

2019 Report on the State of Climate Action Plans in California

FINAL REPORT

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California Climate Action Plan Database

This report is based on data from the California Climate Action Plan Database (CAP database). The CAP database is maintained by Dr. Michael R. Boswell and Dr. Adrienne I. Greve of the City & Regional Planning Department at California Polytechnic State University in San Luis Obispo. The database is regularly updated to show climate action planning progress in California cities and counties. The database includes data from climate action plans including greenhouse gas (GHG) emissions data. GHG emissions data includes community-wide emissions as well as municipal emissions, when available.

The CAP database uses the following criteria for designating whether a city or county policy document is a climate action plan:

- Must be based on a greenhouse gas (GHG) emissions inventory
- Must address community-wide emissions, not just municipal emissions
- Must primarily address issues of climate change (may address other areas of sustainability/environment but these must be secondary)
- Should be structured as a plan with standard introductory, background, and policy-type sections
- The title of the plan does not have to include "climate action" or direct reference to climate change.

CAP Status

The CAP database uses the following designations for the status of a plan:

- **Complete** - adopted or accepted by final review body (e.g. city council), or no indication of "draft" status
- **In Progress** - indication of progress towards a draft (e.g. work plan released, public workshops, etc.)
- **Draft** - draft published for public review
- **Unknown** - no information on a CAP was found

Figure 1 - 2019 Summary of Climate Action Plans in California

2019 Summary of Climate Action Plans (CAP) in California

GHG Emissions per capita (mtCO²e)

Cities average: 8.9
City median: 7.6

County average: 12.1
County median: 3.5

283,074,447
mtCO²e

Total Emissions
Accounted For in the CAP
Database

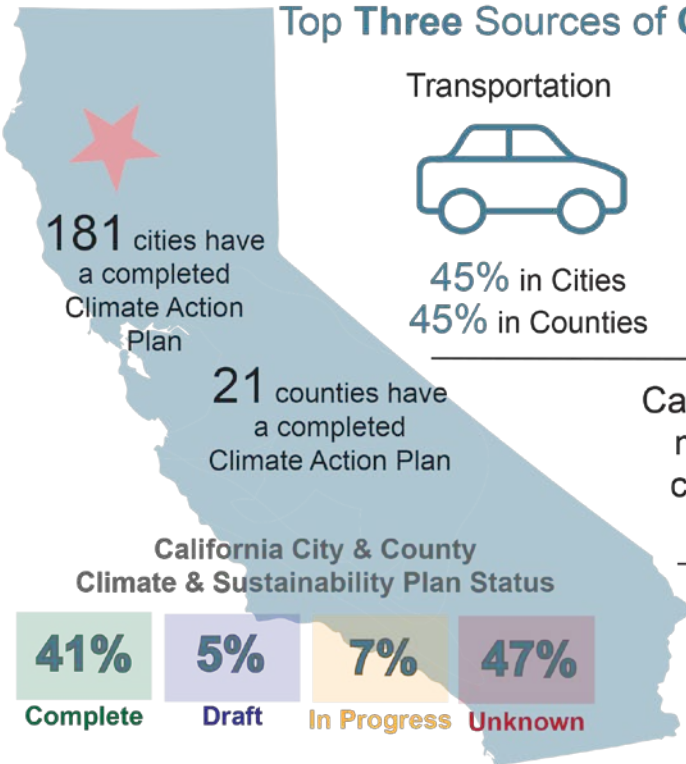


64% of Californians live in a city with an **approved or adapted climate action plan**

27% of Californians live in a city with **no known climate plan** underway

Graphic by: iconicbestiary

Top Three Sources of Community-Wide Emissions



Transportation



45% in Cities
45% in Counties

Commercial & Industrial



23% in Cities
18% in Counties

Residential



23% in Cities
17% in Counties

California's **four largest cities** make-up **40%** of all known community-wide emissions

California's smaller cities (population under 50,000) have the most incomplete or unknown CAP statuses

2019 Summary of Climate Action Plans in California

This is a more detailed description of the information provided in the preceding infographic. The data is from the California Climate Action Plan Database which includes all cities and counties that have an identifiable plan for addressing climate change.

