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Climate Action Planning in the Sacramento Metropolitan Air Quality Management District

Preface

This white paper presents the multiple benefits of adopting qualified climate action plans for the elected officials and leadership of jurisdictions within and including Sacramento County. Climate action plans have clear advantages for both cities and developers by streamlining environmental review processes for new projects, providing regulatory certainty, and reducing the risk of legal challenges. In addition, a robust climate action plan can help jurisdictions build social and economic resilience against natural disasters such as fires and flooding, enhance the development of new business opportunities and clean technology, and help achieve goals for clean air, public health, environmental justice, and quality of life.

Introduction

California agencies at every level of government have been active in developing greenhouse gas (GHG) emission reduction measures for many years. These efforts became more robust after Governor Schwarzenegger signed executive orders creating mandates to respond to climate change, and the state legislature embraced the effort through legislative initiatives, initially with AB 32 (2006) and SB 97 (2007) and most recently through SB 350 (2015) and SB 32 (2016). The opportunity to streamline California Environmental Quality Act (CEQA) compliance through a greenhouse gas reduction plan that complies with SB 97 CEQA guidelines (adopted in December 2009) further motivated local governments to prepare Climate Action Plans, comprehensive roadmaps that outline the specific activities a jurisdiction would undertake to reduce their GHG emissions.

In the Sacramento region, the Sacramento Metropolitan Air Quality Management District (Air District), the Sacramento Area Council of Governments (SACOG), the Sacramento Regional Transit District (SacRT) and the Sacramento Municipal Utility District (SMUD) have all worked to encourage efforts to reduce GHG emissions, and have urged local jurisdictions to do the same through the adoption of a Climate Action Plan (CAP) consistent with California's 2030 and 2050 goals. In doing so, these jurisdictions would join the 228 local government agencies that, as of 2016, had adopted a climate, energy or sustainability plan, including 62 percent of the local governments with a population of 100,000 or more; there are an additional 172 local agencies that, like the County of Sacramento and the cities of Folsom and Galt, are in the process of developing plans.[1] In total, 50 percent of Sacramento County's population live in jurisdictions with adopted CAPs.

Many of the measures that could be included in a CAP will have important ancillary benefits, including economic savings to agencies and the community from implementing energy and other green programs. In fact, a 2015 national survey of local governments found that one of the most common motivations for adopting sustainability actions was fiscal savings (46 percent rated it as very significant, and 38 percent as significant).[2] Much of the savings stem from energy measures, and would come at a time when energy is one of the top three business expenses for small businesses. These businesses could also benefit from incentives and programs designed to

[1] *State of Local Climate Action: California 2016* (SEEC Study), Statewide Energy Efficiency Collaborative, pp. 6, 23, 25.
[2] SEEC Study, p. 41.

promote advanced- and alternative-fuel vehicles and to support building retrofits that can help reduce cooling costs even as extreme heat days increase.

Climate Action Plans in Sacramento County							
Jurisdiction Information			Status		Target reduction *from 2005 levels*		
Name	Type	Link	Status	Date adopted	2020	2035	2050
City of Sacramento	CAP	2035 General Plan	Adopted	2012	15%	49%	83%
Elk Grove	CAP	Climate Action Plan	Adopted	2013	15%	-	-
Citrus Heights	GHG Reduction Plan	Greenhouse Gas Reduction Plan	Adopted	2011	10-15%	-	-
County of Sacramento	County operations only	Climate Action Plan	Adopted	2012	15%		
County of Sacramento	Community-wide plan		In process				
Galt	CAP		In process				
Folsom	CAP		In process				
Isleton	-						
Rancho Cordova	-						

Similarly, green buildings can help residents reduce energy costs while maintaining comfort levels in the face of increasingly unhealthy and more frequent extreme heat events. Also, adopting a CAP should help position the area to benefit from California Climate Investments, such as funding from the Transformative Climate Communities program and the Affordable Housing and Sustainable Communities program, or other related funding such as SB 1 Road Repair and Accountability Act of 2017 funds. A significant portion of the $3.4 billion in cap-and-trade proceeds to date has directly or indirectly supported local government efforts to reduce GHG emissions.[3] A minimum of 25 percent of these funds are set aside to help disadvantaged communities – of the $912 million allocated in 2015, $356 million went to disadvantaged communities and $469 million went to projects benefitting these communities.[4] The state has now broadened the areas that qualify for this set-aside funding through the adoption of AB 1550 (2016), which designates an additional 10 percent of cap and trade funds for low-income census tracts, thereby expanding areas in the District eligible to receive funding. A robust CAP may better position local jurisdictions to compete for these funds, as the CAP would identify in advance potential opportunities and shovel-ready projects for funding while allowing the jurisdiction to demonstrate prior planning processes and community engagement.

