The Challenge of Equity in California's Municipal Climate Action Plans

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SUMMARY

In the face of intensifying environmental crisis, and the apparent failure of national politics to address it, municipal planning has become the leading frontier of climate change action. Though the United Nations put "equity" on equal footing with economy and ecology in laying out its "three pillars" of sustainability in 1987, incorporating social equity goals into sustainability planning has remained a challenge in urban practice. "Equity"—like sustainability itself—is an amorphous goal, and a large-scale problem not obviously solved through city-scaled planning efforts.

This report analyzes the inclusion and operationalization of "equity" in 170 California cities' and counties' Climate Action Plans (CAPs). California's municipal climate action planning landscape is unique for both its size and diversity, as aggressive statewide environmental legislation has put unique pressure on all cities—even (or especially) small and less well-resourced ones—to adopt climate/emissions plans. We conducted a content analysis of the plans, compared different cities' approaches to equity, and how cities' approaches relate to city characteristics such as size, social composition, and income inequality.

KEY TAKEAWAYS

"Equity" concerns are on the rise in municipal climate action planning.

Overall the incorporation of "equity" has little relationship to local needs.

However, equity language does correlate with policies such as affordable housing, job training, and food access not traditionally included in CAPs.

Planners and policymakers should incorporate local measures of social inequality in CAP planning and assessment.

Our findings include the following:

• We identified three distinct phases of CAP adoption in California. Early CAP adopters (2004-2008) tended to be progressive jurisdictions with a high rate of inclusion of social equity considerations. Mid-phase adopters (2009-2012) were more conservative overall, and fewer CAPs included equity language. The most recent phase of CAP adoption (2013-2016) has been marked by an increase in the inclusion of social equity considerations even as increasingly conservative cities adopt CAPs;

• We found little association between cities' existing forms of inequality and the inclusion or operationalization of "equity" goals in CAPs; and

• We found that while aesthetically "green" policy interventions, such as street trees and open space, were ubiquitous across plans, the rise in equity language has correlated with an increased presence of more systemic "gray" socioecological policy interventions, such as dense and/or affordable housing, in CAPs.

These findings suggest that while planners should do more work to assess and respond to local needs when formulating equity goals for CAPs, the increasing presence of equity language does present an opportunity to broaden the scope of climate action plans—traditionally focused on greenhouse gas emissions—to consider and address some socio-economic aspects of sustainability.

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[1] While we carried out this analysis with all 253 jurisdictional environmental/emissions plans listed by the Governor's Office of Planning and Research as addressing climate change in 2016 (http://www.opr.ca.gov/news/2016/03-17.html), the findings in this report are restricted to data derived from the 170 CAPs, 21 of which were county plans, and 149 of which were produced by cities.

I. THE RISE OF EQUITY-ORIENTED CLIMATE PLANNING IN CALIFORNIA CITIES

Municipal Climate Action Plans (CAPs) became common in the late 1990s and early 2000s, as cities began to publish these policy documents as a form of action on climate change, often with the support of nonprofits and inter-local networks such as ICLEI—Local Governments for Sustainability. While many cities across North America and the world have since produced environmental/emissions plans, in California, statewide environmental policy such as AB 32 (The Global Warming Solutions Act of 2006) and SB 375 (The Sustainable Communities and Climate Protection Act of 2008) were widely interpreted by cities as requiring CAPs and emissions reductions. As a result, an unusually large number of California cities, of widely varying population size, political composition, and demographic characteristics, have adopted CAPs. Climate Action Plans are strategic documents: programmatic statements that outline sometimes-ambitious emissions targets, with the goal of generating political pressure on higher tiers of government, that only sometimes translate into significant local action or emissions reductions (Millard-Ball 2012a, 2012b). As such, this report addresses only the stated priorities and agendas of CAPs, rather than separate questions of their funding and implementation, and treats the plans' relationship to local needs as an indicator of the meaningfulness and local relevance of the social policy and planning goals adopted.

Scholars have noted two major phases of CAP adoption in California (Allison et al. 2016; Bedsworth and Hanak 2013). The first phase occurred under Bush in the mid-2000s. During this time, cities that adopted CAPs were typically affluent, liberal, coastal, and relatively large. They included San Francisco (2004), Los Angeles (2007), and Palo Alto (2007). Some have argued that adoption during this time was spurred on by new state laws on Greenhouse Gas (GHG) Emissions, especially the passage of California Global Warming Solutions Act of 2006 (AB 32) (Bedsworth and Hanak 2013; Haden et al. 2013). A more important factor for early adopters, according to some, was membership in the International Council for Local Environmental Initiatives, now known as ICLEI – Local Governments for Sustainability (Kwon et al. 2014; Wang 2013). In California and elsewhere, the first generation of CAPs were financially bolstered by ICLEI's Cities for Climate Protection (CCP) campaign (1993), the Sierra Club's Cool Cities initiative (2000), and the U.S. Conference of Mayors' Climate Protection Agreement (2005) (Wheeler 2008).

