4 percent of emissions while water and wastewater accounted for approximately 2 percent.

5.8.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant GHG emissions impact if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may a significant effect on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.
3. In combination with past, present, and reasonably foreseeable projects, result in cumulative impacts with respect to greenhouse gas emissions.

GREENHOUSE GAS EMISSIONS**5.8.2.1 CONSISTENCY WITH STATEWIDE GHG REDUCTION TARGETS**

The General Plan Update forecasts growth in Butte County through year 2040; therefore, this environmental impact report (EIR) analyzes the potential for the proposed project to conflict with statewide GHG reduction goals identified in the CARB Scoping Plan that are applicable to local governments. These include AB 1279, which requires an 85 percent reduction in GHG emissions by 2045 to stabilize CO₂e emissions and avoid the most catastrophic impacts of climate change as well as substantial progress toward the State’s net-zero emissions goal by 2045 under AB 1279.⁵

5.8.2.2 MASS EMISSIONS AND HEALTH EFFECTS

On December 24, 2018, in *Sierra Club et al. v. County of Fresno et al.* (Friant Ranch), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the project’s air quality impacts on human health. The EIR prepared for the project, which involved a master planned retirement community in Fresno County, showed that project-related mass emissions would exceed the San Joaquin Valley Air Pollution Control District’s regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an “analysis of the correlation between the project’s emissions and human health impacts” related to each criterion air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation of emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

In 2009, the EPA issued an endangerment finding for six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) to regulate GHG emissions from passenger vehicles. The endangerment finding is based on evidence that shows an increase in mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heatwaves and ozone levels. The effects of climate change are identified in Table 5.8-2. Though identified effects such as sea-level rise and increased extreme weather can indirectly impact human health, neither the EPA nor CARB has established ambient air quality standards for GHG emissions. The state’s GHG reduction strategy outlines a path to avoid the most catastrophic effects of climate change. Yet the state’s GHG reduction goals and strategies are based on the state’s path toward reducing statewide cumulative GHGs as outlined in AB 32, SB 32, AB 1279, EO S-03-05, and EO B-55-18.

⁵ The 2022 Scoping Plan update includes statewide measures to achieve the state’s carbon neutrality goals under Executive Order B-55-18, such as carbon dioxide removal (CDR) that are not applicable to local governments. Carbon neutrality goals are a “no impact” level and not a “less-than-significant” impact level for climate change effects. There are presently no reliable means of forecasting how future technological developments related to carbon dioxide removal may affect future emissions in a planning jurisdiction. Therefore, carbon neutrality targets are not directly applicable to local governments and CEQA projects to mitigate GHG emissions impacts of a proposed project. Moreover, Executive Order S-03-05 GHG reduction targets for 2050 are in line with the scientifically established levels needed in the U.S. to limit global warming below 1.5 to 2.0 degrees Celsius, the warming threshold at which scientists say there will likely be major climate disruptions such as super droughts and rising sea levels. For these reason, the targets of Executive Order S-03-05 are applicable to the CCAP. However, the CCAP includes measures that align with the state’s carbon neutrality goals under Executive Order B-55-18.

GREENHOUSE GAS EMISSIONS

As mentioned previously, the two significance thresholds that the County uses to analyze GHG impacts are based on achieving the statewide GHG reduction goals (GHG-1) and relying on consistency with policies or plans adopted to reduce GHG emissions (GHG-2). Further, because no single project is large enough to result in a measurable increase in global concentration of GHG emissions, climate change impacts of a project are considered on a cumulative basis. Without federal ambient air quality standards for GHG emissions and given the cumulative nature of GHG emissions and the County's significance thresholds, which are tied to reducing the state's cumulative GHG emissions, it is not feasible at this time to connect the project's specific GHG emissions to the potential health impacts of climate change.

5.8.3 PROPOSED GENERAL PLAN POLICIES

The following are relevant policies of the Butte County General Plan Update, which may contribute to the reduction of GHG emissions as a result of implementation of the proposed project.

Land Use Element

- **LU-P3.1:** The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- **LU-P3.3:** Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- **LU-P4.3:** Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- **LU-P8.5:** Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- **LU-P8.6:** The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- **LU-P8.7:** Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.

Health and Safety Element

- **HS-P19.1:** The County supports physical infrastructure that encourages active transportation, such as bike paths, walking paths, and trails to promote public health.
- **HS-P19.2:** The County shall promote opportunities for physical activities, such as walking and biking, and encourage patterns of new development that promote physical activity and encourage bicycling, walking, and transit.
- **HS-P21.1:** The County supports the development of community and neighborhood microgrids that use renewable energy sources, including energy storage, which can provide sustainable and reliable electricity supply that is not shut off during PSPS events.

GREENHOUSE GAS EMISSIONS

Environmental Justice Element

- **EJ-P2.1:** The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities.
- **EJ-P2.3:** The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- **EJ-P2.4:** The County shall work with transit providers to expand the hours of transit operation, operational boundaries, convenience, and quality of transit services that connect Communities of Opportunity with educational and economic opportunities, medical services, and other needed goods and services.
- **EJ-P2.5:** The County shall encourage transit providers to offer small or less frequent buses on routes with low passenger demand and connections between unincorporated and incorporated bus routes, with a focus on bridging service gaps in Communities of Opportunity.
- **Ej-P2.6:** The County shall provide support to carpooling and vanpooling programs, particularly among Communities of Opportunity, such as by assisting with outreach and program facilitation.
- **EJ-P5.4:** The County shall support efforts to retrofit existing housing units in Communities of Opportunity with improvements that reduce indoor air and noise pollution and improve energy efficiency.
- **EJ-P8.3:** The County supports the development of high-quality, local jobs within and near Communities of Opportunity to reduce long commutes and resultant vehicle emissions.

Economic Development Update

- **ED-P2.7:** The County supports programs and projects that utilize agricultural by-products for “green” building material production and/or renewable energy production, such as using straw bales for building or converting rice straw to biofuels.

Conservation and Open Space Element

- **COS-P1.1:** Greenhouse gas emission impacts from proposed development projects shall be evaluated as required by the California Environmental Quality Act.
- **COS-P1.2:** New development projects shall mitigate greenhouse gas emissions on-site or as close to the site as possible.
- **COS-P1.5:** The County supports use of neighborhood electric vehicles (EVs), such as low-speed golf carts or other personal neighborhood EVs.
- **COS-P1.6:** The County shall explore techniques to maximize carbon sequestration of the county’s natural and working lands.
- **COS-P1.7:** New development projects shall provide electric vehicle charging stations and prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- **COS-P1.8:** The County shall reduce emissions from disposal and decomposition of organic waste.

GREENHOUSE GAS EMISSIONS

- **COS-P1.9:** The County supports development of alternative technologies to derive fuel or energy from green waste and reduce air pollution by processing green waste.
- **COS-P2.1:** County staff shall work cooperatively with the municipalities to ensure consistent standards for green building codes and other methods to reduce greenhouse gas emissions throughout the county.
- **COS-P2.2:** New development shall comply with Green Building Standards adopted by the California Building Standards Commission at the time of building permit application, including requirements about low- or no-toxicity building materials.
- **COS-P2.3:** All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.
- **COS-P2.4:** All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- **COS-P2.5:** The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- **COS-P3.1:** The expansion and increased efficiency of hydroelectric power plants in the county is encouraged, provided that such plants can be expanded and that significant adverse environmental impacts associated with such plants can be successfully mitigated.
- **COS-P3.2:** The development of renewable energy sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated.
- **COS-P3.3:** The County supports the introduction and implementation of Butte Choice Energy, the County's community choice aggregation program.
- **COS-P3.4:** The County shall promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector.
- **COS-P3.5:** The County supports efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.
- **COS-P3.7:** Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
- **COS-P3.8:** Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-4.

GREENHOUSE GAS EMISSIONS

- **COS-P4.1:** The County shall continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters, including support and promotion of programs for lower- income and disadvantaged populations.
- **COS-P4.2:** The County shall continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses, including County facilities, office space, commercial space, and industrial space.
- **COS-P4.3:** Energy efficiency and reduction efforts of local businesses, including agricultural businesses, shall be promoted and encouraged.
- **COS-P4.4:** The County shall coordinate with Pacific Gas and Electric Company (PG&E) and other utility providers to promote programs that reduce energy demand.
- **COS-P4.6:** The County shall work with property owners and property management groups to increase overall building electrification of new and existing development, and adoption of modern, efficient appliances in residential rental properties.
- **COS-P4.7:** Site and structure designs for new development projects shall maximize energy efficiency.

Circulation Element

- **CIR-P2.1:** Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- **CIR-P2.2:** Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
- **CIR-P2.3:** Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
- **CIR-P2.4:** Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- **CIR-P2.5:** Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- **CIR-P2.6:** The County shall incorporate “Complete Streets” policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- **CIR-P3.1:** The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- **CIR-P3.2:** A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.