[3] *The 2017 Climate Change Scoping Plan Update: the Proposed Strategy for Achieving California's 2030 Greenhouse Target* (Scoping Plan), California Air Resources Board, January 20, 2017, p. 131.
[4] SEEC Study, p. 36.

A. The CAP would offer critical streamlining assistance to projects subject to CEQA review.

Adoption of an adequate CAP also plays an important role in the local land use development arena. In SB 97 (2007), the state required the Office of Planning and Research (OPR) to adopt guidelines for incorporating the analysis and mitigation of GHG emissions into the California Environmental Quality Act (CEQA) review process. The approved Guidelines state that agencies should make a good faith effort to describe, calculate or estimate GHG emissions, and that in evaluating the impact of the emissions, agencies may consider the extent to which the project complies with regulations adopted to implement a state, regional or local plan for the reduction of GHG emissions.[5] Local agencies may demonstrate that they met the Guidelines' good faith effort requirement through adoption of a CAP, and developers would then be able to satisfy the CEQA GHG requirements by complying with applicable parts of the CAP. To meet statutory criteria to allow project-level CEQA tiering and streamlining, the CAP must include a community-wide inventory of GHG emissions, forecasted future emissions, targets for GHG reductions in line with State goals, quantifiable GHG reduction measures, established monitoring procedures, an environmental review, and adoption through a public process (CEQA Guidelines § 15183.5(b)). Plans that meet these requirements are referred to as "qualified" CAPs.

Although the CEQA provision refers to compliance with state plans, which would include the AB32 Scoping Plan, the state Supreme Court has held that reliance on those measures alone is insufficient. In *Center for Biological Diversity v. Calif. Dept. of Fish and Wildlife* (known as the Newhall Ranch case), the EIR found that the project's GHG emissions would be adequately mitigated because the project would not interfere with the reduction goals established in the Scoping Plan. However, the Court held that this analysis was inadequate because it did not substantiate the assumption that the statewide Scoping Plan's measure of emission reductions can also serve as a criterion for an individual project.[6] The Air District looked at this approach thoroughly when developing its own significance thresholds,[7] and determined that it would not be feasible to parse the data down to the individual project level, as the Supreme Court decision seems to require.

The Supreme Court specifically called out compliance with a local CAP as a potentially acceptable method for meeting CEQA requirements. CAP compliance was part of a three-tiered approach. First, comply with state agency plans, such as the AB 32 Scoping Plan, designed to reduce GHG emissions at a statewide level.[8] Second, apply the regional Sustainable Communities Strategies developed under SB 375 (discussed below) to address transportation-related GHG emissions. And third, comply with local plans designed to reduce GHG emissions within a

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[5] 14 Cal. Code Regs. §15064.4(a), (b).
[6] *Center for Biological Diversity v. Calif. Dept. of Fish and Wildlife* (2015) 62 Cal.4th 204, 228.
[7] The Air District's GHG thresholds were adopted in 2014, with a suggested mitigation target of 21.7% from business-as-usual levels. This mitigation target was selected for its consistency with AB 32 goals: the State of California needed a 21.7% reduction from business-as-usual 2020 emissions to reach 1990 levels. The thresholds levels were established to capture 90% of the emissions from land use projects within the Air District's jurisdiction, exempting smaller projects. However, as a result of the Newhall Ranch decision, the Air District is no longer recommending the active use of these thresholds. As the impacts of climate change are global, GHG emissions are most effectively addressed in a larger planning context, rather than at a project-by-project level. The thresholds can be found on the Air District website: http://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable5-2015.pdf
For more explanation of why the thresholds are no longer recommended, see this letter.
[8] *Id*. at 229.

particular jurisdiction. Here, the Court cited with approval provisions in the CEQA Guideline stating that:

> ". . . a general plan, a long range development plan, or a separate plan to reduce greenhouse gas emissions may, if sufficiently detailed and adequately supported, be used in later project-specific CEQA documents to simplify the evaluation of the project's cumulative contribution to the effects of greenhouse gas emissions."[9]

The theoretical approach suggested by the Supreme Court was subsequently applied by local agencies and upheld in the Court of Appeals[10] And this is precisely the path the Board of Supervisors of Sacramento County and other jurisdictions began when they approved General Plans calling for the development of a CAP, and detailed the specific elements to be included in the Plan, as discussed above.

