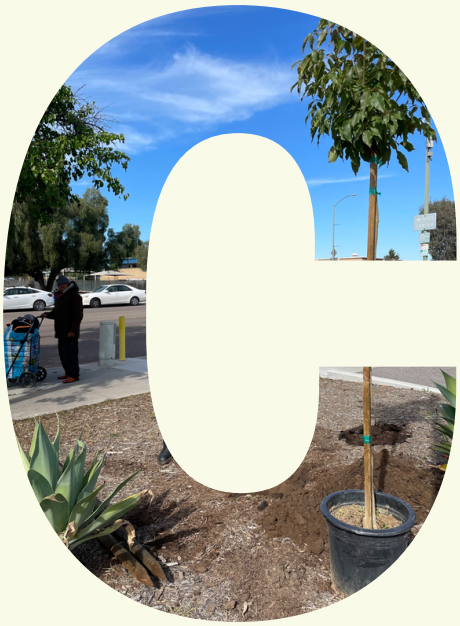

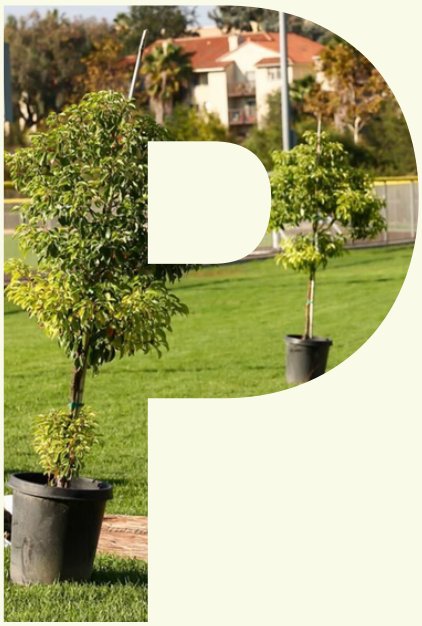

# CLIMATE ACTION PLANS: EVALUATING URBAN FORESTRY MEASURES

TREE SAN DIEGO

DECEMBER 2022

Made possibly by:

*This program was made possible thanks to grant support from The San Diego Foundation, which maximizes the impact of charitable giving by mobilizing philanthropic resources to advance quality of life, increase social impact and champion civic engagement.*

*Tree San Diego is a 501(c)(3) nonprofit dedicated to enhancing the quality, density, and sustainability of the region's urban forests for the benefit of all communities and the environment.*


| | |
|---|---|
| Website | www.treesandiego.org |
| Email | info@treesandiego.org |
| Phone | 858.210.6451 |
| EIN # | 46-5183143 |
| Address | Tree San Diego<br>PO BOX 6324<br>San Diego, California 92166 |


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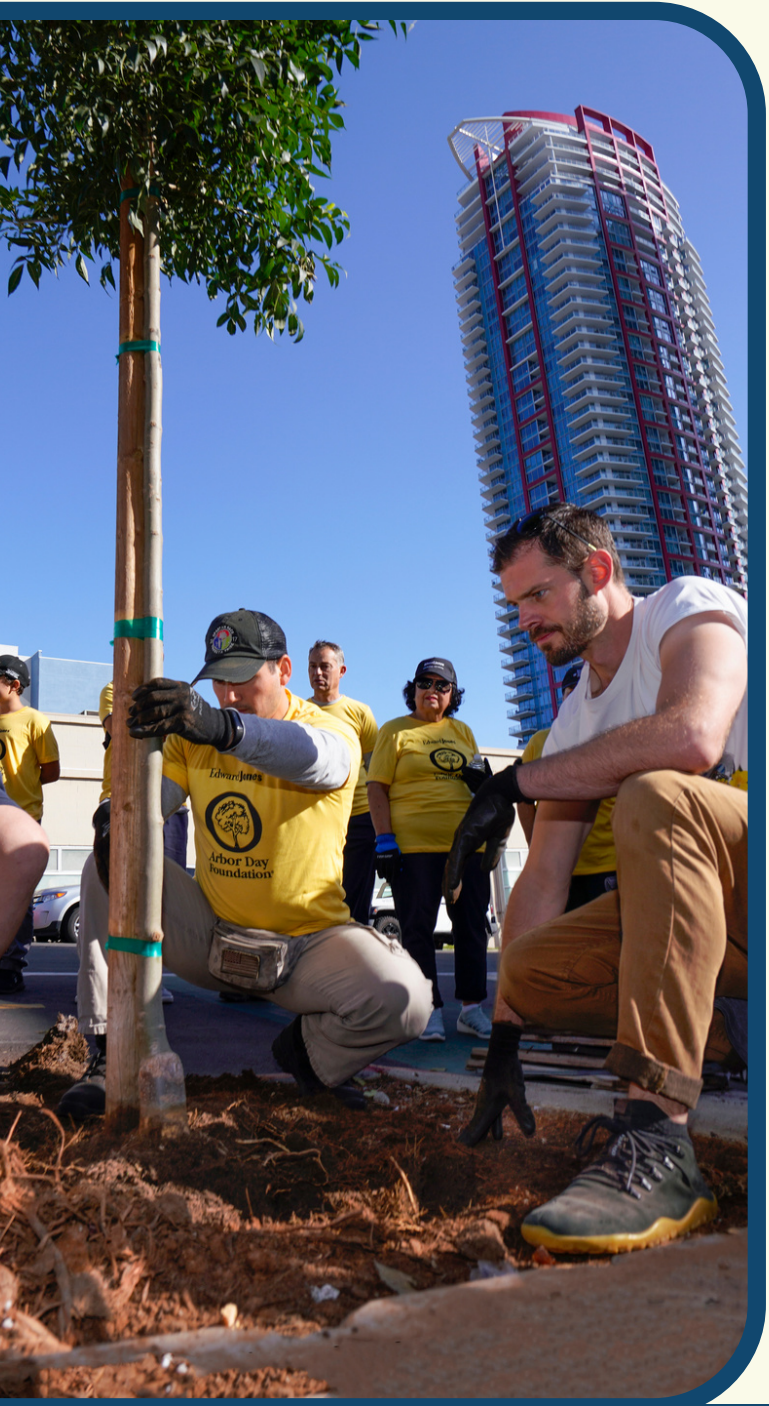



# INTRODUCTION

### About Tree San Diego

Tree San Diego is a 501c3 nonprofit organization dedicated to increasing the quality and density of San Diego County's urban forest. Through a myriad of projects that range from urban forestry education and planting exercises to workforce development training and urban forestry research, Tree San Diego is able to communicate the importance of urban greening projects and benefits of trees at an exponential scale. This environmental organization is funded through regional and state grants, private donors and corporate giving tied to ongoing planting commitments and future climate mitigation projects.

