Regional Decarbonization Framework
Chapter 8 Local Policy Opportunity
Summary of Findings

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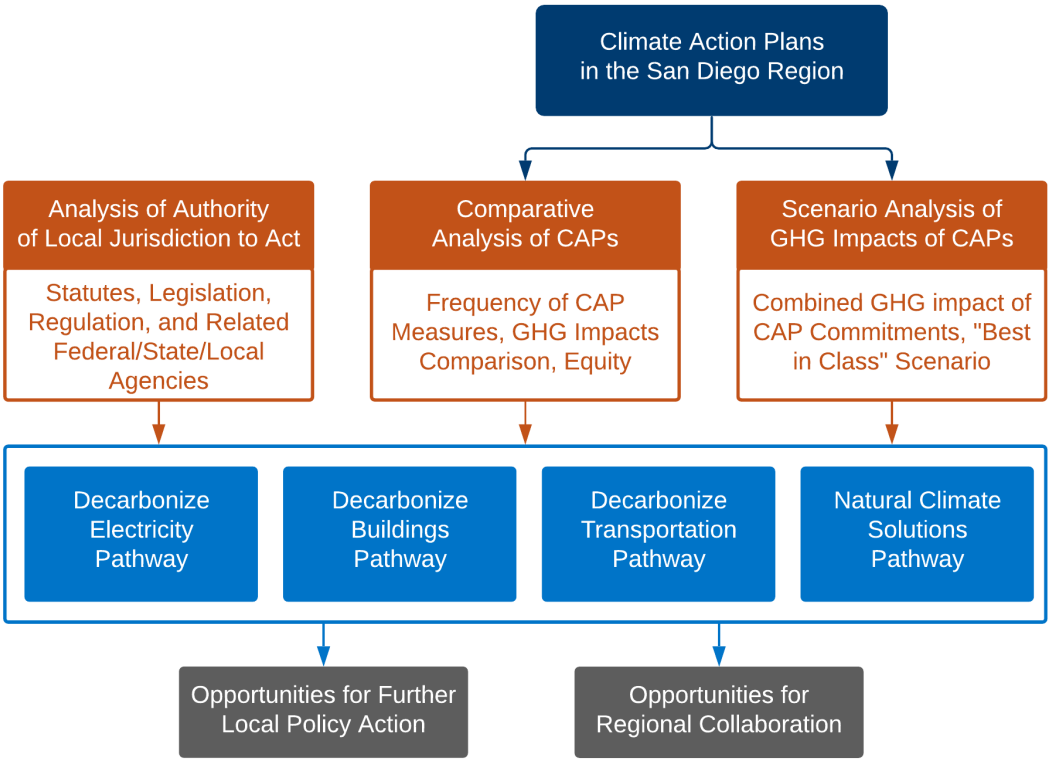
DRAFT FOR REVIEW

1 INTRODUCTION

Other chapters in this report present results of technical analysis to determine levels of activity in each of four pathways that are possible and would be needed to reach deep decarbonization goals in the San Diego region. This chapter assesses current commitments in Climate Action Plans (CAP) to determine if additional activity would be needed to put the region on a trajectory to meet these goals and to identify opportunities for local jurisdictions in the region to take further action to support the decarbonization pathways.

To this end, EPIC completed an analysis of the authority of local governments and agencies to act to influence and regulate greenhouse gas (GHG) emissions, based on a summary of key federal, state, and local agencies, and key legislation and regulation at the federal and state levels to help to clarify the ability of local governments to act to reduce GHG emissions; a comparative analysis of CAPs to determine the frequency of measures, relative GHG impact of decarbonization pathways and measures, and integration of social equity considerations; and a scenario analysis to estimate the total impact of the GHG reduction commitments in all adopted and pending CAPs and the potential GHG impact of a scenario of applying the best CAP commitments to all jurisdictions. We use results of the above analysis and additional research, identify opportunities for further local action and regional collaboration in each of the four decarbonization pathways. Figure 1 summarizes the overall project approach.

Figure 1 Overall Project Approach



2 OVERALL KEY FINDINGS

Based on our analysis, the following overall key findings emerge. More detailed findings are provided in the sections below and in the full chapter, including findings from the analysis completed and opportunities for local action and regional collaboration.

- Local Jurisdictions Have Authority to Influence and Regulate GHG Emissions – Local governments can influence and regulate GHG emissions by accelerating state statutory targets and policies, adopting ordinances to go beyond state law, and using unique authority to adopt and implement policies. Local authority comes from both constitutionally derived police power and delegated authority from state statutes. Constitutionally derived police power grants a broad, elastic authority to act where such action is reasonably related to a legitimate government purpose and has a reasonable tendency to promote public health, safety, or the general welfare of the community. It is limited by general state law and state and federal constitutions. The full extent of a local jurisdiction's police power to regulate GHG emissions is unknown. Delegated authority includes, among other things, analyzing land use environmental impacts and mitigating them, adopting more stringent building codes, building infrastructure, or creating community choice aggregators (CCA) to supply electricity. Key findings related to authority in each decarbonization pathway are presented in more detail in Section 8.2 and the sections on each decarbonization pathway (Sections 8.5 through 8.8). A full discussion of local authority is provided in Appendix C.
- Current CAP Commitments are Insufficient to Reach Decarbonization Goals – Current local CAP commitments for transportation, electricity, and natural gas GHG reductions contribute a relatively small portion of the total reductions needed to reach net zero GHG emissions in 2035 — about 2 million metric tons CO2e (MMT CO2e), which would leave about 12 MT CO2e. Even if the most aggressive CAP measures are applied to all jurisdictions in the region, regardless of whether they have a CAP in place, significant emissions would remain (approximately 7 MMT CO2e in 2035), mostly from natural gas combustion and on-road transportation. Note other remaining emissions from other emissions categories also would have to be addressed. More detail is provided in Section 8.4 and Sections 8.5 through 8.8.
- Opportunities Exist for More Jurisdiction to Adopt and Strengthen Existing CAP Measures – Based on the comparative analysis of CAPs, there is an opportunity for more jurisdictions to adopt CAP measures already adopted by some jurisdiction in the region. Similarly, based on the scenario analysis of the combined GHG impacts of CAP measures, there is an opportunity for most jurisdictions to strengthen their existing CAP measures. While many policy examples exist in our region, there also are other examples from around California and the U.S. of policies that have not been included in CAPs in the region. More detail is provided in Section 8.4 and Sections 8.5 through 8.8
- Additional Policies Would be Needed to Decarbonize Transportation and Buildings – Based on current CAP commitments, expected GHG reductions in 2035 from measures to reduce vehicle miles traveled (VMT) and increase use of zero-emissions vehicles (ZEV) are insufficient to achieve the level of GHG emissions reductions — mainly from ZEVs outlined in Chapter 3. Local uptake of ZEVs beyond what is expected from state and regional incentives likely would require more local incentives. Similarly, expected GHG reductions in

2035 from building measures in CAPs are insufficient to meet the goals outlined in Chapter 5. In particular, more measures would be needed to electrify existing buildings. More detail on decarbonizing transportation is provided in Section 8.5 and on decarbonizing buildings in Section 8.6

- Opportunities Exist for Regional Collaboration in all Decarbonization Pathways – Regional collaboration could include collecting and tracking data, conducting analysis, providing support to develop and implement policies, and convening stakeholder and working groups to develop regional strategies and monitor progress. Examples exist for regional collaboration, including the Accelerate to Zero (A2Z) project to increase use of ZEVs. More detail on opportunities for regional collaboration is provided in Sections 8.5.7 , 8.6.6, 8.7.6, and 8.8.6.
- Additional Work Would be Needed to Integrate Social Equity into Climate Planning – Based on a preliminary review, the integration of social equity in adopted and pending CAPs is limited, inconsistent, and lacks specificity. Additional work would be needed to develop the capacity and tools to understand and address the equity implications of all decarbonization policies in the San Diego region, including data collection and analysis; regional guidance documents; and regional working groups to coordinate, advise, track, and monitor how equity is being addressed in climate planning. Additional discussion on social equity is provided in Sections 8.3.5, 8.5.7 , 8.6.6, 8.7.6, and 8.8.6.

