

Appendix F
**Construction Greenhouse Gas
Emissions and Regulations**

Appendix F1
Greenhouse Gas Construction
Emissions

Construction CO2e Emissions

Innovation Park PUD and CNU Medical Center

Construction Year	CO2e Emissions by Year (MT/year)			
	IP PUD	CNU	Total	Amount Exceeded
2022	1,225	1,791	3,016	1,916
2023	1,597	1,737	3,334	2,234
2024	1,432	2,113	3,544	2,444
2025	1,401	992	2,393	1,293
2026	986	47	1,032	0
2027	1,467	505	1,973	873
2028	1,299	1,516	2,815	1,715
2029	1,281	1,495	2,776	1,676
2030	996	1,148	2,144	1,044
2031	1,422	1,329	2,751	1,651
2032	1,270	518	1,788	688
2033	1,246		1,246	146
2034	936		936	0
2035	1,374		1,374	274
2036	1,232		1,232	132
2037	1,227		1,227	127
2038	213		213	0
TOTAL	20,602	13,191	33,793	16,213

Innovation Park PUD

Phase	Construction Year	MT of CO ₂ e from CalEEMod output
		Total
Demo	2022	424.9
Part 1	2022	799.9
Part 1	2023	1,597.3
Part 1	2024	1,432.0
Part 1	2025	1,401.4
Part 1	2026	222.4
Part 2	2026	763.1
Part 2	2027	1,467.5
Part 2	2028	1,298.9
Part 2	2029	1,281.1
Part 2	2030	221.7
Part 3	2030	774.2
Part 3	2031	1,421.5
Part 3	2032	1,269.8
Part 3	2033	1,245.9
Part 3	2034	209.3

Construction Year	CO2e Emissions by Year (MT/year)
	Total
2022	1,224.8
2023	1,597.3
2024	1,432.0
2025	1,401.4
2026	985.6
2027	1,467.5
2028	1,298.9
2029	1,281.1
2030	995.9
2031	1,421.5
2032	1,269.8
2033	1,245.9
2034	935.8
2035	1,373.7
2036	1,231.5
2037	1,226.8

Part 4	2034	726.5
Part 4	2035	1,373.7
Part 4	2036	1,231.5
Part 4	2037	1,226.8
Part 4	2038	212.7

2038	212.7
2039	0.0
2040	0.0
TOTAL	20,602.0
Annual Average	1,287.6

CNU Medical Center

Phase	Construction Year	MT of CO ₂ e from CalEEMod output
		Total
1A	2022	1791.5
1A	2023	1109.8
1A	2024	1098.5
1A	2025	304.0
1B	2023	627.2
1B	2024	876.2
1B	2025	372.5
2A	2027	114.2
2A	2028	491.5
2A	2029	242.2
2B	2028	374.9
2B	2029	239.3
2C	2024	137.9
2C	2025	288.8
2D	2025	26.5
2D	2026	46.8
2E	2027	391.2
2E	2028	227.9
2F	2028	422.2
2F	2029	248.4
3A	2029	387.9
3A	2030	274.1
3B	2029	376.9
3B	2030	249.1
3C	2030	501.9
3C	2031	299.2
3D	2030	122.7
3D	2031	173.7
3E	2031	392.6
3E	2032	233.5
3F	2031	464.0
3F	2032	284.4

Construction Year	CO ₂ e Emissions by Year (MT/year)
	Onsite Diesel
2022	1,791.5
2023	1,737.0
2024	2,112.5
2025	991.8
2026	46.8
2027	505.3
2028	1,516.4
2029	1,494.7
2030	1,147.9
2031	1,329.5
2032	517.9
TOTAL	13,191.5
Average Annual	1,319.1

Appendix F2

Greenhouse Gas Regulations and Methods

F.1 Federal

F.1.1 U.S. Environmental Protection Agency “Endangerment” and “Cause or Contribute” Findings

The U.S. Supreme Court has held that the United States Environmental Protection Agency (USEPA) must consider regulation of motor vehicle greenhouse gas (GHG) emissions. In *Massachusetts v. Environmental Protection Agency et al.*, 12 states and cities, including California, together with several environmental organizations sued to require the USEPA to regulate GHGs as pollutants under the Clean Air Act (CAA) (127 S. Ct. 1438 (2007)). The Supreme Court ruled that GHGs fit within the CAA’s definition of a pollutant and the USEPA had the authority to regulate GHGs.