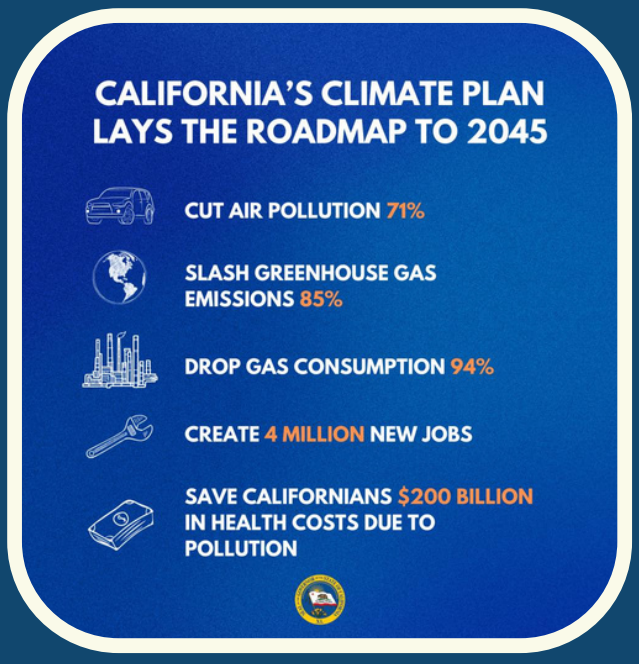
Active projects as of December 2022 include tree distributions and plantings in priority population zones or disadvantaged communities (DACs) while providing tree care education to residents seeking additional planting support. Much of Tree San Diego's current work focuses on bringing the benefits of trees to the communities that are most vulnerable to climate change and environmental pollution. To learn more, visit www.treesandiego.org.

## Research Focus

In working alongside municipal partners throughout the county, Tree San Diego identified the need to evaluate existing climate action plan (CAP) urban forestry measures in an effort to assist cities with their tree-planting plans. Preliminary review of barriers to planting urban trees has brought to light the need to establish collaborative efforts that could serve as solutions to common limitations to urban greening.

Utilizing a vetted assessment process, Tree San Diego worked with local jurisdictions, community organizations, and climate action leaders to evaluate the processes and resources applied to climate action planning and implementation of select measures (e.g. forest expansion). Research conducted assessed the following:

- Barriers or limitations faced by jurisdictions implementing urban forestry measures
- Opportunities to collaborate with community organizations and/or leaders
- Avenues through which resources can be shared
- Urban forestry measure comparisons




**CALIFORNIA LEADS CLIMATE ACTION PLANNING**

"California released [the] final proposal for a world-leading climate action plan that drastically reduces fossil fuel dependence and slashes pollution."

California Air and Resources Board
November 2022

## Climate Change Science and Trees

Throughout the State of California, cities have drafted CAPs that lean heavily on growing evidence that indicates a need to find swift solutions that mitigating effects brought by a changing climate. Understanding the science of climate change and how implementation of CAPs brings improvements in San Diego communities is vital to evaluating how helpful such plans can be and how their urban forestry measures are developed.

Climate change is the measurable long-term shift of weather patterns that brings about severe events such as waves of extreme heat, unprecedented wildfires, large-scale flooding, and sea-level rise. The changes in climatic patterns and cyclical weather alterations are further accelerated by the use of fossil fuels by human beings, thus leading to an increase in greenhouse gasses (GHGs), notably carbon dioxide, being emitted into the air. Greenhouse gasses occur naturally in the atmosphere but there is an equilibrium that is thrown off due to mass human-based activity contributing to these emissions (e.g. air travel and single-car transportation). Greenhouse gasses collect in the atmosphere, gradually heating the Earth as if it were wrapped in a blanket. As the concentration of GHGs increases, less heat is able to escape into space, thus creating a rapid increase in global warming.

Naturally occurring GHGs play an important role in physical processes, such as photosynthesis. Trees have the unique ability to sequester these gases and turn them into organic compounds like sugar to grow. Maintaining large forested areas and grasslands can help to absorb the carbon from the air, bringing the net concentrations down. It is because of these naturally occurring cycles and solutions that reducing deforestation and maintaining other green spaces can effectively curtail GHG concentrations.

Urbanization and sprawl have severely reduced greenspace and forest coverage. The consequence has been the creation of “concrete jungles” and urban heat islands. Cities now recognize the need to reestablish an environment where human populations and urban systems can coexist. As a result, it is becoming increasingly important for governments to develop climate action plans as a means to curb emissions and adopt new measures to mitigate these effects.

## Key Climate Legislation

The following executive orders and corresponding legislation that guide cities and counties in their goals of reaching GHG reductions targets. Governing bodies helping to direct how these goals will be reached have put forth pieces of legislation that are extremely valuable. These plans include key components such as resilience strategies, clean energy targets, and economic and social initiatives that are characteristic of the state's economy and political structure. Legislation listed chronologically:

*Executive Order S-3-05*

In June 2005, Governor Arnold Schwarzenegger recognized the threat of climate change and established the first statewide GHG emissions reduction targets. The executive order sets initial reduction goals to return to 2000 levels by 2010, 1990 levels by 2020, and to be 80% below 1990 levels by 2050.

*Assembly Bill 32*

Assembly Bill 32, otherwise known as the Global Warming Solutions Act of 2006, was signed into law in September 2006 by Governor Jerry Brown. It codifies the targets outlined in EO S-3-05 into law. It also directs the California Air Resources Board (CARB) to provide scoping plans and create other mechanisms needed to reach those goals (AB 32 Global Warming Solutions Act, 2006). This legislation elevated CARB to one of the most important state agencies for achieving GHG emissions goals.