The second phase of adoption, which coincided with Obama's first term in office, saw more conservative cities developing Climate Action Plans or related strategic documents. This was largely in response to increased state legislation, with the passing of SB 375 in 2008, as well as legal pressure from California's attorney general, Jerry Brown. In 2007, Brown began filing lawsuits against counties such as San Bernardino for ignoring GHG emissions (Hanak et al. 2008). The threat of legal action encouraged cities to adopt CAPs, even if incentives to implement them remained sparse (Allison et al. 2016).

In addition to the two phases of adoption already established in the literature, our analysis suggests a third phase of adoption which cities across the political spectrum adopt CAPs, and in which CAPs, traditionally focused on GHG emissions, increasingly include social equity concerns. Our conjecture is

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2 Formerly known as the International Council for Local Environmental Initiatives

that recent years have seen a more widespread adoption of CAPs in California as urban sustainability becomes policy commonsense (Rosol et al. 2017), as dedicated funding sources for municipal climate action increase (Mendez 2015), and as national efforts and international climate negotiations fail (Angelo and Wachsmuth forthcoming). The proliferation of municipal climate action has been supported by recent policy initiatives like the Rockefeller Foundation's 100 Resilient Cities (Spaans and Waterhout 2017) and the corporate-backed "California Climate Challenge" (Schmitz 2017). As the need for climate policy reaches a level of consensus within city planning, its adoption falls less and less along political party lines, with more conservative cities taking action (cf. Gillard 2016).

Our study confirms this policy history. Following the literature, we analyzed three periods of CAP adoption: 2004–2008, 2009–2012, and 2013–2016. The historical trajectory described above is evident in the changing political composition of cities across the three periods. From 2004–2008, a total of seven California cities adopted CAPs. Five of the seven are located in the Bay Area. In line with the literature, these early adopters tended to be progressive, affluent and all coastal, with the exception of Apple Valley, a town of near 70,000 at the southern edge of the Mojave Desert in San Bernardino County. In terms of 2016 numbers for registered voters, the cities are 56% Democrat and 13% Republican (Figure 1).
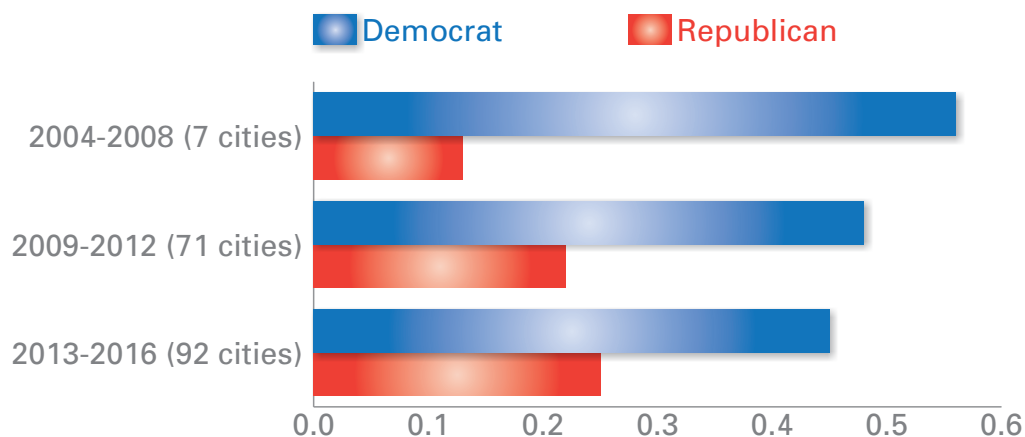

Figure 1. Voter Registration by Party for California Cities Adopting Climate Action Plans, 2016

The middle phase, from 2009–2012, saw a significant uptick in climate policy action with 71 cities adopting CAPs. This increase was perhaps, as mentioned above, due in part to the threat of legal action. Such pressure led to a wider spread of cities establishing plans. While these cities still tended to be progressive on the whole, they were less so than the early adopters, with 48% of residents registered as democrats and 22% registered as republicans.

The most recent phase, from 2013–2016, 92 California cities adopted CAPs. On average, this group was the least progressive in terms of voter preference, at 45% Democrat and 25% Republican. What distinguishes this phase from the one before it is the prevalence of "equity" in cities' CAPs. In the first

phase, as we might expect from progressive early adopters, 71% of cities included equity concerns in their CAPs. In the second phase, perhaps because the threat of lawsuits made CAPs more of a legal requirement, a box to be checked, the use of equity language decreased to 51%, present in only half of the plans. But in the third phase, while the rightward political trend continued, there was a resurgence of equity language, included in 68% of the plans (see Figure 2).