GREENHOUSE GAS EMISSIONS

- **CIR-P3.3:** Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- **CIR-P3.4:** New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- **CIR-P3.5:** New neighborhoods shall provide bike and pedestrian connectivity between streets.
- **CIR-P3.6:** Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
- **CIR-P3.7:** Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- **CIR-P3.8:** Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- **CIR-P4.1:** The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
- **CIR-P4.2:** The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- **CIR-P4.3:** The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- **CIR-P4.4:** The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- **CIR-P4.5:** The County continues to support local Amtrak passenger services.
- **CIR-P4.6:** New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- **CIR-P5.1:** Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
- **CIR-P5.2:** New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- **CIR-P5.3:** The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- **CIR-P5.4:** Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.

GREENHOUSE GAS EMISSIONS

- **CIR-P5.5:** Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- **CIR-P5.6:** Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- **CIR-P5.7:** Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- **CIR-P5.8:** All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.

5.8.4 IMPACT DISCUSSION

5.8.4.1 METHODOLOGY

This GHG evaluation was prepared in accordance with the requirements of CEQA to determine if significant GHG impacts are likely to occur in conjunction with future development in the unincorporated county. The GHG emissions inventory and forecast is based on data compiled for the 2021 CAP update and is included as Appendix 5.8-1 to the Draft EIR. The GHG emissions inventory in the 2021 CAP was compiled using the following protocols (Butte County 2021).

- **U.S. Community Protocol.** The community-wide GHG inventory uses the *United States Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions* (U.S. Community Protocol), which was first developed in 2012 and last updated in 2019. The California Governor's Office of Planning and Research encourages cities and counties in California to follow the U.S. Community Protocol for community-wide GHG emissions.
- **Global Protocol.** The *Global Protocol for Community-Scale Greenhouse Gas Inventories* (Global Protocol) was first developed in 2014 and is intended for preparing international-community-scale GHG inventories. It is largely consistent with the U.S. Community Protocol, although it contains additional guidance and resources to support a wider range of activities in other countries. This protocol is used to assess GHG emissions from sources that are not covered in the U.S. Community Protocol.

The community-wide GHG inventory assessed GHG emissions from the following 10 sectors:

- **On-Road Transportation** includes GHG emissions created by driving on-road vehicles in the unincorporated county, including passenger and freight vehicles.
- **Residential Energy** includes GHG emissions attributed to the use of electricity and natural gas, and other home heating fuels (e.g., propane) in residential buildings from Pacific Gas and Electric Company (PG&E).
- **Nonresidential Energy** includes GHG emissions attributed to the use of electricity and natural gas in nonresidential buildings, including buildings and facilities at agricultural operations.

GREENHOUSE GAS EMISSIONS

- **Solid Waste** includes the GHG emissions released from trash collected in the unincorporated areas of Butte County, as well as collective annual emissions from waste already in place at the Neal Road Landfill.
- **Off-Road Equipment** includes GHG emissions from equipment that does not provide on-road transportation (excluding agricultural equipment), such as tractors for construction or equipment used for landscape maintenance.
- **Agriculture** includes GHG emissions from various agricultural activities, including agricultural equipment, crop cultivation, harvesting, and livestock operations.
- **Water and Wastewater** accounts for the electricity used to transport every gallon of water or wastewater to unincorporated county residents and businesses as well as direct emissions resulting from processing of wastewater material.
- **Land Use and Sequestration** includes GHG emissions absorbed and stored in trees and soils on locally controlled lands as part of healthy ecosystems and released into the atmosphere from development of previously undeveloped land.
- **Stationary sources** are those emitted at large industrial sites, commercial businesses, warehouses, or power plants.
- **Wildfire** includes emissions released as a result of wildfires.

Life-cycle emissions are not included in this analysis because not enough information is available, and therefore they would be speculative.⁶ Black carbon emissions are not included in the GHG analysis because CARB does not include this short-lived climate pollutant in the state's GHG emissions inventory, but treats it separately.⁷

GHG Emissions Factors

Table 5.8-5, *Existing GHG Emission Factors*, shows the emissions factors for the year 2019. Some sectors, including agriculture and off-road emissions, are calculated using formulae or models and do not have specific emission factors.

⁶ Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. The California Resources Agency, in adopting the CEQA Guidelines Amendments on GHG emissions found that lifecycle analyses was not warranted for project-specific CEQA analysis in most situations, for a variety of reasons, including lack of control over some sources, and the possibility of double-counting emissions (see Final Statement of Reasons for Regulatory Action, December 2009). Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative. A life-cycle analysis is not warranted (OPR 2008).

⁷ Particulate matter emissions, which include black carbon, are analyzed in EIR Section 5.3, *Air Quality*. Black carbon emissions have sharply declined due to efforts to reduce on-road and off-road vehicle emissions, especially diesel particulate matter. The State's existing air quality policies will virtually eliminate black carbon emissions from on-road diesel engines within 10 years (CARB 2017a).

GREENHOUSE GAS EMISSIONS

TABLE 5.8-5 EXISTING GHG EMISSION FACTORS

Sector	MTCO ₂ e / Unit	2019 Rate	Source
PG&E electricity	kWh	0.000108	PG&E
Natural Gas	Therm	0.005323	US Community Protocol
Propane	Gallon	0.005644	US Community Protocol
On-Road Vehicles (light duty)	Mile	0.000356	CARB EMFAC
On-Road Vehicles (heavy duty)	Mile	0.001154	CARB EMFAC
On-Road Vehicles (combined)	Mile	0.000755	CARB EMFAC
Solid Waste (municipal)	Ton	0.286000	CalRecycle
Solid Waste (alternative daily cover)	Ton	0.246000	CalRecycle

Source: Butte County 2021

GHG Emissions Forecast

The forecast assumes that each person in unincorporated Butte County would continue to contribute the same amount of GHG emissions to the community total as they did in 2019. Thus, the amount of GHG emissions changes proportionally to the projected change in community demographics. The community-wide forecast of GHG emissions is based on the results of the 2019 communitywide GHG emissions inventory, adjusted to the change between Butte County’s 2019 and future demographic projections. Table 5.8-6, *Butte County Demographic Projections*, shows the demographic projections used to prepare the community-wide GHG emissions forecast. These demographic projections are for the unincorporated county, which excludes incorporated areas, such as the cities of Chico, Oroville, Gridley, Biggs, and the Town of Paradise.

TABLE 5.8-6 BUTTE COUNTY DEMOGRAPHIC PROJECTIONS

	2006	2019	2030	2040	2050	Percentage Change 2019 to 2040	Relevant Sectors
Population	89,410	76,930	85,490	91,460	97,830	19%	Off-road equipment
Households	34,980	29,510	37,530	40,370	43,410	37%	Residential energy, offroad equipment
Service population ¹	97,150	90,980	99,670	106,900	114,650	17%	Solid waste, water and wastewater, off-road equipment
Residents per household	2.56	2.61	2.28	2.27	2.25	(12%)	None
Jobs	7,740	14,050	14,180	15,440	16,820	10%	Nonresidential energy, off-

GREENHOUSE GAS EMISSIONS

	2006	2019	2030	2040	2050	Percentage Change 2019 to 2040	Relevant Sectors
							road equipment
Vehicle miles traveled	464,302,670	533,627,000	613,632,270	705,759,230	811,857,710	32%	Transportation

Notes: All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. Demographic numbers are from US Census, the Department of Finance, and the Butte County Association of Governments, adjusted to account for proposed annexations. Vehicle miles traveled are derived from the Butte County Association of Governments Regional Travel Demand Forecasting Model, adopted in 2020.

MTCO₂e = metric tons of carbon dioxide equivalent; () = negative value.

¹ Service population is the sum of populations and jobs.

Source: Butte County 2021.

GHG-1 The General Plan Update and the URCP would generate GHG emissions, either directly or indirectly, that may have a significant effect on the environment.

General Plan 2040

Development under the General Plan Update would contribute to global climate change through direct and indirect emissions of GHG from land uses within the unincorporated county. Before any development accommodated under the General Plan Update can occur in the unincorporated county, it must be analyzed for consistency with the General Plan, zoning requirements, and other applicable local and State requirements; comply with the requirements of CEQA; and obtain all necessary clearances and permits.

Implementation of the General Plan Update would result in growth in population and the development of new residential and nonresidential projects in the county. Development under the proposed General Plan Update would result in GHG emissions that would contribute to climate change on a cumulative basis. Detailed construction information for individual projects is unknown at this time, but would typically involve use of heavy-duty equipment, construction worker commute trips, material deliveries, and vendor trips. These activities would result in GHG emissions that are limited in duration for any given project, but when taken together over buildout of the General Plan Update, could be considerable. Long-term operational sources of GHG emissions associated with the proposed General Plan Update would include mobile sources (e.g., vehicle exhaust), off-road equipment (e.g., agricultural equipment), energy consumption (e.g., electricity and natural gas), solid waste (e.g., emissions that would occur at a landfill associated with solid waste decomposition), wastewater treatment, and water consumption (e.g., electricity used to deliver and treat water consumed by customers in the county).

Emissions Forecasts

Table 5.8-7, *Butte County Community-Wide Forecasted GHG Emissions*, shows forecasted community-wide GHG emissions without implementation of the Butte County 2021 CAP. As shown, total annual community-wide emissions of 631,300 MTCO₂e per year (MTCO₂e/yr) under horizon year 2040 with implementation of

GREENHOUSE GAS EMISSIONS

the General Plan Update would be 18,560 MTCO₂e/yr (3 percent) less than the 649,860 MTCO₂e/yr under existing year 2019 conditions. In addition, on a per-capita basis (i.e., annual emissions divided by population), the 6.61 MTCO₂e per capita under horizon year 2040 conditions would also be smaller than the 8.45 MTCO₂e per capita under existing year 2019 conditions.