If a jurisdiction does not have a qualified CAP, development projects may have to mitigate GHG emissions from their projects to no-net increase level, which has already been done for large development projects[11] and is the most defensible alternative to compliance with a qualified CAP.[12] No-net increase can be challenging and costly, however, often requiring off-site mitigation. Critically, ARB's 2017 Draft Scoping Plan Update notes that several recent land use projects have demonstrated that achieving no-net increase is feasible, though not for every project.[13]

This explicit joinder of the three levels of GHG analysis and mitigation – statewide plans, regional transportation plans, and local CAPs – emphasizes the importance of adopting a qualified CAP as part of the effort to insure streamlined development while reducing GHG emissions. And the adoption of a CAP has become part of the mainstream framework and "recommended approach for evaluating and mitigating community-scale GHG impacts of General Plans,"[14] which advantages both developers and local jurisdictions through the planning process. Failure to adopt a CAP would impair local development by complicating the CEQA review process, as each project would be required to analyze its own GHG emissions, determine significance, and implement all mitigation measures on-site or through offsets. But by complying with measures included in a qualified CAP – which has already undergone environmental review and a public process – developers would be able to avoid project-specific GHG emissions analysis during CEQA review, as emissions would be addressed in a larger planning context. Projects would be able to rely on a community-wide approach to GHG emissions reductions, implementing only pre-defined measures in the CAP and not the more onerous mitigation required by no-net increase levels.

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[9] *Id*. at 230.
[10] *Mission Bay Alliance v. Office of Community Investment & Infrastructure* (Cal. App. 1st Dist. 2016) 6 Cal.App.5th 160, 202-203. The court agreed that a later project consistent with a GHG reduction plan can rely on its GHG analysis, allowing the new Golden State Warriors Arena to demonstrate consistency with San Francisco's Greenhouse Gas Reduction Strategy.
[11] Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan Final Additional Environmental Analysis. California Department of Fish and Wildlife SCH No. 2000011025. June 12, 2017.
[12] Beyond 2020 and Newhall: A Field Guide to New CEQA Greenhouse Gas Thresholds and Climate Action Plan Targets for California. Association of Environmental Professionals. October 18, 2016, p. 73.
[13] *The 2017 Climate Change Scoping Plan Update,* p. 135.
[14] SEEC Study, p. 7.

In short, a CAP sets out clear expectations in writing on GHG emissions mitigation for project developers and simplifies the CEQA review process, reducing uncertainty and the risk of legal challenges and ensuring greater efficacy.

Finally, adoption of an qualified CAP has been streamlined through the Governor's Office of Planning and Research's August 2017 General Plan Guidelines Update, which provides specific guidance on how to create a GHG emissions reduction plan that meets the goals of both CEQA and general plans. The GHG emissions reduction plan can be either a stand-alone CAP or included in the general plan.

B. The development of a CAP can mitigate a general plan's environmental impacts.

The state brought the climate change goals directly to the local level through the AB32 Scoping Plan, which specifically calls out the important role of local governments, stating that "local governments are essential partners in achieving California's goals to reduce greenhouse gas emissions. They have broad influence and, in some cases, exclusive authority over activities that contribute to significant direct and indirect greenhouse gas emissions through their planning and permitting processes, local ordinances, outreach and education efforts, and municipal operations. Many of the proposed measures to reduce greenhouse gas emissions rely on local government actions."[15]

Many local jurisdictions, including the City of Lodi, City of San Diego, Butte County, Tulare County, Yolo County, and Sacramento County, initially addressed the local government climate change responsibilities through their general plans. For example, Butte County adopted a Climate Action Plan in 2014, which was initially identified as an implementation mechanism in the Conservation and Open Space element of its General Plan 2030, and was required as a mitigation action in the general plan's final Environmental Impact Review (EIR).[16]