It is notable that the share of Climate Action Plans with equity language increased even as the rightward trend of increasingly conservative cities adopting CAPs continued. The group of cities that included equity language in the third phase did, on average, have a progressive voting population, but the share of right-leaning voters in cities adopting equity-oriented CAPs has increased with each phase. In the first phase of adoption, cities with equity in their plans had an overall registered voting population of 55% Democrat and 14% Republican. In the second phase, this ratio changed to 49% Democrat and 20% Republican. It has shifted to 45% Democrat and 25% Republican during the third phase.
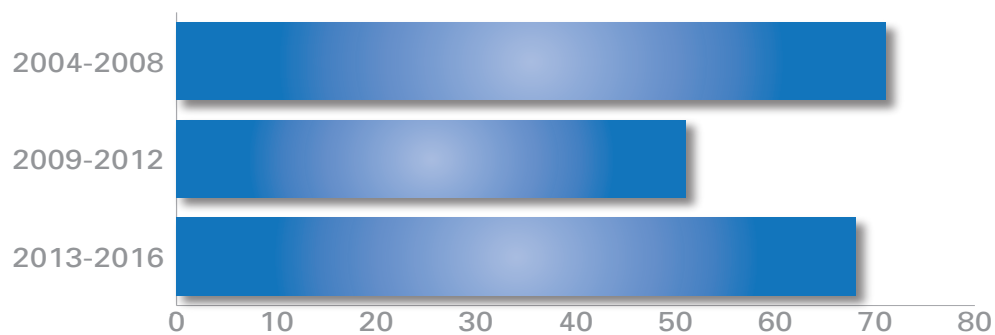

Figure 2. Share of California Climate Action Plans with Equity Language

What explains the increasing inclusion of equity concerns in climate action planning in California cities across the political spectrum? Rather than a result of state policy efforts, we suspect the third phase of CAP adoption in California reflects more widespread trends. Equity has long been "the most ill understood and ill-defined" of the three pillars of sustainability (Opp and Saunders 2013, 681). But as scholars, practitioners, and social justice movements increasingly document, the desirability of investments in "sustainability" in urban neighborhoods—such as efficient housing, walkability, green infrastructure, and public transit—tends to increase property values, displace poor residents, and threatens to turn "sustainable" neighborhoods into "green bubbles for rich people" (Angotti 2012, cited in Campbell 2013), often undermining ecological goals in the process (Chapple 2014; Wachsmuth et al. 2016).

Perhaps in response to such outcomes, growing importance is being placed on addressing equity and equality in climate action, internationally (Reckien et al. 2017), within the US (Zapata and Bates 2015), and especially in California (Benner and Pastor 2015, 2011; Frick et al. 2015). Nationally, several large, progressive cities—"early adopters" in the first generation of urban climate planning—have made social equity a cornerstone of a second generation of urban sustainability plans. New York City's PlaNYC (adopted in 2007, promising a "Greener, Greater New York"), was updated in 2015 to #OneNYC (now "New York City's plan to become the most resilient, equitable, and sustainable city in the world"). In California, Los Angeles's 2007 Green LA action plan has been replaced by a 2015 Climate 'pLAn' with an explicit emphasis on social equity and environmental justice. San Diego's 2005 Climate Action Plan was

replaced in 2015 with a plan that includes a chapter dedicated to social equity. Oakland's 2017 update of its 2012 Energy and Climate Action Plan was more explicit about addressing social equity as part of environmental policy action, and is currently drafting a 2030 Equitable Climate Action Plan (ECAP).

In our sample, more recent CAPs were far more likely to include equity components. While the first phase of adoption had 5 cities with equity in their plans, the second had 36, and the third and most recent had 63. This pattern suggests that more progressive cities in California have been revising and expanding the equity components of their CAPs, and that relatively less progressive cities adopting CAPs for the first time are now more likely to include equity considerations.

II. FACTORS INFLUENCING EQUITY INCLUSION: VOTER PREFERENCE, POPULATION SIZE, YEAR OF ADOPTION

Beyond year of adoption, what drives a city to incorporate social equity in their plans? Of the 170 Climate Action Plans in our sample, 104 included language about social equity while 66 did not. While one might assume that equity inclusion or non-inclusion would be products of state legislation, or associated with actual forms of inequality in these cities—as measured by city characteristics such as population size, ethnic/racial and immigrant composition, employment characteristics, and levels of income inequality—we found little correlation between such factors. Instead, inclusion or non-inclusion of equity was associated with the same demographic characteristics that have been found to affect the adoption of CAPs themselves: larger, more progressive cities—with higher numbers of registered Democrats and residents with more years of education—were still more likely to include social equity in their CAPs.

Put differently, policies expected to encourage sensitivity to equity concerns were less influential than the same demographic factors that influenced the creation of the plans, which in California include voter preference and population size (see Wang 2013, 2012; Bedsworth and Hanak 2013; Krause 2011; Hanak et al. 2008). It is important to note that while, as we showed above, cities with larger shares of Republican voters are adopting CAPs that include social equity language and/or policies, these are still overall majority Democratic cities.