TABLE 5.8-7 BUTTE COUNTY COMMUNITY-WIDE FORECASTED GHG EMISSIONS

Sector	Forecast Emissions (MTCO ₂ e) ¹					Percentage Change 2019 to 2040
	2006	2019 (Existing)	2030	2040 (Horizon)	2050	
Residential energy	133,350	90,720	101,040	98,900	90,460	9%
Nonresidential energy	58,670	37,350	33,050	30,510	24,640	-18%
Transportation	264,420	229,110	212,170	210,900	231,320	-8%
Solid waste	40,830	61,120	48,970	53,750	58,430	-12%
Water and wastewater	20,190	16,960	17,500	17,630	16,780	4%
Agriculture ²	521,650	501,620	494,120	494,120	494,120	-1%
Off-road equipment	56,070	59,310	108,700	70,500	76,170	19%
Total (without land use and sequestration)	1,095,190	996,190	1,015,550	976,310	991,920	-2%
Land use and sequestration ³	(346,340)	(346,330)	(345,010)	(345,010)	(345,010)	0%
Total (with land use and sequestration)	748,850	649,860	670,540	631,300	646,910	-3%
Per-Capita Emissions (MTCO₂e/Resident)	8.38	8.45	7.84	6.90	6.61	N/A
Informational Items						
<i>Fires⁴</i>	8,280	15,730	N/A	N/A	N/A	N/A
<i>Stationary sources</i>	3,960	108,259	108,259	108,259	108,259	N/A

Notes: All numbers are rounded to the nearest 10. Totals may not equal the sum of individual rows. Note: Data shown for 2006 and 2019 reflect GHG emissions inventories and are provided as a reference to see change over time. The data shown for 2030, 2040, and 2050 are GHG emission forecasts that predict future emissions. The forecast numbers for 2030, 2040, and 2050 are based on projections from the 2019 inventory.

MTCO₂e = metric tons of carbon dioxide equivalent; ()= negative value.

¹ Based on the Butte County 2021 CAP emissions forecasts that accounts for the identified potential annexations of land from the unincorporated county to incorporated Butte County communities by 2030.

² GHG emission projections for the agriculture and for the land use and sequestration sectors for years 2030, 2040, and 2050 remains constant due to the variable nature of each sector and the activities within them. For example, annual amount of agricultural burning is highly variable, impacting overall GHG emissions from the agriculture sector and activities such as restoration efforts. As reliable forecasts of county-specific agricultural activity are not available, these emissions are held constant.

³ The forecast assumes that new development in unincorporated areas will take place on infill sites or on previously developed land, such as reconstruction following wildfires, and that development occurring on previously undeveloped land will occur after annexation to an incorporated community. As a result, the forecast does not assume a change in the average annual amount of carbon sequestered by natural lands.

⁴ Due to significant uncertainty about the amount of fire in any given year, emissions from fires are not forecasted.

Source: Butte County 2021. See Appendix 5.8-1.

GREENHOUSE GAS EMISSIONS

Butte County 2021 CAP

As stated, Butte County adopted its 2021 CAP on December 13, 2021. The 2021 CAP identifies future strategies that, if implemented, will allow the community to achieve its emissions reductions targets. The CAP GHG reduction strategies are as follows:

- **Strategy 1:** Continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters in the unincorporated county, including support and promotion of programs for lower- income and disadvantaged populations.
- **Strategy 2:** Continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses in the unincorporated county, including County facilities, office space, commercial space, and industrial space.
- **Strategy 3:** Work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- **Strategy 4:** Support efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.
- **Strategy 5:** Continue efforts to promote water conservation for all residents, building/property owners, and businesses in the unincorporated county, including support and promotion of programs for lower-income and disadvantaged populations, and large water users.
- **Strategy 6:** Pursue Transportation Demand Management (TDM) strategies, implemented through local land use decisions and through partnerships with local employers, that reduce vehicle miles traveled (VMT) countywide.
- **Strategy 7:** Prioritize bicycling and walking as safe, practical, and attractive travel options countywide.
- **Strategy 8:** Reduce carbon emissions from transportation by facilitating a transition to efficient or clean-fuel vehicles.
- **Strategy 9:** Encourage hybrid and clean-fuel construction and landscaping equipment countywide.
- **Strategy 10:** Reduce the amount of solid waste sent to local landfills through innovative programs and partnerships.
- **Strategy 11:** Reduce emissions from disposal and decomposition of organic waste.
- **Strategy 12:** Work to reduce GHG emissions associated with agricultural equipment, in partnership with regional partners, agencies, and members of the agricultural community.
- **Strategy 13:** Track trends in agricultural operations and encourage existing and new farming techniques that reduce GHG emissions from crop cultivation.
- **Strategy 14:** Work with farmers and local and regional agencies to explore techniques to maximize carbon sequestration of the county's natural and working lands.
- **Strategy 15:** Implement projects and programs to reduce GHG emissions associated with Butte County operations.

GREENHOUSE GAS EMISSIONS

Table 5.8-8, *Butte County 2021 CAP Strategies and Reductions*, shows the emissions reductions associated with the 2021 CAP strategies. Based on the approach of the 2021 CAP, the table includes two scenarios. The first represents the scenario that does not consider the creation and operation of Butte Choice Energy (BCE), a proposed community choice aggregation (CCA) program. The second scenario represents a scenario in which BCE would be established. Currently, it is anticipated that BCE will start operation starting in fall of 2023 (BCE 2022).

TABLE 5.8-8 BUTTE COUNTY 2021 CAP STRATEGIES AND REDUCTIONS

Strategy	GHG Reduction (MTCO ₂ e)				
	2006	2019	2030	2040	2050
Without Butte Choice Energy CCA					
Strategy 1	N/A	N/A	15,420	20,360	15,550
Strategy 2	N/A	N/A	4,100	4,980	940
Strategy 3	N/A	N/A	13,570	33,660	60,960
Strategy 4	N/A	N/A	3,910	5,110	0
Strategy 5	N/A	N/A	670	1,660	2,510
Strategy 6	N/A	N/A	360	330	340
Strategy 7	N/A	N/A	820	770	820
Strategy 8	N/A	N/A	13,210	42,330	108,050
Strategy 9	N/A	N/A	19,490	9,460	15,160
Strategy 10	N/A	N/A	2,220	4,430	7,490
Strategy 11	N/A	N/A	5,270	8,000	12,870
Strategy 12	N/A	N/A	18,400	25,750	36,790
Strategy 13	N/A	N/A	43,320	79,790	143,620
Strategy 14	N/A	N/A	13,170	27,700	46,020
Strategy 15	N/A	N/A	260	860	1,710
Total GHG Emissions Reductions	N/A	N/A	154,190	265,190	452,830
With Butte Choice Energy CCA					
Strategy 1	N/A	N/A	15,200	20,050	15,550
Strategy 2	N/A	N/A	3,800	4,530	940
Strategy 3	N/A	N/A	13,670	33,880	60,960
Strategy 4	N/A	N/A	11,460	10,800	0
Strategy 5	N/A	N/A	650	1,630	2,510
Strategy 6	N/A	N/A	360	330	340
Strategy 7	N/A	N/A	820	770	820
Strategy 8	N/A	N/A	13,380	42,750	108,050
Strategy 9	N/A	N/A	19,490	9,460	15,160
Strategy 10	N/A	N/A	2,220	4,430	7,490
Strategy 11	N/A	N/A	5,270	8,000	12,870
Strategy 12	N/A	N/A	18,400	25,750	36,790
Strategy 13	N/A	N/A	43,320	79,790	143,620

GREENHOUSE GAS EMISSIONS

Strategy	GHG Reduction (MTCO ₂ e)				
	2006	2019	2030	2040	2050
Strategy 14	N/A	N/A	13,170	27,700	46,020
Strategy 15	N/A	N/A	250	850	1,710
Total GHG Emissions Reductions	N/A	N/A	161,460	270,720	452,830

Sources: Butte County 2021.

Table 5.8-9, *Butte County Community-Wide Forecasted GHG Emissions with 2021 CAP Reductions*, shows the emissions inventory for Butte County with implementation of the 2021 CAP. As shown, the table includes the scenarios in which the BCE would and would not operate.

