

City of San Diego **CLIMATE ACTION PLAN** Our Climate, Our Future























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Letter from the Mayor

A Future for All of Us



San Diego is at a crossroads. We can and must make the choices and investments necessary to embrace the growing clean-energy economy, provide equitable access to clean mobility, deliver healthy built and natural environments, and protect our residents from the growing threats of climate change. I believe in leaving things better than we found them. This Climate Action Plan guides our collective efforts to build a better future together. It won't be easy. This is an ambitious plan. But the financial cost and human consequences of inaction are almost unimaginable.

As we continue our recovery from the COVID-19 pandemic and face

new threats, this is an unparalleled opportunity for San Diego to respond boldly. In this global moment of uncertainty, with some of our deepest inequalities laid bare, we understand our responsibility to lead on climate action and prioritize the needs of our underserved communities for a better San Diego and more certain future for all of us. We experience the impacts of climate change through increased wildfires, extreme heat, sea-level rise, drought, and severe rainfall. Science shows us that the window to reverse the trends of climate change is rapidly closing and the time for action is now. We are setting the City on the path to net zero greenhouse gas (GHG) emissions by 2035.

The Climate Action Plan is our strategy to create a City with more efficient buildings and healthier lifestyles, good paying green jobs, and more resilient communities. We are committed to a just transition that uses the skills our workers have to support the work of the future and focuses on solutions that address the inequalities that climate change has exacerbated. San Diego has chosen to lead with equity, environmental protection, and economic prosperity as top priorities. Moving forward, the Climate Action Plan will be considered in every action the City takes. Our plan was built on the needs and priorities of our communities. Since 2020, we have heard from more than 3,800 residents on your hopes, needs, and frustrations. The experiences of San Diegans across the city during the pandemic provided some of the greatest insights on our community priorities as we built this plan. We took special care to hear from our underserved communities, partnering with community-based organizations for direct engagement with our most vulnerable residents who have often been the least heard. People of color and low-income residents have been hit first, worst, and hardest by climate change, a pattern that will continue unless we listen to them and prioritize their needs.

Establishing a net-zero GHG emissions target by 2035 means eliminating fossil-fuel emissions from most day-to-day activities in a little more than a decade. A net-zero target allows the City to address emissions through research, pilots, and innovation while there is still time to invest in our people and business for actions not yet available at scale. Achieving net-zero emissions will improve the air we breathe, the communities we live in, and our overall quality of life.

When I authored our original plan eight years ago, I looked forward to a safe, sustainable future with good-paying green jobs for generations to come. We have learned so much over the last several years. We are using this knowledge to set aggressive new goals, focused on resiliency and equity, and implement strategies to achieve them. We will address natural gas in all buildings for the health of our families. We will continue to transition our energy system away from fossil fuels and toward clean and renewable sources. We will make it easier for people to get around the city by bicycling, walking, or using transit regardless of their destination.

I am committed to making our City a model of climate action for California and the world. Our city, our climate, and our future depend on it.

Todd Gloria Mayor, City of San Diego

Acknowledgements

Honoring the land's original stewards

The City of San Diego acknowledges that we are on the traditional territory of the Kumeyaay, Luiseño, Cupeño and Cahuilla.

Today, the Kumeyaay people continue to maintain their political sovereignty and cultural traditions as vital members of the San Diego community. We are honored to share this space with them and we thank them for their stewardship.

Acknowledgements

This update to the City of San Diego's Climate Action Plan would not have been possible without the significant contributions in time, energy and thought of many. Thank you to the thousands of San Diegans who gave their time to provide input in the development of this plan.

Order of list:

Mayor:

Todd Gloria

City Council:

- Joe LaCava, District 1
- Jennifer Campbell, District 2
- Stephen Whitburn, District 3
- Monica Montgomery Steppe, District 4
- Marni Von Wilpert, District 5
- Chris Cate, District 6
- Raul Campillo, District 7
- Vivian Moreno, District 8
- Sean Elo-Rivera , District 9

City Attorney:

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- Nicole Denow, Deputy City Attorney
- Lindsey Sebastian, Deputy City Attorney

Project Team (City staff)

- Alyssa Muto, Director, Sustainability & Mobility
- Heather Werner, Deputy Director, Sustainability & Mobility
- Shelby Rust Busó, Chief Sustainability Officer, Sustainability & Mobility
- Ashley Rosia-Tremonti, Program Manager, Sustainability & Mobility
- Moriah Saldaña, Program Manager, Sustainability & Mobility
- Julia Chase, Program Coordinator, Sustainability & Mobility
- Marissa Westerfield, Program Coordinator, Sustainability & Mobility
- Joe Whitaker, Senior Planner, Sustainability & Mobility
- Roberto Carlos Torres, Climate Equity Specialist, Sustainability & Mobility
- Anthony Moore, Senior Management Analyst, Sustainability & Mobility
- Lindsey Hawes, Program Manager, Sustainability & Mobility
- Colin Santulli, Program Manager, Sustainability & Mobility
- Chad Colton, Program Manager, Sustainability & Mobility
- Melina Cunha, Intern, Sustainability & Mobility
- Audrey Tamayo, Intern, Sustainability & Mobility

City Staff:

- Alejandra Gavaldon, Strategic Program Manager, Stormwater
- Anisha Gianchandani, Program Manager, Planning
- Anna McPherson, Program Manager, Development Services
- Brian Schoenfisch, Deputy Director, Development Services
- Brian Widener, City Forester, Transportation
- Casey Smith, Director, Fleet Operations
- Donny Nguyen, Program Manager, Fleet Operations
- Emanuel Alforja, Associate Engineer, Sustainability & Mobility
- Everett Hauser, Program Manager, Transportation
- Heidi Vonblum, Director, Planning
- James Nagelvoort, Director, Engineering & Capital Projects
- Jane-Marie Fajardo, Senior Planner, Environmental Services
- Jeff Sturak, Deputy Chief Operating Officer
- John Stufflebean, Assistant Director, Public Utilities
- Jordan Moore, Senior Planner, Planning
- Julie Sands, Program Manager, Environmental Services
- Justin Ono, Supervising Recycling Specialist, Environmental Services
- Keli Balo, Assistant Deputy Director, Public Utilities
- Mark Berninger, Senior Planner, Parks & Recreation
- Maureen Gardiner, Senior Engineer, Sustainability & Mobility
- Myrna Dayton, Assistant Director, Engineering & Capital Projects
- Raynard Abalos, Deputy Director, Development Services

City Staff (cont.):

- Renee Robertson, Director, Environmental Services
- Samir Hajjiri, Program Manager, Development Services
- Sara Osborn, Senior Planner, Development Services
- Seth Litchney, Program Manager, Planning
- Tait Galloway, Program Manager, Planning
- Tom Tomlinson, Assistant Director, Planning Department

Equity Stakeholder Working Group

- Alliance San Diego
- Bayside Community Center
- Business for Good
- Casa Familiar
- Center for Policy Initiatives
- Center for Sustainable Energy
- Circulate San Diego
- City Heights Community Development Corporation
- Climate Action Campaign
- Environmental Health Coalition
- The Greenlining Institute
- Grid Alternatives
- Groundwork San Diego
- I Am Green
- Mid-City CAN
- Project New Village
- Rise San Diego
- San Diego 350
- San Diego Urban Sustainability Coalition
- The San Diego Foundation
- San Diego Housing Federation
- Sherman Heights Community Center

Consultant Support

- Energy Policy Initiative Center
- Institute for Local Government
- The Greenlining Institute
- Climate Action Campaign
- San Diego Urban Sustainability Coalition
- Mid-City CAN
- Environmental Health Coalition

Introduction

City of San Diego CLIMATE ACTION PLAN Our Climate, Our Future

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ike all cities across the world, the City of San Diego (City) is facing a climate crisis. Our residents, especially those who live within our historically underserved and underinvested Communities of Concern¹, are feeling the effects of

climate change in the air they breathe, extreme weather events and constrained resources and utilities. We must actively address this increasing threat to our safety and livelihoods; it will take all of us, around the world and across our region, and an unprecedented, equitable dedication of resources.

To meet the magnitude of the crisis, we are setting an ambitious goal to achieve net zero greenhouse gas (GHG) emissions by 2035. San Diego can and must lead with bold and inclusive steps. This Climate Action Plan (CAP) is the City's policy commitment to set clear goals to reduce GHG emissions and details the strategies and actions we will collectively take to make San Diego a more sustainable, healthy and thriving city. The CAP outlines federal, regional and local actions to avoid GHG emissions and allows us to hold ourselves accountable as we implement the plan.

Climate action is a constantly evolving field with new technologies, data, resources and community perspectives shaping the state of the science. While we can quantify the GHG impact of many well-understood actions, an appropriately scaled response to a global existential threat cannot be limited to the science and practices of the moment. The CAP is a visionary and adaptable document, informed by our residents, monitored annually and updated to reflect new approaches. The City has chosen to set a goal that stretches us beyond today, to do better for all of us tomorrow.