Similarly, Sacramento County identified the potentially significant impacts of climate change associated with its 2030 General Plan update, and then identified mitigation measures to be incorporated into the plan to address those impacts. These included adoption of a new policy requiring the County to reduce its emissions to 1990 levels by 2020, consistent with AB32 and the prior Executive Orders. To address that policy, the General Plan specifically requires adoption of a "first-phase" CAP that includes a requirement to complete an emission inventory every three years, adopt a Green Building Program by 2012, and enact a Climate Change Program that assesses a fee on and establishes reduction targets for new development projects. The General Plan also requires the County to adopt a second-phase CAP that includes economic analysis and detailed programs, and update the Energy Element to include alternative energy policies. In addition, at least five specific elements[17] in the General Plan contain GHG reduction policies and mitigation measures. These specific requirements would also logically be included in the second-phase CAP, since doing so will aid developers and the public by yielding a single comprehensive document that address climate change requirements within the County. Through the use of a CAP, the mitigation measures live outside the general plan, allowing them to be more easily amended and updated to meet local needs and respond to changing conditions.

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[15] Climate Change Scoping Plan: A framework for change. Air Resources Board. December 2008. p.26. This language is also included in the January, 2017 Proposed Scoping Plan at p. 132.
[16] Butte County Draft Climate Action Plan (CAP), CAP Work Plan, and EIR Addendum, presented at Butte County Board of Supervisors meeting, February 25, 2014. (PDF)
[17] The five resource areas are Air Quality, Safety, Conservation, Delta Protection, and Land Use.

All of these general plan policies are legally binding. Though they have not all been fully implemented, once mitigation measures are incorporated into a project – including a general plan – the measures "cannot be defeated by ignoring them or by attempting to render them meaningless by moving ahead with a project in spite of them.'"[18] In fact, the courts recently struck down a CAP developed by the County of San Diego precisely because the CAP failed to meet the greenhouse gas reduction performance standard adopted as a climate mitigation policy in its General Plan and the County did not adequately address this outcome in its CEQA review of the CAP.[19]

C. The adoption and implementation of a Climate Action Plan by local jurisdictions is an important step in achieving the statewide GHG emission reduction mandates.

Governor Schwarzenegger initiated California's GHG reduction efforts through Executive Order S-3-05, which committed the state to reducing emissions to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. These goals were subsequently endorsed by the state legislature through the passage of AB 32 (2006), which not only adopted the executive order's goals but also stated that the reductions must continue after 2020. AB32 directed the Air Resources Board (ARB) to set reporting requirements for GHG emissions, and prepare a plan – referred to as the Scoping Plan – for establishing the maximum technologically feasible and cost-effective GHG emission reduction measures. Governor Brown's Executive Order B-30-15 built on the goals in Executive Order S-3-05, aiming to reduce GHG emissions to 40 percent below 1990 levels by 2030. The legislature set the 2030 goal as a statutory target, too, through SB32 (2016).

These goals do not only operate at the state level; achieving them will require substantial cooperation from local governments. As discussed below, local agencies control many of the land use and transportation decisions that are critical to reducing GHG emissions.

D. Adoption of a CAP would assist jurisdictions in satisfying the requirements of Government Code section 65302 and SB 379 relating to climate change and adaptation.

Section 65302(g) and SB 379 require jurisdictions to update their General Plan Safety Element to address climate change impacts and resiliency strategies, and to review and revise the housing element of the general plan to identify new information relating to flood and fire hazards.[20] This includes a vulnerability assessment identifying the risks associated with climate change, such as risks to housing. Jurisdictions that have a CAP that substantially complies with the requirements of 65302(g) may incorporate that CAP by reference to satisfy the planning requirement. Adoption of a CAP is an ideal way to insure that the analysis takes a hard, 360° look at the risks of climate change to housing and other important aspects of the community and the safety of the general public. By conducting a climate vulnerability assessment as part of its CAP process, Sacramento County is already taking the first step to fulfilling these requirements. The inclusion of comprehensive adaptation measures around extreme heat, increased flood risk, more intense storms, and water availability will help local jurisdictions to meet SB 379 goals and safeguard the long-term safety, health, economic resilience, and quality of life in their communities.

E. Adoption of a CAP would also support the plans and programs developed by SACOG under the Sustainable Communities and Climate Protection Act of 2008 (SB 375).