On December 7, 2009, the USEPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:¹

- **Endangerment Finding:** The current and projected concentrations of the six key GHGs—carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride SF₆)—in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution that threatens public health and welfare.

These findings did not, by themselves, impose any requirements on industry or other entities. However, these actions were a prerequisite for implementing GHG emissions standards for vehicles.

F.1.2 Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, the USEPA released its final Greenhouse Gas Reporting Rule (Reporting Rule). The Reporting Rule is a response to the fiscal year (FY) 2008 Consolidated Appropriations Act (H.R. 2764; Public Law 110-161), that required the USEPA to develop “...mandatory reporting of GHGs above appropriate thresholds in all sectors of the economy....” The Reporting Rule applies to most entities that emit 25,000 metric tons of carbon dioxide equivalents (CO₂e) or more per year. Since 2010, facility owners must submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for the USEPA to verify annual GHG emissions reports.

¹ U.S. Environmental Protection Agency. 2016. Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act. Available: <https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean>.

F.1.3 Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards

In 2014, the USEPA and the Department of Transportation’s National Highway Traffic Safety Administration (NHTSA) established a program that reduces GHG emissions and improves fuel economy for all new cars and trucks sold in the U.S. The program required manufacturers to build a fleet that meets all federal and state requirements, with an end target fuel economy of 54.5 miles per gallon (mpg) by model year 2025. In January 2017, USEPA issued its Mid-Term Evaluation of the GHG emissions standards, finding that it would be practical and feasible for automakers to meet the model year 2022 to 2025 standards through a number of existing technologies.

In August 2018, the USEPA revised its 2017 determination and issued a proposed rule that maintains the 2020 Corporate Average Fuel Economy (CAFE) and CO₂ standards for model years 2021 through 2026.² The estimated CAFE and CO₂ standards for model year 2020 are 43.7 mpg and 204 grams of CO₂ per mile for passenger cars and 31.3 mpg and 284 grams of CO₂ per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. On February 7, 2019, the State of California, joined by 16 other states and the District of Columbia, filed a petition challenging the USEPA’s proposed rule to revise the vehicle emissions standards, arguing that the USEPA had reached erroneous conclusions about the feasibility of meeting the existing standards.³ On October 25, 2019, the D.C. Circuit dismissed the challenges to the USEPA. The D.C. Circuit concluded that it did not have jurisdiction to consider the USEPA’s withdrawal of the Obama administration’s mid-term determination that model year 2022 to 2025 GHG emissions standards promulgated in 2012 remained appropriate. The court noted that the withdrawal did not itself change the emissions standards established in 2012 but only created the possibility that the standards could be modified in the future, similar to an agency’s grant of a petition for reconsideration of a rule.⁴ Accordingly, due to the uncertainty of future federal regulations, this analysis assumes that the existing CAFE standards will remain in place.

F.1.4 LEED Certified Buildings

Leadership in Energy and Environmental Design (LEED) is a green building rating system administered by the U.S. Green Building Council. California has required LEED certification for its buildings since 2004. All commercial buildings, institutional and high-rise buildings (at least four habitable stories) are eligible for LEED certification for new construction, which addresses new buildings and major renovation of existing buildings. LEED has separate certification programs for existing commercial buildings and interiors, as well as new homes, and will soon certify entire neighborhood developments. All LEED certified buildings must meet seven prerequisites. All LEED certified buildings must meet the following seven prerequisites:

² *Federal Register*. Vol. 83, No. 165. August 24, 2018. Proposed Rules.

³ Amicus brief, 2019. USCA Case #18-1114, Doc#1772455 _filed February 14, 2019. Available: <http://climatecasechart.com/case/california-v-epa-4/>. Accessed April 17, 2019.

⁴ Decision, 2019 USCA Case #18-1114 _filed 10.25.19. Available: <http://climatecasechart.com/case/california-v-epa-4>. Accessed December 10, 2019.