TABLE 5.8-9 BUTTE COUNTY COMMUNITY-WIDE FORECASTED GHG EMISSIONS WITH 2021 CAP REDUCTIONS

Scenario	GHG Reduction (MTCO ₂ e)				
	2006	2019 (Existing)	2030	2040 (Horizon)	2050
Without Butte Choice Energy CCA					
Community Wide Inventory	748,850	649,860	670,540	631,300	646,912
2021 CAP Reductions Without BCE	N/A	N/A	(154,190)	(265,190)	(452,830)
Emissions Inventory with 2021 CAP	748,850	649,860	516,350	366,110	194,082
Annual Emissions Reduction Target	N/A	N/A	381,920	254,610	127,310
Achieves Target?	N/A	N/A	No	No	No
Per Capita Emissions (MTCO ₂ e/resident)	8.38	8.45	6.04	4.00	1.98
Per Capita Emissions Reduction Target	N/A	N/A	6.00	4.00	2.00
Achieves Target?	N/A	N/A	No	No	Yes
With Butte Choice Energy CCA					
Community Wide Inventory	748,850	649,860	670,540	631,300	646,912
2021 CAP Reductions With BCE	N/A	N/A	(161,460)	(270,720)	(452,830)
Emissions Inventory with 2021 CAP	748,850	649,860	509,080	360,580	194,082
Annual Emissions Reduction Target	N/A	N/A	381,920	254,610	127,310
Achieves Target?	N/A	N/A	No	No	No
Per Capita Emissions (MTCO ₂ e/resident)	8.38	8.45	5.95	3.94	1.98
Per Capita Emissions Reduction Target	N/A	N/A	6.00	4.00	2.00
Achieves Target?	N/A	N/A	Yes	Yes	Yes

Notes: ()= negative value.

Sources: Butte County 2021. See Appendix 5.8-1.

In addition to the State actions, as well as CAP strategies that would reduce emissions from future activities in the County, the General Plan Update includes policies and actions that would further support reductions in emissions from existing and future activities in the county.

GREENHOUSE GAS EMISSIONS

Implementation of the following General Plan Update policies and actions could contribute to reducing GHG emissions from mobile sources by reducing single-passenger vehicle trips and VMT, reducing vehicle idling, supporting the transition to low- and zero-emission vehicles, and increasing active and public transit infrastructure:

- **COS-P1.7:** New development projects shall provide electric vehicle charging stations and prioritized parking for electric vehicles, hybrid vehicles, alternative fuel vehicles and carpools.
- **COS-A1.2:** Continue to update the County program to replace County fleet vehicles with the lowest emission technology vehicles, wherever possible, including landscaping and other equipment.
- **COS-A1.3:** Consider the establishment of a motor vehicle emissions budget for County vehicles, including a plan to reduce motor vehicle emissions.
- **COS-A1.4:** Coordinate with the Butte County Air Quality Management District on anti-idling programs that will reduce idling by heavy duty vehicles.
- **COS-A1.5:** Cooperate with the school districts to develop school access plans that substantially reduce automobile trips to, and congestion surrounding, schools. Each District's School Access Plan could address necessary infrastructure improvements, potential funding sources, replacing older diesel buses with low or zero-emission vehicles, and mitigation fees to expand school bus service.
- **COS-P5.7:** The County shall cooperate with Butte County Air Quality Management District in efforts to reduce traffic-related emissions below levels that violate national ambient air quality standards in Butte County.
- **LU-P3.1:** The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- **LU-P3.3:** Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- **LU-P4.3:** Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- **LU-P8.5:** Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.
- **LU-P8.6:** The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential.
- **LU-P8.7:** Land use patterns and development shall support the State's ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County's own VMT thresholds of significance.
- **CIR-P2.1:** Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- **CIR-P2.2:** Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work

GREENHOUSE GAS EMISSIONS

schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.

- **CIR-P2.3:** Home occupations shall be encouraged through streamlined application processes that are appropriate to the intensity and proposed uses of the home business.
- **CIR-P2.4:** Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- **CIR-P2.5:** Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- **CIR-P2.6:** The County shall incorporate “Complete Streets” policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- **CIR-A2.1:** Prepare, adopt, and maintain a VMT environmental threshold and development project screening process.
- **CIR-P3.1:** The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- **CIR-P3.2:** A continuous, integrated, and accessible pedestrian network shall be provided in urbanized areas to encourage walking as a viable transportation mode and as a form of recreation and exercise.
- **CIR-P3.3:** Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- **CIR-P3.4:** New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- **CIR-P3.5:** New neighborhoods shall provide bike and pedestrian connectivity between streets.
- **CIR-P3.6:** Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.
- **CIR-P3.7:** Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
- **CIR-P3.8:** Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
- **CIR-A3.1:** In conjunction with the Butte County Association of Governments, seek funding to develop a plan to support and promote rail service that will connect Butte County with other regions and connect Butte County communities with each other.
- **CIR-P4.1:** The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.

GREENHOUSE GAS EMISSIONS

- **CIR-P4.2:** The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
- **CIR-P4.3:** The County supports public transportation programs that promote access to shopping, employment, education, health care, and recreation.
- **CIR-P4.4:** The County encourages the Butte County Association of Governments to provide shuttles from local transit stations to special event centers.
- **CIR-P4.5:** The County continues to support local Amtrak passenger services.
- **CIR-P4.6:** New development projects in areas served by existing or planned transit shall provide fixed transit facilities such as bus shelters and pullouts, according to expected demand and in coordination with Butte Regional Transit.
- **CIR-A4.1:** Support efforts by the Butte County Association of Governments to evaluate alternate sources of funding for public transit, such as advertising revenue from buses and bus shelters.
- **CIR-P5.1:** Bicycle facilities shall be developed in accordance with the County's adopted Bicycle Master Plan.
- **CIR-P5.2:** New bicycle routes and paths shall create a bicycle environment that minimizes harm when people ride.
- **CIR-P5.3:** The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
- **CIR-P5.4:** Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
- **CIR-P5.5:** Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
- **CIR-P5.6:** Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
- **CIR-P5.7:** Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
- **CIR-P5.8:** All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.
- **CIR-A5.1:** Periodically update the Bicycle Master Plan.
- **CIR-A5.2:** Continue to utilize BCAG's GIS mapping database of current and proposed bicycle routes and facilities countywide.
- **CIR-A5.3:** Pursue sources of funding to improve and maintain the existing bicycle system and to plan and construct new bicycle facilities that encourage commuting and recreation.

GREENHOUSE GAS EMISSIONS

- **EJ-P2.1:** The County shall prioritize improvements to bikeways and sidewalks that are in Communities of Opportunity to make active transportation more accessible, user friendly, and safer in these communities.
- **EJ-P2.2:** Where supported by the community, street lighting for public safety shall be provided, prioritizing implementation in Communities of Opportunity, particularly at parks, transit stops, bike and pedestrian paths, and along commercial corridors.
- **EJ-P2.3:** The County shall encourage development in Communities of Opportunity that combines employment, housing, and services close to transit facilities.
- **EJ-P2.4:** The County shall work with transit providers to expand the hours of transit operation, operational boundaries, convenience, and quality of transit services that connect Communities of Opportunity with educational and economic opportunities, medical services, and other needed goods and services.
- **EJ-P2.5:** The County shall encourage transit providers to offer small or less frequent buses on routes with low passenger demand and connections between unincorporated and incorporated bus routes, with a focus on bridging service gaps in Communities of Opportunity.
- **EJ-P2.6:** The County shall provide support to carpooling and vanpooling programs, particularly among Communities of Opportunity, such as by assisting with outreach and program facilitation.
- **EJ-A2.1:** Seek opportunities to identify and construct multi-modal improvements in Communities of Opportunity.
- **EJ-P8.3:** The County supports the development of high-quality, local jobs within and near Communities of Opportunity to reduce long commutes and resultant vehicle emissions.

The proposed General Plan Update also includes the following policies and actions that would contribute to reducing GHG emissions from area sources:

- **COS-P5.3:** Only EPA Phase II certified wood burning or equivalent devices maybe installed in any residential projects.
- **COS-A5.1:** Support Air Quality Management District programs that would offer a rebate or incentive to replace wood-burning fireplaces and stoves with EPA-certified wood stoves or gas stoves.
- **COS-A5.2:** Expand services and conduct outreach to discourage burning household waste.

The proposed also includes the following policies that would contribute in reducing emissions from energy consumption by increasing energy efficiency and transitioning from natural gas to electric appliances and fully electric homes.

- **COS-P2.3:** All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent.

GREENHOUSE GAS EMISSIONS

- **COS-P2.4:** All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design.
- **COS-P2.5:** The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties.
- **COS-A2.3:** Explore, as feasible, Building Code amendments requiring replacement of natural gas space and water heaters with electric models at end of life during the 2022 and successive Buildings Standards Code updates.
- **COS A2.4:** Identify and remove existing Code, permitting, or other County requirements that provide barriers to all-electric conversions of existing homes and businesses and consider incentives, such as permit streamlining or fee reductions, as feasible.
- **COS A2.5:** Promote and support opportunities for residents to test electric equipment, such as portable induction cooktops, to encourage transitioning from gas to electric appliances.

Overall, implementation of the General Plan Update would result in growth in population and the development of new residential and nonresidential projects and, as a result, generate new activities that result in GHG emissions. However, as shown in Tables 5.8-7 and Table 5.8-9, overall GHG emissions associated with Butte County would generally decline based on state actions, local actions (i.e., 2021 CAP), and implementation of the General Plan Update. In addition, as shown in Table 5.8-9, future per-capita GHG emissions in the county are also projected to decrease over time compared to existing year conditions. Under horizon year 2040 conditions, per-capita emissions for the scenario without BCE is 4.00 MTCO₂e/person/yr and 3.94 MTCO₂e/person/yr for the with BCE scenario. The per-capita emissions under both scenarios for horizon year 2040 would be smaller than the per-capita emission rate of 8.45 MTCO₂e/person/yr under existing conditions. Implementation of the General Plan Update would not directly or indirectly result in an increase in GHG emissions compared to existing conditions in 2019.