3 AUTHORITY OF LOCAL JURISDICTIONS

In general, to reduce GHG emissions, local governments can accelerate state statutory targets and policies, adopt ordinances to go beyond state law, and use unique authority to adopt and implement policies. This section provides a summary of a detailed review of the following aspects of the ability of local governments and agencies to influence or regulate GHG emissions. A more detailed discussion of local jurisdiction authority is provided in Section 8.2 of the full chapter and Appendix C.

3.1 Summary of Findings

Local jurisdiction authority to regulate GHGs is created by broad, general constitutionally derived “police power”[1] or delegated authority under state or federal law. Use of police authority may not conflict with “general” law (e.g., state law) under preemption principles found in California Constitutional Article XI, § 7 or federal expressed or implied preemption under the Supremacy Clause of the U.S. Constitution.[2] State and federal preemption analysis, as well as the analysis on the full extent of local police power to regulate GHG emissions, are factually specific with local jurisdiction authority uncertainty dependent on the type of action.

Police power of a city or county within its own boundaries is as broad as that of the state legislature and subject only to limitations of general law.[3] Police power "is not a circumscribed prerogative, but is elastic and, in keeping with the growth of knowledge and the belief in the popular mind of the need for its application, capable of expansion to meet existing conditions of modern life and thereby keep pace with the social, economic, moral, and intellectual evolution of the human race."[4] Its exercise must be both:

a) Reasonably related to a legitimate government purpose[5]; and
b) Have a reasonable tendency to promote the public health, morals, safety, or general welfare of the community.[6]

Police power is especially well established in enacting and enforcing land use laws. City and county land use authority does not rely on delegated general law of the state or federal government. Instead, state and federal laws are limitations on a city's or county's exercise of its police power.[7] To this end, local jurisdictions act with both police power and delegated authority from the legislature to establish climate changes policies and regulations to reduce GHGs in general plans (GPs), climate action plans (CAPs), zoning, transit-oriented development regulations, carbon sequestration (including urban forestry), energy conservation actions through green building practices and reach codes, water conservation, and solid waste reduction. Land use authority is subject to the vested rights doctrine[8] and Subdivision Map Act[9] that limits how a subsequent change in local law or the authority to impose conditions apply to a particular improvement to land or a vesting tentative map for subdivisions.

Local jurisdiction police power is also subject to state preemption. Examples include the California Energy Commission's authority to site and license thermal power plants of 50 megawatts[10] or more and energy storage resources of 20 MWs or more that discharge for at least two hours or more and will deliver net peak energy by October 31, 2021.[11] It is notable that the Governor may curtail local land use authority over siting and regional air quality regulation of these and other related energy resources, including emergency backup generation, when an emergency declaration is issued for a specified time period.[12] Such declarations can suspend local and state laws by either establishing exclusive licensing authority that preempts or by expressly suspending air quality laws, the California Environmental Quality Act (CEQA), and the California Coastal Act (CAC). Emergency declarations may also have the effect of limiting judicial review of such licenses.

Local land use authority is generally concurrent to, and not preempted by, air quality authority law and regulation of air pollutants from stationary, nonvehicular sources of emissions. Concurrent authority may allow local jurisdictions to further regulate air quality under its police power.[13] It should be noted that there is no power granted to local air districts to infringe on an existing local jurisdiction's authority over land use (e.g., zoning).[14]

Charter cities and counties act with more autonomy over governance decisions than common law cities and counties[15]; however, all local jurisdictions are controlled and subject to general state law. Of the nineteen local governments in the San Diego region, there are eight charter cities[16], and the County of San Diego is a charter county. Notably, all cities act with a higher level of autonomy than the county because they are voluntarily formed and perform many essential services. Charter cities also act with more autonomy than common law cities under the "home rule" power to govern matters of "municipal affairs."[17] Charter counties exercise limited home rule authority.[18] This power allows local laws to expand beyond state law requirements. However, the extent of home rule authority is a legal determination that depends on the specific charter and municipal code of an individual charter jurisdiction, whether the exercised authority is for a municipal affair, and whether the matter is of

statewide concern where it is the intent and purpose of the general laws to occupy the field to the exclusion of municipal regulation.[19] Finally, because counties are the legal subdivision of the state, the state may delegate or rescind any delegated function of the state to a county.

Local jurisdictions also act with the authority to tax[20], issue bonds[21], and impose fees, charges, and rates.[22] This authority is derived from and limited by the California Constitution and statute, including requiring voter approval for taxes and bonds.[23]

4 COMPARATIVE ANALYSIS OF CAPS

CAPs are planning documents that demonstrate how a local jurisdiction can achieve an adopted emissions target. In general, CAPs represent what local jurisdictions have determined to be a reasonable and feasible commitment to reduce GHG emissions at the time of adoption. EPIC reviewed and analyzed measures and supporting actions contained in 17 adopted and pending CAP to identify current local policy commitments in the San Diego region that support decarbonization pathways.

For this analysis, we determined (1) the frequency and distribution of measures and supporting actions across all 17 CAPs, (2) how much CAP measures and supporting actions contributed to the local GHG reduction in CAPs, and (3) whether and how CAPs integrate of social equity considerations.

4.1 Summary of Findings

The following are key findings from the comparative analysis of CAPs. More details are provided in Section 8.3 of the full chapter.

- Nearly half of the CAPs in the region are scheduled to be updated between 2021 and 2025.
- No adopted or pending CAP analyzed has a net zero GHG emissions target.
- Significant variability exists across CAPs in how much each decarbonization pathway and policy category contributes to the local GHG reduction in CAPs. For example, the contribution from decarbonizing electricity ranges from 20% to nearly 70% of local GHG reductions. Similarly, decarbonizing transportation ranges from about 10%–50%, building decarbonization ranges from 0%-30%, and natural climate solutions range from 0-5% (Figure 1)