- Construction Activity Pollution Prevention – During construction, soil erosion measures must meet EPA stormwater permit requirements or local standards.
- Commissioning of Building Energy Systems – The commissioning program must verify that the building's energy related systems are installed, calibrated and perform according to the owner's project requirements, basis of design and construction documents.
- Minimum Energy Performance – The project must meet minimum 2004 American Society of Heating and Air-Conditioning Engineers (ASHRAE) levels of energy efficiency.
- Fundamental Refrigerant Management – CFC-based refrigerants, which deplete the ozone layer and cause global warming, are not allowed.
- Storage and Collection of Recyclables – The building must facilitate recycling of wastes generated by its occupants.
- Indoor Air Quality – The building must comply with minimum 2004 ASHRAE ventilation requirements to maximize indoor air quality.
- Environmental Tobacco Smoke Control – Smoking must be prohibited or limited to designated areas.

Applicants can achieve a total of 69 possible credits in five major categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources and indoor environmental quality. Five additional points may be awarded for exceptional efforts at innovation and design. There is no minimum or maximum number of credits that an applicant must earn in any one category. Each credit earns one point unless otherwise indicated. A building achieving at least 26 additional credits is LEED certified. A building with at least 33 credits is classified as LEED Silver. A building earning at least 39 credits is LEED Gold, and at least 52 credits is LEED Platinum.

F.2 State

In California, the legal framework for GHG emissions reductions has come about through an incremental set of Governors' Executive Orders, legislation, and regulations put in place since 2002. The major components of California's climate change initiative are summarized below.

F.2.1 California Environmental Quality Act and Senate Bill 97

Under the California Environmental Quality Act (CEQA), lead agencies are required to disclose the reasonably foreseeable adverse physical environmental effects of projects they are considering for approval. GHG emissions have the potential to adversely affect the environment because they contribute to climate change. In turn, climate change has the potential to raise sea levels, alter rainfall and snowfall, affect habitat, and create other adverse environmental effects.

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is a prominent environmental issue requiring analysis under CEQA. This bill directed the Governor's Office of Planning and Research (OPR) to prepare, develop, and transmit to the California Natural

Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, no later than July 1, 2009. The California Natural Resources Agency was required to certify or adopt those guidelines by January 1, 2010. On December 30, 2009, the Natural Resources Agency adopted amendments to the State CEQA Guidelines, as required by SB 97. These amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in draft CEQA documents. The amendments became effective March 18, 2010.

F.2.2 State CEQA Guidelines

The State CEQA Guidelines are embodied in the California Code of Regulations (CCR), Public Resources Code, Division 13, starting with Section 21000. State CEQA Guidelines Section 15064.4 specifically addresses the significance of GHG emissions, requiring a lead agency to make a “good-faith effort” to “describe, calculate or estimate” GHG emissions in CEQA environmental documents. State CEQA Guidelines Section 15064.4 further states that the analysis of GHG impacts should include consideration of: (1) the extent to which the project may increase or reduce GHG emissions, (2) whether the project emissions would exceed a locally applicable threshold of significance, and (3) the extent to which the project would comply with “regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions.”

The CEQA Guidelines also state that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including plans or regulations for the reduction of GHG emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located (State CEQA Guidelines Section 15064(h)(3)). The State CEQA Guidelines do not, however, set a numerical threshold of significance for GHG emissions.

The CEQA Guidelines also include the following direction on measures to mitigate GHG emissions, when such emissions are found to be significant:

Consistent with Section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

- (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency’s decision;
- (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures;
- (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project’s emissions;
- (4) Measures that sequester greenhouse gases; and

- (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.⁵

F.2.3 Assembly Bill 1493 (The Pavley Regulations)

In 2002, Governor Gray Davis signed Assembly Bill (AB) 1493. AB 1493, also known as the “Pavley” regulations (named for the bill’s author, State Senator Fran Pavley), required the California Air Resources Board (CARB) to develop and adopt, by January 1, 2005, regulations that achieve “the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the state.”