Consistency with the State's GHG Reduction Targets and Carbon Neutrality Goals

This EIR also analyzes the potential for the project to conflict with the GHG reduction goal established under AB 1279. As shown in Table 5.8-9, Butte County would meet the respective per-capita GHG targets for years 2030 and 2040 with implementation of the 2021 CAP and operation of BCE. As stated, BCE is anticipated to commence operation in fall of 2023. Butte County would meet its per-capita GHG reduction target of 2.0 MTCO₂e/capita under year 2050 conditions with implementation of its 2021 CAP and regardless of whether BCE is implemented. However, as noted in the 2021 CAP, the 2050 reduction target is based on the GHG reduction goal of 80 percent below 1990 levels by 2050 established under EO S-03-05. AB 1279, which supersedes EO S-03-05, established a more stringent GHG reduction goal of 85 percent below 1990 levels by 2045. Because the 2021 CAP is designed to only meet the GHG reduction goal under S-03-05, it would not result in the necessary reductions needed to meet the AB 1279 GHG reduction goal. Additionally, it is also not anticipated that the 2021 CAP would result in the necessary reductions under year 2040 conditions indicating a trajectory in meeting the AB 1279 goal for year 2045.

GREENHOUSE GAS EMISSIONS

Overall, it is anticipated that Butte County would meet the 2030 target with implementation of both the 2021 CAP and BCE. However, as discussed herein, even with the 2021 CAP, implementation of the General Plan Update would not result in Butte County achieving the AB 1279 long-term year 2045 GHG reduction goal. Reduction strategies to meet the AB 1279 long-term 2045 GHG reduction goal would be included in future updates to the Butte County CAP. In addition, additional state strategies may also be required to achieve the 2045 GHG reduction goal. Therefore, until such time, implementation of the General Plan Update, even with implementation of the 2021 CAP, would result in potentially significant GHG emissions impacts.

Level of Significance Before Mitigation: GHG-1 would be potentially significant.

Impact GHG-1a: Implementation of the General Plan Update would not meet the AB 1279 long-term GHG reduction goal for year 2045.

Mitigation Measures

Mitigation Measure GHG-1: The County shall prepare and update its next regularly planned update to the Climate Action Plan (CAP) per the schedule (within five years or sooner) established under Implementation Strategy 4 of the Butte County 2021 CAP, to achieve, or move towards achieving a GHG reduction target consistent with the Assembly Bill 1279 GHG reduction target of 85 percent of 1990 levels by 2045. The CAP update shall include the following:

- GHG inventories of existing and forecast-year GHG levels.
- Tools and strategies for reducing GHG emissions to ensure a trajectory with the long-term GHG reduction target of AB 1279.
- Plan implementation guidance that includes, at minimum, the following components consistent with the updated CAP:
 - Administration and Staffing
 - Finance and Budgeting
 - Timelines for Measure Implementation
 - Community Outreach and Education
 - Monitoring, Reporting, and Adaptive Management
 - Tracking Tools

Level of Significance After Mitigation: GHG-1 would be significant and unavoidable. Implementation of Mitigation Measure GHG-1, in conjunction with proposed Action COS-A1.1, would ensure that the County prepares an update to the adopted CAP to chart a trajectory to achieve the long-term year 2045 GHG reduction target set by AB 1279 and substantial progress toward the State's carbon neutrality goals also under AB 1279. Mitigation Measure GHG-1a would also ensure that the County is tracking and monitoring the County's GHG emissions. However, until the next CAP update is prepared, and given that additional statewide measures may be required to achieve the AB 1279 target, and there is currently no adopted

GREENHOUSE GAS EMISSIONS

statewide plan (e.g., Scoping Plan) to address the long-term year 2045 GHG reduction target set by AB 1279, Impact GHG-1a is considered significant and unavoidable.

Upper Ridge Community Plan

As discussed in Chapter 3, *Project Description*, the URCP would increase development potential in the Upper Ridge community by redesignating 28 parcels from Retail and Office to Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods. Potential future development in the Upper Ridge community could accommodate up to 851 new dwelling units or 926,739 square feet of new retail space.

The analysis prepared for the General Plan Update regarding potential GHG emissions impacts from operation activities would also apply to the URCP. Overall, GHG emissions impacts associated with the land uses accommodated under the URCP are considered potentially significant.

Level of Significance Before Mitigation: GHG-1 would be potentially significant.

Impact GHG-1b: Implementation of the URCP would generate emissions that would contribute in Butte County not achieving the AB 1279 long-term GHG reduction goal for year 2045.

Mitigation Measures

Implement Mitigation Measure GHG-1.

Level of Significance After Mitigation: GHG-1 would be significant and unavoidable. For the same reasons as provided for Impact GHG-1a, Impact GHG-1b is considered significant and unavoidable.

GHG-2 The proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

General Plan 2040

CARB Scoping Plan

The CARB Scoping Plan is applicable to state agencies, but is not directly applicable to cities/counties and individual projects (i.e., the Scoping Plan does not require the County to adopt policies, programs, or regulations to reduce GHG emissions). However, new regulations adopted by the state agencies outlined in the Scoping Plan result in GHG emissions reductions at the local level. As a result, local jurisdictions benefit from reductions in transportation emissions rates, increases in water efficiency in the building and landscape codes, and other statewide actions that would affect a local jurisdiction's emissions inventory from the top down. Statewide strategies to reduce GHG emissions include the LCFS and changes in the CAFE standards (e.g., Pavley I and Pavley California Advanced Clean Cars program).

Project GHG emissions shown in Table 5.8-7 and Table 5.8-9 includes reductions associated with statewide strategies that have been adopted since AB 32 and SB 32. Development projects accommodated under the General Plan Update are required to adhere to the programs and regulations identified by the Scoping Plan

GREENHOUSE GAS EMISSIONS

and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32, SB 32, and AB 1279. Future development projects would be required to comply with these state GHG emissions-reduction measures because they are statewide strategies. For example, new buildings associated with land uses accommodated under the General Plan Update would be required to meet the CALGreen and Building Energy Efficiency Standards in effect at the time when applying for building permits. Furthermore, as discussed under the discussion for Impact 5.8-1, the General Plan Update includes goals, policies, and programs that would help reduce GHG emissions and support achieving the GHG reduction goals.

As stated, overall, it is anticipated that Butte County would meet the 2030 target with implementation of both the 2021 CAP and BCE, which would support the Statewide reduction target for 2030 identified in the 2017 Scoping Plan and the draft 2022 Scoping Plan. In addition, the General Plan Update includes Implementation Program COS-A1.1 that requires the County to achieve GHG emissions-reduction targets through implementation of the CAP. Additionally, the County would conduct an update of its community-wide GHG emissions to assess progress to date in meeting the adopted targets, and periodically update the CAP through Implementation Program COS-A1.1 to address State and local emissions reduction targets and associated updates to the Scoping Plan that could be approved by the State, in light of the State's long-term 2045 emissions-reduction target established under AB 1279. These efforts would help reduce GHG emissions and therefore, help achieve GHG reduction goals. Therefore, overall, the General Plan Update would not obstruct implementation of the CARB Scoping Plan.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

BCAG's 2020-2040 Regional Transportation Plan/Sustainable Communities Strategy

The BCAG RTP/SCS is Butte County's RTP to achieve the passenger vehicle emissions reductions identified under SB 375. BCAG's 2020 RTP/SCS was adopted December 10, 2020. The RTP/SCS identifies transportation investments, including highways, local streets and roads, transit, aviation, rail, and non-motorized transportation (bike and pedestrian).

BCAG's RTP/SCS identifies that land use strategies that focus on innovative land use planning and transportation planning, planning for future roads to accommodate land uses at a regional level, and pedestrian-friendly roads and encourage bicycle trips and the use of the mass transportation system. The overarching strategy in the 2020 RTP/SCS is to allow Butte County to maintain, manage, and improve the region's transportation system over the next 20+ years. The 2020 RTP/SCS contains transportation projects to help more efficiently distribute population, housing, and employment growth as well as forecast development that is generally consistent with regional-level general plan data. The projected regional development pattern—when integrated with the proposed regional transportation network identified in the RTP/SCS—would reduce per-capita vehicular-travel-related GHG emissions and achieve the GHG reduction per-capita targets for the BCAG region. The RTP/SCS does not require that local general plans,

GREENHOUSE GAS EMISSIONS

specific plans, or zoning be consistent with the RTP/SCS, but provides incentives for consistency for governments and developers.