Surprisingly, cities and counties experiencing more pressing forms of social inequality were no more likely to adopt comprehensive plans addressing these issues. Social inequality was measured in our data set by the following factors in the UC Davis Center for Regional Change's Regional Opportunity Index (ROI) related to the assets of a given community's "people" or "place": housing opportunity and adequacy (of a given location), health/environmental opportunity (of a given population), employment rate, and job availability and quality. It turned out that all of these factors showed lower levels of inequity in cities with equity in their plans than those without it. Other ROI scores related to inequity were nearly identical between cities with and without equity in their plans. These included economic opportunity (of a given location and its population), housing cost burden, infant health, education opportunity (of a given location), and housing opportunity (of a given location). None of these ROI scores suggested that cities with equity issues were any more likely to adopt equity language. We tested this further in a regression model, where we found that the dependent variables that we used as indicators of likely social equity issues, such as percent Black, percent college educated, percentage of home ownership, and percent Hispanic, were also not significant predictors of equity inclusion.

Nor does equity inclusion seem to be influenced by major environmental policies, as some had hoped. State laws like AB 32 and SB 375 are often assumed to influence municipal climate plan adoption in California (see Bedsworth & Hanak 2013; Haden et al. 2013). Scholars and environmental justice advocates were optimistic that legislation such as SB 375, the Sustainable Communities and Climate

Protection Act, which aimed to lower carbon emissions by reducing sprawl—helping people live closer to their place of work and improving public transit—and which required a "sustainable communities strategy," (SCS) would target lower-income communities. In 2009, the San Francisco Bay area's Urban Habitat Transportation Program Director Bob Allen hoped, for example, that "SB375 could give us an opportunity to use the SCS to advance not only sustainability but also social equity by prioritizing investment in high-quality, adequately funded bus systems" (Urban Habitat 2009; see also Marcantonio and Karner 2014; Benner and Pastor 2011).

In our sample, 91% of the CAPs cited AB 32 and 74% cited SB 375. But this influence does not appear to have played out as progressive advocates had hoped. Others scholars have found little evidence that state policies have impacted local-level climate planning in California (see Boswell and Mason 2018). We also found little association between the citation of legislative acts like AB 32 and SB 375 in CAPs and the inclusion of social equity concerns. Put differently, the fact that CAPs without equity reference these policies nearly the same amount (88% citing AB 32, 64% citing SB 375) as CAPs with equity (93% citing AB 32, 80% citing SB 375), suggests that such policies have not significantly influenced equity inclusion.

Population size, on the other hand, influenced not only whether a city was likely to adopt climate plans, as recent studies of California policy have shown, but also whether these plans were likely to include equity components. In our sample, cities with equity in their plans tended to be larger, with an average population of 124,000, and more racially diverse (45% White, 5% Black, 32% Hispanic, 14% Asian). The average population of cities without equity was smaller, at 77,000, and somewhat less racially diverse (54% White, 4% Black, 27% Hispanic, 12% Asian). Within the non-equity set, the ten wealthiest cities (in terms of percent of population earning above a minimum basic income) and the ten least affordable (in terms of housing cost burden) had even smaller average populations: 34,000 and 49,000 respectively. In other words, to the extent that equity in CAPs had any discernable relationship to existing inequalities, it was the fact that it tended to be present in large cities where discrepancies between rich and poor are highest, such as San Francisco, while smaller, more uniformly wealthy enclaves were less likely to include social equity in their plans. Put differently, CAPs with an equity component tended to be sensitive to inequalities within rather than across cities. This may help explain why larger cities with greater income diversity would be more likely to include equity considerations than smaller, wealthy enclaves.

The three factors we found to influence equity inclusion—voter preference, population size, and year of adoption—were supported by our regression analysis. All three variables' influence on equity content was statistically significant while—as mentioned above—other factors such as percent Black, percent Hispanic, percent college educated, and rate of home ownership were not.

III. DEFINING EQUITY: GREEN AND GRAY PATTERNS OF INCLUSION

One challenge of incorporating equity into urban sustainability planning—as in urban planning more generally—is that even when cities and counties do include social equity in their plans, it is not clear how these priorities should be defined or operationalized (Russo 2016; Gough 2015; Schrock 2015; Agyeman 2008). "There is no clear consensus on what equity actually means" in urban climate planning (Finn and McCormick 2011, 400), while equity and ecological goals are often conflated (Ikeme 2003) or seen as "competing urgencies" (Campbell 2013; see also Klingsky 2017; Agyeman et al. 2002; Giddings et al. 2002). Perhaps due to this conceptual murkiness, studies suggest that equity concerns in urban climate planning tend to remain at a rhetorical level, rarely acted upon (Finn and McCormick 2011; Pearsall and Pierce 2010; Saha and Paterson 2008).