To maximize the impacts of core benefits, which are the tangible benefits in addition to the reduction of GHGs, and achieve the goal of this CAP, the City must prioritize the needs of our residents in Communities of Concern. By empowering residents and including them in the decision-making process, the City will be successful in mitigating the effects of climate change with substantial impact in our most vulnerable communities and improving quality of life for all.

¹ City of San Diego Climate Equity & Jobs Webpage. www.sandiego.gov/sustainability/social-equity-and-job-creation

The CAP is one part of the City's comprehensive and coordinated approach to addressing climate change referred to as <u>Our Climate, Our Future.</u> Our Climate, Our Future currently includes Climate Resilient SD, the Municipal Energy Strategy, Building Decarbonization efforts, Blueprint SD and climate equity initiatives. As the CAP is adopted, next steps will include an implementation plan, annual reporting, and department-level work plans.

As we take you through a journey of community input, data and science, we will illustrate our plan and specific actions that will avoid GHG emissions and reduce San Diego's impact on global climate change. Our efforts will focus on our communities most impacted and within the limited window of opportunity remaining to respond to this crisis.



The Climate Emergency

Science shows us that the window to reverse the trends of climate change is rapidly closing and the time for meaningful action is now. The United Nations (UN) Intergovernmental Panel on Climate Change (IPCC) compiles annual assessment reports on the "understanding of the current state of the climate, including how it is changing and the role of human influence, the state of knowledge about possible climate futures, climate information relevant to regions and sectors, and limiting human-induced climate change."

The IPCC, in part two of their sixth assessment report (AR6) released in February 20222, sounded the alarm on climate change more urgently than before. The report continues the trend of increasing scientific evidence that climate change is caused by human activity and accelerating at a pace beyond previous predictions. The IPCC warns that levels of risk for extreme weather events such as heat waves, droughts and rainstorms are high to very high at lower global warming levels than previously thought. These extreme weather events will disrupt the supply chain, our food systems and put pressure on the supply of fresh water. According to the IPCC, while "[n]ear-term actions that limit global warming to close to 1.5°C would substantially reduce projected losses and damages related to climate change in human systems and ecosystems," current projections show that even the very lowest GHG emissions scenario will bring us perilously close to that 1.5°C threshold. Without immediate, aggressive, large-scale action to curtail GHG emissions, we are likely to exceed that threshold in the near-term.

The National Oceanic and Atmospheric Administration U.S. Climate Normals, a comprehensive data set of observed daily weather, provides information about typical climate conditions for thousands of locations across the United States. Normals act as both a ruler to compare today's weather and tomorrow's forecast, and a predictor of near-future conditions. The 2020 release of the U.S. Climate Normals validates the predicted trend of warming and drying in the San Diego Region on a 30-year average. This will mean more heat waves, warmer nights and more variability in rainfall leading to extreme rainfall or extended periods of drought. In addition to GHG emissions, pollutants emitted from the same or similar sources have compounding effects, including severe impacts on air quality and public health. For example, black carbon, a particulate pollutant from fossil fuel combustion, contributes to the warming of the Earth, while particulate sulfates reflect radiation and cool the Earth's atmosphere. These contaminants also have a significant negative impact on the health of our residents and visitors. Black carbon and particulate sulfates have been shown to increase rates of cancer, asthma, lung and heart disease, particularly in communities overburdened with air pollution, and create acid rain, increasing the acidity of waterways and lakes and damaging ecosystems. In the San Diego region, we are in nonattainment for the federally designated 8-hour ozone standard, and the state designated Particulate Matter (PM)10 and PM2.5 standards. These pollutants have impaired the health of our residents for decades and must be prioritized alongside GHG emissions in our response to the climate crisis.



Human-induced warming reached approximately 1.09 degrees Celsius above pre-industrial levels for the period between 2011 and 2020. - IPCC AR6

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² IPCC, 2022: Summary for Policymakers [H.-O. Pörtner, D.C. Roberts, E.S. Poloczanska, K. Mintenbeck, M. Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: Climate Change 2022: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press. In Press.

Leading with Climate Equity

Systemic inequity continues to affect the quality of life for many San Diegans, particularly communities of color. After decades of overt or de facto environmental racism, it's important to create new policies and practices that do not maintain inequitable outcomes. This is achieved by removing structural barriers imposed by systemic racism to ensure equitable outcomes and equal treatment of all city residents. Communities that experience structural exclusion from land use, budgeting and infrastructure decisions, as well a lack of targeted resource and service investments, continue to experience exacerbated historical inequities.

Addressing inequity and systemic racism requires a thoughtful and intentional approach that empowers and includes our communities experiencing structural exclusion. To create equitable outcomes, we must prioritize action and investment where the need is greatest by involving impacted community members in the City's decision-making process early and through continual partnerships. For this reason, the concept of climate equity is critical throughout the CAP.

Elevating our Indigenous people's voices is also necessary to ensure that they are fully represented in the implementation of this plan. The City is committed to working with our local tribes to understand and respect cultural history and

Climate equity requires addressing historical inequities suffered by people of color, allowing everyone to fairly share the same benefits and burdens from climate solutions and attain full and equal access to opportunities regardless of one's background and identity.³

knowledge, build partnerships, uplift needs and priorities, and more fully reflect these voices in the implementation of the Climate Action Plan.

Recent City policies like the Parks Master Plan incorporate this commitment by prioritizing park and recreation investments in Communities of Concern and recognizing the Indigenous history in our parks and recreational spaces. With the FY22 budget, the Mayor and City Council created the Climate Equity Fund to supplement funding for infrastructure projects in Communities of Concern, providing funding sources for projects in these communities where funding has been limited in the past. The City will continue to seek new funding sources to expand the capacity of the Climate Equity Fund.

The City is committed to leading on climate equity by involving more community voices in the decision-making process and exploring ways to shift toward a shared decision-making model. This will require building up trust in communities



³ 2019 City of San Diego Climate Equity Index, Nov. 2019, www.sandiego.gov/sites/default/files/2019_climate_equity_index_report.pdf



that have historically been ignored or overlooked by government. Partnerships with trusted community-based organizations (CBOs) have been critical in the preparation of this CAP. By partnering with CBOs in Communities of Concern and increasing their capacity for targeted engagement with and on behalf of the City, we continue to empower the respective communities to have a voice in City policies and increase the levels of engagement from these traditionally disengaged populations based on a lack of inclusive engagement.

THE CLIMATE EQUITY INDEX

Historically, residents of some of our communities have had greater access to opportunities than others and we have lacked policies ensuring underserved communities are provided needed services. To better understand the disparities faced by our residents, the City worked with our Equity Stakeholder Working Group members to develop the first-of-its-kind Climate Equity Index (CEI). The CEI is an innovative tool in terms of both the design and development process. This tool brings together 41 indicators from publicly available data sources, that look at social and structural vulnerabilities, environmental pollution, and additional climate change impacts like flood and fire risks of census tracts within the City's jurisdiction. After calculating relative scores for each census tract, the CEI separates the census tracts into five categories, from Very Low, Low, Moderate, High, and Very High Access to Opportunity. The City recognizes census tracts with Very Low, Low and Moderate Access to Opportunity as Communities of Concern.

Community voices steered its direction at every step. Residents and organizations in underserved communities have understood and highlighted



disparities for decades. The results of the CEI only confirmed these issues have affected the lives of many San Diegans who live or work in neighborhoods that face unhealthy air quality, limited availability of alternative modes of transportation and little access to basic necessities like healthy foods. The CEI does not use race as an indicator; however, when we compare the designated Communities of Concern to race and ethnicity data, below-average access to opportunity disproportionately impacts communities with high percentages of people of color.

This CAP is intended to address disparities and advance climate equity, uplifting our Communities of Concern and improving the quality of life for all San Diegans. The CAP expands on the City's climate equity initiatives by identifying specific actions in each strategy that serve Communities of Concern. Throughout the CAP, actions utilize the CEI to prioritize Communities of Concern first, focusing on our residents most vulnerable to the effects of climate change and related issues like air quality. The update to the CAP was done in close collaboration with the development of Climate Resilient SD to ensure that Communities of Concern were prioritized synchronously.



⁴ https://www.sandiego.gov/sites/default/files/parks-master-plan-adopted-2021.pdf

PRIORITIZING COMMUNITIES OF CONCERN

The effects of climate change, such as poor air quality, extreme heat and infrastructure degradation, disproportionately impact communities of color, which are predominantly concentrated within the City's Communities of Concern. Therefore, we must prioritize Communities of Concern to ensure our most vulnerable are not left behind.

A map of San Diego's Communities of Concern and a map of redlined communities from 1939 share striking similarities. Redlining refers to the process of refusing a loan or insurance to someone because they live in an area deemed to be of financial risk, most often poorer, communities of color. Designated Communities of Concern largely match the concentration of communities of color and neighborhoods with low incomes in the early 1900s. Policies since this era have continued to perpetuate disparities across communities, which can be seen in our schools, parks and recreational centers, and infrastructure like roads and sidewalks. As noted in the City's 2021 Parks Master Plan⁴, post-World War II, the City's parks system has concentrated new park development primarily in the City's northern communities, where access to opportunity is generally considered to be high to very high. This is one example of barriers faced by residents in Communities of Concern who lack equal access to parks, pedestrian-friendly infrastructure, greenspace, or fast, reliable, and convenient transit. Prioritizing our Communities of Concern is the only way to ensure historical inequities are addressed and the City provides equal access to a high quality of life for all San Diegans.