For California cities and counties:

- 41% have a completed, approved or adopted climate action plan,
- 5% have drafted, but not completed, a climate action plan,
- 7% are in progress on a climate action plan, and
- 47% have no known or identifiable climate action plan.

Of California's 482 cities, 181 have completed climate action plans.

Of California's 58 counties, 21 have completed climate action plans.

64% of California city residents live in city with an approved or adopted climate action plan, whereas 27% have no know plan underway.

These plans account of 283,074,477 mtCO₂e of community-wide emissions, or 63% of total 2010 GHG emissions in California.

California's four largest cities account for 40% of all community-wide emissions. These cities account for 17.5% of the state population.

California's smaller cities (population under 50,0000) are least likely to have completed a plan.

Per capita emissions for cities average 8.9 mtCO₂e with a median of 7.6 mtCO₂e.

Per capita emissions for counties average 12.1 mtCO₂e with a median of 3.5 mtCO₂e.

The top three categories for community-wide emissions are:

- Transportation (45% of total emissions for cities and 45% for counties)
- Commercial & Industrial (23% of total emissions for cities and 18% for counties)
- Residential (23% of total emissions for cities and 17% for counties)

All climate action plans in the database were prepared or updated after 2006, though some first-round plans preceded this date. The year 2013 had the highest number of completed plans.

Introduction

California cities and counties continue to demonstrate state, national, and international leadership in addressing climate change. This report documents the status of climate action planning in California communities as of 2018 as specifically documented in climate action plans (CAP). CAPs are not required in California, but various state laws incentivize their use.

Of California's 482 cities, 181 have CAPs and of the 58 counties, 21 have CAPs. This covers 64% of the population of California. These CAPs account for 283 million metric tons of CO₂e, or about 63% of California's total 2010 emissions. Closely mirroring the overall state greenhouse gas (GHG) emissions sectors, the distribution of GHGs in cities (counties) is 45% (45%) in transportation, 23% (18%) in commercial and industrial, and 23% (17%) in residential, with the remainder in other sectors such as water, waste, and agriculture.

California cities account for an average of 7.6 metric tons (mt) of GHG emissions per capita, which is well below the state average of about 11 mt per capita. This suggests that lower emissions cities have been more inclined to engage in climate action planning and may already have had success in lowering emissions. It is also the case that whereas most large California cities—14 of the largest 20—have a CAP completed or in progress, cities under 50,000 population are least likely to have a CAP.

The first community in California to complete a CAP was Chula Vista in 2000. Several other communities followed but it wasn't until 2009 that climate action planning in California began to accelerate. The peak was in 2013 at over 30 plans completed but has significantly fallen off in the last few years. In fact, only eight plans were completed in 2017 and 2018 suggesting that the state has reached a saturation point and few additional communities will be completing CAPs without state intervention. Many of the early adopter communities are now updating their plans.



Figure 2 - Image of Pepperdine University. Image Source: Madilyn Jacobsen

Regulatory Context

Senate Bill 1078 (2002) required that 20% of electricity retail sales be served by renewable energy sources by 2010.

Assembly Bill 1493 (2002) directed CARB to establish regulations to reduce GHG emissions from passenger vehicles, the first set of approved regulations took effect in 2009.

Executive Order S-3-05 (2005) served as a catalyst for climate policy in California and required state-wide GHG reduction targets to 80% below 1990 levels by 2050.

Assembly Bill 32 (2006) required the State to reduce GHG emissions to 1990 levels by 2020, and directed CARB to develop and implement a scoping plan and regulations to meet the 2020 target. Through AB 32, California became the first state in the U.S. to mandate GHG emission reductions across all industries.

Executive Order S-1-07 (2007) established a state-wide goal that requires fuel providers to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Senate Bill 97 (2007) acknowledged that climate change is an environmental issue that requires analysis in CEQA documents and amended CEQA guidelines were adopted in 2010 for the feasible mitigation of GHG emissions.

Senate Bill 375 (2008) established regional GHG emission reduction targets for passenger vehicle use. Through SB 375, CARB established targets for 2020 and 2035 for each region covered by one of the metropolitan planning organizations, requiring regional assemblage of sustainable community strategies (SCS) as a component of its regional transportation plan.