*Senate Bill 375*

Signed into law in January 2009, Senate Bill 375 encourages California regions to collaborate on emission reduction strategies targeting cars and trucks. The bill requires integration of planning processes for transportation and land-use and housing, and requires CARB to develop regional reduction targets while also offering local governments incentives to encourage more compact development and transportation alternatives.

*Senate Bill 535*

Senate Bill 535 was passed in 2012 and allowed certain communities to receive funds for improvements in public health, quality of life, and economic opportunity. The communities, known as disadvantaged communities, would be identified by the California EPA. The funds would be given from the Greenhouse Gas Reduction Fund (SB 535 Disadvantaged Communities, 2021). This bill aims to increase equity among California communities by providing economic resources which will also reduce harmful pollution.

*Executive Order B-30-15*

Executive Order B-30-15 was signed by Governor Jerry Brown in April 2015. It added another GHG emissions goal to the ones created by EO S-3-05. The new benchmark was to reach 40% below 1990 levels by 2030. This target was then codified into law by Senate Bill 32 in 2016.

*Senate Bill 32*

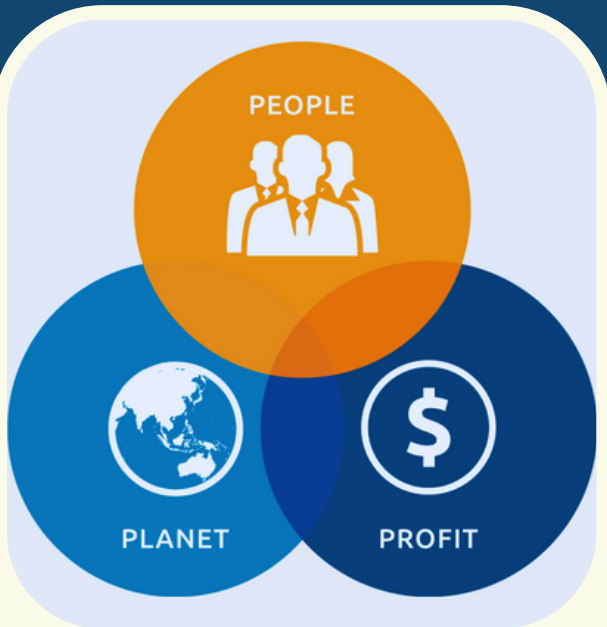
Senate Bill 32 was passed in 2016 and not only increased, but extended the emission reduction mandate to 40 percent below 1990 levels by 2030.

*Executive Order B-55-18*

Signed into act in September 2018, this statewide goal was established to achieve carbon neutrality no later than 2045, with a goal of maintaining net negative emissions thereafter. This order was drafted as an addition to the existing greenhouse gas reduction targets.

**CLIMATE LEGISLATION BUILDING BALANCE**

Both state and federal legislation continues to seek equitable ways of providing sustainable climate solutions that addresses the triple bottom line.



# CLIMATE ACTION PLANS

In 2015, the United Nations held the Paris Climate Conference, which was formally called the Conference of Parties to the United Nations Framework Convention on Climate Change. At this conference, countries around the world agreed to limit global temperature rise to 2 degrees Celsius, aiming for a more ambitious goal of 1.5 degrees Celsius. This is where CAPs play a role in providing a roadmap to reduction. These documents describe how governments plan to decarbonize their economies and create more climate resilience. They outline goals such as improving mass transit, resourcing energy use, increasing affordable housing, and expanding urban forestry management efforts. The main goal of a CAP is to reduce GHG emissions, but since climate change is already an active threat, CAPs also include adaptive measures to improve climate resilience.

### Local CAPs and Urban Forestry Measures

There are currently 33 states that have released or are in the process of developing CAPs. To support these plans, individual counties and local governments have also begun drafting CAPs. For example, out of the 18 cities located within the county of San Diego, 17 have fully developed CAPs, most which have implementation plans set to launch between 2020-2025. While there are similarities among CAP measures and targets, not all of them are legally binding, as highlighted in Tree San Diego's *Urban Tree Planting Challenges in San Diego County* report (Appendix A, Excerpt 1).

During preliminary evaluations of these documents, Tree San Diego reviewed the San Diego Climate Action Campaign's (CAC) Climate Action Plan Report Card for 2022 and explored how it evaluated CAPs. It should be noted that while a general ranking and rating of each CAP is publicized through the report, individual measures are only briefly summarized. Of the initiatives highlighted were those focused on energy and emission reductions which also included tree canopy expansion efforts. The CAC report states that the "majority of regional CAPs include at least one measure related to trees. Notably, the cities of Del Mar, Solana Beach, La Mesa, and San Diego have tree canopy coverage targets between 30% to 35% by 2035."

Upon initial review, Tree San Diego recognized that a CAP's list of measures* often includes tree planting projects or goals, but rarely involved a more robust forestry plan, also known as an "urban forestry management plan" or an UFMG, that identifies expanded tree-planting efforts, forestry maintenance and sustainability. The inclusion of UFMGs in complement to CAPs is discussed in the Improvements and Recommendations section of this report.

**Most cities established goals to be reached by 2020, but in many cases an assessment of the cities' performance on those early goals has not been completed. Updated CAPs with new data and measures are likely to reflect new baseline emissions and measure alterations.*

**1. Carlsbad**

The CAP for Carlsbad was first adopted in September 2015 and was updated in May of 2020. In accordance with California legislation, the city is aiming to reduce GHG emissions to 1990 levels by 2020, 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050. A baseline emissions inventory was conducted in 2012 to determine GHG emissions levels. To achieve its goals, the city would need to have a 4% reduction from those levels by 2020, 42% reduction by 2030, and an 81% reduction by 2050.

While there are not currently any urban forestry components outlined in the city's GHG reduction measures (City of Carlsbad California), the city developed a Community Forest Management Plan with support from West Coast Arborists in 2019. Within this plan is a detailed discussion about the city's inventoried 28,066 trees, with more than 18,200 trees identified as street trees. The plan's listed goals are focused on three areas: 1) Promoting citywide tree preservation and community education about the community forest and sustainability, 2) Expanding the community forest in areas with lesser tree canopy density and maximizing its benefits, and 3) Managing an estimated 43,000 City of Carlsbad owned/controlled trees using industry standards and best management practices. In conjunction with these goals is the commitment of the Parks & Recreation Department to plant two street trees for every one tree removed.