Funding mechanisms like a Climate Equity Fund assist in prioritizing investments into Communities of Concern. In 2021, the Mayor and City Council established the Climate Equity Fund to supplement funding for infrastructure projects within Communities of Concern. This dedicated funding source allows projects in these communities to have additional funding for implementation of infrastructure projects, addressing the historical lack of investment in these communities due, in part, to the effects of redlining. Funding is important to prioritize Communities of Concern, but community engagement and empowerment are also key.



Southeastern San Diego has the largest concentration of Black San Diegans in the city. The Federal Home Owners' Loan Corporation (HOLC) assigned investment risk grades (from A: Best to D: Hazardous) to each area in San Diego based on several factors, including race and/or ethnicity. In the mid 1930s, Southeastern was predominantly graded a D for having undesirable populations.⁵ This drove down property values in the community and is still evident in the real estate market today. The City's 2021 CEI highlights this disparity. Since the City relies on Development Impact Fees (DIF) to invest in infrastructure per neighborhood, as more development goes into a neighborhood, more funds are made available in areas for parks, roadway improvements, etc. The racist policy of redlining decreased the value of property in communities like Southeast San Diego, discouraging development and therefore community investment from the City.

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⁵ Mapping Inequality: Redlining in New Deal America - San Diego, LISC. 2020

COMMUNITY EMPOWERMENT

As the climate changes, so too will the makeup of our communities. Should the U.S Census Bureau population data trends continue, San Diego communities will grow and become more diverse. Residents must be empowered and supported to fully access the opportunities and benefits from climate actions and related environmental and quality of life improvements. However, doing so will require the removal or mitigation of barriers some communities face, such as a lack of access to quality and efficient transit systems or reducing costs for the adoption of clean energy technologies. Outreach and engagement are key to understanding and identifying those barriers, but going a step further toward community empowerment is necessary to ensure every community can thrive.

Through racist policies like redlining, Communities of Concern were denied political power and influence often enjoyed by more affluent communities. While explicitly racist policies like redlining no longer exist, the effects can still be seen and felt. Cities are changing how decisions are made by developing a shared decision-making approach. Building on the work conducted with the Equity Stakeholder Working Group on the CEI, the City looked to our community liaisons and resident representatives to listen and bring forward the voices of residents to shape the priorities of the CAP and tackle the real concerns and challenges our residents face daily. These personal and important stories informed this CAP, helping it to be a more equitable policy for our City.

Shared decision-making means intentionally seeking community voices during the time when decisions are being made and ensuring this input can influence the outcome of the process. Throughout the draft development of this CAP, the City has engaged early with stakeholders and residents to shape the contents of this document as well as the details surrounding each of the strategies. The Equity Stakeholder Working Group participated in informal conversations on the overall engagement process, the methodologies used to rank measures and the outline of strategies within this document.

Moving forward, the City will continue to refine what it means to have a shared decision-making process, including exploration of programs such as Sustainability Ambassadors that would serve as community champions and neighborhood educators, as well as continued operation of the Equity

Stakeholder Working Group and other collective groups as identified by community stakeholders and the City. Throughout the implementation of the CAP, it will be essential to have direct connections in Communities of Concern to ensure their voices are centered in the development of future planning efforts, program development and budgetary decisions.



COVID-19 AND MOVING FORWARD

This CAP update occurred during unprecedented times for our City and residents. It occurred during the global novel coronavirus (COVID-19) pandemic, massive economic downturn, incidents of severe impacts due to climate change including wildfires and storm events and racial justice protests. The COVID-19 pandemic alone highlighted and exacerbated the vulnerabilities and inequities in our critical support systems for food, education, public health and housing. However, we also learned dramatic shifts in the status quo are both possible and necessary. We saw we can create streets and neighborhoods that encourage walking and bicycling over individual vehicle use. Our government, private companies and organizations can implement teleworking to give workers more flexibility and reduce GHG emissions from commuting. We have also altered our neighborhoods to connect our residents to local businesses and goods, repurposing our outdoor spaces for people. These direct experiences of San Diegans during the pandemic were important as we built this plan. The timing of this document creates an opportunity for the City to utilize our climate work to open new opportunities for San Diego's businesses and communities to build a more resilient and equitable City.



⁶ https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data

A Pathway to Zero

As we are faced with a rapidly worsening climate crisis, it has never been more important for the City to set an ambitious, science-based goal that encompasses our fair share of GHG emissions. Achieving a goal of net zero GHG emissions by 2035 requires accelerated, bold action that goes beyond former commitments, such as the Paris Climate Agreement, and serves as an example to the rest of the world the level of response necessary to ensure a sustainable future for communities.

To ensure we are leveraging global expertise and research to set a path forward, the City utilized the best available data and globally accepted methodologies to develop the goal. The City utilized the International Council for Local Environmental Initiatives (ICLEI) Community Protocol to develop science-based targets for 2030 and 2035 and used a starting year of 2019 as detailed in Appendix C for projections. These targets also account for the City's "fair share" of GHG



emission reduction potential by accounting for gross domestic product (GDP), which allows more accountability for historic responsibility and current capacity to address the climate crisis relative to cities across the world. Historically, the United States has been the second largest source of GHG emissions globally.⁶

California's AB32 (2006) and SB32 (2016) legislation set a state GHG avoidance goal of returning to 1990 emissions levels by 2020, and reducing a further 40% below 1990 levels by 2030. It requires the California Air Resources Board (CARB) to develop a Scoping Plan that lays out California's strategy for meeting the goals. The goals in this Climate Action Plan are consistent with the requirements of SB32, exceeding the necessary GHG reduction targets. The State has committed to carbon neutrality by 2045 through carbon sinks, carbon capture or carbon storage. The California Air Resources Board (CARB) recognizes in its

Climate Change Scoping Plan that city-level data does not exist to determine what 1990 levels were, so it is assumed that GHG emissions in 2020 are representative of 1990 levels. The City acknowledges that 2020 emissions data may have impacts from the COVID-19 pandemic, so the 2019 GHG emissions inventory is likely the most representative under normal circumstances in achieving the 2020 goal of AB32.

After accounting for all strategies, the City has identified within this CAP there will be residual GHG emissions, or those emissions that will remain after all actions have been implemented. Strategy 6 has been developed for this CAP to

better understand where opportunities exist to pursue those additional actions that will be necessary to achieve the GHG goal and prioritize core benefits such as improving air quality.

On March 25, 2020, the San Diego City Council passed Resolution Number 312891: Declaring a Climate Emergency and the Need for Accelerated Action to Address the Climate Crisis. The resolution acknowledges the need for accelerated local action to address the climate crisis and is the foundation for the ambitious net zero goal laid out within the CAP.



Greenhouse Gas Emissions - City of San Diego

Energy Policy Initiatives Center, University of San Diego, 2021

Metric Tons CO₂e



Below is a representation of GHG emissions avoided over time as a result of federal, state and regional actions, as well as by the City at the strategy level.

Modernizing the City's approach to monitoring progress achieving a net zero goal, moving forward we will measure progress towards "0" rather than measuring against a historic baseline. This will ensure the monitoring results are more transparent and consistent with the most current available information, and also easier to understand so that the public, stakeholders and decision makers can independently assess the City's progress and budgeting of resources. To 'go net zero' is to reduce greenhouse gas emissions and/or to ensure that any ongoing emissions are balanced by removals.

Year	Business-as-usual Emissions Projection (MT CO ₂ e)	Target Emission Levels (MT CO ₂ e)	Emissions Reduction from CAP Implementation** (MT CO ₂ e)	Emission Levels after CAP Implementation (MT CO ₂ e)	Additional Emissions Reduction or Removal Needed (MT CO ₂ e)
2019 (Starting Year)	10,532,000				
2030	10,628,000	4,223,000*	6,014,000	4,614,000	391,000
2035	11,036,000	Net Zero Emissions	8,774,000	2,262,000	2,262,000
**CAP implemen	0	_	er capita emissions) ations and programs, SANDAG	regional actions and CAP Stra	tegies

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California Environmental Quality Act (CEQA) Streamlining

Pursuant to CEQA Guidelines Section 15183.5, a CAP should:

- ✓ Quantify GHG emissions, both existing and projected, over a specified period of time within a defined geographic area.
- Establish a level below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.
- Identify and analyze the GHG emissions resulting from specific actions, or categories of actions anticipated within the geographic area.
- ✓ Specify measures or a group of measures, including performance standards, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Set up a method to monitor the plan's progress toward achieving that level, and to require amendment if the plan is not achieving specified levels.
- ✓ Be adopted in a public process following environmental review.