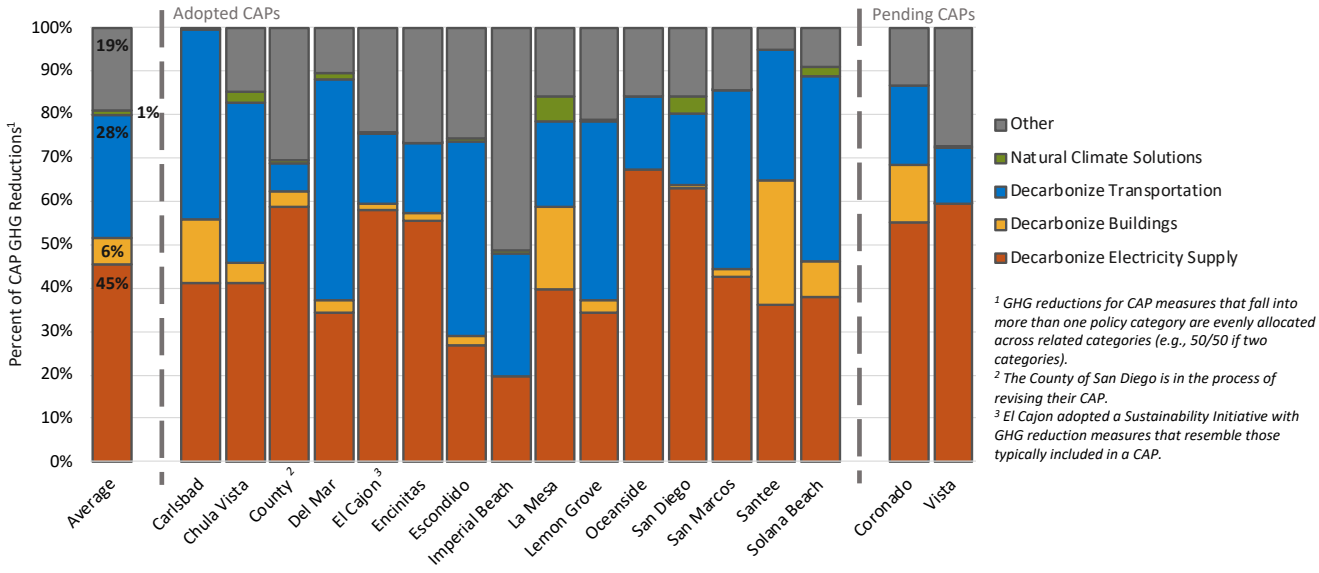
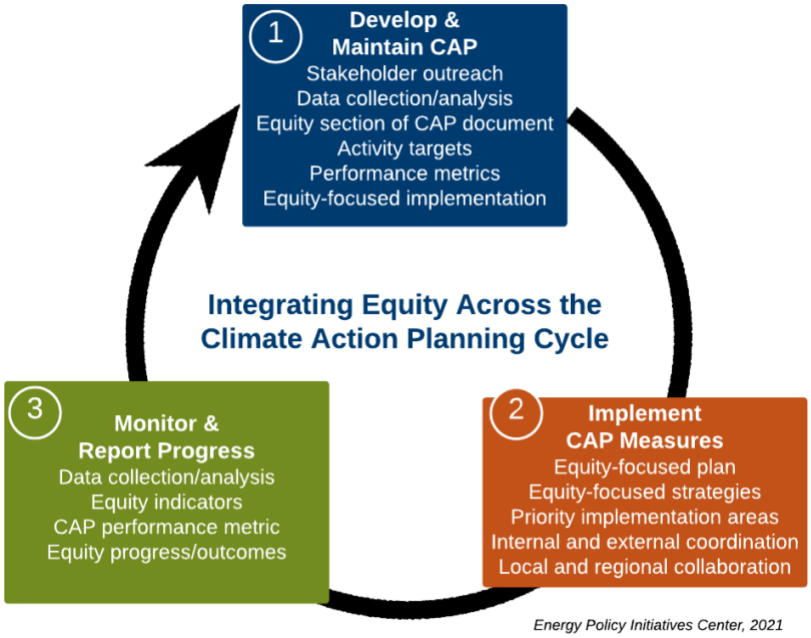


Figure 1 Comparison of Contribution to GHG Reductions by Policy Category (2035)

- All adopted and pending CAPs have measures to approach or achieve 100% carbon-free grid electricity supply before the state deadline of 2045. On average, these measures account for about 45% of local GHG reductions in CAPs; the majority is from measures to form or join a CCA program.
- Based on GHG commitments in CAPs, transportation-related measures account for the next highest contribution to local GHG emissions (28%), with increasing alternative fuel use contributing on average about 16% and VMT reduction on average about 12%.
- On average, GHG reductions in CAPs come disproportionately from decarbonizing electricity even though on-road transportation is the highest emitting GHG emissions category. This is due mostly to the statewide policy to achieve 100% carbon-free electricity in California by 2045 and suggests an opportunity for additional reductions from the Decarbonize Transportation Pathway.
- Opportunities exist across all decarbonization pathways for more local jurisdictions to adopt existing CAP measures.
- CAP measures employ a range of implementation mechanisms, including making capital expenditures and infrastructure investments, typically by local jurisdictions; education, outreach, and collaboration; financial incentives and financing; evaluations of potential programs and policies; plans or programs; and requirements. It is common for local governments to combine approaches.
- Social equity considerations in CAPs are limited, inconsistent, and lack specificity. CAP updates provide an opportunity to integrate social equity into the entire climate action planning cycle. For example, the SANDAG ReCAP Framework could be expanded to include guidance for integrating equity considerations into CAPs.
- Figure 2 is an illustrative example of including social equity in the climate action planning cycle.

- Regional programs and collaboration could develop regional equity indicators, create a consistent definition of equity, and regularly report on climate-related equity topics. A Regional Climate Equity Collaborative or Working Group could educate and advise regional leaders and collect stakeholder input.

Figure 2 Illustrative Example of Integrating Equity Across the Climate Action Planning Cycle



5 SCENARIO ANALYSIS OF GHG REDUCTIONS IN CAPS

This analysis approach allows for an estimate of the total GHG reduction impact from all currently adopted and pending CAPs in the region in 2030 or 2035. For this analysis we developed the following GHG emissions scenarios.

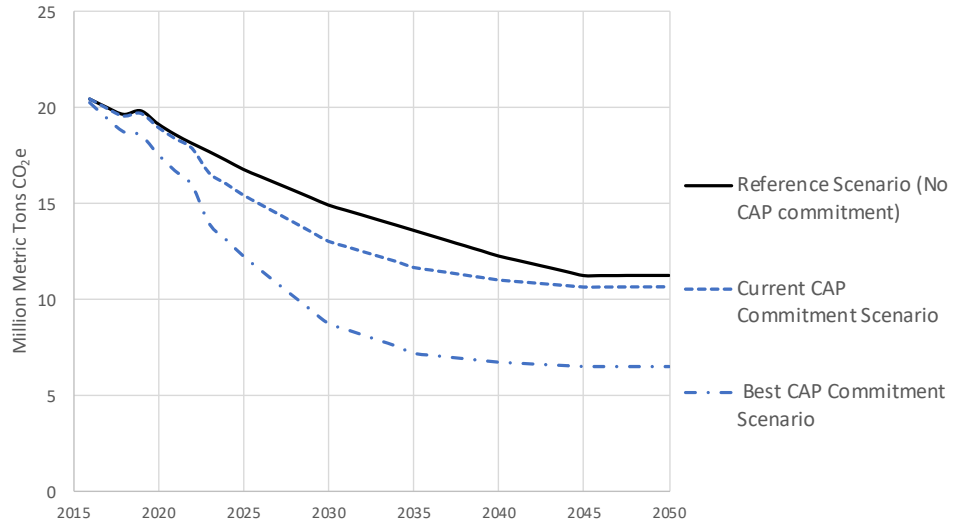
- Reference Scenario without CAP Commitments – This represents an estimate of emissions only considering the effect of federal and state laws in place and does not include the impact of CAP measures.
- Current CAP Commitment Scenario – This scenario sums the expected change in the activity level that would result from all CAP commitments and then converts activity level to GHG emissions reductions. Results represent the expected GHG reduction impacts for measures related to on-road transportation, electricity, and natural gas. Measures related to other emissions categories were not included in this analysis.
- Best CAP Commitment Scenario – This scenario applies the assumptions associated with the most aggressive CAP measure to all jurisdictions in the region regardless of whether they have an adopted or pending CAP. It represents the most optimistic outcome from local reductions based on current CAP commitments.

5.1 Summary of Findings

The following are key findings from the comparative analysis of CAPs. More details are provided in Section 8.4 of the full chapter.

- Current local CAP commitments for transportation, electricity, and natural gas GHG reductions contribute a relatively small portion of the total reductions needed to reach net zero GHG emissions in 2035, about 2 MMT CO2e, which would leave about 12 MT CO2e remaining in these categories (Figure 3).
- CAP measures that aim to increase renewable electricity to 80–100%, mainly through CCA programs, contribute the largest GHG emissions reduction in 2035 among current CAP commitments. Local policy actions to achieve 100% carbon-free electricity supply sooner would lead to more cumulative GHG reductions, not important for attaining annual emission targets but consequential to atmospheric warming and the resulting climate impacts.24
- Even if the most aggressive CAP measures are applied to all jurisdictions in the county (Best CAP Commitment Scenario), regardless of whether they have a CAP in place, significant emissions would remain (approximately 7 MMT CO2e in 2035), mostly from natural gas combustion and medium- and heavy-duty vehicles. This suggests that additional measures are needed to decarbonize buildings and either electrify or use low-carbon fuels in larger vehicles.