California Green Building Code (CALGreen) (2009) is the first statewide "green" building code in the US, intended to improve public health, safety, and general welfare by enhancing the design and construction of buildings.

Senate Bill X7-7 (2009) requires all water suppliers to increase water use efficiency, with an overall goal of reducing per capita urban water use by 20 percent by 2020.

Senate Bill 2X (2011) requires California energy providers to buy (or generate) 33 percent of their electricity from renewable energy sources by 2020.

Assembly Bill 341 (2012) directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling, and set forth a state-wide goal of 75 percent waste diversion by the year 2020.

2013 and 2017 Scoping Plans (2014 and 2018) updated the original AB 32 Scoping Plan that defines CARB's climate change priorities and sets the groundwork to reach the post-2020 targets set forth in EO S-3-05.

Senate Bill 350 (2015) aims to increase the procurement of electricity from renewable sources from 33 percent in 2020 to 50 percent by 2030, and to double the energy efficiency savings of electricity and natural gas end users through energy efficiency and conservation.

Executive Order B-30-15 (2015) established an interim GHG emissions reduction target to reduce emissions to 40 percent below 1990 levels by 2030 and required an update to the Scoping Plan.

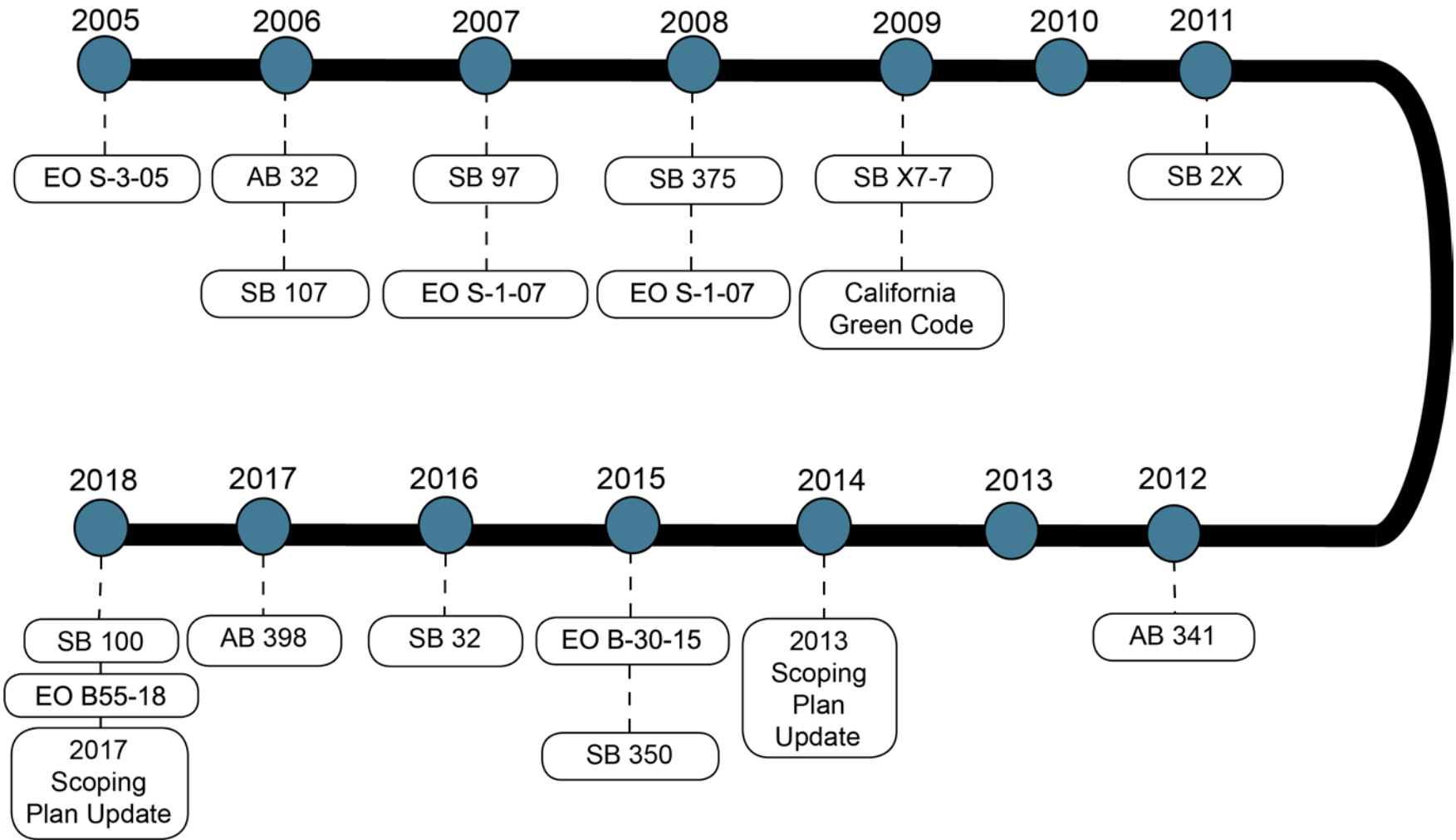
Senate Bill 32 (2016) required CARB to develop technologically feasible and cost-effective regulations to achieve the target of 40 percent below 1990 GHG emission levels by 2030, reflected in the December 2017 update to the Scoping Plan.