A climate action plan that meets the above criteria may be used for streamlining the analysis of GHG emissions. Similar to the documentation approved for the 2015 CAP, the proposed CAP, along with the associated environmental documentation and Municipal Code amendment, will meet the requirements of CEQA Guidelines Section 15183.5 for a Qualified Greenhouse Gas Emissions Reduction Plan. The regulations proposed to be set forth in the Land Development Code contain measures that are required to be implemented on a project-by-project basis to further the City's achievement of ensure the specified emissions targets identified in this CAP are achieved. Implementation of the six strategies and associated actions of the CAP would ensure that the City would achieve the specified emissions level set forth in the CAP, as demonstrated in Sections 6 and 7 of Appendix C to the CAP.

A climate action plan that meets the CEQA criteria under CEQA Guidelines section 15183.5 for a Qualified Greenhouse Gas Emissions Reduction Plan demonstrates specific quantifiable actions that a jurisdiction will need to implement to reduce GHG emissions in a manner consistent with State reduction targets.

CLIMATE ACTION PLAN CONSISTENCY

The CAP Consistency Checklist, adopted in 2016, is being revised and is proposed to be codified as an amendment to the Land Development Code to ensure that all new development is consistent with the updated CAP (CAP Consistency Regulations). In addition to ensuring new development projects are consistent with the City's GHG emissions reductions goals under this CAP, analysis of GHG emissions impacts is also required under the CEQA. This approach will incorporate the CAP into the City's Municipal Code for the first time.

The CAP is a plan for the reduction of GHG emissions in accordance with CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h) (3), 15130(d) and 15183, a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of the CAP. The regulations anticipated to be set forth in the Land Development Code, which will be incorporated into this CAP by reference, contain measures that are required to be implemented on a project-by-project basis to ensure the specified emissions targets identified in this CAP are achieved. Implementation of these measures would ensure that new development is consistent with the CAP's assumptions for relevant CAP strategies toward achieving the identified GHG reduction targets. Projects that are consistent with the CAP, as determined through the CAP Consistency Regulations, may rely on the CAP for the cumulative impacts analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions and incorporation of the measures in the CAP Consistency Regulations to the extent feasible. Cumulative GHG impacts would be significant for any project that is not consistent with the CAP. The CAP Consistency Regulations may be updated to incorporate new GHG reduction techniques or to comply with later amendments to the CAP or local, state or federal law.

San Diego's Response to the

This is the first comprehensive update to the City's groundbreaking 2015 CAP, which committed the City to a goal of 50% GHG avoided by 2035 based on a point in time of a 2010 baseline. Five strategies were developed to target the reduction of energy consumption, increase renewable energy efficiency and implement more equitable climate investments in underserved communities. Many of the goals under each strategy have been met in the years since the plan passed.

San Diego received national recognition as one of the first cities to have a comprehensive roadmap to quantifiable, accountable GHG reduction targets. Beyond GHG emissions reductions, the original plan prioritized maximizing the co-benefits of climate action, including enhancing San Diego's natural and urban environments, improvements to public health and air quality, building a more resilient economy, water conservation, taxpayer savings and improving overall quality of life.



Climate Emergency

The City of San Diego's adoption of the 2015 CAP created a pathway for a more sustainable San Diego, building on policies and plans passed in the earlier decade.



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The Update Process

Updating the 2015 CAP gives the City an opportunity to incorporate more knowledge from the lived experience of our residents, new technologies and scientific advancements and more recent data sources, to responsibly set our climate action goals on the aggressive timeline the best scientific research indicates is needed. It also allows the City to expand on climate equity in the plan and incorporate additional core benefits of climate action into the analysis of individual measures that can improve prioritization, budgeting and implementation.

Centering climate equity started with a robust engagement campaign enabling all members of our community to participate in the planning process. Extensive community input underpinned the development of the CAP update, including community workshops, digital resources and methods for feedback and youth engagement.

In summer and fall of 2020, during the COVID-19 pandemic, San Diego hosted a virtual citywide forum, as well as nine virtual community forums in each council district. Through these forums, more than 500 participants learned about the previous CAP and the update process, and shared what climate actions they prioritize, what climate equity means to them and how climate change has already impacted them. An online survey captured more than 1,800 responses, giving more opportunity to share what actions San Diegans prioritized and the specific barriers they face in implementing climate action in their own lives. In partnership with San Diego libraries, the City distributed 10,000 climate action activity books for youth to learn about conservation and share their own thoughts on the future of San Diego.

While the City's initial engagement in 2020 provided extensive feedback from San Diego residents, there was an underrepresentation of our communities of color and residents in Communities of Concern. To address this gap in our engagement, and to lift up the voices of our residents that are most directly impacted by the effects of climate change, the City partnered with the Institute for Local Government (ILG) and several local nonprofits and community-based organizations within Communities of Concern. This engagement campaign supported the capacity of organizations and residents in many Communities



of Concern, including Barrio Logan, City Heights, Linda Vista, San Ysidro, Southeastern San Diego, Encanto, Skyline-Paradise Hills, Otay Mesa and Otay Mesa-Nestor, to participate in the update process and inform decisions affecting their communities for generations to come.

ILG was tasked with providing the logistical support and coordination of four community-based organizations and two non-profits on behalf of the City. These partners were empowered to engage residents in their respective communities in ways that ensured proper representation of their areas. A report by ILG, Appendix D, was drafted to detail the unique engagement approach of each

partner, the outcomes of the engagement and a best practices and lessons learned report to showcase the City's investment in this equitable engagement approach and how to potentially implement the practice in future citywide projects. Appendix B is a detailed table that outlines the outcomes of the community input and identifies the actions included in the CAP as a result. The City also compiled a community engagement report as Appendix E to summarize the engagement and results used to shape the actions identified within this CAP.















Core Benefits of Climate Action

While reducing GHG emissions is the main objective of this CAP, related challenges and benefits experienced by our residents each day should be considered for prioritization during implementation. Maximizing core benefits, especially those that address severe existing conditions like air quality, can be accomplished in tandem with implementation of the CAP. Core benefits may not have a direct or indirect impact on reducing the effects of climate change, but they warrant consideration in the interest of public health and safety, economic resiliency and overall quality of life.

The first step to empowering communities to achieve greater access to opportunity is to understand the core benefits most important to them and use this information to directly influence the development and implementation of the CAP. The following core benefits were identified from the extensive engagement process that took place during the development of the draft, utilizing online surveys, phone banking and community forums.



- Air Quality
- Indoor air quality
- Outdoor air quality

Public Health

- Reduce pollution and litter
- Increase access to healthy and affordable food
- Increase walkability
- Increase access to parks, green space, and recreation
- Increase safety (e.g., pedestrian, bike)

Jobs & Economy

- Local investment generated
- Potential for local jobs
 - Increase affordability of transportation

Resiliency

- Reduce heat island effect
- Increase natural habitat
- Improve biological resources (i.e. trees, green spaces)
- Improve water quality
- Increased independence for local resources (i.e. energy, water)

CLIMATE ACTION SELECTION METHODOLOGY

Addressing climate equity in this update to the CAP required the City to not only listen and seek out input from our residents, but to ensure this information directly influenced the strategies, measures and outcomes, while also assessing operational feasibility and equity in implementation.

One method to reach that goal was the Climate Action Prioritization (CLIMACT Prio) Tool, created and distributed by researchers at the Institute for Housing and Urban Development Studies at Erasmus University Rotterdam. This tool guided City planners through the collection of necessary data, and then it allows technical staff to conduct a quantitative analysis in which they ranked climate actions by operational feasibility, community priorities collected through engagement activities and opportunities for equitable implementation.

The City modified CLIMACT Prio to better understand how each action could feasibly prioritize Communities of Concern, empower communities and address historical disparities. Actions identified during outreach and engagement were all analyzed using CLIMACT Prio to directly incorporate that input into the ranking process, and to illustrate how feedback can shape the City's approach to climate action.

The CLIMACT Prio Tool analyzed the following inputs:

- A complete list of potential actions as identified by outreach and engagement with residents and stakeholders, as well as through peer city reviews and discussions with City department leadership and staff that implement CAP actions.
- A list of the core benefits important to residents, such as improved air quality, local job generation or pedestrian/cyclist safety as determined by outreach and engagement with the City's residents.
- An evaluation of the feasibility of each action completed by engaging City department leadership and staff that implement CAP actions.
- An evaluation of an action's potential for equitable outcomes including investments and benefits being concentrated in Communities of Concern, community empowerment and redressing historical disparities.
- An evaluation of the impact each action would have on core benefits.
- A weighting of the core benefits as we heard them from residents.

The tool utilizes this information to provide a ranking for each CAP action, which is shown as a total value for each measure. This ranking is an indicator of which measures should be prioritized, the feasibility of a measure and the potential for equitable outcomes.



Governance and Leadership

Protecting the World's Oceans

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STOP BIG OIL!

VOTE!