Figure 3 Projected Total GHG Emissions in Each Scenario of the Scenario Analysis



This chart does not include all GHG emitting activities in San Diego Region, or potential new local, state, and federal actions that could be adopted in the future.
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- The largest GHG emissions reduction in the Best CAP Commitment Scenario is from CAP measures to decarbonize transportation, such as reducing VMT by reducing parking supply and increasing alternative commute modes (Figure 4).

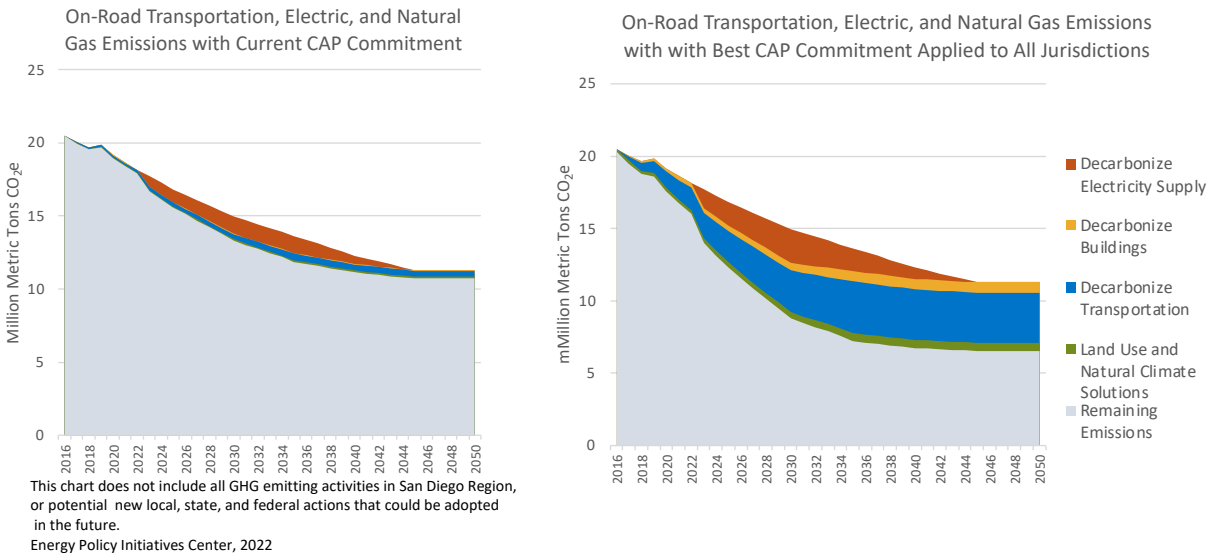

Figure 4 Emissions Reductions from Each Pathway in Current and Best CAP Commitment Scenarios

- Even in the Best CAP Commitment Scenario, the impact of building electrification is limited because only CAPs adopted in the last two to three years have considered and incorporated these strategies.
- Given the differences between Current CAP Commitments and the Best CAP Commitments in all decarbonization pathways, there is an opportunity for local jurisdictions to strengthen CAP measures to reduce additional GHG emissions.
- Under the Natural Climate Solutions Pathway, existing CAP measures only include urban tree planting, indicating potential to expand removal and storage or other natural climate solutions in future CAP updates.

6 DECARBONIZE TRANSPORTATION

While the modeling completed in the Regional Decarbonization Framework technical analysis focuses on accelerated adoption of ZEV, our analysis includes other ways to reduce on-road transportation GHG emissions. In particular, both CAPs and SANDAG's 2021 Regional Plan (RP2021) include measures to reduce VMT, which also contributes to reduced congestion, reduced needs for ZEV, and reduce costs to decarbonize transportation. Our analysis of transportation decarbonization includes VMT reduction, system fuel use reduction, and increased alternative fuel use, including ZEV. Table 1 summarizes the key takeaways from our CAP analysis on the Decarbonizing Transportation Pathway. More detailed findings are provided below and in the main report.

Table 1 Summary of Key Takeaways for the Decarbonize Transportation Pathway

Policy Category	Key Takeaways
VMT Reduction	All adopted and pending CAPs have related measures; moderate GHG contribution; opportunity for more urbanized cities (e.g., higher densities, parking management) to increase access to basic services from increased transit uptake; opportunity for more aggressive walk and bike actions; opportunities across all jurisdictions to prioritize related social equity projects; significant opportunity to coordinate and cooperate as a region.
Fuel Use Reduction	Half the adopted and pending CAPs have related measures; relatively low GHG contribution because of the low activity levels; opportunity for increased fuel use reduction through system efficiencies within jurisdictions and across the region, for example, improved traffic management coordination across the region.
Alternative Fuel Vehicles & Equipment	All adopted and pending CAPs have related measures, including ZEV actions; moderate GHG contribution due to low local uptake levels; opportunity for more local action contingent is on more local ZEV funding beyond state-based funding; opportunity for more municipal uptake of other low carbon fuels such as renewable diesel.

6.1 Key Findings of Analysis

The following are key findings from the review of legal authority to act, from the comparative policy analysis, and the scenario analyses of combined GHG impacts from CAPs, which include the impacts of the SANDAG RP2021. More details are provided in Section 8.5 of the full chapter.

- Local Jurisdictions Have Broad Legal Authority to Regulate Transportation Emissions – Local authority over transportation is rooted in land use authority over planning and development and does not rely on delegated general law of the state or federal government. As shown in Section 8.2, cities and counties also have delegated and derived powers, taxation powers and police powers[25] which can be limited by state and federal laws, but can provide significant broad authority. To this end, local jurisdictions act to establish climate change policies and regulations to reduce GHGs from transportation in general plans (GPs), CAPs, zoning, transit-oriented development regulations, require infrastructure for fuel switching in buildings (e.g., electric vehicle charging equipment), build supporting infrastructure in public right of ways or on public land, and support alternative fuel production and infrastructure such as hydrogen. However, regulation of fuels and tailpipe emissions is largely preempted by state and federal law. Local jurisdictions have clear procurement authority over their own fleets and with authority to regulate indirect transportation emissions to maintain attainment or to correct nonattainment of federal and state air quality standards. State statutes and regulations create an opportunity to align local action to decrease costs for implementation by bringing state funded projects, particularly in communities of concern, to the region and deploying technology developed by state or federal funding.

- On-Road Transportation Remains the Largest Source of GHG Emissions through 2035 – In 2016, on-road transportation emitted more than 12 MMT CO2e, about 47% of regional emissions. In 2035, emissions from on-road transportation are projected to account for about 7.5 MMT CO2e out of a regional total of about 19 MMT CO2e, about 41% of the total projected emissions. This includes market-based ZEV adoption, but does not include the impact of CAP measures. In 2035, on-road transportation emissions reductions from current CAP measures are projected to be about 0.5 MMT CO2e in year 2035. This would reduce on-road transportation emissions to about 7 MMT CO2e in 2035.
- VMT Reduction is the Main Source of Transportation-Related Emission Reduction in CAPs – Based on the assessment of quantified CAP measures in the scenario analysis, in 2035, 56% of the transportation-related GHG reductions are expected to be achieved through VMT reduction measures, 42% from alternative fuel vehicles avoiding fossil fuel use, including ZEVs, and 2% from measures that reduce fuel use. Public transportation plays the largest role in reducing VMT according to current CAPs. Based on language in CAP measures, local jurisdictions rely heavily on SANDAG to help achieve their transportation GHG reductions.
- CAP Measures are Insufficient to Achieve State-Aligned Regional ZEV Goals – Without significantly increased support from the state or federal governments, neither SANDAG's RP2021 commitments for ZEV uptake, nor SANDAG RP2021 ZEV commitments in combination with current CAP ZEV measures, which are expected to add about 63,000 ZEVs, for a total of over 500,000 ZEVs, can achieve the regional share of ZEVs (771,000 ZEVs) needed to meet the state goal under Executive Order N-79-20 that calls for all new passenger vehicles sold to be zero emissions by 2035.
- Differences Exist Between Model-based Decarbonization Needs and CAP Commitments – There is a fundamental difference in the actions developed in CAPs to reduce on-road transportation emissions and Evolved Energy modeling that suggests focusing on achieving technology-based solutions and ZEV uptake. CAPs rely on VMT reduction over ZEV uptake. More study would be needed to determine how CAP VMT commitments align with SANDAG RP2021 mass transit development in specific communities, and how VMT reduction measures, if implemented as adopted in current CAPs, affect regional ZEV goals.