To meet the requirements of AB 1493, in 2004 CARB approved amendments to the CCR, adding GHG emissions standards to California’s existing standards for motor vehicle emissions. Amendments to CCR Title 13, Sections 1900 and 1961 (13 CCR 1900, 1961), and adoption of Section 1961.1 (13 CCR 1961.1), require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight [GVW] rating of less than 10,000 pounds and that is designed primarily for the transportation of persons), beginning with model year 2009. For passenger cars and light-duty trucks with a loaded vehicle weight (LVW) of 3,750 pounds or less, the GHG emissions limits for model year 2016 are approximately 37 percent lower than the limits for the first year of the regulations, model year 2009. For light-duty trucks with an LVW of 3,751 pounds to a GVW of 8,500 pounds, as well as for medium-duty passenger vehicles, GHG emissions were reduced approximately 24 percent between 2009 and 2016.

Because AB 1493 would impose stricter standards than those under the CAA, California applied to the USEPA for a waiver under the CAA; this waiver was initially denied in 2008. In 2009, however, the USEPA granted the waiver. Since 2009, the waiver has been extended consistently; however, in 2018 the USEPA and NHTSA indicated their intent to revoke California’s waiver and prohibit future state emissions standards enacted under the CAA. As of September 2021, the waiver was still in place and the status of the federal government’s revocation of the waiver was uncertain.

F.2.4 Advanced Clean Cars Program

In January 2012, the CARB approved the Advanced Clean Cars program, which combines the control of GHG emissions and criteria air pollutants, as well as requirements for greater numbers of zero-emission vehicles, into standards for vehicle model years 2017 through 2025. The program strengthens the GHG standard for 2017 models and beyond. This will be achieved through existing technologies, the use of stronger and lighter materials, and more efficient drivetrains and engines.

⁵ State CEQA Guidelines Section 15126.4(a).

The program's zero-emissions vehicle regulation requires battery, fuel cell, and/or plug-in hybrid electric vehicles to account for up to 15 percent of California's new vehicle sales by 2025. The program also includes a clean fuels outlet regulation designed to support the commercialization of zero-emission hydrogen fuel cell vehicles planned by vehicle manufacturers by 2015 by requiring increased numbers of hydrogen fueling stations throughout the state.

The number of stations will grow as vehicle manufacturers sell more fuel cell vehicles. By 2025, when the rules will be fully implemented, the statewide fleet of new cars and light trucks will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions than the statewide fleet in 2016.⁶

F.2.5 Mobile Source Strategy

CARB released the updated Mobile Source Strategy (MSS) in 2016 to address emissions from mobile sources including cars, trucks, and off-road equipment. The MSS calls for 1.5 million zero emission vehicles (ZEVs) (including plug-in hybrid electric, battery-electric, and hydrogen fuel cell vehicles) on the road by 2025, and 4.2 million ZEVs by 2030.

F.2.6 Executive Order S-3-05

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Arnold Schwarzenegger established Executive Order S-3-05, which set forth the following target dates by which statewide GHG emissions would be progressively reduced: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

F.2.7 Executive Order B-30-15

In 2015, Governor Brown issued Executive Order B-30-15, establishing a GHG reduction target of 40 percent below 1990 levels by 2030. This goal was set to make it possible to reach the ultimate goal of AB 32 (described below) to reduce GHG emissions 80 percent under 1990 levels by 2050.

F.2.8 Global Warming Solutions Act and the California Climate Change Scoping Plan

Assembly Bill 32

In 2006, the California legislature passed AB 32 (California Health and Safety Code Division 25.5, Sections 38500, et seq.), also known as the Global Warming Solutions Act. AB 32 requires CARB to design and implement feasible and cost-effective emissions limits, regulations, and other measures, such that statewide GHG emissions would be reduced to 1990 levels by 2020 (representing a 25-percent reduction in emissions). The legislature anticipated that the AB 32 GHG reduction goals would be met, in part, through local government actions. CARB has identified a GHG reduction target of 15 percent from current levels for local governments

⁶ California Air Resources Board. 2017. *California's Advanced Clean Cars Midterm Review*, January 18, 2017. https://www.arb.ca.gov/msprog/acc/mtr/acc_mtr_summaryreport.pdf. Accessed February 14, 2019.