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ocal governments, particularly cities, are central to addressing the ongoing climate crisis. Most of the world's population resides within cities, which means that cities bear the largest burden in responding to and avoiding

impacts from climate change. Cities also play an intermediary role with direct connection to their communities and residents and advocating up to larger state and federal agencies.

A whole-of-government approach includes active coordination efforts between all levels of government and strong partnerships with community-based organizations, the private sector and our workforce. This approach starts with establishing a unified vision for addressing climate change that the entire City of San Diego organization is aligned to achieve and a strong governance structure to ensure it delivers. For the City of San Diego, the CAP is that shared vision and the City continues to build a governance structure around the implementation of the CAP goals that increases accountability, transparency and coordination, and better informs budget and resource decisions.

CLIMATE ACTION PLAN AUDIT

In 2021, an audit of the City's implementation of the 2015 CAP was released by City Council. The City Auditor found that "... the City needs to address several issues to improve its CAP implementation, including improving coordination, transparency and budgetary planning." In consultation with City departments, the Auditor's report provided several recommendations for improving CAP implementation.

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Recommendation 1 - To formally establish responsibility and authority for oversight and accountability of CAP implementation, through annual department work plans and department CAP liaisons to assist the Council with budgetary considerations.

Recommendation 2 - In conjunction with the update to the Climate Action Plan, the City should conduct a staffing analysis to determine additional resources to support the City's CAP implementation within the Sustainability and Mobility Department.

Recommendation 3 - To strengthen opportunities for collaboration among City departments, the City should have citywide Sustainability Roundtable meetings at least quarterly, with time dedicated for departments to share the implementation status of CAP workplans and to discuss challenges and potential areas for collaboration and coordination.

Recommendation 4 - To better inform the public and ensure the City Council is aware of how the items they are voting on help to implement or support the CAP, the Staff Report template should be revised to include a section to identify how an item helps to implement or support the CAP.

Recommendation 5 - As part of the City's CAP 2.0 update and to facilitate the prioritization of the City's limited resources for CAP implementation, an assessment and rating system should be developed for the CAP measures, using factors such as cost estimates, staff resources, feasibility, GHG reductions, climate equity and other benefits to help inform prioritization.

Recommendation 6 - Once CAP 2.0 is developed, the City should develop an implementation plan, including an estimate of associated costs, information on funding sources and identification of funding gaps.



City officials concurred with these recommendations and are implementing them as the CAP is updated. Internal coordination through regular interdepartmental meetings at a Sustainability Roundtable occur quarterly at minimum; the CAP Implementation section is included in all staff reports for Mayoral, Council, and public review; the CLIMACT Prio tool is used to enable prioritization of actions in the CAP and in the subsequent Implementation Plan; and the CAP staffing analysis of near-term needs in the Sustainability & Mobility Department under the new CAP was presented at the May 2022 Environment Committee meeting.

A draft matrix of the CAP Implementation Plan is being developed in parallel with the Climate Action Plan to inform the public, stakeholders, and City Council of the timeframes, financial resources, staffing needs, and prioritization factors for all actions in the CAP. Following adoption of the CAP and this significant shift in citywide climate action policy, the matrix will be updated and expanded into a comprehensive implementation plan to assist in future decision making and budgeting. Implementation planning will also provide another opportunity for prioritizing resident input and investments in Communities of Concern.

A new Administrative Regulation, and supporting templates, is being prepared which requires all City departments to assign CAP liaisons and complete annual work plans for their respective actions identified in the CAP Implementation Plan. The regulation and subsequent work plans will inform the budget process for fiscal year 2024 and all subsequent budget cycles.

⁷ San Diego Jobs Impact Analysis. The Building Electrification Institute. December 2021.

Green Economy and Just Workforce Transition

Successful climate change policy must incorporate strategies to open new economic opportunities and support a smooth transition of business activities and workers to more sustainable practices. A strong economy brings many benefits such as quality jobs, vital funding for public education and infrastructure, better health outcomes, and financial and physical security. Poorly targeted and unregulated economic forces have driven the current climate crisis and its self-defeating impacts will increasingly harm our shared prosperity and quality of life if left unchecked. Inversely, a climate-focused economy will spur growth and opportunity while simultaneously providing solutions to remediate the climate crisis. Ambitious climate action can only be achieved with a strong workforce and high-quality job opportunities to support it. The City will lead the way by investing in job training, programs to make impacted workers whole, finding opportunities to keep impacted workers in their current professions to the greatest extent possible, and innovative partnerships and pilot programs that create local opportunities. Part of this leadership is gathering a full understanding of the impact major climate policies will have on our neighbors in various industries. To that end, the City partnered with the Building Electrification Institute and Inclusive Economics for a Workforce Impact Study⁷ of two of the most significant measures in the CAP – removing fossil fuels from new construction (Measure 1.2) and transitioning all City facilities to zero emissions (Measure 1.3).

According to the Workforce Impact Study, the new construction requirements result in 60-65 fewer average annual residential building construction jobs in San Diego. Anticipated municipal clean energy projects necessary to achieve the goals in Strategy 1 have the potential to add an average of 70 to 90 new jobs per year over the next 13 years. The City's Municipal Energy Strategy prioritizes workforce opportunities, education and training, and the City is committed to working with labor and workforce partners to leverage our municipal retrofits to provide on the job training for local trainees in the clean energy market to realize the benefits outlined above, as well as "greening" of existing skills and good-paying jobs.

The policies and associated investments proposed in this CAP will create an influx of new jobs and provide many community and economic benefits

https://www.sandiego.gov/sites/default/files/sd_jobs_impact_analysis_summary_memo_dec2021_final-2.pdf

in San Diego. However, some actions may also impact our skilled workers associated with fossil-fuel dependent industries. A highly skilled and well compensated workforce is necessary to decarbonize our built environment and electrify our transportation sector. An equitable and just distribution of new job opportunities and economic benefits will not occur automatically. The City recognizes that as we shift toward net zero GHG emissions, we must pair emission-reduction policies with investments in other technologies, building practices or workforce programs to provide for a just transition and to ensure that newer fields offer good, living wage jobs that provide the security necessary to support San Diego families.

The complexity and interdependency of the various 'just transition' elements cannot be understated, requiring extensive collaboration and long-term planning at all levels of government. Wage guarantees for transitioning workers, pension security for impacted unions, job placement prioritization for displaced workers and salary bridges to retirement for those workers close to the end of their careers are all elements that must be thoughtfully considered to ensure no workers are left behind during this shift. Strong partnerships throughout the workforce ecosystem are critical for a successful and equitable transition away from fossil fuels in San Diego. This economy-wide transition will require commitments from across the labor market, including employers, workers, unions and our own public agencies. The City can be a catalyst for this 'just transition' by leading initial and long-term planning, facilitating regional coordination and engaging with the state and federal agencies that are responsible for labor policy and funding provision.



Partnerships and Advocacy

The City cannot solve the global climate crisis in isolation. Developing strong partnerships and capitalizing on opportunities to advocate for San Diego's priorities is necessary for transformational change. The City does not always have direct control however, there are many spaces where the City has the ability to advocate for the reform necessary to protect San Diego's environment and bring about air quality improvements, economic resiliency, just transition for our people, and public health outcomes that are of significant importance to our communities. This is a major component of the work that will be done on the CAP Implementation Plan, to ensure we are finding partnerships to increase efficiency and effectiveness in the successful implementation of the CAP.

COUNTY OF SAN DIEGO

The County of San Diego is updating their climate action plan concurrently with the update of the City's CAP and is also developing a Regional Decarbonization Framework (Framework) to help regionalize climate planning efforts across various jurisdictions' climate action plans. In 2021, the County of San Diego Board of Supervisors adopted a resolution for the development of their Framework for a regional zero-carbon sustainability plan in partnership with the UC San Diego School of Global Policy and Strategy and the University of San Diego (USD) Energy Policy Initiatives Center. The draft Framework provides science-based pathways to achieve zero carbon in the region and is intended to foster regional collaboration between public agencies, universities, schools, business, labor, communities, and tribes, as well as leverage resources at the state and federal levels. The most current draft Framework outlines the approved climate plans throughout the region and the collective reductions, resulting in a net required GHG emissions avoidance and reduction for the region as a whole; however, the Framework does not include the City proposed net zero goal and associated strategies and actions to reduce GHG outlined in this plan. Upon adoption of this CAP, the Framework should be updated to clearly define the City's commitment to more accurately represent the climate planning and implementation efforts needed from the County and other cities in the region to meet a net zero goal regionally.

SAN DIEGO ASSOCIATION OF GOVERNMENTS

The San Diego Association of Governments (SANDAG) is the San Diego region's Metropolitan Planning Organization (MPO). Core functions of SANDAG include planning for the region's future growth by identifying areas

for smart growth supported by a long-range transportation plan through the Regional Plan (RP), which is updated every four years, and development of a Regional Transportation Improvement Program (RTIP) that allocates funding to near-term projects that implement the Regional Plan. SANDAG provides the public forum for regional policy decisions about growth, transportation planning and transit construction, environmental management, housing, open space, energy, public safety and binational topics. During the development of this update to the CAP, SANDAG has led a broad-based community effort to develop San Diego Forward: The 2021 Regional Plan. SANDAG's 2021 Regional Plan will make meaningful progress toward making it easier to get around San Diego without using a car, but it will not be enough for the aggressive targets detailed in this CAP. Reaching our goals will also require significant City-led investment.