AB 398 (2017) extends a system of market-based declining annual aggregate emissions limits for sources or categories of sources that emit greenhouse gases (cap-and-trade).

Executive Order B55-18 (2018) establishes a new statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045.

SB 100 (2018) set California on a path to 100% renewable energy by 2045.

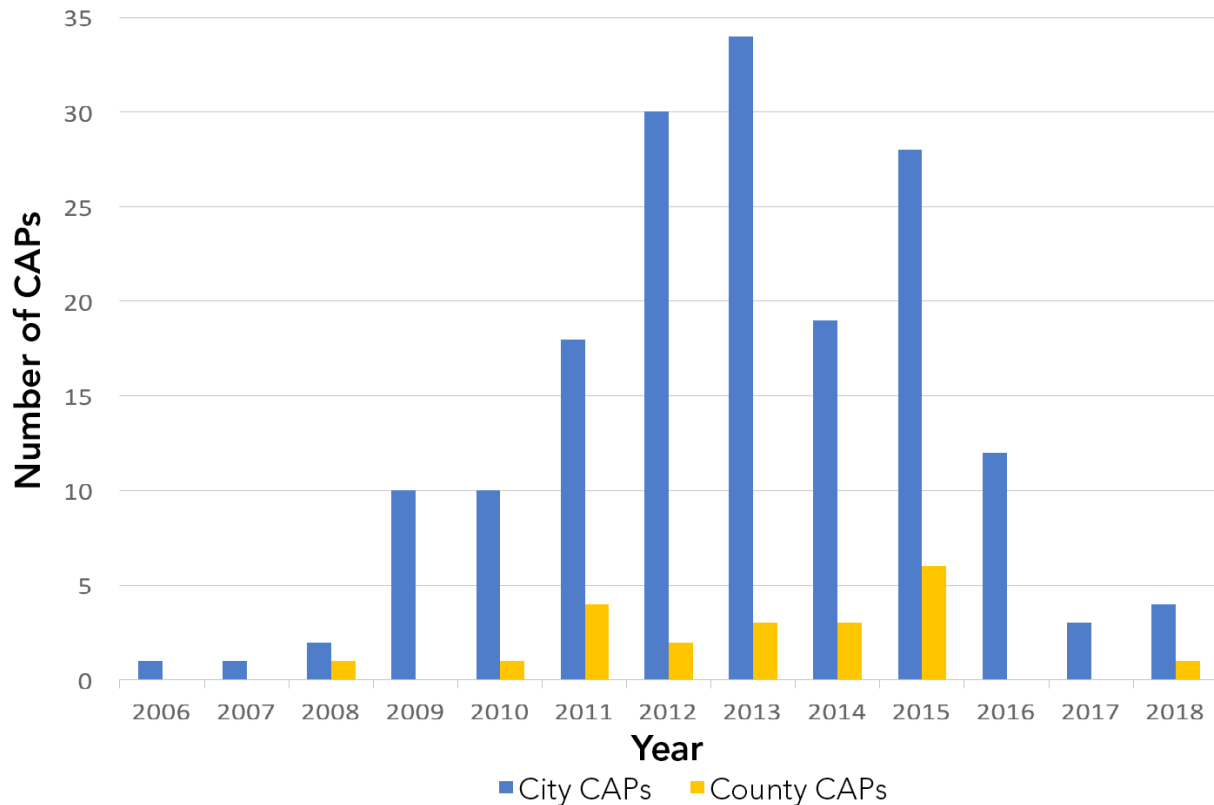
Figure 3 - Regulatory Context Timeline



Timeline of CAP Adoption

While climate action planning has taken place prior to the year 2006, all current CAPs are from the year 2006 or later (see Figure 2). The year with the highest number of developed CAPs was 2013 for cities (34 CAPs), and 2015 for county-wide plans (6 CAPs). Since 2015 the number of CAPs prepared per year has dropped suggesting that most cities inclined to prepare a CAP have done so.

Figure 4 - Number of Climate Action Plans Adopted or Approved per Year



State-wide CAP Status

A summary of the existing CAP database reveals that about 53% of California cities and counties have a CAP either complete, drafted, or in progress. However, the other half of cities and counties have no known or identifiable CAP (47%).

- 41% have a completed climate or sustainability plan
- 5% have a drafted climate or sustainability plan
- 7% have a climate or sustainability plan in progress
- 47% have no known climate or sustainability plan

Figure 5 - Statewide Adoptions of Climate Plans



Figure 5 (above) shows the status of CAPs across the state by city and county. The counties are displayed as their independent plan status, and cities are represented by the circles. Circle sizes are proportional to the number of cities within the county.

- 64% of Californians live in a city with a CA approved or adopted climate action plan
- 27% Californians live in a city with no known climate plan underway

CAPs by Population Size

Across California, there are 183 completed CAPs among cities. Population size is an influencing factor in climate impact, so it is important to understand the relationship between population size and CAP status. An analysis by population size reveals that the four largest cities in the state (population over 500,000 as of 2010) have completed climate action plans, shown in blue. These are Los Angeles, San Diego, San Jose and San Francisco. Looking at smaller population sizes, cities with a population under 50,000 have the highest number of incomplete and unknown CAPs, portrayed in green. Cities with a mid-size population (50,000 - 150,000) have the most CAPs in progress.