To learn how social equity goals were put into practice, in addition to coding for the use of words such as "equity" or "environmental justice" in the plans' problem statements and self-described agendas, we also coded for "social solutions" in the plans more generally: recommendations that were explicitly oriented toward "social" (rather than exclusively environmental or economic) outcomes. Our analysis identified 11 common "solutions" or policy agendas for dealing with climate change as a social problem (Figure 3).
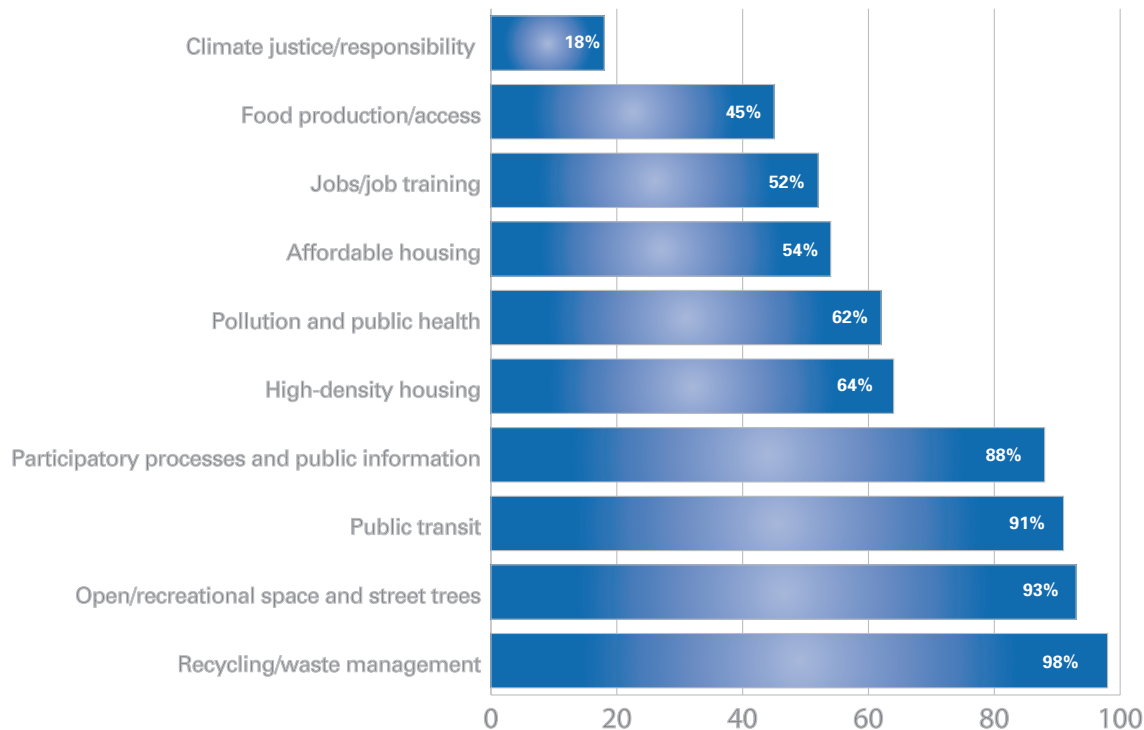

Figure 3. "Social Solutions" within California Climate Action Plans

While all of these solutions were associated with equity outcomes in Climate Action Plans, and while for nearly every solution category there was a greater share of plans with equity than those without, the inclusion of these types of "social" solutions looked very different for cities and counties that did and did not address equity. Within this typology, some policy items were nearly ubiquitous—included in almost all of CAPs—while others were noticeably more tightly linked to social equity concerns. Ubiquitous solutions included recycling and waste management, open/recreational green space, public transit, and participatory processes and public information, while CAPs explicitly discussing social equity as part of their framing goals were much more likely to include a subset of these "social solutions"—participatory processes and public information, pollution and public health, high density and affordable housing, jobs and job training, and food production and access—than those without (Figure 4).
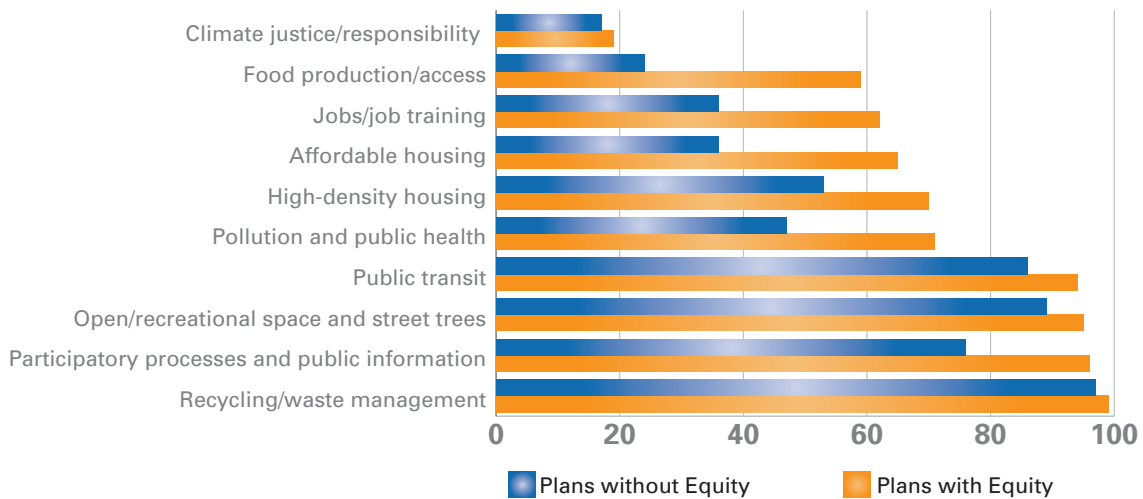