Separate from the CAP and Community Forest Management plan is the city's Heritage Tree Report, which supports residents and officials in maintaining and recognizing the unique and historic value of select trees throughout the city.

**2. Chula Vista**

Chula Vista's CAP was adopted in September 2017. The city's website mentions that the action plan is a combination of the Carbon Dioxide Reduction Plan from 2000, Mitigation Plan from 2008, and Adaptation Plan from 2011. This shows that the current plan is very comprehensive and has been developed throughout the past two decades. The baseline emissions inventory was conducted in 2005 and is compliant with all state protocols. Emissions reduction goals from the baseline would be a 15% reduction by 2020 and a 55% reduction by 2030 ("City of Chula Vista").

The urban forestry goals the city has are not associated with climate change mitigation. Instead, they are created with the purpose of resiliency and climate change adaptation. The city recognizes that some effects of climate change will be felt no matter what is done, so an adaptation plan has already been created.

Chula Vista plans to plant more shade trees with the goal of reducing the urban heat island effect and reducing cooling costs. There is no specific goal for the number of trees, but it can be inferred that the city would welcome any aid in planting shade trees (e.g. Renewable and Energy Efficiency Measure 4: Plant more shade trees to save energy, address heat island issues and improve air quality; "City of Chula Vista"). In the CAPs Appendix A, strategies 3 and 4 include objectives to "expand urban tree canopy cover to 15% by 2020 (25% by 2035)" and "Develop an Urban Forestry Management Plan to guide shade tree plantings and maintenance," though measurement of these objective has yet to be determined.

**3. Coronado**

The city of Coronado's final draft CAP was submitted for public comment in January of 2022. In reviewing the first baseline inventory and new reduction goals, a 39.4 percent reduction from the 2016 levels of 112,811 MTCO2e would result in a 2030 reduction goal of 68,333 MTCO2e for this coastal municipality. The mention of 8,200 trees made up of 146 species throughout parks and parkways draws a connection to the ongoing planting projects identified in GHG reduction strategies claiming to "encourage implementation of green infrastructure, urban forest, community gardens/living walls, vertical gardens, and other green infrastructure; encourage planting trees that offer more carbon sequestering benefits..." (City of Coronado Climate Action Plan, 2022).

While the CAP includes GHG reduction-focused measures, it also mentions the city's Street Tree Master Plan drafted in 2016, which provides methodologies for managing the city's urban forest. Its benchmark includes planting 20 to 30 new trees annually in the city right-of-way.


**CITY OF SAN DIEGO CAP**

Among the notable measures and initiatives listed in the city's updated plan, is a goal to plant 100,000 trees by 2035.

*San Diego Climate Action Plan, 2022*

**4. Del Mar**

The city of Del Mar adopted its climate action plan in June 2016. The GHG emissions baseline inventory is for the year 2012, although in actuality it is an average of 2012 and 2013. This has to do with complications relating to the San Onofre Nuclear Generating Station closure. The goals for GHG reduction are 15% below baseline by 2020 (goal was met) and 50% below baseline by 2035. Del Mar does include urban tree planting as one of the strategies for reducing emissions. The action plan recognizes the benefits of trees not only for mitigating climate change through carbon dioxide sequestration, but also through reducing energy consumption used for cooling. It is stated that the city had 10% canopy cover or 50 acres in the baseline year of 2012. The goal was to increase urban canopy cover to 15% by 2020 and 30% by 2035. This would be over 500 acres of city land (Atkins). In the city's 2020 CAP Monitoring Report, the city states that the Sustainability Advisory Board has drafted Urban Forest Preservation and Growth Actions.

**5. El Cajon**

The city of El Cajon adopted its climate action plan in July of 2019. Baseline inventory of GHG emissions year was 2012. The targets set were 4% below 2012 levels by 2020 and 42% below 2012 levels by 2030. The plan also mentioned that there are various federal and state actions that would help to further reduce emissions. Carbon sequestration is listed as a GHG reduction measure which is estimated to help remove 100 metric tons of carbon dioxide by 2030. El Cajon has goals to plant 100 shade trees annually in development project landscaped areas, 40 new shade trees per year in surface parking lots, and 110 new shade trees annually at new developments (Ascent Environmental and Energy Policy Initiatives Center). The goal is to accomplish all seven goals listed by the year 2030. The city also aims to pursue grant opportunities to plant trees along pedestrian corridors.

Note: This particular CAP was rescinded and the document has yet to be updated. In its place is a temporary "sustainability initiative" that the city claims will meet the local need for addressing climate change.

**6. Encinitas**

Encinitas originally created a CAP in 2011 using a baseline inventory from 2005. This version was updated in 2018 using a baseline inventory from 2012 to be consistent with new legislation and improved technology. The new targets in this CAP are 13% below 2012 levels by 2020 and are a 44% reduction below baseline by 2030.

Carbon sequestration is a reduction measure listed in the climate action plan. Most recent light detection and ranging reports - or LIDAR report - confirmed the city's 22% urban tree canopy cover. There is a goal of planting 150 new trees by 2020 as well as planting 100 new trees annually until 2030. This was calculated to be 1,150 net new trees in total. Doing so would increase the canopy cover by 0.32% (City of Encinitas). The city has an urban forestry management policy, program, and planting guide, and in 2020, the city's updated urban forestry totals touted 21,504 inventoried city trees.

The city's 2022 CAP Monitoring Report indicates that its "increase urban tree cover" measure status is "complete" and is connected to an UFMP.

**7. Escondido**

The city of Escondido has a current climate action plan that was revised in 2017 and the updated version was adopted in March 2021. The baseline emissions inventory for the current CAP is from 2012. As a result, the targets are set at 4% below 2012 levels by 2020, 42% below by 2030, and 52% below 2012 levels by 2035. These targets were set to be in accordance with CARB's 2017 Scoping Plan. There is a carbon sequestration and land conservation measure included in the climate action plan. One section of the measure is to "Enforce Landscape Tree Requirements at New Developments." This includes planting and maintaining 2,802 new trees at new developments by 2030 and planting and maintaining new trees at new developments by 2035. A second section of the measure is to "Develop a Citywide Urban Forestry Program." The city would like to plant and maintain 1,010 new trees in public areas by 2030 and 1,347 new trees in public areas by 2035 ("Escondido Climate Action Plan Documents"). While there is no urban forestry management plan, the city does have an established urban forestry web page that highlights tree safety and tree services.