As discussed in further detail in Chapter 5.16, *Transportation*, under Impact TRANS-1 of this Draft EIR (see Table 5.16-2), the General Plan Update would be consistent with the 2020 RTP/SCS. For example, the General Plan Update policies, such as CIR-P2.6, CIR-P3.3, CIR-P3.2, and CIR-P3.8, would be consistent with the 2020 RTP/SCS goals in focusing on a regional transportation system for bicyclists and pedestrians and in providing economical, long-term solutions to transportation problems by encouraging community designs that encourage walking, transit, and bicycling. Therefore, the General Plan Update would not interfere with BCAG's ability to implement the regional strategies outlined in the 2020 RTP/SCS and impacts would be less than significant.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Butte County 2021 Climate Action Plan

As shown in Table 5.8-10, *General Plan Update and URCP Consistency with the Butte County 2021 Climate Action Plan*, the General Plan Update includes goals, policies, and actions that would be consistent with the overall goals of the 2021 CAP. For example, the General Plan Update includes various policies and actions (e.g., COS-P2.3, COS-P3.5, COS-A4.2, and COS-A4.3) that would be consistent and support the 2021 CAP goal of increasing energy efficiency and use of carbon-free/clean energy sources. Therefore, implementation of the General Plan Update would not conflict or interfere with implementation of the 2021 CAP.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Upper Ridge Community Plan

CARB Scoping Plan

Similar to the CARB Scoping Plan consistency analysis for the General Plan Update, development projects accommodated under the URCP are required to adhere to the programs and regulations identified by the Scoping Plan and implemented by state, regional, and local agencies to achieve the statewide GHG reduction goals of AB 32, SB 32, and AB 1279. Therefore, implementation of the URCP would not conflict or interfere with implementation of the CARB Scoping Plan and impacts are less than significant.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

GREENHOUSE GAS EMISSIONS

Mitigation Measures

No mitigation measures are required.

BCAG's 2020 Regional Transportation Plan/Sustainable Communities Strategy

As discussed in detail in Chapter 5.16, *Transportation*, under Impact TRANS-1 and as shown in Table 5.16-2 of this Draft EIR, the URCP would be consistent with the goals of the 2020 RTP/SCS. For example, Strategy CIR 2.5 proposes providing enhanced transit bus stops with improved bus signage, lighting, and seating at the two transit stops in each direction on Lakeridge Circle to create better access and encourage transit ridership to Magalia Center. Furthermore, as discussed in Impact TRANS-2 of this Draft EIR, the development accommodated under the URCP is expected to reduce VMT. Mixed-use land uses in the Old Magalia and Magalia Center neighborhoods would provide residents with an opportunity to both live and work in the county instead of commuting to other areas, which would contribute to minimizing VMT. Therefore, implementation of the URCP would not conflict or interfere with implementation of the 2020 RTP/SCS and impacts are less than significant.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

Butte County 2021 Climate Action Plan

As shown in Table 5.8-10, the URCP includes strategies that would be consistent with the overall goals of the 2021 CAP. For example, Strategy CIR-2.1 through Strategy CIR-2.5 would be consistent with and support the 2021 CAP goal of developing a transportation network that provides equitable access to motorized and non-motorized mobility. Therefore, implementation of the URCP would not conflict or interfere with implementation of the 2021 CAP.

Level of Significance Before Mitigation: GHG-2 would be less than significant.

Mitigation Measures

No mitigation measures are required.

GREENHOUSE GAS EMISSIONS

TABLE 5.8-10 GENERAL PLAN UPDATE AND URCP CONSISTENCY WITH THE BUTTE COUNTY 2021 CLIMATE ACTION PLAN

2021 CAP Goals and Strategies	Project Consistency Analysis
<p>Goal: Butte County is home to energy-efficient and resilient homes, businesses, and operations that rely on carbon-free electricity or other low-carbon, clean energy sources.</p> <ul style="list-style-type: none"> ▪ Strategy 1: Continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters in the unincorporated county, including support and promotion of programs for lower- income and disadvantaged populations. ▪ Strategy 2: Continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses in the unincorporated county, including County facilities, office space, commercial space, and industrial space. ▪ Strategy 3: Work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties. ▪ Strategy 4: Support efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy. 	<p>Consistent. The General Plan Update includes the following polices and actions in the Conservation and Open Space Element that would help implement this goal:</p> <ul style="list-style-type: none"> ▪ COS-P2.3: All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED-Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent. ▪ COS-P2.4: All new subdivisions and developments should meet green planning standards such as LEED for Neighborhood Design. ▪ COS-P2.5: The County shall work with property owners and property management groups to increase overall building electrification and adoption of modern, efficient appliances in residential rental properties. ▪ COS A2.3: Explore and adopt, as feasible, Building Code amendments requiring replacement of natural gas space and water heaters with electric models at end of life during the 2022 and successive Buildings Standards Code updates. ▪ COS A2.4: Identify and remove existing Code, permitting, or other County requirements that provide barriers to all-electric conversions of existing homes and businesses and consider incentives, such as permit streamlining or fee reductions, as feasible. ▪ COS A2.5: Promote and support opportunities for residents to test electric equipment, such as portable induction cooktops, to encourage transitioning from gas to electric appliances. ▪ COS-P3.2: The development of renewable energy sources in the county shall be encouraged, provided that such fuel sources can be built or expanded and that significant adverse environmental impacts associated with such development can be successfully mitigated. ▪ COS-P3.3: The County supports the introduction and implementation of Butte Choice Energy, the County’s community choice aggregation program. ▪ COS-P3.4: The County shall promote and incentivize small-scale, on-site renewable energy and storage systems for existing residential units, nonresidential buildings, and in the agricultural sector. ▪ COS-P3.5: The County supports efforts to increase renewable and carbon-free energy generation, including wind, solar, and biomass, and to ensure customer access to such renewable energy.

GREENHOUSE GAS EMISSIONS

- **COS-P3.7:** Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow.
 - **COS-P3.8:** Wind power generation facilities, solar power generation facilities, and other alternative energy facilities shall be encouraged in all General Plan land use designations, consistent with zoning provided that significant adverse environmental impacts associated with such development can be successfully mitigated. All new proposed energy projects shall be compatible with the Military Operations Areas (MOAs) shown on Figure LU-4.
 - **COS-P4.1:** The County shall continue efforts to promote energy conservation and efficiency opportunities for all residents, building/property owners, and renters, including support and promotion of programs for lower- income and disadvantaged populations.
 - **COS-P4.2:** The County shall continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses, including County facilities, office space, commercial space, and industrial space.
 - **COS-P4.3:** Energy efficiency and reduction efforts of local businesses, including agricultural businesses, shall be promoted and encouraged.
 - **COS-P4.4:** The County shall coordinate with Pacific Gas and Electric Company (PG&E) and other utility providers to promote programs that reduce energy demand.
 - **COS-P4.6:** The County shall work with property owners and property management groups to increase overall building electrification of new and existing development, and adoption of modern, efficient appliances in residential rental properties.
 - **COS-P4.7:** Site and structure designs for new development projects shall maximize energy efficiency.
 - **COS-A4.1:** Continue to participate in available and future programs to provide low-cost financing for energy retrofits throughout Butte County.
 - **COS-A4.2:** Pursue grants to address existing energy inefficiencies in County facilities.
 - **COS-A4.3:** Consider giving preference to renewable energy for County purchases when feasible.
- Consistent:** The URCP includes the following strategies that would be consistent with this goal:
- **Strategy HS-1.5:** Work with partner agencies and other organizations to secure grant funding to provide low-cost energy retrofits reducing energy use.
 - **Strategy HS-2.2:** Encourage solar panels and energy storage in homes and commercial buildings to provide backup electricity supply.
 - **Strategy UI-4.2:** Encourage the adoption of backup power service for residences and businesses on the Upper Ridge, including installation of rooftop solar and battery backup systems.
 - **Strategy UI-4.3:** Evaluate options for providing backup power service to critical communication infrastructure. These options could include a variety of means of providing backup power, such as battery backup power with solar recharge or generator backup power.

GREENHOUSE GAS EMISSIONS

2021 CAP Goals and Strategies	Project Consistency Analysis
<p>Goal: Homes, businesses, and operations throughout the unincorporated county practice sustainable and efficient indoor and outdoor water use.</p> <ul style="list-style-type: none"> ▪ Strategy 5: Continue efforts to promote water conservation for all residents, building/property owners, and businesses in the unincorporated county, including support and promotion of programs for lower-income and disadvantaged populations, and large water users. 	<p>Consistent. The General Plan Update includes the following goals, polices, and actions in the Water Resources Element that would help implement this goal:</p> <p>Goal W-5: Promote water conservation as an important part of a long-term and sustainable water supply.</p> <ul style="list-style-type: none"> ▪ W-P5.1: Agricultural and urban water use efficiency shall be promoted. ▪ W-P5.2: The County shall coordinate with local Resource Conservation Districts, the Natural Resource Conservation Service, the Northern Sacramento Valley and Upper Feather River Integrated Water Management groups, Butte County Groundwater Sustainability Agencies, and local special districts to ensure consistent and effective water conservation measures and messaging. ▪ W-P5.3: The County should work with municipal and industrial water purveyors or users to implement water conservation policies and measures, including recycling and reuse. ▪ W-P5.4: Opportunities to recover and uses treated wastewater for beneficial purposes shall be promoted and encouraged. ▪ W-P5.5: The use of captured water and reuse of grey water for non-potable uses shall be encouraged. ▪ W-P5.6: New development projects shall adopt best management practices for water use efficiency and demonstrate specific water conservation measures. ▪ W-P5.7: County facilities shall adopt water conservation measures and when appropriate retrofit existing facilities to improve water conservation. ▪ W-A5.1: Increase participation in water conservation programs to reduce water use throughout Butte County. ▪ W-A5-2: Provide education and increase awareness about water conservation and protection. <p>Consistent: The URCP includes the following strategies and design guideline that would be consistent with and support this goal:</p> <ul style="list-style-type: none"> ▪ Strategy HS-1.1: Develop alternative water supplies to support the Upper Ridge during drought conditions. ▪ Strategy HS-1.3: Work with Del Oro Water company to develop a water conservation education program for community residents and visitors. ▪ Strategy HS-1.3: Work with Del Oro Water company to develop a water conservation education program for community residents and visitors. <p>The Design Guidelines identifies the use of drought-tolerant landscaping.</p>

GREENHOUSE GAS EMISSIONS

Goal: Residents, workers, and visitors rely on low carbon, connected, and efficient transportation network that provides equitable access to motorized and non-motorized mobility options.