Figure 6 - Proportion of Cities with a CAP by Population Size

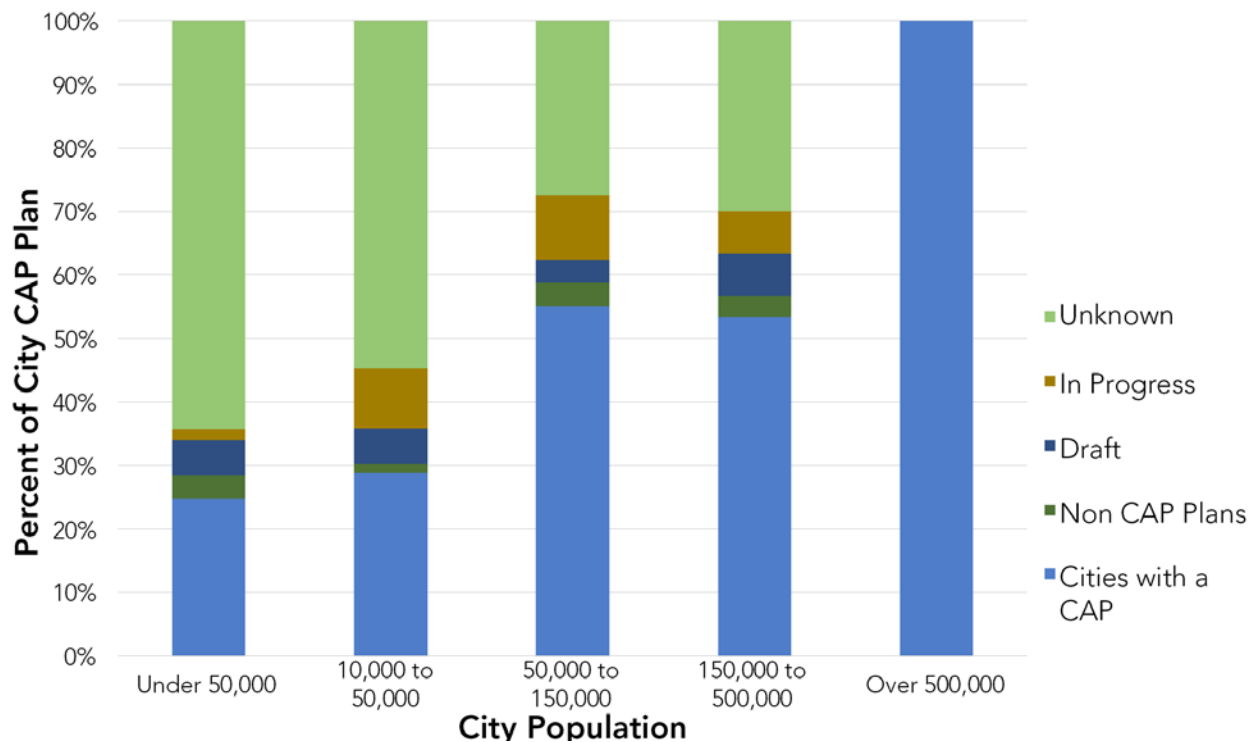


Table 1 - Number of Cities by Population Size (2010 Pop)

Under 10,000	10,000 – 50,000	150,000 – 500,000	Over 500,000
109	201	138	4

38% of reported Community-Wide Emissions come from 4 of the State's Largest Cities (populations over 500,000). Reported emissions range from the years of 1990 to 2015. Table 2 shows the breakdown of emissions by count, year and population size.

GHG Emissions Analysis

Reported GHG emissions by year and city county (Table 2, below), shows the breakdown of the time-frame that GHG inventories took place throughout California. The year 2005 was when the majority of existing GHG inventories referenced in CAPs took place. Some years only had one city included making the indicated "average" less relevant, however looking at general averages over the past 25 years portrays a general decline in the average emissions inventoried by year, ranging from over 10 million in 1990 to under 1 million based on 2010 emission inventories.