**8. Imperial Beach**

The CAP for Imperial Beach was approved in March 2019. It also includes a baseline GHG emissions inventory from 2012. The reduction targets outlined are 4% below baseline by 2020, and 42% reduction by 2030. It is mentioned in the CAP that Imperial Beach has the lowest canopy coverage of 18 cities surveyed by a San Diego Association of Governments (SANDAG) LIDAR study conducted in 2015. With just 6% canopy coverage, this makes Imperial Beach a particular city of interest for future tree plantings. In the carbon sequestration measure, Imperial Beach would like to plant an additional 866 trees by 2030. This would be done by planting 300 in the city's right of way areas and 566 in new and redeveloped residential and commercial locations.

**9. La Mesa**

La Mesa approved its CAP in March 2018. It is slightly different from other CAPs as it uses a GHG emissions baseline from the year 2010. The set reduction targets are 15% below 2010 levels by 2020, and 53% by 2035. The city's GHG reduction measures include a green infrastructure section which states that the existing canopy coverage of La Mesa is currently at 18%. The city would like to increase this to 33% by 2035 ("Climate Action Plan"). This would mean an increase from 1,050 acres of coverage to 2,450 acres. As of 2022, the city has introduced the measure GI-1 which creates an UFMP and aims to complete a 350 tree-planting project by 2023.

**10. Lemon Grove**

Lemon Grove's CAP was approved in May 2020. The baseline year for GHG emissions are from 2012. Using this baseline, the city set reduction targets of 4% below 2012 levels by 2020 and 42% below 2012 levels by 2030. It is stated that the city would meet its 2020 reduction targets under business-as-usual conditions. However, more work will need to be done to reach the 2030 target. There is a carbon sequestration measure included in the CAP. One section of the measure is to plant 50 new trees in city owned landscapes through 2030. The other section is to plant 22 new trees at new developments through 2030 (Ascent Environmental and Energy Policy Initiatives Center). Planting new trees will help to beautify the community and improve the air and water quality while also sequestering carbon dioxide from the atmosphere. It should be noted that municipal code requires the installation of street trees at a rate of one tree per 30 linear feet of street frontage when public street improvements are required.

**11. National City**

The CAP for National City is much older than others and was adopted in 2011. Because of this, the baseline year for emissions is 2005/2006. There is not much information regarding the reduction targets besides the stated 15% below baseline by 2020 and "additional" reductions by the year 2030 ("Climate Action Plan"). There is unfortunately no current urban forestry measure included in this version of the climate action plan, though B1.a.11 aims to "develop and implement a community-wide UFMP and reforestation program to significantly increase the carbon storage potential of trees and other vegetation in the community."

**12. Oceanside**

Oceanside's CAP is from January 2019. Baseline emissions are from the year 2013. The reduction targets are 17% by 2025, 25% by 2030, 33% by 2035, 42% by 2040, 52% by 2045, and 62% by 2050. Results from the SANDAG 2017 canopy study show that Oceanside has an average canopy cover of 1.4%. It is mentioned that the San Luis Rey community and Townsite neighborhood have the lowest canopy cover in the city. Goals for tree planting include planting 200 new trees per year in public rights of way, and 200 additional trees per year at new developments (Recon Environmental). The city also aims to establish a Green Streets Ordinance that "includes urban forestry in the Green Oceanside educational outreach program as a means of encouraging residents and business owners to expand tree canopy on their private property and within adjacent parkways in the public right-of-way."

**13. Poway**

No CAP or UFMP have been developed for this municipality.

**14. San Diego**

San Diego's CAP, known as "Our Climate, Our Future," was created in 2015 and updated in 2020 and 2022. It is considered ambitious and includes a goal of reaching 100% renewable energy by 2035. In regard to GHG emissions, the most recent baseline year is 2019 with a goal of reaching net zero by 2035.

Tree-planting goals are included in the city's measure for climate resiliency. Under Measure 5.2 Tree Canopy are listed the following action items that promote sustainable urban forestry practices:

- Increase tree planting in Communities of Concern, starting with the planting of 40K new trees in these communities by 2030.
- Create a Street Tree Master Plan with a target of planting 100,000 trees by 2035. Within the Street Tree Master Plan, identify city lands and spaces that need trees and identify ways to increase permeable areas for new trees, focused in Communities of Concern.
- Conduct a new Urban Tree Canopy assessment utilizing light detection and ranging (LIDAR) technology to identify areas in need of additional tree canopy.
- Increase tree planting in Communities of Concern by identifying city lands/spaces that need trees.

**15. San Marcos**

San Marcos has a CAP dated December 2020 with a baseline inventory from the year 2012, similar to other CAPs in the region. The reduction targets are 4% below 2012 levels by 2020 and 42% by 2030. The city would like to increase the urban tree cover as a measure listed in the action plan. They would like to increase the number of trees in public parks and rights of way by planting 1,500 trees by 2030. Another goal is to plant 1,200 new trees on private properties by 2030 (Ascent Environmental and Energy Policy Initiatives Center).

Strategy 8 to increase urban tree cover includes the following measures and activities to support implementation: Measure C-1: Increase tree planting at city parks and public rights-of-way, and Measure C-2: Increase tree planting in new developments.

- Support CSU San Marcos's development of a tree replacement policy.
- Launch a community forestry program with an annual budget of at least 2 dollars per capita and observe an official Arbor Day on a yearly basis.
- Continue turf management practices which specify the top-dressing of compost to increase carbon sequestration at city parks.
- Apply for city recognition as "Tree City USA" and implement the program's requirements of forming a city of San Marcos Tree Board consisting of staff members involved in managing the city's urban forest.
- Continue to share related informational materials on city's web page and at other community events such as street fairs on shade tree planting guides, preferred trees list, and tree giveaways.
- Collaborate with CSE and SDG&E in developing shade tree give-away programs or other incentives to encourage planting of shade trees for existing residential and non-residential sites.
- Incentivize tree planting on private property by giving away tree seedlings during Arbor Day or other events.