(municipal and community-wide) and notes that successful implementation of the plan relies on local governments' land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. The AB 32 GHG reduction goal was met in 2016, four years prior to the 2020 goal.⁷

Senate Bill 32 and Assembly Bill 197

Signed into law on September 8, 2016, SB 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amends HSC Division 25.5 and codifies the 2030 target in Executive Order B-30-15 (40 percent below 1990 levels by 2030). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels. SB 32 states the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately impacted by the deleterious effects of climate change on public health. The law amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030, while AB 197 includes provisions to ensure the benefits of State climate policies include disadvantaged communities.

Scoping Plan Provisions

Pursuant to AB 32, CARB adopted a *Climate Change Scoping Plan* in December 2008 (re-approved by CARB on August 24, 2011),⁸ outlining measures to meet the 2020 GHG reduction goals. To meet these goals, California was required to reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels or about 15 percent from emissions levels at the time of plan adoption. The Scoping Plan relies on the requirements of SB 375 (discussed below) to implement the carbon emissions reductions anticipated from land use decisions.

The *First Update to the Climate Change Scoping Plan* describes progress made to meet near-term emissions goals of AB 32, defines California's climate change priorities and activities for the next few years, and describes the issues facing the state as it establishes a framework for achieving air quality and climate goals beyond the year 2020.

On December 14, 2017, CARB approved the final version of California's *2017 Climate Change Scoping Plan* (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.⁹ The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. The CARB determined that the target

⁷ California Energy Commission. 2018, Press Release, Climate pollutants fall below 1990 levels for first time, <https://www2.arb.ca.gov/news/climate-pollutants-fall-below-1990-levels-first-time>. Accessed November 21, 2019.

⁸ California Air Resources Board. 2008. Climate Change Scoping Plan. Adopted December 11, 2008, re-approved by CARB August 24, 2011. pp. ES-1 and 17.

⁹ California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan: The strategy for achieving California's 2030 greenhouse gas target*. November 2017.

statewide 2030 emissions limit is 260 million metric tons of CO₂e (MMTCO₂e), and that further commitments will need to be made to achieve an additional reduction of 50 MMTCO₂e beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal represented by SB 32 and ensure achievement of the 2050 limit set forth by Executive Order B-30-15.

Cap-and-Trade Program

The Scoping Plan identifies cap-and-trade as a key strategy for helping California reduce its GHG emissions.¹⁰ A cap-and-trade program sets the total amount of GHG emissions allowable for facilities under the cap and allows covered sources, including producers and consumers of energy, to determine the least expensive strategies to comply. AB 32 required CARB to adopt the cap-and-trade regulation by January 1, 2011, and the program itself began in November 2012.

Carbon offset credits are created through the development of projects, such as renewable energy generation or carbon sequestration projects, that achieve the reduction of emissions from activities not otherwise regulated, covered under an emissions cap, or resulting from government incentives. As required by Division 25.5 of the Health and Safety Code (AB 32), any reduction of GHG emissions used for compliance purposes must be real, permanent, quantifiable, verifiable, enforceable, and additional (Health and Safety Code §38562(d)(1) and (2)). Pursuant to CCR, title 17, section 95802, "Additional" means, in the context of offset credits, GHG emission reductions or removals that exceed any GHG reduction or removals otherwise required by law, regulation or legally binding mandate, and that exceed any greenhouse gas reductions or removals that would otherwise occur in a conservative business-as-usual scenario. Any offsets issued by CARB must be quantified according to Board-approved Compliance Offset Protocols, the criteria of which are established in CCR, title 17, section 95972. The Cap-and-Trade Regulation includes provisions for collecting and submitting the appropriate monitoring documentation to support the verification and enforcement of reductions realized through the generation and retirement of Compliance offset credits. The regulatory provisions and the requirements of the Compliance Offset Protocols ensure that the reductions are quantified accurately, represent real GHG emissions reduction, and are not double counted within the system. Compliance Offset Protocols are considered regulatory documents and are made publicly available so that anyone interested in developing an offset project can do so if their project meets Board-approved standards.¹¹