- **Strategy 6:** Pursue Transportation Demand Management (TDM) strategies, implemented through local land use decisions and through partnerships with local employers, that reduce vehicle miles traveled (VMT) countywide.
- **Strategy 7:** Prioritize bicycling and walking as safe, practical, and attractive travel options countywide.
- **Strategy 8:** Reduce carbon emissions from transportation by facilitating a transition to efficient or clean-fuel vehicles.
- **Strategy 9:** Encourage hybrid and clean-fuel construction and landscaping equipment countywide.

Consistent. The General Plan Update includes the following goals, policies, and actions in the Circulation Element and Land Use Element that would help implement this goal:

Goal CIR-2: Strive to operate and modify the transportation network to accommodate planned land use growth in a manner that reduces per-capita vehicle miles traveled (VMT) and related greenhouse gas and air pollutant emissions.

- **CIR-P2.1:** Carpooling shall be encouraged at major job and activity centers by providing information on how to participate in available private and public programs.
- **CIR-P2.2:** Trip reduction among County employees shall be encouraged. Specific measures to encourage trip reduction could include providing subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking for carpools/vanpools.
- **CIR-P2.4:** Employers shall be encouraged to provide transit subsidies, bicycle facilities, alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking for carpools/vanpools.
- **CIR-P2.5:** Transportation corridors for renewable energy transmission and for new transit lines shall be preserved.
- **CIR-P2.6:** The County shall incorporate “Complete Streets” policies that are designed and built to accommodate pedestrians, bicyclists, and transit users.
- **CIR-A2.1:** Prepare, adopt, and maintain a VMT environmental threshold and development project screening process.
- **CIR-P3.1:** The County supports improved connections to other regional transportation services, such as rail and regional/national bus lines, to connect Butte County communities with each other.
- **CIR-A3.1:** In conjunction with the Butte County Association of Governments, seek funding to develop a plan to support and promote rail service that will connect Butte County with other regions and connect Butte County communities with each other.
- **CIR-P3.3:** Travel modes shall be interconnected to form an integrated, coordinated, and balanced multimodal transportation system.
- **CIR-P3.4:** New development projects shall provide adequate pedestrian, bicycle, and multiuse facilities in a way that integrates circulation and recreational use, commensurate with the impacts of the project, local and regional plans, and consistent with surrounding development.
- **CIR-P3.5:** New neighborhoods shall provide bike and pedestrian connectivity between streets.
- **CIR-P3.6:** Arterial and collector streets shall be designed to enhance the integrity and cohesiveness of urban neighborhoods.

GREENHOUSE GAS EMISSIONS

- **CIR-P3.7:** Major residential development projects shall be designed with interconnected collector street patterns and short block lengths. Cul-de-sac and dead-end streets shall conform to County design standards.
 - **CIR-P3.8:** Public facilities shall be located and designed to allow for convenient access from public transit and/or bicycle and pedestrian facilities.
 - **CIR-P4.1:** The County supports public transit as a viable and attractive alternative to the use of single occupant motor vehicles.
 - **CIR-P4.2:** The County supports improved public transit service to be determined through the public process to identify unmet needs and prioritize feasible solutions. Potential improvements could include serving an expanded geographic area, more frequent buses at key times of the day, and improved transit amenities such as bus shelters.
 - **CIR-P5.3:** The bicycle system shall be integrated with other transportation modes by connecting bicycle routes and transit stops, providing secure bicycle parking facilities and supporting efforts to expand accommodation of bicycles aboard buses.
 - **CIR-P5.4:** Transportation service providers shall be encouraged to incorporate bicycle storage facilities into bus stops and rail stations.
 - **CIR-P5.5:** Construction or expansion of major arterials shall incorporate Class II bicycle facilities whenever feasible. Class III Bike routes will be considered where appropriate.
 - **CIR-P5.6:** Residential development projects shall incorporate internal circulation networks that encourage bicycle use and that connect to the external bicycle circulation system.
 - **CIR-P5.7:** Owners of apartment complexes and major commercial, office, industrial, and educational sites shall provide plentiful, convenient, and centrally located bicycle parking facilities.
 - **CIR-P5.8:** All County facilities and park-and-ride lots shall provide appropriate bicycle amenities, including bicycle racks and storage facilities.
- Goal CIR-6:** Support a balanced and integrated road and highway network that maximizes the efficient mobility of people and goods in a manner that limits harm to people when traveling.
- **CIR-P6.1:** The County shall strive to maintain a level of service (LOS) D or better during the peak hours for County-maintained roads within the unincorporated areas of the county but outside municipalities' spheres of influence (SOI). Within a municipality's SOI, the County shall strive to meet the municipality's LOS goal. However, the County considers LOS E or F to be acceptable on the following roadways:
 - State Route 32— East Avenue to W. Sacramento Avenue
 - State Route 32— W. Sacramento Avenue to W. 1st Street
 - State Route 32— W. 1st Street to W. 5th Street
 - State Route 70 — Grand Avenue to State Route 149
 - State Route 99 – State Route 149 to Durham- Pentz Road

GREENHOUSE GAS EMISSIONS

- State Route 99— Durham- Pentz Road to Skyway
- State Route 99— East 20th to State Route 32
- State Route 162 — Larkin Road to State Route 70
- Skyway — State Route 99 to Notre Dame Boulevard

- **CIR-P6.2:** Parcels adjacent to highways and significant roadways shall have only limited access to these facilities to maintain traffic flow and minimize potential collisions. Development shall consider access from the lowest road classification where available and feasible.
- **CIR-P6.3:** Street improvements within the sphere of influence of an incorporated municipality shall conform to the street standards of that municipality.
- **CIR-P6.4:** Major new development projects and subdivisions, as determined by the Department of Development Services, as well as other projects that meet the thresholds under the County’s Traffic Impact Study Guidelines, shall prepare and implement traffic studies to assess and mitigate adverse impacts to local and regional transportation facilities.

Goal CIR-7: Develop a transportation system that is consistent with and will support existing and proposed patterns and densities of land use and that encourages efficient land utilization.

- **CIR-P7.1:** Rights-of-way needed for planned roads or expansion of existing roads, including facilities in the State highway system, shall be reserved, and land uses that would preclude development of such rights-of-way shall be prohibited.
- **CIR-P7.2:** Existing road capacity available within the County road system shall be used to serve future development unless construction of a new road will enhance circulation opportunities.
- **CIR-P7.3:** New roads shall be located to encourage development near existing highway corridors and existing rural community centers.
- **CIR-A8.4:** Encourage the Butte County Association of Governments to work with all local agencies to create a funding plan and regional traffic impact fee for necessary improvements to the State highway system.
- **LU-P3.1:** The County shall encourage housing that meets the needs of the local workforce, jobs that are suitable for local residents, and programs that reduce commuting and improve opportunities to live and work in the same community.
- **LU-P3.3:** Newly-developed neighborhoods shall include parks and recreation facilities. Sidewalks, bike paths, and other routes shall provide circulation to surrounding areas.
- **LU-P4.3:** Generally, higher density housing shall be along collector and arterial streets and within easy walking distance of public facilities.
- **LU-P8.5:** Stores providing goods and services to support daily life in neighborhoods should be within walking distance to the majority of neighborhoods.