**16. Santee**

Santee's CAP is called "Sustainable Santee" and was approved in December 2019. The city uses 2005 as a baseline inventory year. For the reductions, a target was 15% below baseline by 2020, 40% by 2030 and 49% by 2035. These targets would allow Santee to meet reduction goals set by the state of California. There is no specific urban forestry goal in the CAP, but there is a goal to reduce the urban heat island effect by using shade trees. They city's goal is to have 14% of pavement covered by tree shade by 2030 and 23% by 2035 (LSA). Other than this goal, the CAP lacks any other tree-planting measures, which creates the opportunity for the city to propose more planting projects in the future.

**17. Solana Beach**

Solana Beach has a CAP from July 2017. The city uses a baseline year of 2010 to be consistent with the city of San Diego. Local GHG reductions are aimed to be 15% below baseline levels by 2020 and 50% by 2035. These will help Solana Beach achieve the larger statewide goals.

The city plans to implement an urban tree-planting program as one of the reduction strategies. Currently, Solana Beach has 22% urban tree canopy coverage. The goal is to increase coverage to 30% of developed areas by 2035. This would be 2,107 acres of city owned land (Ascent Environmental and Energy Policy Initiatives Center). While the city's CAP does not include an UFMP, the Urban Tree Planting program lists an example action of developing an urban forestry plan "using the City of San Diego's plan as a reference guide" to help reach its urban forestry goals.

**18. Vista**

Vista originally had a CAP from 2012 that was recently updated in 2019. The baseline for the most current CAP is from 2012. The targets set are 4% below baseline by 2020 and 42% below baseline by 2030. It's very similar to many of the other CAPs in San Diego County. The city aims to plant trees for carbon sequestration. One goal is to plant 100 trees per year until 2030 on public property. Another goal is to plant 500 new trees per year at new developments and private property (Rincon Consultants). Strategies to support this goal include, "developing a program to track tree planting and maintenance at city facilities, public parks and public rights-of-way," and "enforcing the new development tree requirements from landscape plans and track the new trees planted."

# EVALUATION OF CAPS AND URBAN FORESTRY MEASURES

### Third-Party CAP Evaluations

Few publications evaluate CAPs independently throughout the state of California. While climate action planning guides, classes, and webinars exist for local governments to learn how to develop their plans, the ranking of the plans themselves is not a common practice. Unique to San Diego County, however, is the San Diego Climate Action Campaign's annual publication of rated and ranked city CAPs. It should be noted that there is no ranking or rating system for UFMPs at present.

*San Diego Climate Action Campaign (CAC)*

The CAC is a 501c3 nonprofit noted for its climate-focused activism. Its mission is to "stop the climate crisis through effective policy action," which is applied to zero carbon goals dedicated to enhancing public transit, bikeable/walkable neighborhoods, clean energy use, electric homes, and overall resiliency.

The CAC's evaluation of CAPs, Climate Action Plan Report Card, is paired with proposed emission reduction goals and strategies. The organization shares on its website that they publish the report card "to urge cities to adopt strong Climate Action Plans that address the climate crisis in impactful ways." The Report Card grades each city — and the county — on how successfully they are fighting the climate crisis. Cities that adopt and implement best practices are recognized as "gold-standard" Climate Action Plans. Scores were given based on the content of the action plan, such as equity and renewable energy commitment, and the implementation of the plan. Both categories received a 0-100 number and were then averaged for an overall score. The top — and bottom — scoring cities demonstrate what has been done well and what can be improved for the future.

Based on CAC's most recent CAP evaluation report, Escondido had the highest score with 97.5/100, followed by Encinitas (92/100) and La Mesa (85/100). All three cities mentioned are members of San Diego Community Power, a Community Choice Energy program that has worker protections and equity provisions. It was also mentioned that the city of La Mesa is progressing well on 24 out of the 25 total GHG reduction measures outlined in its CAP.

Six of the 13 CAPs evaluated include a tree canopy target. The CAC ranks the target's associated measures under a category titled "Promote Nature-Based Solutions and Green Infrastructure." The organization further explains that the majority of regional CAPs include at least one measure related to trees, and that the cities of Del Mar, Solana Beach, La Mesa, and San Diego have tree canopy coverage targets between 30% and 35% by 2035.

| | CAP SCORE | IMPLEMENTATION SCORE | AVERAGE SCORE |
|---|---|---|---|
| CARLSBAD | 65.5 | 64 | 64.75 |
| CHULA VISTA | 68.5 | 60.5 | 64.5 |
| DEL MAR | 62.5 | 65 | 63.75 |
| ENCINITAS | 92 | 73 | 82.5 |
| ESCONDIDO | 97.5 | — | 97.5 |
| IMPERIAL BEACH | 45.5 | 59 | 52.25 |
| LA MESA | 85 | 74 | 79.5 |
| LEMON GROVE | 62.5 | 8 | 35.25 |
| SAN DIEGO | 78 | 60 | 69 |
| SAN MARCOS | 59.5 | 49.5 | 54.5 |
| SOLANA BEACH | 76.5 | 63.5 | 70 |
| OCEANSIDE | 73 | 53.5 | 62.25 |
| VISTA | 62.5 | — | 62.5 |

**"Summary of CAP Scores" from Climate Action Plan Report Card**

Climate Action Campaign, 2022

*Tree San Diego's Planting Challenges Report*

In 2022, Tree San Diego identified a number of challenges hindering the tree-planting process, many of which paused fieldwork programs and ultimately halved the organization's planting efforts. In reviewing the complexities of urban tree planting throughout the region, the team decided to collect insights from partners and similar agencies to verify whether or not our limitations were faced by others. This collection of insights became the *Urban Tree Planting Challenges in San Diego County* report (Appendix A, Excerpt 2).

This six-month review of project analyses, planting feasibility assessments, and funding allocation research demonstrated that no two urban forestry organizations are identical in their struggles, but tree planting as a practice is becoming more complicated throughout the state. While there are many challenges outlined in the report, also discussed are multiple solutions that are opportunities for project impact expansion, organizational growth, and reframing of funding campaigns to support existing and future urban forestry initiatives.