[18] *Sierra Club v. County of San Diego* (Cal. App. 4th Dist. 2014) 231 Cal.App.4th 1152, 1167 (cites omitted).
[19] *Id.* at 1167-1168
[20] Govt. Code § 65302(g)(4)(A) and (g)(5).

Measures in a CAP aimed at reducing vehicles miles traveled would be consistent with the considerable regional efforts undertaken to meet the objectives of the Sustainable Communities and Climate Change Protection Act (SB 375). SB 375 directed ARB, working with local officials, to set regional GHG emission reduction targets for passenger vehicles. The goal is to enable regions, and the state, to meet AB 32 goals through reduced emissions from cars and light-duty trucks. SB 375 also directs regional transportation officials to adopt Sustainable Community Strategies (SCS) demonstrating how they will meet their reduction targets. Once a SCS is adopted, other jurisdictions are not required to analyze a proposed project's impacts on the regional transportation network, provided that the project complies with the SCS.[21] Several lead agencies, including the City of Sacramento, have utilized SCS consistency to reduce the burden of CEQA analysis.[22]

In adopting its most recent SCS in February 2016, SACOG "made every effort to meet and surpass" the AB 32 and SB 375 goals, and developed the SCS to "not only achieve the goals of SB 375, but create an efficient land use plan and robust transportation network that would meet AB 32 goals and further reduce our impact on climate change." SACOG also noted the important role the member agencies play in achieving the SCS goals. For example, the SCS states that "voluntary land use decisions by cities and counties will be critical to the success of this MTP/SCS" and "the coordinated implementation of transportation and development is essential to meeting the region's state greenhouse gas reduction targets."[23] Adoption of a CAP will complement the efforts outlined in the SCS, increasing the likelihood that the region will reach its GHG emission reduction targets.

There are many ways for a CAP to contribute to achieving state and regional GHG reduction goals in AB 32, SB 32, and SB 375: prioritizing infill development, especially in areas with good transit service; taking steps to facilitate and incentivize penetration of electric vehicles, such as those identified in SACOG's Take Charge program;[24] actively participating in shaping deployment of new shared-mobility options such as ride-, car-, and bike-sharing and autonomous vehicles; and implementing SACOG's CivicLab project are just some of the ways to contribute to the effort.[25]

F. Adoption of a CAP could support the Sacramento Regional Transit District's efforts to enhance public transportation.

In 2015, the transportation sector accounts for 39 percent of unincorporated Sacramento County's communitywide GHG emissions inventory as well as 55 percent of the 2015 County's internal operations inventory. Compact development clustered around transit lines can reduce per capita vehicles miles traveled by 20 to 40 percent, with other concurrent benefits including reduced congestion, parking costs, and traffic injuries and fatalities, as well as improved air quality and public health through reduction in cardio-respiratory diseases and chronic diseases related to obesity and inactivity.[26] As a low-carbon alternative to single-occupancy vehicles, SacRT's services are critical to reducing GHG emissions from transportation. Transit produces fewer GHG emissions to move a larger number of people, making it a more efficient and sustainable mode of transportation. One electric-powered light rail vehicle can take 100 vehicles off the road. A single

[21] Pub. Res. Code, §21159.28 (a).
[22] *East Sacramento Partnership for a Livable Community v. City of Sacramento* (Cal. App.3rd Dist. 2016) 5 Cal.App.5th 281, 297-298.
[23] 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy. SACOG. February 16, 2016. p. xxix.
[24] http://www.sacog.org/sites/main/files/file-attachments/master_takecharge_ii_12-21-16.pdf
[25] https://www.sacog.org/civic-lab-0
[26] Sacramento County Climate Action Plan Strategy and Framework Document. (link) November 9, 2011.

travel lane of private vehicle traffic on an urban street might move 600-1,600 people per hour, but a dedicated bus lane can carry up to 8,000 passengers per hour.[27] SacRT's fleet is comprised of 205 compressed natural gas-powered buses, which produce less toxic air pollutants as well as GHG emissions than diesel buses.