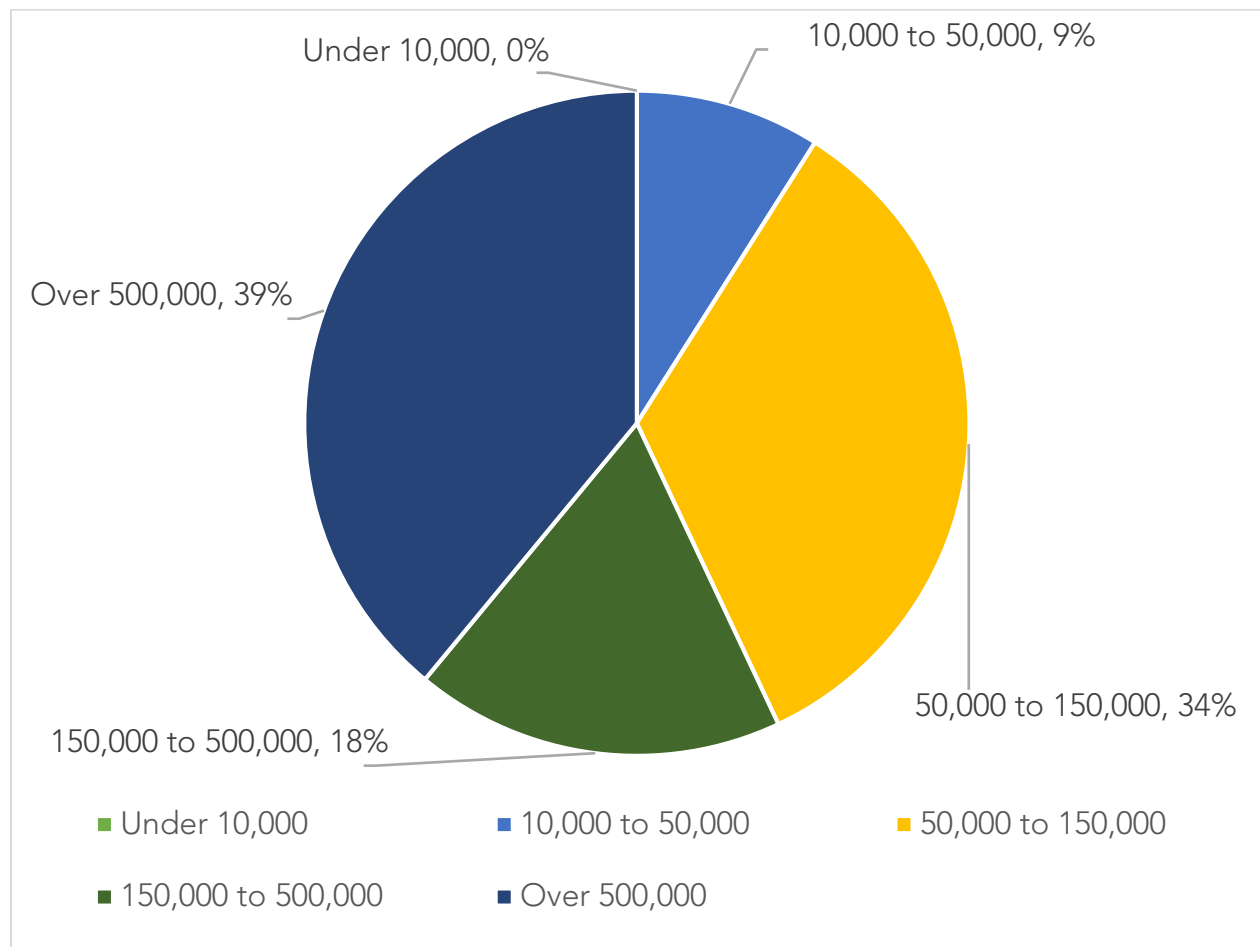
Table 2 - Reported GHG Emissions by Year and City Count

Baseline Year	Number of Cities	Total Reported Emissions per Year	Average Emissions Inventoried per Year
1990	6	62,777,245	10,462,874
1996	1	427,280	427,280
2000	1	134,566	134,566
2004	3	1,962,759	654,253
2005	96	41,610,098	433,439
2006	6	3,942,358	657,060
2007	6	6,730,981	1,121,830
2008	27	29,991,418	1,110,793
2009	5	5,492,565	1,098,513
2010	20	19,928,472	996,424
2012	4	426,447	106,612
2013	1	671,429	671,429
2015	1	73,520	73,520

GHG Emissions Analysis: Community-Wide Emissions

Analysis of GHG Emissions by city size reveals that the four largest cities contribute to just under 40% of all reported community-wide emissions in California. These cities account for 17.5% of the state population. The populations under 10,000 contribute to less than 1% of all reported GHG emissions. The total number of reported community-wide emissions is 150,432,623 mtCO₂e. This information is only reflective of the existing GHG inventories accounted for in the CAP database, which is reflective of only a proportion of the state (~40%).