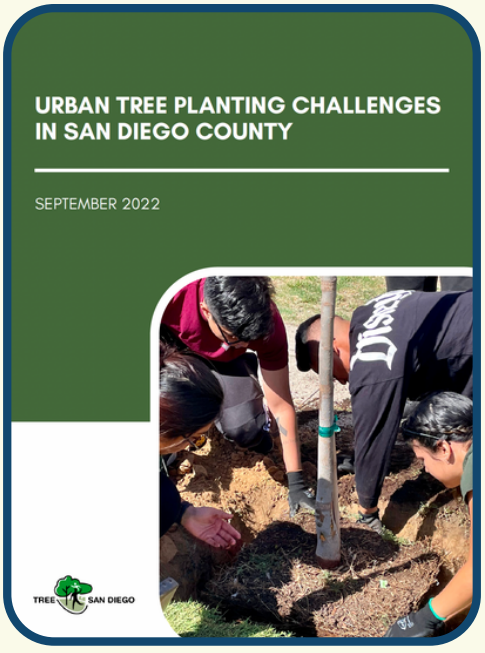
Following the publication of this report, Tree San Diego was equipped to use the ideal planting framework proposed and the identified challenges to evaluate CAP urban forestry measures. This document then served as a conversation starter with department leads from public works, planning, and environmental projects to further discuss each municipality's urban greening goals.

Excerpts and specified barriers are outlined in this report and can be found in Appendix A.

**PLANTING CHALLENGES IDENTIFIED**

To complement this report, Tree San Diego published an analysis of challenges, limitations, and complexities that affect citywide tree planting projects. This report is available on the Tree San Diego website under "Resources"

Visit www.treesandiego.org for more information.



### Improvements and Recommendations

While it is difficult to make sweeping recommendations for all CAPs and the urban forestry measures within them, there are incremental and scalable improvements that can aid cities in implementing tree planting projects (also summarized in Appendix A, Excerpt 3).

*Shifting focus:* As expressed in the planting challenges report and excerpted in Appendix A, there are four additional areas of focus that would help overcome implementation barriers: redefining stakeholder roles, enhancing partnership and collaborations, restructuring grants and financing, and building long-term planting plans. These focus areas are paramount to the success of urban forestry initiatives and would shore up CAP implementation strategies, as well as alleviate workload strain within cities.

*Inclusion of UFMPs:* Cities that include urban forestry initiatives in their CAPs need to tie their goals and strategies to a robust UFMP. The importance of having these documents supplementing a CAP is due to the detailed action planning that provides public works agencies best practice outlines and resources needed to proactively and effectively manage public trees.

*Prioritizing equity:* The CAC's recommendations point more to equity, suggesting that, "cities can design specific equity targets that can be monitored over time. For example, when measuring citywide tree planting, cities should include a goal to plant a determined percentage of trees in "Communities of Concern." This would target the tracking of equitable infrastructure and urban green space, or UGS, provided by individual municipalities. Canopy percentage can also be determined for cities and communities that fall outside of a disadvantages community census tract.

*Community engagement and surveying:* Communicating with the local community is invaluable to the development and implementation of CAPs and UFMPs. Hosting workshops, town halls, and informationals to gather insights and perceptions of the state of the local urban forest will help governing officials recognize unique complexities to tree planting and maintenance barriers.

*Transparency and accountability:* Planting projects rarely include auditing of trees 1 to 3 years after they are placed in the ground and tree mortality rates are thus mostly unknown. Certified arborists, funders, and community groups continually request tree mortality data, but it is rarely collected or publicized. It is recommended to begin first-year audits followed by evaluations of tree maintenance operations and staff training. Without proper tree care education and regular and consistent tree care, it is likely that tree mortality rates will increase.

*Working with the locals:* Partnerships with nonprofits that already have funding to support and facilitate project implementation will help cities accomplish their goals quicker. An example of this would be working with urban forestry organizations and affiliated volunteer groups to assist with planting, watering, maintenance, and ongoing tree care. Many nonprofits receive funding to buy trees and planting materials to build public gardens, enhance street tree projects, and provide communities added shade. Cities could bolster their local relationships by partnering with these groups while achieving collective CAP and UFMP goals.

*Stop comparing tree planting measures to other reduction strategies:* Addressing transportation and energy is the quickest way to reduce emissions. That said, tree planting is a sustainable and cost-effective way to expand carbon capture and combat effects of climate change. It is recommended that tree-planting measures not be compared directly to other measures on a "biggest bang for the buck" emissions reduction spectrum, as the benefits of trees are compounded immeasurably over a 20-40 year lifespan. The functions and benefits of planting a tree differ from the removal of a car from the road and therefore should not be directly compared.

**COLLABORATION BRINGS SOLUTIONS**

Community and local partnership continues to provide shared resources, financing, and support for tree-planting projects throughout San Diego County.

*Recommendations by CAP*

The following CAP recommendations relate to urban forestry measures based on the stages of implementation and development. Overall, Tree San Diego recommends additional budget, staff support, and partnership be sought for tree-planting projects within any and all cities of San Diego County. Tree protections, urban forestry ordinances, and maintenance plans should also be considered.

| City | Urban Forestry Recommendation |
|---|---|
| **Carlsbad** | Create a robust canopy cover goal that is achieved with support from the community |
| **Chula Vista** | Build a comprehensive UFMP that includes tree mortality reporting and sustainable maintenance plan |
| **Coronado** | Expand urban forestry initiatives to include residential plantings and inventories |
| **Del Mar** | Calculate current canopy coverage to track progress and create an UFMP |
| **El Cajon** | Conduct a canopy mapping and inventory project to improve management plans and include long-term watering plan |
| **Encinitas** | Continue to expand the street tree inventory with annual audits and current analyses |
| **Escondido** | Develop an UFMP and conduct new inventories of current trees with consistent, shared watering agreements |
| **Imperial Beach** | Seek expanded resources to help improve tree canopy coverage |

| City | Urban Forestry Recommendation |
|---|---|
| **La Mesa** | Continue providing residential tree program paired with tree steward education |
| **Lemon Grove** | Develop an UFMP that includes a tree inventory to identify new planting spaces |
| **National City** | Work with partners and nonprofits to assist with ongoing tree planting efforts and watering plans |
| **Oceanside** | Provide annual tree planting data to coincide with tree-related ordinance(s) |
| **Poway** | Develop a CAP and an UFMP that are comparable to neighboring cities |
| **San Diego** | Increase tree planting and urban greening resources in urban heat island zones and underserved areas of the city |
| **San Marcos** | Expand tree inventory efforts to identify additional need for tree planting |
| **Santee** | Create initiative to develop a robust UFMP that includes a diverse tree palette suitable for the region |
| **Solana Beach** | Evaluate and incorporate progress of the UFMP in the CAP and expand canopy coverage goals |
| **Vista** | Create new tree-planting incentives that are complemented by tree maintenance and long-term watering plans |