F.2.9 Senate Bill 375

In addition to policy directly guided by AB 32, the legislature in 2008 passed SB 375, which provides for regional coordination in land use and transportation planning and funding to help meet the AB 32 GHG reduction goals. SB 375 aligns regional transportation planning efforts, regional GHG emissions reduction targets, land use, and housing allocations. SB 375 requires Regional Transportation Plans (RTPs) developed by the state's 18 metropolitan planning organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) that will

¹⁰ California Air Resources Board. 2008. Climate Change Scoping Plan. Adopted December 11, 2008, re-approved by CARB on August 24, 2011. pp. 18-20.

¹¹ California Air Resources Board. 2008. Climate Change Scoping Plan. Adopted December 11, 2008, re-approved by CARB on August 24, 2011. pp. 36-38.

achieve GHG emissions reduction targets set by CARB. SB 375 also includes provisions for streamlined CEQA review for some infill projects, such as transit-oriented development. SB 375 would be implemented over the next several years. The Sacramento Area Council of Government's (SACOG) 2016 *Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS)* was adopted on February 18, 2016. SACOG's MTP/SCS calls for meeting and exceeding CARB GHG reduction goals from passenger vehicles and light-duty trucks of 7.6 percent by 2020 and 15.6 percent by 2035, where 2005 is the baseline year for comparison.¹²

F.2.10 Executive Order B-16-12

In 2012, Governor Brown issued Executive Order B-16-12, ordering that California's state vehicle fleet increase the number of zero-emissions vehicles through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles be zero-emission by 2015 and 25 percent of fleet purchases of light-duty vehicles be zero-emission by 2020. The executive order also requires that California have a GHG emissions reduction target for 2050 for the transportation sector equaling 80 percent less than 1990 levels.

F.2.11 Senate Bill X7-7

Senate Bill (SB) X7-7, also known as the Water Conservation Act of 2009, requires that all water suppliers increase water use efficiency and that the state achieve a 10 percent reduction in urban per capita water use by December 31, 2015, and a 20 percent reduction by December 31, 2020.

F.2.12 California Renewables Portfolio Standard

SB 1078 established the Renewables Portfolio Standard (RPS) in 2002, which required retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from eligible renewable sources by 2017. SB 107 changed the target date to 2010. In November 2008, Executive Order S-14-08 expanded the state's RPS goal to 33 percent renewable power by 2020. In September 2009, Executive Order S-21-09 directed CARB (under its AB 32 authority) to enact regulations to help the state meet the 2020 goal of 33 percent renewable energy. The 33 percent by 2020 RPS goal was codified in April 2011 with SB X1-2. The updated RPS applies to all electricity retailers in the state, including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. SB 350 was signed in October 2015, which requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from eligible renewable energy resources by 2030. Most recently, SB 100, signed by Governor Brown on September 10, 2018, increases the RPS requirement to 60 percent eligible renewables by 2030 and 100 percent by 2045.

F.2.13 California Building Efficiency Standards (Title 24, Part 6)

California's Energy Efficiency Standards for Residential and Nonresidential Buildings were established by the California Energy Commission (CEC) in Title 24, Part 6 of the CCR. These

¹² Sacramento Area Council of Governments. 2016. 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. Adopted February 18, 2016. p. 173.

standards mandate a reduction in California’s energy consumption and are updated on a three-year cycle to allow for innovation and incorporation of new energy-efficient technologies and methods. Buildings for which an application for a building permit is submitted on or after January 1, 2017 must follow the 2016 standards. Applications for building permits after January 1, 2020 would have to be compliant with the 2019 standards. Energy-efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions.

F.2.14 California Green Building Standards Code (Title 24, Part 11 – CALGreen)

In January 2010, the State of California adopted the California Green Building Standards Code (CALGreen) that establishes new sustainable building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. These standards include a mandatory set of minimum guidelines, as well as more rigorous voluntary measures, for new construction projects to achieve specific green building performance levels. This code went into effect as part of local jurisdictions’ building codes on January 1, 2011 and was most recently updated as the 2016 California Green Building Standards Code (effective January 1, 2017).¹³

For buildings that would provide more than 200 parking spaces, the 2016 CALGreen Code mandates that a minimum of 6 percent of the spaces be constructed to accommodate future electric vehicle charging stations.