Local jurisdictions can influence improvements to transit services, infrastructure, and ridership through the adoption of a proactive, transit-supportive CAP, including measures such as transit subsides, transit-oriented development (TOD) goals, parking policies, and transportation demand management. A CAP can promote infill TOD adjacent to transit stops and the improvement of first- and last-mile[28] pedestrian and bicycle connectivity to expand access to transit. Transit, bike and pedestrian improvements not only help reduce GHG emissions, but also connect people to jobs and increase the property values of developments, homes, and businesses, stimulating local economic development.

As discussed earlier, State agencies are now looking to local plans for GHG emission reduction efforts as a qualifier for both transportation and housing funding. As a relatively low-density community, agencies and jurisdictions in Sacramento County must work together to develop strategies and adopt plans such as climate action plans in order to be competitive for such funding.

G. Adoption of a CAP could aid SMUD's efforts to reduce energy use and protect rate payers

The state has adopted a variety of approaches to help reduce greenhouse gas emissions from the electricity sector, with which SMUD and other utilities are expected to comply. For example, SB 350 (2015) increases the state's renewable portfolio standard target to 50 percent, requires a doubling of energy efficiency savings in electricity and natural gas end uses by 2030, and calls for increases in travel efficiency – including widespread transportation electrification. SMUD will be active in meeting SB 350 goals. SMUD's efforts would be aided through the adoption of a CAP which require or incentivize energy efficiency retrofits, water use efficiency retrofits, the adoption of building codes that exceed the CalGreen and California Building Energy Efficiency Standards, and efforts to reduce the urban heat island effect. In turn, SMUD programs, such as its energy efficiency financing program, could help support local jurisdictions in meeting their CAP targets in the building and energy sectors.

To support transportation electrification, SMUD is developing time-of-use electricity rates for vehicle charging, offering charging incentives for residential customers, deploying public fast chargers, piloting workplace and multi-family incentives for charging infrastructure, and developing outreach and education activities.[29] Requirements for EV charging in public parking lots and multi-family dwelling units would help support the continued electrification of transportation, while also helping to improve local air quality and public health. In short, a CAP could successfully complement SMUD's goals in helping local jurisdictions boost energy efficiency, save energy, and reduce expenses to ratepayers.

H. Adoption of a CAP could aid SMAQMD's clean air goals

[27] NACTO Transit Street Design Guide, 2016.
[28] The "last mile" challenge is the difficulty in making transit convenient when transit facilities are located a mile or more from a residence, business, or other destination.
[29] "SB 350 Transportation Electrification (Publicly Owned Utilities)," SMUD presentation for the California Energy Commission. October 6, 2016.

A robust, qualified CAP would assist with SMAQMD's mission to ensure clean air for all and help the Sacramento region attain and continue to meet federal clean air standards for ozone and particulate matter (PM). In particular, a CAP can help to encourage dense infill land uses that decrease emissions from transportation, reducing tailpipe emissions of PM and ozone precursors. Transportation is the most significant local source of air pollution and GHG emissions in the District's inventory. CAP strategies to support public transit networks, active transportation, and advanced and alternative fuel vehicles can help reduce emissions from vehicles, as well as reducing congestion and gridlock. Increasing the tree canopy, which sequesters carbon and helps to cool communities, also reduces ozone formation and air pollution. More energy efficient, weather-proof homes can help residents save money on winter heating and boilers, while reducing emissions from natural gas-powered heaters. As ozone formation increases with warmer temperatures, it will be especially critical to help reduce the urban heat island effect and reduce the emissions of VOCs and other ozone precursors.

I. Ancillary Benefits:

Many CAP measures offer substantial ancillary benefits that could support CAP adoption independent of the GHG benefits. In fact, according to the SEEC 2016 study, "local governments are succeeding by framing climate action in the context of other important community goals like public health and economic development."[30] For example, extreme and prolonged heat waves can put considerable strain on the reliability of energy delivery in peak periods, possibly leading to brownouts, blackouts, and other disruptions to electricity during times when cooling is most needed. This can harm public health, endanger lives, and disrupt economic activity, incurring costs related to lost output and wages, spoiled inventory, and the inconvenience and cost of restarting operations.[31] By increasing energy efficiency, such service disruptions are less likely and jurisdictions will be able to better cope with extreme heat and heat waves. In addition, establishing energy efficiency measures in disadvantaged and environmental justice communities will help meet both GHG goals and SB 1000 goals to advance the interests of these communities.