Mayor Todd Gloria presently serves as the SANDAG's Board of Directors First Vice Chair and is joined on the board by City Council President Sean Elo-Rivera. Other City Councilmembers also represent the City of San Diego on various SANDAG policy committees, subcommittees and working groups. Dozens of City staff are also members of other SANDAG working groups, committees, councils and project study teams, collaborating with and advising SANDAG on a regular basis to help develop regional policy, plans and projects that ultimately go to the Board of Directors for approval. For example, the City is a founding member of the SANDAG-led Accelerate to Zero Emissions Collaboration (A2Z). The purpose of A2Z is to develop a vision and implement a San Diego Regional Electric Vehicle (EV) Strategy that will accelerate investment in zero-emission vehicles and EV infrastructure that reduces air pollution and GHG emissions to combat climate change. City staff regularly coordinate with SANDAG on transportation modeling, planning, active transportation and engineering for all community plan updates, multimodal corridor, active transportation and specific plans. The City has a SANDAG/ MTS Liaison who helps facilitate coordination on SANDAG and MTS projects. This includes administration of the Memorandum-of-Understanding (MOU) between SANDAG and the City for streamlined City-permitting processes to construct improvements and the transferring improvements to the City's asset owning departments once construction is complete.

SAN DIEGO AIR POLLUTION CONTROL DISTRICT

The San Diego Air Pollution Control District (APCD) works to improve the health and well-being of San Diegans through air quality improvements by ensuring commercial, industrial, transportation and agricultural businesses are permitted and comply with air pollution control laws; incentivizing cleaner technologies through grant opportunities; and monitoring, sampling and recording air quality using a network of equipment stationed around

the county and alerting the region of air quality conditions. These efforts often have an additional benefit of improving GHG emissions while lowering the level of criteria pollutants. The passage of California Assembly Bill 423 restructured the APCD board to better align with other regional agencies and now allows the City of San Diego to have a maximum of two members, from either the Mayor or Council. Currently, two City Councilmembers are seated on the APCD board.

The City works closely with APCD on a number of regional plans and regulations, including the Regional Air Quality Strategy and the Portside Environmental Justice Neighborhood's Community Emission Reduction Plan (CERP) and the upcoming Border Communities CEP. The Portside CERP was developed in a community-driven process to detail actions and strategies APCD will utilize to reduce air pollution and improve public health in the City's neighborhoods of Barrio Logan, Sherman Heights and Logan Heights. The City continues to serve as a steering committee member to support the implementation of the CERP.

SAN DIEGO COUNTY WATER AUTHORITY

The San Diego County Water Authority (SDCWA) is the regional wholesale provider of imported water that supplements local water supplies for 24 retail water purveyors in San Diego County, including the City's Public Utilities Department. This makes SDCWA a vital partner in ensuring water supply reliability for the City's water customers and identifying opportunities to improve the emissions impact of the energy-water nexus. The City currently holds 10 seats on the board.

SAN DIEGO METROPOLITAN TRANSIT SYSTEM

The San Diego Metropolitan Transit System (MTS) is one of the two agencies that provide public transit for the City of San Diego. MTS serves all communities south of State Route 56 (SR 56), which includes most of the City's residents. MTS maintains and operates the light rail (trolley) and bus transit network. Additionally, it licenses and regulates taxicabs, jitneys and other private for-hire passenger transportation services. Mayor Todd Gloria and three City Councilmembers presently sit on the board of directors for MTS. In 2020, the agency launched a plan to get the bus fleet to all zero-emissions vehicles by 2040. MTS has also launched a pilot program to provide youth opportunity passes, making transit more accessible and paving the way for future generations to use transit as their first choice to get around.

Partnership with MTS is necessary to ensure that transit operations can support the increases in density and ridership and achieve a level of efficiency

to provide for an alternative to driving. Currently, the City has a dedicated SANDAG/MTS staff liaison that facilitates coordination and work on new Bus Rapid Transit (BRT) lanes and improved signal coordination for increased efficiency and on-time performance.

NORTH COUNTY TRANSIT DISTRICT

The North County Transit District (NCTD) provides public transit for the North County region, including City of San Diego communities north of SR-56. NCTD operates bus services in the North County Region as well as the Coaster and Sprinter commuter rail that connects Downtown San Diego to the North County cities. A City Councilmember sits on NCTD's Board of Directors as a non-voting advisory member.

SAN DIEGO COMMUNITY POWER

San Diego Community Power (SDCP) is a Community Choice Aggregation (CCA) program which purchases electricity on behalf of its customers and partners with San Diego Gas and Electric (SDG&E) to deliver electricity to homes, businesses and municipalities. The 2015 CAP was integral to the establishment and success of the region's Community Choice Aggregation program. SDCP prioritizes clean and renewable energy and supports San Diego in achieving its 100% renewable energy goal. The Cities of San Diego, Chula Vista, Encinitas, La Mesa and Imperial Beach are the founding members of SDCP. The County of San Diego and National City joined SDCP in 2021.

SDCP has recently started to develop its own programs aimed at increasing local clean energy generation and will continue to develop programs that engage residents, businesses and communities on the 100% renewable electricity transition. Starting in 2022, SDCP is beginning to switch over City of San Diego residents to 50% renewable power, with an ability to increase that service to 100% renewable sourced power. City facilities have transitioned and are served by SDCP's Power100 program, which promises to deliver power from 100% renewable and carbon-free sources. The City has one seat on SDCP's board, currently represented by a City Councilmember. The City is committed to partnering with SDCP for future partnerships on programming and local energy projects, especially to meet the needs of our Communities of Concern.

SAN DIEGO REGIONAL CLIMATE COLLABORATIVE

The San Diego Regional Climate Collaborative (SDRCC) was established in 2011, as a network for public agencies to advance climate change solutions

that mitigate GHG emissions and adapt to the effects of climate change. Partnering with academia, non-profit organizations and business and community leaders, the Collaborative raises the profile of regional leadership, shares expertise and leverages resources for shared benefits. The City of San Diego is a founding member of the SDRCC.

PORT OF SAN DIEGO

The Port of San Diego (Port) serves as a specially created district along 34 miles of the San Diego Bay, spanning five cities. Many of the larger tenants, including the maritime industry, operate along the City of San Diego boundary with the Port. In their efforts to address air quality, the Port has adopted the Maritime Clean Air Strategy to achieve health equity for all, while setting a goal to have 100% zero-emission trucks and cargo-handling equipment by 2030. The City seeks to be a stronger partner with the Port to help achieve its clean air goals and improve the health and well-being of San Diegans in our portside communities as well as the GHG reduction benefits of better air quality. The City appoints three Port Commissioners to the Board with City Council approval of Mayoral nominations.

SAN DIEGO GAS & ELECTRIC

In 2021, the City entered into an Energy Cooperation Agreement with SDG&E as part of the Electrical and Gas Franchises. Under this Agreement, SDG&E commits to collaborate with the City to attain the principles and policies of the CAP by providing clean, safe, reliable and equitable energy to San Diego residents and to support the City's clean energy goals with respect to the reduction of GHG emissions. This will include identifying energy efficiency and demand response programs, improving the urban tree canopy and support for clean transportation programs. Additionally, SDG&E and the City will work together on resiliency and reliability goals such as wildfire safety, microgrids and support for the City's Emergency Operations Center. Other endeavors include equity-focused solar expansion, affordable housing utility design, zero emission vehicle charging, and encouraging diversity in the local clean energy workforce. Under the Energy Cooperation Agreement, SDG&E and the City will meet regularly during each year to assess their progress and set new goals. The Climate Equity Fund (CEF) is funded partially by fees collected from the Energy Franchise agreement with SDG&E.

Climate Action in the State of California



The City of San Diego coordinates with the State on legislative and regulatory proposals that advance on sustainability and climate action to reduce GHGs and pollutants and advance the local implementation of environmental targets. The City has advanced funding and policy priorities through legislative action on issues as varied as waste diversion, vehicle electrification, clean energy and community choice aggregators, active transportation and transit and resiliency. This includes acting on policies that promote the City's goals of focused infill development near transit and high resource areas, and prioritizing equity and Communities of Concern. In working with state legislators and regulators, the City attempts to balance local control and available funding with the shared goal of reducing GHG emissions, and its harmful impacts related to air quality and public health, in the fields of transportation, energy, waste, municipal fleets and buildings, and resiliency, among many others.

AB 32

The passage of AB 32, also known as the California Global Warming Solutions Act of 2006, required California to reduce its GHG emissions to 1990 levels by 2020 — a reduction of approximately 15% below emissions expected under a "business as usual" scenario.