6.2 Summary of Opportunities for Further Local Action

The following summarizes key opportunities for further action to reduce GHG emissions from transportation based on the legal authority analysis, the CAP GHG analysis, MPO actions, review of CCA actions on decarbonizing transportation, and a literature review of social equity in transportation.

- Assess Local Legal Authority to Reduce Transportation GHG Emissions - Jurisdictions appear to have more legal authority through land use, transportation infrastructure siting, police powers, delegated authority, and taxation powers to reduce transportation GHGs, than represented by commitments in CAPs. Additional work by local jurisdictions would be needed to assess the limits of their authority to increase on-road transportation GHG reductions.
- Promote Mass Transit Use – CAPs identify mass transit as the single most important measure to achieve GHG reductions through VMT reduction. Even while recognizing the

significant role for regional cooperation for these measures, local jurisdictions still have multiple opportunities to promote this mode to reduce VMT. As an example, the option to provide school bus service through public buses can be assessed.

- Increase Bike and Walk Infrastructure to Increase Access to Basic Needs and Avoid VMT – An opportunity exists for local jurisdictions to make active transportation plans a requirement of new developments and evaluate the locational potential for additional active transportation in their borders. Local jurisdictions also could increase cooperation and coordination with regional walk and bike implementation projects by SANDAG and prioritize walk and bike projects in communities of concern.
- Increase Connectivity through Land Use Changes to Avoid VMT – Fewer than half the CAPs have addressed smart growth and only one has addressed parking regulations. Opportunities exist for local jurisdictions to increase density, eliminate parking minimums, and permit zoning changes to promote mixed-use developments, which reduce distances to basic needs and promote VMT reduction. Opportunities to increase density in in-fill areas have been identified in Chapter 3.26
- Manage Transportation Demand – Jurisdictions have the opportunity to implement Transportation Demand Management (TDM) policies together with employers. Demand management can be effective through a series of different approaches, such as density bonuses for reduced parking, trip reduction programs through the employer such as mandatory and incentivized or voluntary commute trip reduction, cash-out parking programs where employers pay workers to not drive, and employer and publicly supported vanpools.27
- Assess Fuel use Reduction Potential through Improved System Efficiencies – Jurisdictions have an opportunity to identify areas for traffic calming measures, anti-idling requirements, especially around school, and provide driver behavior incentives.
- Accelerate Vehicle Retirement - CAPs generally do not address vehicle retirement, which is an opportunity to replace inefficient with cleaner alternatives, including ZEVs. Vehicle retirement can be prioritized in communities of concern, which can have older less fuel-efficient vehicles. Replacing inefficient vehicles would lead to significant air pollution reduction with associated health benefits for all.
- Increase Use of Alternative Fuel Vehicles in Municipal Fleets – There is an opportunity for more local governments to increase use of alternative, low-carbon fleet fuels in addition to ZEVs, particularly for medium- and heavy-duty vehicles. Jurisdictions can leverage and implement the existing fleet greening studies and plans. Cities could work with school districts to obtain funding for a regionwide school bus transition.
- Assess the Social Equity Tradeoffs between ZEVs and Mass Transit – An opportunity exists for local jurisdictions to collaborate to assess the equity impacts of ZEV use versus increasing use of mass transit in various communities, and to align regional transportation equity analysis (e.g., SANDAG) with CAP equity analyses (e.g., City of San Diego).
- Assess the Use of LCFS Funding to Promote Transition to Lower Carbon Fuels – There may be opportunities to use cap and trade funds through the Low-Carbon Fuel Standard (LCFS) to aid in fleet electrification or transition to a lower carbon fuel as clean vehicle rebates decrease.

- Multiple Opportunities for Regional Collaboration and Coordination – On road transportation is especially suited to regional action over local jurisdictional action because interconnections are needed between jurisdictions to serve basic needs. VMT reduction through improved connectivity and mass transit, ZEV uptake, and social equity integration may be more effective through a regional approach rather than through individual local actions as represented in CAPs. Regional projects such as assessing the use of LCFS for funding the transportation decarbonization or availability of biofuels are examples of such collaborative opportunities.
- Explore Acceleration of Transportation Decarbonization through Mechanisms such as Joint Powers Agreements - CCAs provide an example of a local mechanism, usually through Joint Powers Agreements (JPA), that can support transportation electrification by developing programs to locally incentivize EV uptake beyond state and federal programs. Similarly, other regional decarbonize transportation mechanisms may be identified which can promote local funds for transportation decarbonization.

7 DECARBONIZE BUILDINGS

In general, there are three main methods to reduce GHG emissions from buildings: (1) reducing energy use through increased efficiency, (2) electrifying building appliances, and (3) increasing use of low-carbon fuels. Implicit in this is the decarbonization of the electricity supply. Supplying clean or zero emissions electricity to all-electric appliances not only reduces emissions at the power plant but also in the building. There are no CAP measures related to use of low-carbon fuels in buildings; therefore, we provide only limited analysis of this policy category. Table 2 summarizes the key takeaways for our analysis on building decarbonization. Additional detail is provided below and in the full report.

Table 2 Summary of Key Takeaways for the Decarbonize Buildings Pathway

Policy Category	Key Takeaways
Energy Efficiency	All adopted and pending CAPs have related measures; relatively low GHG reductions in CAPs; least regret opportunity for more jurisdictions to exercise existing authority to adopt reach codes for new construction, alteration, and addition projects; need to reduce energy use in existing buildings; GHG impact of energy efficiency declines as the electricity supply approaches 100% carbon free and appliances are electrified; full authority to act is not exercised in the region.
Electrification	Relatively few CAPs with measures to electrify buildings; low GHG impacts in CAPs; least regret opportunity for reach codes for new construction, alteration, and addition projects; need to electrify existing buildings; existing authority provides multiple paths to electrify new and existing buildings; full authority to act is not exercised in the region.
Low Carbon Fuels	No CAP measures use low-carbon fuels in buildings; limited analysis completed; additional research needed; there is existing authority to act in this regard but uncertainty exists; the extent of

	authority is untested and legal risk is dependent on action taken; full authority to act is not exercised in the region.

7.1 Key Findings of Analysis

The following are key findings from the review of legal authority to act, from the comparative policy analysis, and the scenario analyses of combined GHG impacts from CAPs. More details are provided in Section 8.6 of the full chapter.