Adaptation planning in the CAP can help jurisdictions prepare for extreme weather and other natural disasters, minimize down time, and reduce costs for repairing infrastructure such as roads, bridges, levees, critical telecommunications equipment, and other resources that are critical to community and business recovery. Such interruptions can be significant. According to the Federal Emergency Management Agency, 40 percent of small businesses never reopen after a disaster.[32] Adaptation planning can help improve stormwater management reduce flooding, help residents avoid emergency room visits and hospitalizations through better heat-wave response strategies, support climate-healthy agriculture, conserve water, and more. With Sacramento County estimated to lose 4 percent of its gross economic output for every 1.8 degree Fahrenheit increase in temperature, advancing planning and preparation to mitigate the local impacts of climate change will be critical.[33]

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[30] *SEEC Study, supra,* at p. 8.
[31] Estimates for the economic value of electricity outages, known as value of lost load, average between $9,000 per megawatt-hour (MWh) to $45,000 per MWh. The cost is particularly high for small commercial and industrial businesses, which is estimated to be $35,417 per every megawatt-hour of electricity lost. London Economics International, "Estimating the Value of Lost Load," 2013 June 17.
[32] FEMA: https://www.fema.gov/protecting-your-businesses
[33] Hsiang, Kopp, Jina, Rising et al. "Estimating economic damage from climate change in the United States," Science, 30 June 2017. http://www.globalpolicy.science/econ-damage-climate-change-usa

Green building under a well developed and implemented CAP can help the community in a variety of ways, including:

- **Increased home values**: California homes labelled by Energy Star, LEED for Homes, and GreenPoint sell for 9% (+/- 4%) more than comparable, non-labelled homes, according to studies by UC Berkeley and UCLA.[34] In addition, values of homes located within a half mile of transit perform 42% better on average.[35]
- **Improved worker performance**: Workers in high-performing, green-certified offices scored 26% higher on cognitive function tests, had 30% fewer sick building syndrome symptoms, and had 6% higher sleep quality scores compared to workers in high-performing but non-labelled buildings.[36] Another study found reductions in absenteeism and improvements in productivity.[37]
- **More jobs**: Green construction is rapidly outpacing conventional construction. By 2018, the green sector will support more than 3.3 million jobs – more than one-third of the entire U.S. construction sector. And it will generate $190.3 billion in labor earnings.[38]

Energy efficiency retrofits can also help to create jobs locally. Statewide, California's energy efficiency and renewable energy policies have helped to create 1.5 million full-time jobs, as of 2008. This includes the multiplier effect of job creation, as businesses and residents are able to save energy costs and redirect expenditures towards employment-intensive goods and services.[39]

Public health can benefit substantially from a rigorous CAP. Increasing urban forestry can improve both air quality and mental health, lower the urban heat island effect, help foster neighborhood and social cohesion, decrease crime, and boost property values. Access to public transportation is linked to increased physical activity through walking or bicycling to a bus or light-rail stop: transit riders tend to walk 19 minutes a day, three times more than the average American.[40] Increasing bike paths, boosting neighborhood walkability, and supporting active transportation can help reduce obesity and chronic illnesses such as diabetes and heart disease.

Conclusion

SMAQMD coordinated the development of this paper with SACOG, SacRT, and SMUD to provide a comprehensive statement on the many benefits to be achieved through the adoption of well-crafted Climate Action Plans. We support the adoption of climate action plans as a proactive way to benefit all sectors of the community, and to that end, we will continue to provide technical assistance to our member jurisdictions with the development and implementation of qualified climate action plans.

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[34] Kok, Nils and Matthew Kahn. The Value of Green Labels in the California Housing Market. July 2012. p.5.
[35] The New Real Estate Mantra Location Near Public Transportation, The Center for Neighborhood Technology, March 2013.
[36] MacNaughton, Satish, Laurent, et al. "The Impact of Working in a Green Certified Building on Cognitive Function and Health," Building and Environment, March 2017. (link)
[37] https://hbr.org/2017/03/research-stale-office-air-is-making-you-less-productive
[38] 2015 Green Building Economic Impact Study. US Green Building Council.
[39] Roland-Holst, David. "Energy Efficiency, Innovation, and Job Creation in California." October 2008.
[40] Sacramento County's 2013 Design Guidelines, Appendix D: Active Design for a Healthy Sacramento County, p.6.