Figure 7 - Proportion of Community-Wide GHG Emissions by City Size

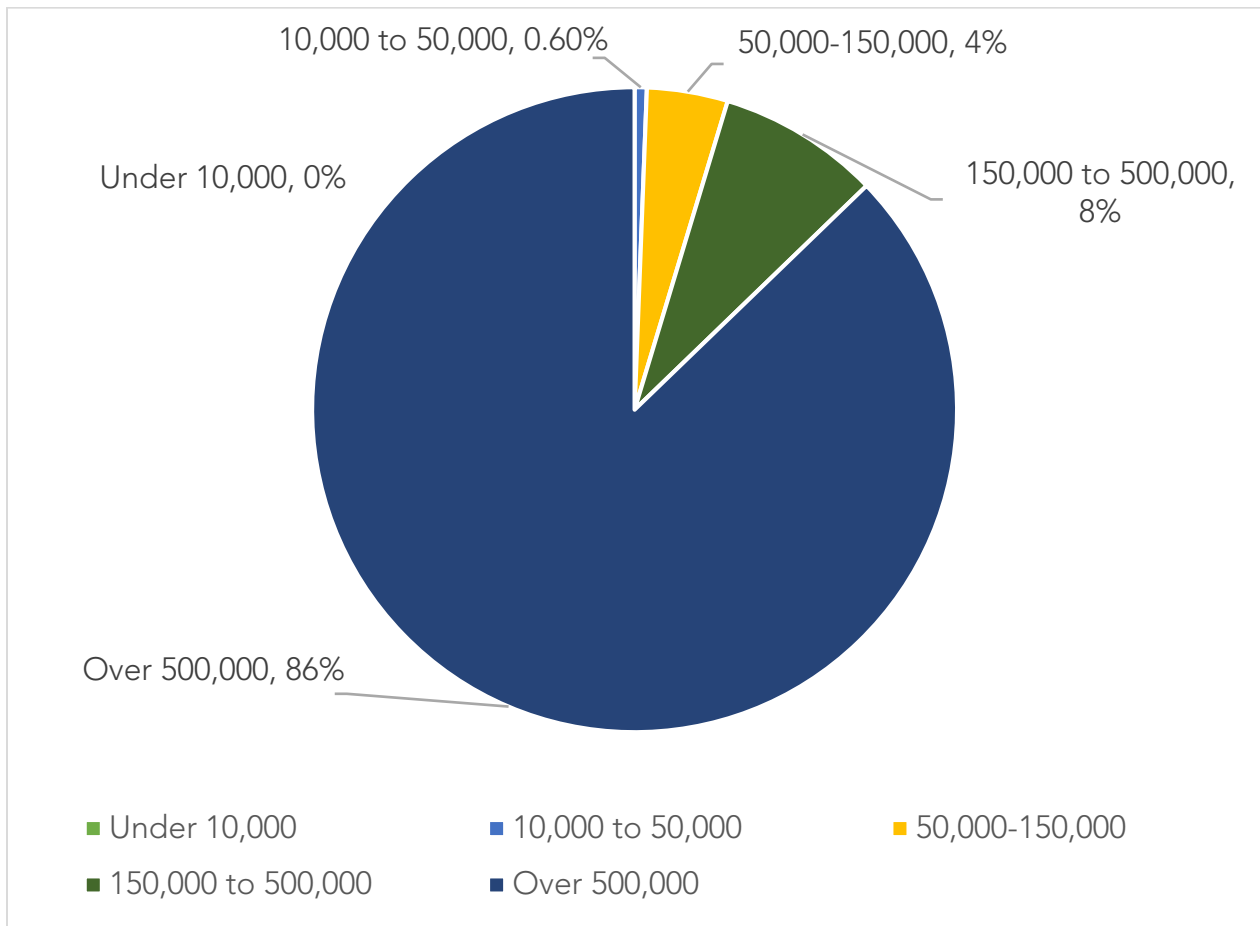


A further dive into reported emissions by category reveals that transportation is the largest contributor to community-wide emissions (45%). Comparing across city size, transportation remains the largest attributer to GHG emissions, compared to residential, commercial and industrial, waste and wastewater or other. The second highest contributor to community-wide emissions is commercial and industrial uses, which averages as 23% of overall GHG emissions, and is the highest contributor among cities with a population over 500,000. Lastly residential emissions also are 23% of emissions among cities and is the highest among cities with a population under 10,000.

GHG Emissions Analysis: Municipal Emissions

An analysis of municipal emissions at the city scale reveals that cities with a population of over 500,000 residents contribute to over 85% of all state-wide, reported municipal emissions. The four cities that make-up that classification are San Francisco, San Jose, San Diego, and Los Angeles. Cities that are smaller than 10,000 people contribute to less than 1% of state-wide municipal emissions. This assessment is only based on the municipalities that have existing municipal GHG inventories, representative of 125 cities across the state.

Figure 8 - Proportion of Municipal GHG Emissions by City Size



Appendix A: California Climate Action Plan Database

The California Climate Action Plan (CCAP) Database is available as an excel spreadsheet, as submitted in fulfillment of the research contract on 10/14/2019.