SB 32 / AB 197

This bill builds upon AB 32 and requires California to reduce statewide GHG emissions to 40% below the 1990 level by 2030. SB 32 became effective once AB 197 was passed on Sept. 8, 2016. AB 197 increases legislative oversight over the California Air Resources Board to not only the Governor but to the Legislature as well.

EXECUTIVE ORDER B-55-18/GOVERNOR NEWSOM DIRECTIVE

This executive order was issued by Governor Brown in 2018 and sets a statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. In addition to this goal, Governor Newsom announced in 2021 that the California Public Utilities Commission will establish a more ambitious electricity procurement target by 2030 and the California Air Resources Board will accelerate progress and evaluate pathways for achieving carbon neutrality by 2035.⁸

EXECUTIVE ORDER N-79-20

This executive order was issued by Governor Newsom in January 2021 and calls for the phasing out of new internal combustion passenger vehicles by 2035 in the State of California.

CARB SCOPING PLAN

AB32 directs CARB to develop a scoping plan that details how the State of California will achieve the established GHG reduction goals. Since 2008, CARB has published three scoping plans and are currently working on an update that would set the path for achieving carbon neutrality by 2045 and develop an analysis of achieving carbon neutrality by 2035.⁹ The draft updated Scoping Plan was released in 2022 and is expected to be adopted in 2023.

⁸ https://www.gov.ca.gov/2021/07/09/governor-newsom-holds-virtual-discussion-with-leading-climate-scientists-on-states-progress-toward-carbon-neutrality/

⁹ https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan

Global Initiatives

Cities are key contributors to both national and global climate action. San Diego is working to align our efforts with the broader perspective on sustainability. By linking the City's local efforts with global efforts, we localize the universal call to achieve a better and more sustainable future for all.



RACE TO ZERO INITIATIVE

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The City joined the Race to Zero initiative in August 2021. This is a global campaign to rally leadership and support from businesses, cities, regions and investors for a healthy, resilient, zero-carbon recovery that prevents future threats, creates well-paying jobs and unlocks inclusive, sustainable growth.

¹⁰ https://sciencebasedtargetsnetwork.org/wp-content/uploads/2021/04/SBTs-for-cities-guide.pdf

In joining the Race to Zero initiative the City voluntarily committed to a number of actions included in this CAP and developed a "fair share" emissions reduction goal which accounts for citywide gross domestic product (GDP). The methodology for establishing a fair share CAP goal sets the standard of \$15,000 per capita as high for GDP. The ICLEI Community-wide Protocol¹⁰ methodology was utilized for determining the City's science-based fair share CAP goal for this program which is described in more detail in Appendix C. By joining the Race to Zero, cities gain formal recognition of their efforts by the United Nations Framework Convention on Climate Change (UNFCCC), access to events leading up to and at COP26, and access to resources, tools and in some cases technical assistance offered by the Cities Race to Zero partners.

AMERICA'S PLEDGE AND THE PARIS CLIMATE AGREEMENT

In 2017, the City of San Diego became a signatory to the "We Are Still In" declaration, joining 290 U.S. cities and counties in the commitment to delivering on the promise of the Paris Agreement, specifically a U.S. emission reduction target of cutting GHG emissions by 26 to 28% below 2005 levels by 2025.

The 2015 Paris Agreement is a landmark environmental accord that was adopted by 191 countries to address climate change and its impacts. The agreement aims



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to substantially reduce global GHG emissions to limit the global temperature increase in this century to 2 degrees Celsius above pre-industrial levels. The U.S. rejoined the Paris Agreement in February 2021 after briefly withdrawing in November 2020.

This CAP exceeds the commitments national governments around the world have made under the Paris Climate Agreement and ensures the City is contributing to its fair share of GHG emissions avoided.

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

Recognizing the important role cities play in global climate action, the City of San Diego is working to align sustainability efforts and other City goals with the United Nations' 17 Sustainable Development Goals (SDG). These goals address the connections between climate action and economic opportunity, education, public health and equality. The SDGs were adopted by 193 world leaders in September 2015 as a path to ending extreme poverty and hunger, fighting inequality and injustice and tackling climate change by 2030.

Not only does the City aim to reduce Greenhouse Gas Emissions with the Climate Action Plan, but it too hopes to work effectively both interdepartmentally and with as many external stakeholders as possible to address health, education, inequality, and economics.

THE GLOBAL COVENANT OF MAYORS FOR CLIMATE & ENERGY

The Global Covenant of Mayors for Climate & Energy (GCoM) enables cities, local governments and the networks that support them to bridge the gap from climate ambition to delivery. Uniquely positioned at the nexus of cities, city networks, national and supranational governments and philanthropy, the GCoM alliance elevates city climate leadership and enables strategic and innovative partnerships that are at the crossroads of research, data, finance and communications. The City of San Diego has been a committed member of GCoM since 2015.

CARBON DISCLOSURE PROJECT

The Carbon Disclosure Project (CDP) is a non-profit running the world's largest environmental reporting platform. They are focused on helping investors, companies, cities and states understand and manage their environmental impact with an emphasis on data standardization. CDP is also the designated reporting platform for the Race to Zero and the Global Covenant of Mayors. The data CDP hosts are made publicly available to promote transparency and accountability. The City of San Diego is one of 165 U.S. cities reporting to CDP and has done so consistently for 11 years. In 2021, the City received its highest rating of an A-, significantly improving on results in preceding years.







The Intersections of Climate Action

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olicy for climate action intersects with all areas of our life: air quality, public health, and housing. As the City works to reduce GHG emissions, staff are considering the policy impacts for other sectors as well. This section highlights the intersections and need for collaboration and coordination.

Air Quality and Public Health

Human actions that accelerate climate change also degrade air quality and have damaging impacts on human health and welfare. These effects have a disproportionately negative impact on communities with high numbers of residents of color and those living at or below the poverty level. These effects are a direct result of land use and policy decisions stretching back over many years.

Many of our Communities of Concern are severely impacted by poor air quality. For example, there are levels of a pollutant called particulate matter greater than 10 microns in diameter (PM10) at levels above the national ambient air quality standards (NAAQS) as reported through APCD's 2020 annual monitoring report.¹¹ To achieve a more sustainable and equitable future, a purposeful attempt to rectify the negative impacts to our Communities of Concern and the health of our communities is critical. The City has included a Clean Air section of the CAP dedicated to air quality and public health of our residents. It outlines the strategies, measures and actions that, while reducing and avoiding GHG emissions, will also be necessary to improve air quality in communities that have suffered for decades and improve the health of some of our most vulnerable residents.

Food Insecurity

According to research done by the San Diego Hunger Coalition, it is estimated that one in three people in San Diego County are nutrition insecure or are unable to provide three nutritious meals a day for themselves and/or their

¹¹ https://www.sandiegocounty.gov/content/dam/sdc/apcd/monitoring/2020_Network_Plan.pdf

families. Furthermore, we see that nutrition insecurity overwhelmingly affects communities of color. In 2019, 25% of County residents faced nutrition insecurity. Of those, 44% identified as Black, 37% indigenous and 44% Hispanic/Latine/Latinx. In 2020, the percentage of those facing nutrition insecurity went up to 31%.¹²

The City recognizes we cannot move forward in achieving a sustainable future if we cannot ensure our most vulnerable residents have access to necessities such as affordable and healthy food. Another byproduct of redlining is illustrated in the City's land use patterns in several of our Communities of Concern, where there is a lack of nearby grocery stores. This creates a significant barrier to accessing healthy, fresh foods, especially for lower income residents who are less likely to own a car and currently lack high quality transit and active transportation facilities. We must ensure all residents have access to healthy foods, through the promotion of localized resources like community gardens and land use policy that facilitates access to healthy foods at local businesses in every neighborhood.

At the global scale, industrial food system activities are major drivers of climate change and are particularly vulnerable to weather-related events. These global food system activities, including deforestation for industrial agricultural use, food production, transportation, processing and packaging, freezing and retail and waste accounts for 37% of the total global GHGs. The GHG reduction potential of community food system strategies including minimizing food waste and localizing food systems are significant.



¹² https://www.sandiegohungercoalition.org/research

Active and Healthy Lifestyles

The transportation system has a direct impact on the health and lifestyles of our residents. Since the rise of the automobile, transportation policies have focused on making driving easy – often at the cost of walking, biking or taking transit. The focus on cars has led to sprawling land-use patterns, a lack of walkable infrastructure, compartmentalized built environments, less-active lifestyles and greater incidence of chronic obesity and disease. How and how far people are travelling around the City accounts for greater than 50% of all local GHG emissions. The transportation sector has the greatest potential to contribute to the net zero GHG emission goal by employing economic and technological improvements that work in mutually supportive ways.

Planning for safe and enjoyable active transportation and high-quality public spaces for people of all abilities are complementary initiatives. Parks, trails, pedestrian and bicycle infrastructure and shared-use paths provide opportunities for people to safely get around. Universal design¹³ goes beyond the narrow, mandated focus of 'Accessibility' to address the needs of all people to benefit the entire population. It integrates usability with other concerns, including aesthetics, sustainable design and urbanism.