All CAPs are vital for reducing the amount of GHGs we produce during our daily lives. The majority of these harmful gasses are released during energy production, transportation and many other interactions that take place on a daily basis. Thanks to executive orders and legislation, the state of California has a plan to begin shifting toward a future with cleaner air and reduced threats from climate change. With the introduction of CAPs, many local governments are already working toward ambitious goals, though there are still years of work ahead to reach reduction targets.

While it is extremely important to have an array of strategies to reduce GHG emissions over the coming decades, urban greening remains a mitigation strategy that cannot be overlooked. Whether it be in the field of mitigation through greening efforts or changing actual public policy, all work for a cleaner, more equitable future is necessary. With the main focus of CAPs dedicated to reducing fossil fuel reliance, many of their measures are focused on improving transportation, waste management and energy efficiency. This leads to the inaccurate perception that urban greening and forestry goals are less important. Nevertheless, the benefits of urban greening go beyond carbon sequestration. While more needs to be done to help cities reach their emission reduction goals, much can be accomplished in the immediate future by way of tree planting.

Through evaluating CAPs, Tree San Diego learned that unique but manageable barriers to implementing initiatives exist throughout the county. Limitations identified can be mitigated, if not adapted to meet the needs of the local community. Additionally, these limitations are also viewed as opportunities to bring stakeholders together, learn from each other, and collect new data that might shift resources and policy to help cities deliver on their climate action promises.

In conclusion, more needs to be done to achieve goals of expanded canopy cover, environmental equity, and climate action policy, but the solutions lie in the hands of the city and its community. The use of CAPs and UFMPs will activate existing resources, create avenues through which resources can be shared, build collaborative assets, and draw attention to a valuable part of the solution: tree planting.

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# APPENDIX A
## URBAN TREE PLANTING CHALLENGES IN SAN DIEGO COUNTY

**Excerpt 1 - CAPs and UF measures**

"...expanding the tree canopy through tree planting, especially in disadvantaged communities, is complicated and slowed by numerous challenges... Tree planting has become a top priority in local climate action plans (CAPs), in part due to the numerous benefits trees provide... All of the 16 CAPs proposed by local jurisdictions include tree-planting measures that commit to at least one urban forestry or tree-planting initiative per year. Considered the 'low hanging fruit' of CAP measures, tree planting, in theory, is a low-cost, low-impact mitigation strategy that serves communities for decades (or the full lifespan of newly planted trees). While the demand for expanded tree canopy and the growing interest of residents to participate in and support tree-planting projects is inspiring, the simple act of planting a tree is becoming increasingly difficult for a multitude of reasons." (pg 1)

**Excerpt 2 - Challenges**

Barriers to implementing a CAP's urban forestry measures were identified as primary and secondary challenges:

"Primary tree-planting challenges in San Diego County: Limited planting locations and delays in inventories to identify planting zones, lack of funding in select regions (e.g., can only plant in select census tracts), drought and lack of irrigation (e.g., irrigation is not included in project scope), lack of political support (e.g., resistance to CAP initiatives and implementation), compounding logistics* (e.g., specifications that dictate tree-planting success).

Secondary tree-planting challenges in San Diego County: Lack of project support or partnership and competing organizations Workforce challenges (e.g., depleted workforce, turnover, inconsistent training), one-time planting project funding does not cover labor or ongoing maintenance, tree replacement requirements outweigh impacts of trees, donor/grant restrictions and fiscal amount vs. impact (e.g., funders prioritizing planting in notable areas for project visibility instead of planting for greatest impact and benefit)" (pg 6).

**Excerpt 3 - Solutions**

"Redefining stakeholder roles: Organizations dedicated to planting trees are part of a growing network of leading environmentally focused stakeholders. While those like Tree San Diego continue to plant and care for trees in their respective regions, exploration of additional service lines and ways to increase stakeholder involvement have become paramount to amplifying urban greening projects. In addition to tree planting, environmental organizations and departments that plant trees need to promote urban forestry education, awareness, technology, and complementary initiatives throughout their project cycles. 'We are not just a tree-planting team' has become a statewide echo amongst urban forestry crews, which further indicates the importance of holistic approaches to urban greening proposals.

Enhancing partnership and collaboration: Cities, communities and funders play significant roles in successful planting projects. Leveraging partnerships with corporate philanthropies and community leaders can help fortify messaging, demand for green solutions, and increased visibility of planting projects. Moreover, collaborating with other environmental agencies can help eliminate siloing and expand efforts to create sustainable solutions... Through these partnerships, different agencies can lean on each other to build stronger communities and reliable systems that elevate environmental projects.

Restructuring grants and financing: Public and private planting grants are beginning to face scrutiny as they continually fail to include irrigation and expanded planting zones in the parameters. If grants and donor stipulations allow for tree care and maintenance (including watering throughout a tree's establishment period, especially in drought-prone regions), tree mortality rates will come down and a more sustainable forest will be planted. Flexibility of planting zones would open up planting opportunities to neighboring communities and to East County cities that are often overlooked in grant beneficiary lists...

Building long-term plans and goals: Advance preparation of one-time tree-planting opportunities requires continued donor giving and grant support beyond the planting season. One-time planting events are currently facing backlash due to the "plant it and leave it" approach by corporate donors looking to engage their employees during a one-time volunteer event. Long-term planning grants and urban forestry measures in CAPs and UFMPs will need fiscal support as well. Strategic planting opportunities need to be prioritized in urban heat islands and in neglected areas where grants based on target areas do not reach." (pg 17)

"Urban Tree Planting Challenges in San Diego County." Tree San Diego Resources, 2022, www.treesandiego.org/resources.