Figure 4. "Social Solutions" in CAPs with and without Equity Components

While all of these "social solutions" are intended to have ecological impacts, they are of two distinct kinds: aesthetically "green" policy interventions, often targeting neighborhood quality of life, such as street trees and open space, and "gray," often more systemic policy interventions related to the built environment, and that are less obviously legible as related to environmental goals (Wachsmuth and Angelo 2018). The social solutions that had a strong or robust relationship with equity—those that were present in more than half of the plans with equity but relatively less common in those without—tended to be "gray" interventions. In our sample these included traditional environmental justice issues of pollution and public health as well as housing density and affordability, job training, and food access. Within our dataset, 65% of plans with equity included affordable housing solutions, while 70% included high-density housing solutions. In contrast, only 36% of plans without equity contained affordable housing solutions, and 53% contained high-density housing solutions. In other words, these solutions had a "robust" relationship to equity: they were far more likely to be discussed in plans with equity, and absent from plans without it.

If "gray" housing solutions are emblematic of robust engagement with social equity, traditionally "green" solutions such as "recycling/waste management" and "open/recreational space and street trees" were noticeably less tightly linked to social equity concerns. Unlike housing, these policy agendas were equally common in Climate Action Plans regardless of whether or not they engage with social equity concerns, perhaps reflecting the general public consensus regarding the social value of urban green space as opposed to often more politically fraught planning agendas, such as affordable housing. We believe that the presence of waste management solutions across types of plans reflects a similar privileging of green—and clean—urban space. San Francisco's CAP, for example, discusses waste management in terms of recycling and composting, which are highlighted as important for soil nutrient cycles and forest conservation. Such sustainability policies tend to place responsibility in the individual decisions of consumers and businesses to purchase and dispose differently, rather than more complex "gray" interventions addressing and attempting to transform underlying urban infrastructures related to residential, transportation, and employment patterns. In terms of how sustainability is framed and realized in policy action, these findings suggest that equity tends to be invoked when "gray"—rather than "green"—strategies of climate action are on the table. Thus, it is possible that the language of "equity" is providing planners an opportunity to introduce more systemic social planning agendas, such as affordable housing, into urban sustainability planning.

One interesting observation was the presence of "participatory processes and public information," a social solution that is neither gray nor green, but was included in 76% of plans without equity and 96% of plans with it. This is not surprising, as citizen participation has become a popular strategy in contemporary urban governance (Peck and Theodore 2016; Fung 2015; Baiocchi and Ganuza 2014), but its popularity in urban climate policy suggests that CAPs incorporating social equity may be borrowing models from other policy and planning areas rather than having specific climate or emissions-related reasons for each element's inclusion.

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[3] A regression analysis establishes that there is an inverse relationship between CAPs that include these types of solutions and CAPs that include equity language.

CONCLUSIONS AND NEXT STEPS

More cities, and more conservative cities, have begun adopting CAPs in recent years, and equity language in CAPs is on the rise. The fact that equity language in CAPs correlates with more systemic socioecological "gray" policy interventions—such as dense and/or affordable housing—suggests that the equity trend in municipal climate action planning is not all talk. However, equity concerns are still more commonly operationalized through aesthetically "green" policy interventions targeting quality of life improvements such as improving access to open space, and in the majority of cases the inclusion and operationalization of equity has little relationship to existing inequalities in specific cities. These findings suggest that while equity language is becoming more widespread in CAPs, it is possible that it is being incorporated as more of a boilerplate "deliverable" than a framework being used to address specific local problems. Especially in the most recent phase of CAP adoption, as equity is being cited by more conservative-leaning cities as an ostensible goal, it is most often acted upon through means such as recycling and green space, without having to touch potentially sensitive policy issues such as affordable housing.

More research would be required to explain why equity language is increasing in the plans even if it sometimes appears hollow. One likely explanation is the increasing use of private consultants and resulting standardization among CAPs. While consultants were hired in 42% of "early" CAPs (2004–2008), they were later used in 64% of "middle" period CAPs (2009–2012) and in 70% of more recent CAPs (2013–2016)—with CAPs developed by the same consultants often using the same basic template. The use of such templates offers one possible explanation for why the equity content of CAPs often has little do with the inequities of specific cities. It might also be the case that equity language is part of a larger urban branding strategy related to urban sustainability (Greenberg 2015). It has been suggested that CAPs in California may serve as marketing tools for cities, or simply reflect existing preferences rather than having any causal impact on climate planning (Millard-Ball 2012a, 2012b). The inclusion of equity in CAPs may have similar motivations and similarly limited effects.