GREENHOUSE GAS EMISSIONS

2021 CAP Goals and Strategies	Project Consistency Analysis
	<ul style="list-style-type: none"> ▪ LU-P8.6: The County shall encourage the construction of housing near employment centers, along with additional employment-generating uses near areas that are primarily residential. ▪ LU-P8.7: Land use patterns and development shall support the State’s ability to achieve its vehicle miles traveled (VMT) and greenhouse gas (GHG) reduction goals, and the County’s own VMT thresholds of significance. <p>Consistent: The URCP includes the following strategies that that would be consistent with and support this goal:</p> <ul style="list-style-type: none"> ▪ Strategy CIR-2.1: Improve the shoulders of Skyway within the Plan Area, from the Coutolenc/Skyway intersection to Lake De Sabla. ▪ Strategy CIR-2.2: Support the development of plans for and implementation of the grant-funded Magalia Reservoir-Paradise Lake Loop Trail. As part of this effort, provide trailheads and connector trails from the Upper Ridge Plan’s residential neighborhoods to the Loop Trail, potentially from Steiffer Road and one of the streets leading east from Holmwood Drive. ▪ Strategy CIR-2.3: Develop plans for north and south connectors to the Magalia Reservoir-Paradise Lake Loop Trail. These connectors should include a southern leg leading from Yellowstone Kelley Trail to the Loop Trail at Magalia Reservoir and a northern leg leading from Paradise Lake to Lake De Sabla. When planning this trail, ensure trailheads and connector trails from the Upper Ridge Plan’s residential neighborhoods to the Loop Trail are provided. ▪ Strategy CIR-2.4: Develop plans for a new east-west trail connecting the existing Magalia Community Center to the Lakeridge Circle area, including the proposed new Lakeridge Park (see Chapter 5 for details regarding Lakeridge Park). ▪ Strategy CIR 2.5: Provide enhanced transit bus stops with improved bus stop signage, lighting, and seating at the two transit stops in each direction on Lakeridge Circle to create better access and encourage transit ridership to Magalia Center.
<p>Goal: Butte County residents, businesses, and visitors minimize waste sent to the landfill.</p> <ul style="list-style-type: none"> ▪ Strategy 10: Reduce the amount of solid waste sent to local landfills through innovative programs and partnerships. ▪ Strategy 11: Reduce emissions from disposal and decomposition of organic waste. 	<p>Consistent. The General Plan Update includes the following goals, policies, and action in the Conservation and Open Space Element and Public Facilities and Services Element that would help implement this goal:</p> <ul style="list-style-type: none"> ▪ COS-P1.8: The County shall reduce emissions from disposal and decomposition of organic waste. ▪ COS-P1.9: The County supports development of alternative technologies to derive fuel or energy from green waste and reduce air pollution by processing green waste. ▪ COS-A1.6: Implement curbside organics and green waste collection services for residences and businesses in accordance with SB 1383, including green waste collection where curbside collection is not feasible in the near term.

GREENHOUSE GAS EMISSIONS

2021 CAP Goals and Strategies	Project Consistency Analysis
	<ul style="list-style-type: none"> ▪ COS-A1.7: Develop education programs about the importance of reusing, recycling, or responsibly disposing of unwanted green waste, including on agricultural land and green waste associated with forest residue. <p>Goal PUB-11: Increase recycling among Butte County residents, businesses and public agencies.</p> <ul style="list-style-type: none"> ▪ PUB-P11.1: The County shall meet or exceed State waste diversion requirements. ▪ PUB-P11.2: Construction sites shall provide for the salvage, reuse, or recycling of construction and demolition materials. ▪ PUB-P11.3: Public buildings shall be designed or improved with on-site storage facilities for recycled materials. ▪ PUB-P11.4: The County shall use post-consumer recycled paper and other recycled materials for County operations whenever possible. ▪ PUB-P11.5: The County supports private and public composting facilities. ▪ PUB-A11.1: Continue to implement and expand the County’s action program to achieve more aggressive recycling goals, including recycling of construction materials. <p>Consistent: While the URCP does not include any strategies relevant to this goal, it would not include specific features that conflict with the implementation of this CAP goal. Additionally, the URCP would be subject to solid waste reduction efforts initiated by the County.</p>
<p>Goal: Butte County is a state leader in maximizing the efficiency and sustainability of natural and working lands countywide.</p> <ul style="list-style-type: none"> ▪ Strategy 12: Work to reduce GHG emissions associated with agricultural equipment, in partnership with regional partners, agencies, and members of the agricultural community. ▪ Strategy 13: Track trends in agricultural operations and encourage existing and new farming techniques that reduce GHG emissions from crop cultivation. ▪ Strategy 14: Work with farmers and local and regional agencies to explore techniques to maximize carbon sequestration of the county's natural and working lands. 	<p>Consistent. The General Plan Update includes the following goal and policies in the Conservation and Open Space Element and Agriculture Element that would help implement this goal:</p> <ul style="list-style-type: none"> ▪ COS-P1.6: The County shall explore techniques to maximize carbon sequestration of the county’s natural and working lands. <p>Goal AG-3: Promote innovative and economically viable agriculture.</p> <ul style="list-style-type: none"> ▪ AG-P3.1: The County shall use the existing local working group process to cooperate with the Natural Resource Conservation Service to provide support to farmers regarding conserving water, planting drought-tolerant crops and protecting natural resources. <p>Goal AG-7: Support resilient agricultural lands and practices.</p> <ul style="list-style-type: none"> ▪ AG-P7.1: The County supports efforts by rice growers and other farmers to adopt drought- and flood-tolerant rice and other crop varieties as they become available and suitable to meet market demand. ▪ AG-P7.2: In partnership with the University of California (UC) Cooperative Extension and other local agricultural agencies, the County shall promote the adoption of sustainable farming practices that will aid farmers and ranchers in minimizing the effects of climate change (especially extreme temperatures and drought), safeguarding the environment, and remaining economically viable.

GREENHOUSE GAS EMISSIONS

2021 CAP Goals and Strategies	Project Consistency Analysis
<p>Goal: Butte County is an established leader in rural climate action and GHG reduction.</p> <ul style="list-style-type: none"> ▪ Strategy 15: Implement projects and programs to reduce GHG emissions associated with Butte County operations. 	<ul style="list-style-type: none"> ▪ AG-A7.1: Work with the UC Cooperative Extension, Butte County Farm Bureau, and other agriculture organizations to develop methods to improve water use efficiency in the agricultural sector. <p>Not applicable: The URCP does not contain areas used for or designated for farming (see Impact AG-1 of this EIR). In addition, the URCP would not redesignate agricultural-zoned areas (see Impact AG-2 of this EIR). Overall, the URCP involves redesignating 28 parcels from Retail and Office to Mixed-Use.</p> <p>Consistent. The General Plan Update includes the following policies and actions in the Conservation and Open Space Element that would help implement this goal:</p> <ul style="list-style-type: none"> ▪ COS-A1.2: Continue to update the County program to replace County fleet vehicles with the lowest emission technology vehicles, wherever possible, including landscaping and other equipment. ▪ COS-A1.3: Consider the establishment of a motor vehicle emissions budget for County vehicles, including a plan to reduce motor vehicle emissions. ▪ COS-P2.3: All new County buildings and major renovations designed for public access and/or primary workspace shall meet, at a minimum, LEED-Silver or equivalent and the County shall use these buildings to demonstrate green building practices to builders, developers, homeowners, and others. Minor buildings of an accessory nature that are not used as public spaces and that do not serve as a primary workspace are not required to meet LEED Silver or equivalent, but shall implement practical building design, construction, and maintenance solutions as set forth under the LEED rating system or equivalent. ▪ COS-P3.7: Alternative energy sources such as solar shall continue to be used for County facilities, which set an example for others to follow. ▪ COS-P4.2: The County shall continue efforts to promote energy conservation and efficiency opportunities for all nonresidential uses, including County facilities, office space, commercial space, and industrial space. ▪ COS-A4.2: Pursue grants to address existing energy inefficiencies in County facilities. ▪ COS-A4.3: Consider giving preference to renewable energy for County purchases when feasible. <p>Consistent: The URCP strategies identified for the other CAP goals above would be consistent and support this goal.</p>

Source: Butte County 2021.

Significance without Mitigation: Less than significant.

GREENHOUSE GAS EMISSIONS

5.8.5 CUMULATIVE IMPACTS

GHG-3 **Implementation of the proposed project would, in combination with past, present, and reasonably foreseeable projects, result in a cumulative impact with respect to GHG emissions.**

General Plan 2040 and URCP

Project-related GHG emissions are not confined to a particular air basin, but are dispersed worldwide. Therefore, impacts under impact discussion GHG-1 are not project-specific impacts to global warming, but are the proposed project's contribution to this cumulative impact. As described under impact discussion GHG-1, implementation of the General Plan Update and the URCP would result in an increase in GHG emissions in horizon year 2040 from existing baseline and would not meet or result in a trajectory to meet the long-term GHG reduction target under AB 1279. Therefore, project-related GHG emissions and their contribution to global climate change would be cumulatively considerable, and GHG emissions impacts would be potentially significant.

Level of Significance Before Mitigation: GHG-3 would be potentially significant.

Impact GHG-3: Implementation of the General Plan Update and the URCP would not meet the long-term GHG emission-reduction target established under AB 1279.

Mitigation Measures

Implement Mitigation Measure GHG-1.

Level of Significance After Mitigation: GHG-3 would be Significant and unavoidable. As described in impact discussion GHG-1, implementation of Mitigation Measure GHG-1 would ensure that the County prepares an update to the adopted CAP to achieve, or chart a trajectory to achieve, the long-term year 2045 GHG reduction target of AB 1279, and would ensure that the County is tracking and monitoring its GHG emissions. However, until the next CAP update is prepared, and given that additional statewide measures may be required to achieve the AB 1279 target, and there is currently no adopted statewide plan (e.g., Scoping Plan) to address the long-term year 2045 GHG reduction target set by AB 1279, Impact GHG-3 is considered significant and unavoidable.

GREENHOUSE GAS EMISSIONS

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