- Authority Exists to Regulate GHG Emissions from Building End-Uses – The police power and delegated authority to regulate energy end-uses are primary means of implementing building decarbonization. Police power may be exercised to prohibit natural gas plumbing in new buildings, require energy benchmarking outside of Title 20, and/or encourage fuel switching to low- or zero-emission fuels (e.g., renewable natural gas or green hydrogen) through GHG emission performance standards based on energy benchmarking information. Local jurisdictions also act with delegated authority over the built environment to require more stringent Title 24, Part 6 Energy Codes and Part 11 CalGreen Codes, directly regulate criteria pollutant emissions from buildings, or use their procurement authority, including sole source procurement authority for energy conservation, cogeneration, and alternative energy supply projects on public buildings. The California Environmental Quality Act (CEQA) also may allow a lead agency to set a GHG-based threshold of significance for all projects (e.g., carbon neutral or net zero) that decrease building emissions. Local governments are preempted from establishing energy efficiency appliance standards, regulating natural gas supply, transmission, and storage, and high global warming potential refrigerants (e.g., HFCs).
- CAPs Have Relatively Few Measures to Electrify Buildings – Only six CAPs include measures related to building electrification. By contrast, all adopted and pending CAPs have measures related to energy efficiency. All building electrification measures focus on new construction projects, with the exception of two CAPs which have measures related to electrifying existing buildings, which focus on electrifying water heating appliances. As noted above, depending on the policy approach related to water heating, federal pre-emption concerns may exist. Based on the relative lack of CAP measures to electrify buildings and the GHG implications as presented in the scenario analysis, the current commitment to electrification in CAPs is insufficient to achieve the level of building equipment electrification contemplated in Chapter 5.
- GHG Impact of Building Decarbonization Measures in CAP is Relatively Low – GHG reductions in CAPs associated with efficiency and electrification are relatively low. Based on our comparative analysis, measures related to efficiency contributed about 7% on average to the local CAP reduction, while electrification contributed about 1%. Based on our scenario analysis, applying the most aggressive CAP policy to every jurisdiction in the region would increase estimated GHG reductions in 2035 from about 40,000 MT CO2e to over 720,000 MT CO2e. The increase would be due mostly to an increase in energy efficiency retrofits. By contrast, a similar application of the best renewable electricity supply policy would reduce GHG emissions by about 1.6 MMT CO2e. It is important to note that GHG

reductions from efficiency improvements in electric appliances decline over time as the electric supply approaches 100% carbon-free and more appliances are electrified. However, California is developing dynamic time-dependent electric rates and energy efficiency programs that balance supply and demand to integrate renewable energy and decrease marginal carbon emissions.

- Policies for the Existing Building Stock are Key to Decarbonize Buildings – Decarbonizing existing buildings is an important step in reaching regional emissions targets. Buildings that exist in 2021 will represent more than 80% of the buildings that will exist in 2050. State building energy codes regulate alterations and additions to certain existing buildings, but local policies could further encourage or require energy efficiency and electrification in many other existing buildings. There are many examples of policies to increase energy efficiency in existing buildings, including those to require energy assessments, benchmarking and disclosure of energy use, efficiency improvements, and retrocommissioning or building tune-ups. Many examples of these policies exist in the San Diego region and California. By contrast, there are few policies in California to electrify existing buildings. Most existing policies focus on new construction, alterations, and additions. Consequently, there are almost no policies at the local level to require existing building electrification, though efficiency policies potentially can provide the blueprint for policy development in this area. There are, however, some market barriers to electrification in the existing building stock, including consumer preferences and awareness, upfront cost hurdles, and workforce development needs that would have to be overcome to achieve widespread electrification. Key elements of an integrated strategy to decarbonize existing buildings include education and outreach, financial incentive and financing, and requirements.

7.2 Opportunities for Further Action

The following summarizes key opportunities for further action.

- Decarbonize New Buildings – Local jurisdictions have the authority to adopt local building codes, including reach codes to encourage or require energy efficiency and electrification. Because only four CAPs include at least one measure to require energy efficiency improvements in new buildings and only four have measures related to electrifying new buildings, there is opportunity for more local jurisdictions in the San Diego region to adopt these policies. California has a history of local governments adopting local ordinances to improve energy efficiency, and numerous examples exist in the San Diego region and around California. Ordinances to require electrification are relatively new, though an increasing number of local jurisdictions have adopted local building electrification requirements that go beyond state requirements or have used their police powers to adopt a moratorium on natural gas infrastructure. Given authority to act, the numerous examples around California, and existing support to develop and implement such policies, adopting reach codes is a least regret policy; however, this opportunity may be limited in its potential to reduce GHG emissions due to regular updates to the State building energy code.
- Local Governments Can Decarbonize Municipal Facilities – Just over half of CAPs have measures to improve efficiency at municipal facilities, and none have measures to electrify

these facilities. The federal government has recently adopted a commitment to achieve net zero emissions in federal facilities. This is a least regret policy as implementing cost effective measures helps reduce operating costs and can model the type of actions local governments may encourage homes and businesses to do.

- Regional Collaboration to Support Building Decarbonization – Given the clear, existing authority that local governments have to adopt local building codes (e.g., reach codes) for new buildings and the existing knowledge and experience in the region and statewide, developing a regional approach to support reach code development, adoption, and implementation is a least regret approach. A similar but more expanded program could be developed to support efforts to decarbonize the existing building stock, including analyzing existing building stock, convening an existing building decarbonization task force, developing a regional strategy to decarbonize the existing building stock, and a policy development support program similar to the reach code example.
- Assess Social Equity Considerations of Building Decarbonization Policies – In the context of building decarbonization, there are several aspects of equity to consider, including the high proportion of renters in communities of concern, the relative lack of data and analysis related to equity and building-related policies, and potential cost implications of building decarbonization policies, particularly electrification. Additional work would be needed to develop the capacity and tools to understand and address the equity implications of building and other decarbonization policies in the San Diego region.

8 DECARBONIZE ELECTRIC SUPPLY

Decarbonizing the electric supply is a pivotal step in the overall decarbonization framework. Increasing carbon-free electricity supplies not only reduces GHG from the electricity sector it also becomes the low- or zero-carbon energy source of choice for transportation and buildings to enable additional GHG reductions. In general, there are two main methods to reduce emissions from the electricity supply: (1) increase the amount of carbon-free electricity supplied to customers from the electric grid, typically from large-scale projects, and (2) increase installation of distributed renewable energy projects located on the customer side of the electric meter. Table 3 summarizes key takeaways for the Decarbonize Electricity Supply Pathway. Additional detail is provided below and in the full report.

Table 3 Key Takeaways for the Decarbonize Electricity Supply Pathway

Policy Category	Key Takeaways
Grid Supply	All adopted and pending CAPs have related measures, typically related to community choice aggregation (CCA), reflective of existing authority; relatively high GHG reductions in CAPs; opportunity for more cities to join existing CCAs, and commit to 100% carbon-free service options for municipal accounts and default community accounts.
Customer Side Supply	All adopted and pending CAPs have related measures reflective of existing authority; relatively low GHG reductions in CAPs due mainly to State activity in this area; limited opportunity for more jurisdictions to adopt reach codes for new construction, but more opportunity exists for alterations and

	additions; opportunity to increase customer side generation in existing buildings, particularly when coupled with energy storage.

8.1 Key Findings of Analysis

This section summarizes results of the review of authority to act and the comparative and aggregated analyses of CAPs. More details are provided in Section 8.6 of the full chapter.

- Authority Exists to Procure and Require Carbon-Free Electricity Supply – Local jurisdictions may supply electricity to their citizens either through the formation of community choice aggregator (CCA) or municipal utility, with the primary difference between the two being that the municipal utility owns the distribution and transmission infrastructure while the CCA does not. Both options allow the procurement and supply of higher renewable energy content electricity than that required by California's Renewable Portfolio Standard (RPS) for the incumbent investor-owned utility. Both options are subject to federal and/or state preemption over reliability, which complicates fully decarbonizing the electricity supply with renewable energy. However, authority exists to support alternatively fueled thermal power plants and related infrastructure that can provide low- or zero-emission (e.g., green hydrogen) electricity to meet reliability and air quality requirements. Local jurisdictions also play a direct role in increasing distributed generation through CCAs, reach codes, and permit streamlining. Local jurisdiction over more stringent regulation of direct emissions from conventional fossil fuel generators is uncertain because of litigation but possibly preempted by the Federal Clean Air Act. California's Cap-and-Trade preempts local jurisdiction authority over GHG emissions from these fossil fuel facilities unless the facility falls below Cap-and-Trade's 25,000 metric ton emissions threshold.
- Decarbonizing Electricity has the Highest GHG Reduction in CAPs – Increasing carbon-free electricity is the single largest contributor to GHG reductions in adopted and pending CAPs. All 17 CAPs evaluated have a measure to achieve a high renewable electricity supply, typically from forming or joining a CCA program. If the most aggressive CAP policy related to CCA is applied to all jurisdictions, additional reductions are possible; however, because most CAPs include a measure to achieve or approach 100% renewable or carbon-free electricity supply, expanding participation in CCA programs would increase expected GHG reductions by about 30%, which is less than other policy actions considered in our scenario analysis of GHG impacts from CAP measures.