In addition, confirming the hypothesis that there is a difference between cities substantively incorporating equity concerns and those just giving lip service to these goals requires research beyond the CAPs themselves. The mere presence of equity language cannot, in most cases, tell us why such goals have been included, or whether and how they will be acted upon. One area for future research is to conduct in-depth case studies in select cities, to better assess the effects of CAPs, regardless of their language, in addressing actually existing social inequalities. For these researchers, data collection methods may include interviews with key policymakers about the plans' development and implementation; analysis of relevant policy documents and newspaper articles surrounding their launch and reception; and perhaps ethnographic studies of CAPs' target communities and/or longitudinal analyses of how equity measures are (or are not) put into practice. The first step in this direction is a planned cluster analysis that will empirically establish the existence of distinct city/CAP types from which case study cities will be chosen.

In the meantime, our findings have several implications for urban planning, policy, and advocacy. For

advocates, the increasing presence of equity language in municipal climate action planning presents a clear opportunity to foreground the ecological implications of social inequality (such as longer commutes, energy inefficiency in sub-par housing, etc.), and, conversely, to emphasize the ecological benefits of fully incorporating social equity as a goal in urban sustainability planning. The disjuncture between local needs and the operationalization of equity in most city's plans, however, points to the importance of assessing local needs prior to planning, and to tailoring "social solutions" to local contexts. There is no "one size fits all" solution to local social inequalities; our findings suggest that as cities increasingly hire consultants or turn to publically available resources for the production of CAPs, the temptation to simply import boilerplate solutions should be resisted. Finally, planners and policymakers should also have an eye to "gray" as well as "green" socioecological solutions. While green amenities such as street trees and open space are beneficial to urban residents and often unequally distributed, "gray," systemic, solutions relating to the built environment have the potential to address specific local challenges relating to housing, transportation, and employment, and have significant environmental impacts. In spite of the obvious challenges and limitations of attempting to reduce emissions or inequality at the urban scale (Wachsmuth et al. 2016), the mismatch between types of equity inclusion and local needs does offer some openings for future statewide legislation: to offer funding or enforcement mechanisms for local needs assessments prior to CAP development, and/or to include metrics for addressing the projected effects of climate planning on local inequalities as well as GHG emissions.

Acknowledgements

Bios

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Appendix I: Sampling and Coding Procedures

Data Collection and Sample:

We collected 253 plans from the The Governor's Office of Planning and Research (OPR) California Jurisdictions Addressing Climate Change list. These plans included GHG Emission Reduction Plans, Vulnerability Assessments, Energy Action Plans, Adaptation or Resilience Plans, Sustainability Plans, General Plan Policy, Local Coastal Programs, and Climate Action Plans from counties, cities, and towns. All plans were coded, however the data compiled in this report includes only those 170 plans that were deemed "Climate Action Plans" by the OPR at the city and county levels. At times these were "Climate Change Elements" of General Plans.

Period of Study:

The list compiled by the OPR was published in March of 2016 and we began coding the plans in July of 2016. The first round of coding concluded in April of 2017 and the second round spanned from July to August of 2018. Intercoder reliability and data analysis were conducted from August 2018 to July of 2019.

Coding Procedure:

Coding was conducted by a total of three coders, all at the University of California Santa Cruz. All coding occurred under supervision and in close cooperation with the principal investigator. Coding was conducted using an online qualitative data management tool (Dedoose) accessible to all three coders, where all data was stored in an online database. Two rounds of intercoder reliability tests were conducted with satisfactory results.

Inductive Code Development:

Following an initial survey of a subset of the plans, the meta-codes of "Social Solutions" and "Equity" were developed in meetings as the most relevant themes for an analysis of equity in climate planning. The sub-codes within each category (e.g., "Social solutions" taking the form of participation, affordable housing, etc.) emerged inductively through the coding process. The plans were also coded for a range of other factors of interest (e.g., policy influences, regional planning, hired consultant, socio-environmental threats, etc.). However, the only data presented in this report are the "Social Solutions" sub-codes, "Equity," and "Hired Consultant."

Data Analysis:

The analysis of the data was conducted through cross-referencing our data with that of the Regional Opportunity Index (ROI) developed by University of California Davis' Center for Regional Change. The ROI dataset is available here: https://interact.regionalchange.ucdavis.edu/roi/index.html.

Code Descriptions

Equity: appearance of actual word, as well as mentioning vulnerable populations, low income or underrepresented communities, minorities, seniors, youth, homeless, geographic and racial disparities, people with disabilities, disadvantaged groups, communities of color, non-English speaking communities, awareness of gentrification and displacement, environmental justice, etc.