To facilitate lowering the carbon intensity of commuting, bicycle parking provisions are a part of the planning and design category of CALGreen. Nonresidential buildings within the authority of California Building Standards Commission must comply with the CALGreen standards or meet the applicable local ordinance, whichever is stricter. Buildings anticipated to have tenant-occupants must provide long-term parking, specifically secure bicycle parking for at least 5 percent of tenant-occupant vehicular parking spaces. Non-residential buildings anticipated to generate visitor traffic are required to provide short-term anchored bicycle parking within 200 feet of the visitor entrance for at least 5 percent of new visitor motorized vehicle parking spaces. Additionally, long-term bike parking must be convenient from the street and must meet one of the following criteria:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

These provisions are an important part of the state’s approach to encouraging and facilitating forms of commuting that are less GHG intensive and GHG-free in this case.

¹³ California Building Standards Commission. 2016. California 2016 Green Building Standards Code, CALGreen California Code of Regulations, Title 24, Part 11. Effective Date: January 1, 2017.

F.2.15 California Integrated Waste Management Act and California Assembly Bill 341

The State Legislature passed the California Integrated Waste Management Act of 1989 (AB 939) in 1990, requiring all cities and counties to divert 50 percent of all solid waste from landfill facilities by January 1, 2000. In order of priority, waste reduction efforts must promote source reduction, recycling and composting, and environmentally safe transformation and land disposal. AB 341 (Public Resources Code Division 30, Part 3, Chapter 12.8), which became law in 2011, established a new statewide goal of 75 percent diversion by 2020, and changed the way that the state measures progress toward the 75 percent goal, focusing on source reduction, recycling, and composting. AB 341 also requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The objective of the law is to reduce GHG emissions by diverting commercial solid waste into recycling programs and expand the opportunity for additional recycling services and recycling manufacturing facilities in California. Although AB 341 established a statewide recycling goal of 75 percent, the 50 percent disposal reduction mandate still applies for cities and counties under AB 939.

F.2.16 Assembly Bill 1826

AB 1826 (Public Resources Code Division 30, Part 3, Chapter 12.9, Commercial Organic Waste Recycling Law) became effective on January 1, 2016, and requires businesses (including commercial and public entities) and multi-family complexes (with 5 units or more) that generate specified amounts of organic waste (compost) to arrange for organics collection services. The law phases in the requirements on businesses, with full implementation realized in 2019:

- **First Tier:** Commencing in April 2016, the first tier of affected businesses included those that generate 8 or more cubic yards of organic materials per week.
- **Second Tier:** In January 2017, the affected businesses expanded to include those that generate 4 or more cubic yards of organic materials per week.
- **Third Tier:** In January 2019, the affected businesses were further expanded to include those that generate 4 or more cubic yards of commercial solid waste per week.

F.3 Local

F.3.1 City of Sacramento Zoning Code for Bicycle Requirements

The City of Sacramento's Zoning Code establishes bicycle parking requirements by both land use and parking district. According to the zoning code, office buildings located in urban districts require both short- and long-term bicycle parking. For short-term bicycle parking, one space is required per 20,000 gross square feet of building, and for long-term bicycle parking, one space is required per 6,667 gross square feet of building.

F.3.2 City of Sacramento Climate Action Plan and Sacramento 2035 General Plan

The City of Sacramento Climate Action Plan (CAP) includes several initiatives to reach its goals of reducing community-wide emissions by 15 percent below 2005 levels by 2020, 38 percent below 2005 levels by 2030, and 83 percent below 2005 levels by 2050. These goals must be achieved with the addition of new residents living in the city and additional people working in the city. As compared to 2005, by 2020 Sacramento expects an additional 116,400 people, 58,500 housing units, and 80,200 employees. On a per capita basis (including new residents), Sacramento will need to reduce its emissions to about 6.2 metric tons of CO₂e per person by 2020.¹⁴ This represents a 31 percent reduction from 2005 per capita emission levels (8.9 metric tons CO₂e per person).