8.2 Opportunities for Further Action

The following summarizes key opportunities for further action.

- Opportunities Exist for Local Policies to Increase Carbon-Free Electricity Supply – In the San Diego region, there is an opportunity for more local jurisdictions to join existing CCAs or to increase renewable supply otherwise and commit to 100% service options for municipal accounts and default community accounts. CCAs also have the ability to develop programs to encourage solar installations, including financial incentives for customer-scale projects and feed-in tariffs for larger scale projects.

- State Requirements for Solar on New Buildings Limit Local Opportunities – In the past, CAPs sought to require solar in new construction, but the State's building energy code now requires solar for new low-rise residential. Also, while local jurisdictions could require solar in nonresidential new construction, it will be mandated when the next code cycle is effective in January 2023. As a result, the State requirements limit the role of local jurisdictions to reduce GHG emissions from distributed solar. An opportunity exists to evaluate mandating or incentives for energy storage systems paired with solar to decrease marginal emissions during the electric system's peak and highest GHG emission hours, which will align both with new net energy regulations and rates that reflect these realities.
- Opportunities Remain to Require Solar in Alteration and Addition Projects – While upcoming changes to the State's building energy code will require solar on new nonresidential buildings, there is an opportunity for local jurisdictions to adopt reach codes that require solar on alteration and addition projects. Examples of these policies exist in the region and around California. GHG reductions associated with these policies likely would be limited given the number of affected projects but more analysis would be needed to determine the full potential of these policies.
- Additional Work Would be Needed to Make Carbon-Free Electricity Supply More Accessible – Research shows that most distributed solar PV systems installed in California have been installed in higher-income neighborhoods with higher levels of homeownership compared to the statewide average. Numerous options exist to address the inequitable distribution of solar installations, including targeted incentives and financing. Also, in the short run before California meets its 100% carbon-free electricity requirement, enabling residents in communities of concern to participate in service options with high levels of carbon-free electricity can also address this issue. CCA programs can maximize participation in the Disadvantaged Communities Green Tariff Program and subsidize CARE and FERA customers to opt up to 100% carbon free electricity service options.

9 NATURAL SOLUTIONS AND LAND USE

Natural and working lands are becoming a major focal point for state policy and local land use planning. Existing efforts include quantifying the value of existing carbon stock and sequestration potential and conserving and restoring existing natural and working lands. According to a recent study by the Institute for Ecological Monitoring and Management at San Diego State University (IEMM), approximately 2.9 million acres of San Diego County's more than 3.2 million acres of land, submerged land, and waters are natural lands. Of these, the unconserved portion is distributed throughout the region, representing a significant opportunity to develop nature-based carbon sequestration strategies in CAPs across the region. This will become more important if net zero GHG emissions, which will require carbon removal and storage, is the regional target for GHG emissions. Table 4 summarizes the key takeaways for our analysis on building decarbonization. Additional detail is provided below and in the full report.

Table 4 Key Takeaways for the Natural Climate Solutions Pathway

Policy Category	Key Takeaways
Agriculture Methane Reduction	No CAP measures related to methane reduction; limited analysis completed, additional research needed; State preemption may exist starting in 2024 depending on future CARB regulation.
Carbon Stock Preservation	Many adopted and pending CAPs have related measures, mostly to conserve and restore habitat; low GHG contribution; opportunity to continue research on carbon storage potential and regularly develop regional inventories of carbon stocks; Existing authority allows conservation, preservation, and restoration of lands for this purpose.
Carbon Removal and Storage	Many adopted and pending CAP have related measures, mostly urban tree planting, the only quantified measure from this pathway; low GHG contribution; opportunity exists to develop a regional approach to urban tree planting, including equity considerations, and to track carbon all removal activities regionwide; Existing authority allows conservation, preservation, and restoration of lands for this purpose. State legislation will create removal and storage projects with an opportunity to develop such projects in the San Diego Region.

9.1 Key Findings of Analysis

This is a summary of results of the review of authority to act and the comparative and aggregated analyses of CAPs. More details are provided in Section 8.78 of the full chapter.

- Authority Exists Over Land Use and Land Preservation, But Ownership Issues Require Cooperation Between Owners and Land Managers – Local jurisdictions exercise police power over land use and zoning and delegated authority that allows for the preservation of land through conservation and agricultural easements with regard to natural and working lands. However, presently it is unclear to what extent local authority can be exercised over activities on private natural and working land beyond land use designation with regards to GHG regulation. The region is complicated because it is composed of federal, state, tribal, and privately held land, submerged land, and waters. Various statutes and agencies regulate the different land types, with none focused on GHG emissions or sequestration as it relates to land use. State land use and regulating agencies also operate with a wide range of statutory mandates. California statutes and executive orders require state land use agencies to account for GHG emissions from natural and working lands as well as begin to assess and regulate carbon removal and storage on these lands with significant targets in 2030. Local jurisdictions act with authority to preserve land, set goals, evaluate how to quantify and implement carbon storage requirements on existing land, and work with private owners, tribes, and state and federal land managers to achieve state, regional, and local goals related to natural and working lands. Developing local GHG targets and aligning with state goals, statutes, quantification methods informed by San Diego specific carbon valuation science, and funding may provide a path forward to achieve local natural and working land objectives.

- The Only Quantified CAP Measure Relevant to This Pathway is Urban Tree Planting – Based on our comparative CAP analysis, nearly all CAPs (15) have at least one measure related to urban tree planting, though these measures contribute on average just over 1% of local GHG reductions in CAPs. Based on our scenario analysis, the total GHG reduction expected from urban tree planting measures, which assumes 7% tree cover in developed areas, would be 0.1 MMT CO2e in 2035. If the best CAP commitment, which assumes 35% tree cover, were applied to all jurisdictions in the region, the reduction would be 0.6 MMT CO2e.

9.2 Opportunities for Further Local Action

The following summarizes key opportunities for further action.

- Opportunities at Jurisdictional Level and Regional Collaboration in Identifying Suitable Tree Planting Locations – Existing urban canopy cover varies by jurisdiction, ranging from 7% to 22%. CAP urban tree planting targets do not specify suitable tree planting locations or where trees are needed the most. Opportunities exist at the jurisdictional level to identify locations based on local needs. The most aggressive CAP measure commits to 35% urban canopy cover in developed areas. Not all developed areas in the region are suitable for tree planting. An opportunity exists for cross-jurisdictional collaboration to identify suitable locations across the region, including taking into account social equity considerations.
- Continue and Increase Land Conservation, Preservation, and Restoration Across the Region – Existing authority allows land conservation, preservation, and restoration on natural and working lands. There is an opportunity to increase existing efforts and to explore additional actions to further conserve, preserve, and restore these lands.
- Collaboration with Tribes, State and Federal Land Agencies and Managers, and Private Land Owners – It is necessary to evaluate the various mandates on these lands and waters to determine where collaboration is viable to achieve local, regional, and state goals for natural and working lands. Private land owners also serve as important partners to preserve land and to test and fund pilot projects for carbon removal and storage.
- Continue to Develop and Integrate both State and Local Science for the Value and Integration of Natural and Working Lands in CAPs and other Land Use Plans – CARB is currently developing methods to quantify carbon values for these lands and demonstrate sequestration values. This could be integrated with existing local science on San Diego region's natural and working land carbon values from San Diego State University's IEMM and other San Diego specific science.
- Develop Land Use Specific Values for Land Conservation and Restoration, including Agricultural Land – There are opportunities to conserve and preserve additional land across the region. There are also some opportunities to restore land. The science behind the value of these actions is developing and needs additional support. The region could identify lands that can be conserved or preserved in support of existing and future land use planning. This process must include all tribal, federal, private, and local government stakeholders. This process could also account for the new SB 27 (2021) mandate that calls for the creation of natural and working land carbon removal and storage projects. To the extent possible, the San Diego region could develop and aid in creating these projects.