Affordable housing: mentions affordable housing, low and very low-income housing, or below market-rate housing as a social solution to climate planning

Climate justice / responsibility: mentions local governments' responsibility to act on climate change/ global issues, historical and/or local inequalities as motivation to act on climate change, recognizes consumption/ecological footprint differentials currently and/or historically, locally and/or globally

High-density / infill development: mentions infill, high-density, pedestrian friendly mixed-use, transit oriented development

Public transit: mentions of transportation being part of climate-aware planning. This includes simple recognition that transportation is vital to sustainable development, specific public transit plans, already-in-progress projects, possible funding sources, regional planning institutions, public transit, buses, bike lanes, walkways, transit corridors, all alternatives to driving, etc.

Job / job training: mentions jobs are part of planning such as, job/housing balance, growth or decline of jobs, job training programs, green jobs, etc.

Open / recreational space and street trees: mention of open and recreational space, shade and street trees, urban forests, parks, green ways, natural spaces, carbon storage/offset, preserve/care for local environment such as rivers, landscapes, etc.

Participatory process and public information: mentions various forms of public outreach, information, education, and participatory planning processes including language access, and participation of civic groups and local nonprofits

Pollution / public health: mentions public health concerns related to climate change such as, air quality, heat waves, flooding in terms of impacted populations, urban food production, emergency assistance/ preparation programs, cooling/warming centers, pollution clean-up

Recycling / waste management: mentions recycling/waste management (e.g., history of sustainable waste management/recycling, waste reduction/recycling education, zero-waste strategies, waste reduction targets, waste diversion and water conservation, composting programs, current systems, future technologies)

Food production / access: mention (e.g., objectives, benefits of, actions, encouraging) of local food production and education, connecting retailers with local sources, recognition of food production/ consumption as important source of GHG emissions, farmers' markets, urban gardens, local food, etc.

Appendix II: Cities, Plans, Codes

Below is a list of the 170 cities listed by OPR as "Climate Action Plans" at city or county levels as of March 2016, and whether the plan was coded as addressing equity or not, based on the definitions we developed. We are still refining the equity definitions and typology of corresponding policy interventions, and so invite comments and questions regarding the coding of specific cities' plans. Please address any queries to hangelo@ucsc.edu.

CITIES AND COUNTIES WITH EQUITY

Alameda	Fullerton	San Leandro
Alameda County	Goleta	San Luis Obispo
Albany	Gonzales	San Marcos
Antioch	Hughson	San Mateo
Apple Valley	Humboldt County	San Mateo County
Arroyo Grande	Inglewood	San Pablo
Atascadero	La Mesa	San Rafael
Avenal	Laguna Woods	Santa Ana
Bellflower	Lake Elsinore	Santa Barbara
Berkeley	Livermore	Santa Barbara County
Blue Lake	Lodi	Santa Cruz
Brawley	Los Altos	Santa Cruz County
Brisbane	Los Angeles	Santa Rosa
Burlingame	Los Angeles County	Solano County
Butte County	Madera	Sonoma County
Calexico	Manteca	South San Francisco
Calistoga	Marin County	Stockton
Capitola	Mill Valley	Sunnyvale
Carlsbad	Monterey	Sutter
Chico	Moraga	Tulare
Chino	Morro Bay	Tulare County
Coachella	Murrieta	Ukiah
Colma	Oakland	Union City
Colton	Ontario	Vallejo
Concord	Oroville	Ventura County
Contra Costa County	Pacifica	Victorville
Cupertino	Paso Robles	Visalia
Davis	Pleasanton	Walnut Creek
East Palo Alto	Redwood City	West Sacramento
El Cerrito	Richmond	Woodland
Elk Grove	Riverside County	Woodside
Emeryville	Sacramento County	Yolo County
Encinitas	San Bruno	
Escondido	San Carlos	
Foster City	San Diego	
Fremont	San Francisco	

CITIES AND COUNTIES WITHOUT EQUITY

American Canyon
Anderson
Arcadia
Atherton
Beaumont
Belvedere
Benicia
Blythe
Bradbury
Cathedral City
Corona
Daly City
Del Mar
Desert Hot Springs
Dublin
Fairfax
Fontana
Fort Bragg
Gardena
Grover Beach
Hanford
Hermosa Beach
Hesperia
Hillsborough
Indian Wells
La Habra
Laguna Beach
Larkspur
Manhattan Beach
Martinez
Menlo Park
Merced
Mission Viejo
Monterey County
Monterey Park
Moreno Valley
Mountain View
Napa County
National City
Newark
Novato
Oakdale
Palm Springs

Palo Alto
Perris
Piedmont
Pismo Beach
Redding
Reedley
Riverside
Rolling Hills Estates
Ross
San Anselmo
San Clemente
San Diego County
San Ramon
Santa Clarita
Santa Monica
Shasta County
Shasta Lake
St. Helena
Tiburon
Trinidad
Vista
West Hollywood
Yountville

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