The CAP outlines seven strategies to meet Sacramento's GHG reduction goals.¹⁵ Those strategies include:

- **Strategy 1: Sustainable Land Use** – This strategy focuses on using land efficiently, while preserving the character of existing neighborhoods, by providing for complete neighborhoods that incorporate natural resources and green infrastructure.
- **Strategy 2: Mobility and Connectivity** – This strategy involves creating a multi-modal transportation network that increases the use of sustainable modes of transportation (walking, biking, and transit) and reduces dependence on automobiles.
- **Strategy 3: Energy Efficiency and Renewable Energy** – The third strategy increases the energy efficiency of existing and new buildings and maximizes the use and generation of renewable energy.
- **Strategy 4: Water Reduction and Recycling** – This strategy reduces the production, consumption, and disposal of waste materials, while encouraging reuse, recycling, and composting.
- **Strategy 5: Water Conservation and Wastewater Reduction** – This strategy encourages water conservation and management and wastewater treatment practices that reduce energy demand.
- **Strategy 6: Climate Change Adaptation** – This strategy plans for climate change risks and is designed to create resilient communities, economies, and environments.
- **Strategy 7: Community Involvement and Empowerment** – This strategy enlists the ideas and energy of residents and businesses to help achieve the City's climate action objectives.

For each of the seven strategies listed above, the CAP includes measures and actions that the City will use to reduce GHG emissions and adapt to climate change. Measures organize the specific programs, policies, and actions that the City will carry out to achieve its climate action strategies. Within each measure are the detailed actions that the City will take to implement the measures.

¹⁴ City of Sacramento. 2012. *Sacramento Climate Action Plan*. Adopted February 14, 2012. p. 2-11.

¹⁵ City of Sacramento. 2012. *Sacramento Climate Action Plan*. Adopted February 14, 2012. pp. i-xiv.

In 2015, the City adopted its 2035 General Plan. The strategies, measures, and actions that formed the City’s CAP were incorporated into the 2035 General Plan.¹⁶ As such, the 2035 General Plan is the City’s current action plan for reducing GHG emissions and adapting to climate change. Mixed-use development that encourages walking and biking, use of public transit, “green building” practices, use of solar energy systems, architectural design to reduce heat gain, recycled construction materials, and water conservation measures are some of the strategies included in the 2035 General Plan. Appendix B of the 2035 General Plan lists the climate action plan policies and programs, and provides the specific GHG reductions for the primary measures (measures that have been quantified).

Although the current CAP, as presented in the 2035 General Plan, is a CEQA-qualified CAP consistent with the Section 15183.5 requirements for tiering GHG analysis of projects, it is only valid as such through 2020. As discussed above, it includes a 2020 Citywide GHG target derived from the AB 32 statewide target for 2020 and also includes GHG emissions forecasts through the year 2030 and beyond, and GHG reduction “goals” for the years 2030 and 2050. However, it does not present citywide targets beyond the year 2020, nor does it demonstrate with specific enforceable actions how the City would achieve its 2030 and 2050 goals.¹⁷ Therefore, it is not CEQA-qualified for the planning horizons of 2030 and 2050, and cannot be used for tiering CEQA analysis of post-2020 projects, such as the proposed Innovation Park Planned Unit Development (PUD), by demonstrating project consistency with the CAP.

In 2018, the City initiated an update to the General Plan to ensure it remains responsive to the challenges of the coming years. The 2040 General Plan will be the City’s blueprint for how and where Sacramento will grow over the next 20 years. In parallel, the City will also be preparing an updated CAP that outlines a community-wide framework for reducing GHG emissions consistent with SB 32 and with the goal of providing a CEQA-qualified plan that can be used for project tiering out to 2030 and beyond.

¹⁶ City of Sacramento. 2015. *General Plan Climate Action Plan Policies and Programs*, Appendix B, pp. 1-78.

¹⁷ The 2012 CAP was adopted prior to the passing of SB 32. Accordingly, it does not present a 2030 community GHG target based on the SB 32 statewide target for 2030.