- Develop and Regularly Update a Regional Carbon Stock Inventory Based on San Diego Specific Science – Similar to the CARB Inventory of Emissions from Natural and Work Lands, the San Diego region could develop a process to regularly estimate and track over time the amount of carbon stored vegetation, wetlands, etc. This would help to understand how carbon stocks are being preserved and whether net emissions occurred due to changes in land use. These emissions are not typically included in the communitywide GHG inventory of local jurisdictions, but tracking changes over time can help understand the region's net impact on emissions, which can imply contribution to warming. A similar process could be developed to track carbon removal projects regionwide.

10 CONCLUSION

This chapter assesses current commitments in Climate Action Plans (CAP) to determine if additional activity would be needed to put the region on a trajectory to meet these goals and to identify opportunities for local jurisdictions in the region to take further action to support the decarbonization pathways.

We completed analysis in three areas. First, reviewed of the authority of local governments and agencies to act to influence and regulate greenhouse gas (GHG) emissions, including a summary of key federal, state, and local agencies, and key legislation and regulation at the federal and state levels to help to clarify the ability of local governments to act to reduce GHG emissions. Second, we completed a comparative analysis of CAPs to determine the frequency of measures, relative GHG impact of decarbonization pathways and measures, and integration of social equity considerations. Third, we completed a scenario analysis to estimate the total impact of the GHG reduction commitments in all adopted and pending CAPs and the potential GHG impact of a scenario of applying the best CAP commitments to all jurisdictions. Using results of the above analysis and additional research, identify opportunities for further local action and regional collaboration in each of the four decarbonization pathways.

The review of authority found that local jurisdictions have authority to influence and regulate GHG emissions using police powers and delegated authority. Some local jurisdictions are exercising delegated authority but the full extent of a local jurisdiction's police power to regulate GHG emissions is unknown. The comparative and scenario analyses of CAPs found that the GHG impacts of current CAP commitments are relatively small and applying the best CAP commitments to all jurisdictions in the region would still not be enough to reach the levels of deep decarbonization contemplated in the technical analysis presented in the other chapters of this report. As a result, additional policies would be needed to decarbonize transportation and buildings, particularly VMT reductions and building electrification, respectively. Across all decarbonization pathways there are opportunities for further local action and for regional collaboration, including collecting and tracking data, providing support to develop and implement policies, and convening stakeholder and working groups to develop regional strategies and monitor progress. Finally, based on a preliminary review of CAPs, additional work would be needed to integrate social equity considerations into climate.

[1] Cal. Const. art. XI, § 7.
[2] U.S. Const. art. VI, §2.
[3] *Candid Enters., Inc. v. Grossmont Union High Sch. Dist.,* 39 Cal. 3d 878, 885 (1985); *Birkenfeld v. City of Berkeley*, 17 Cal. 3d 129, 140 (1976); *Carlin v. City of Palm Springs*, 14 Cal. App. 3d 706, 711 (1971).
[4] *Miller v. Board of Pub. Works*, 195 Cal. 477, 485 (1925).
[5] *Birkenfeld v. City of Berkeley*, 17 Cal. 3d 129, 158 (1976). See *Consolidated Rock Prods. Co. v. City of Los Angeles*, 57 Cal. 2d 515, 522 (1962).
[6] *Carlin v. City of Palm Springs*, 14 Cal. App. 3d 706, 711 (1971).
[7] *DeVita v. County of Napa*, 9 Cal. 4th 763, 782 (1995); *Candid Enters., Inc. v. Grossmont Union High Sch. Dist.*, 39 Cal. 3d 878, 885 (1985).
[8] *Avco Community Developers v. South Coast Reg'l Comm'n*, 17 Cal. 3d 785, 791 (1976), superseded by statute as stated in *Santa Margarita Area Residents Together v. San Luis Obispo County Bd. Of Supervisors*, 84 Cal. App. 4th 221, 229 (2000).
[9] See Government Code §§ 66410–66499.38; Govt Code § 66474.2 & 66498.1(b).
[10] See Public Resources Code §§ 25500 et seq.; See Public Resources Code §§ 25120 & 25123.
[11] See California Energy Commission Order No. 21-0908-1 (Adopted September 8, 2021).
[12] See Governor's July 30, 2021 Proclamation of A State of Emergency to address energy supply and demand issues; See U.S. Const. Amendment X; See California Emergency Services Act: Government Code §§ 8558, 8567, 8571, 8625, & 8627.
[13] See Health & Safety Code §§ 39002 & 41508.
[14] See Health & Safety Code §§ 40716(b) & 41015.
[15] See Cal. Const. art. XI; See Government Code § 34871.
[16] Cities of Carlsbad, Chula Vista, Del Mar, El Cajon, Oceanside, San Diego, San Marcos, and Vista.
[17] Cal. Const. art. XI, § 5.
[18] Charter County limited "home rule" authority includes: 1) providing for lection, compensation, terms, removal, and salary of the governing board; 2) for the election or appointment (except the sheriff, district attorney, and assessor who must be elected), compensation, terms, and removal of all county officers; 3) for the powers and duties of all officers; and for consolidation and segregation of county offices. It excludes additional authority over: 1) local regulations; 2) revenue-raising abilities; 3) budgetary decisions; or 4) intergovernmental relations.
[19] See Cal. Const. art. XI, § 5, subd. (a); See *Jackson v. City of Los Angeles*, 111 Cal. App. 4th 899 (2d Dist. 2003); See *City of Santa Clara v. Von Raesfeld*, 3 Cal. 3d 239 (1970); See *Baron v. City of Los Angeles*, 2 Cal. 3d 535 (1970); *Dairy Belle Farms v. Brock*, 97 Cal. App. 2d 146, 217 P.2d 704 (1st Dist. 1950); See *Wilkes v. City and County of San Francisco*, 44 Cal. App. 2d 393, (1st Dist. 1941); See *People ex rel. Scholler v. City of Long Beach*, 155 Cal. 604 (1909); See *Galli v. Brown*, 110 Cal. App. 2d 764 (1st Dist. 1952); See *Pearson v. Los Angeles County*, 49 Cal. 2d 523 (1957).
[20] Cal. Const. art. XIIIC, § 2(a) & (d).
[21] See generally Municipal Bond Act of 1901 (Government Code §§ 43600–43638) & Government Code §§ 50665.1–50670.
[22] Cal. Const. art XI, §7; see also Revenue Bond Act of 1941 (Government Code §§ 54300 et seq., Uniform Standby Charge Procedure Act (Government Code §§ 54984 et seq.); Government Code § 66013; Government Code § 66014; Health & Safety Code § 5471 & 5473; See generally Government Code § 37112.
[23] See generally Cal. Const. art. XIIIA, XIIIC, & XIIID; See Bradley-Burns Uniform Local Sales and Use Tax Law (Revenue & Tax Code §§ 7200 et seq.).
[24] See Riahi, K., Bertram, C., Huppmann, D. et al. Cost and attainability of meeting stringent climate targets without overshoot. Nat. Clim. Chang. (2021). https://doi.org/10.1038/s41558-021-01215-2. See also Drouet, L., Bosetti, V., Padoan, S.A. et al. Net zero-emission pathways reduce the physical and economic risks of climate change. Nat. Clim. Chang. (2021). https://doi.org/10.1038/s41558-021-01218-z.
[25] Police power is generally understood to be the regulatory authority to protect public health, safety and welfare.
[26] TBD
[27] Carlson, D. and Howard, Z. Impacts of VMT reduction strategies on selected areas and groups, Evans School of Public Affairs, Washington State Transportation Center, prepared for the State of Washington, December 20201, available at https://www.wsdot.wa.gov/research/reports/fullreports/751.1.pdf