¹³ Universal design is an approach to the development of products and environments that can be used effectively by all people, to the greatest extent possible, without the need for adaptation or specialized design" (North Carolina State University, 1997).

Arts and Culture

Creativity is an essential tool for the City in generating innovative climate action and environmental engagement, while supporting efforts around cultural planning, social cohesion, health and inclusive economic growth. The creative life of San Diego connects people to one another, offering an important platform for guiding engagement, developing creative solutions and building social capital; the City can ensure its sustainable future by leveraging its arts, cultural and creative sectors.

These sectors are distinct in their capacity to tackle complex challenges in ways that are provocative and experimental, often stimulating dialogue with and about new contexts, and using ideation and creative forms of investigation compared to pursuing or offering mechanical fixes. Arts and culture can also be an important conduit through which people can engage with climate change, including impacts, mitigation and adaptation.



SD/
The Digital Divide

The digital divide refers to the growing gap between the members of society who do and do not have reliable access to broadband service and a suitable device for connecting to the internet.¹⁵ This divide creates a barrier for some residents to access opportunities such as civic engagement, remote work, distance learning or virtual health care visits. During the COVID-19 pandemic, the impact of the digital divide on our residents of Communities of Concern was highlighted as an urgent equity issue.

The City is taking action to close the digital divide that leaves tens of thousands of San Diegans without internet access. Through the SD Access 4 All program,¹⁶ the City is now offering open public Wi-Fi at more than 300 public locations and purchased hundreds of laptops and mobile hotspots that can be checked out at libraries at no cost.



Safe and Prosperous Communities

Public safety has a profound effect on community wellness, which is critical in climate action. The US Department of Homeland Security recognizes the link between the ongoing climate emergency and national security. Locally, the impacts of climate change aren't simply to the environment but can also lead to an increase in crime rates, violence, homelessness and displacement. While San Diego enjoys a relatively low crime rate compared with the national average, the City has seen a rise in crime rates comparable to the nation. Recognizing that there is a linkage between climate change and public safety, it is imperative for the City of San Diego to prioritize climate action by reinvesting in communities that need it most. This includes investments in education, streetlights parks and recreation centers, shelters and permanent housing, and other communal gathering areas.

The United Nations' SDG 11 calls out the responsibility of cities and communities to be inclusive, safe, resilient, and sustainable. The CAP commits the City to implementing actions accordingly. Furthermore, SDG 16 seeks to "promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels." The City strives to implement the CAP while keeping these tenants of peace and inclusivity for future generations at the forefront.



Housing

Housing and climate action are inextricably linked. The location and type of homes, workplaces and amenities plays a major role in the City's GHG emissions as well as the convenience and quality of life of our residents. Like many cities throughout California and the country, San Diego is facing a housing affordability crisis. This is in large part because production of housing has not kept pace with the City's and the region's growing population.

Strategically planning for new housing in the right places in our City is critical to achieving the City's climate goals. Housing should be located so that residents can safely and enjoyably access work, school, services, shopping, public spaces and friends and family by walking, biking or taking transit. Not only can these intentional investments in additional housing provide much needed housing for all of us, but it can also lead to more healthy, active and enjoyable experiences for our residents.



Housing policy is climate policy. These intersecting issues must be considered together to ensure a more equitable and sustainable future for all San Diegans.

The impacts of climate change can have devastating effects on housing supply and housing affordability. The actions to achieve the goals of this CAP should avoid inadvertently displacing current residents. To ensure investments in a more sustainable City are beneficial to current and future community residents, the General Plan Housing Element has several goals. This includes improving the existing housing stock to preserve existing affordable housing, providing new affordable housing and enhancing quality of life to develop equitable communities and prevent displacement of residents.

Environmental Justice Element

The City is developing a General Plan Environmental Justice Element (EJ Element). The EJ element will develop goals, objectives, policies and actions to address the following issues for neighborhoods disproportionately experiencing pollution and other health burdens:

- Pollution exposure and air quality.
- Healthy food access.
- Physical activity.
- Health-supporting public facilities, parks and infrastructure.
- Safe and healthy homes.
- Other unique or compound health risks.
- Civic engagement in the public decision-making process.



The EJ element will more closely focus on many of the issue areas addressed in this CAP and will build upon this work in partnership with residents that live in Communities of Concern.

SD.

Climate Resilient SD

Climate Resilient SD is the City's comprehensive plan to prepare for, adapt to and recover from the impacts of a changing climate. At its core, Climate Resilient SD is a plan for the people of San Diego to not only adapt, but to also thrive in the face of extreme heat, wildfires, sea level rise, flooding and drought. Climate Resilient SD focuses on how we can protect those most vulnerable to climate change and improve the lives of the people in our city while preparing for a changing climate.





¹⁵ https://www.sandag.org/uploads/projectid/projectid_614_29513.pdf
¹⁶ https://www.sandiego.gov/sdaccess

Climate Resilient SD aims to not only reduce exposure or sensitivity to climate change hazards, but also to protect our natural environment, connect our communities, address existing inequities and work in step with the CAP to reduce GHG emissions. Climate Resilient SD will implement the City's social equity goals by prioritizing Communities of Concern to ensure investments and resources are prioritized for those with the greatest needs and fewest available resources to adapt. The plan includes a suite of adaptation strategies that reduce climate change-related risk to the City and work toward building more resilient, more sustainable and more equitable communities. Like the CAP, Climate Resilient SD strategies are prioritized based on "core benefits," or additional services and benefits associated with the strategy's implementation. As Climate Resilient SD and the CAP move forward into implementation, the aligned strategies will serve to both mitigate and adapt to climate change and provide a more sustainable and equitable future for San Diegans. The goals, strategies and actions of both plans were developed in coordination to best serve the needs of San Diego's residents in a changing climate.

MITIGATION VS. ADAPTATION: Climate change mitigation aims to reduce GHG emissions, slow down global warming and avoid the worst potential impacts of climate change. This is the major goal of the City's CAP. The objective of climate change adaptation, on the other hand, is to reduce impacts from climate change-related hazards including extreme heat, extreme rainfall, drought, wildfires and sea level rise. Climate Resilient SD is the City's comprehensive adaptation and resilience plan that focuses on increasing local capacity to adapt, recover and thrive in changing climate.

Strategies to Reduce Greenhouse Gas Emissions

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he City has identified six (6) equity-focused strategies to achieve a goal of net zero emissions by 2035 through reducing and avoiding GHG emissions:

- Strategy 1: Decarbonization of the Built Environment
- Strategy 2: Access to Clean and Renewable Energy
- Strategy 3: Mobility and Land Use
- Strategy 4: Circular Economy and Clean Communities
- Strategy 5: Resilient Infrastructure and Healthy Ecosystems
- Strategy 6: Emerging Climate Actions

These strategies are comprised of associated targets, measures, actions (quantified) and supporting actions (qualitative; not yet quantifiable) that the City can use to avoid or mitigate (reduce) future GHG emissions. The City recognizes the need for an equitable approach, people-centered resource allocation, longterm budgeting and alignment of City staffing to ensure the success of each strategy. The City is committed to meeting the emissions reduction goal in this plan. Modifications to the strategies and their components may become necessary over time as circumstances change or as new information becomes available. This could include adding new actions or refining existing actions to be more equitable, implementable or to ensure that the CAP remains effective and that targets are being met. As implementation progresses under the CAP Implementation Plan, strategies and their components will be regularly assessed and monitored. While the City is committed to meeting the 2030 Race to Zero Fair Share target and 2035 net zero goal, there are multiple ways to achieve success. As strategies evolve, flexibility in implementation is necessary to achieve the most effective path to carbon neutrality. The City may amend or update the CAP as circumstances change. These circumstances could include, but are not limited to, new available data and resources, new state and federal legislation or regulations, new technology, new regional plans or new standards in GHG emissions reduction calculations becoming available. For identified local ordinance, policy or program actions to achieve CAP targets, the City may expand on or substitute equivalent GHG reductions through other local actions.

As noted previously, the City has initiated the development of a CAP Implementation Plan. A working draft matrix has been developed and updated throughout the public release of the draft CAP for public input and comment, which began in November 2021. As committed to in the City staff response to the CAP Audit of 2021, following the adoption of the CAP update, the City will update the draft matrix and actions and move forward with the development of a comprehensive Implementation Plan that will detail the milestones, responsible entities and City Departments, associated costs with possible funding sources and planned timing for implementation. This Implementation Plan will be a powerful tool to not only inform Department-level work plans that will be developed on an annual basis and used to inform the City's budgetary process , but also allow for the public and stakeholders to hold the City accountable to the commitments and actions outlined in this CAP.

How to Read this Section

As noted in the Update Process section, six variables were weighted in the CLIMACT Prio Analysis tool: air quality, public health, jobs and economy, resiliency, equitable implementation and feasibility. The full list of considerations to assess these elements are listed below.



CORE BENEFITS

The below list identifies the core benefits associated with the implementation of each action. These core benefits were identified from resident engagement and outreach activities, with a focus in Communities of Concern.

Air Quality

■ Indoor air quality

Outdoor air quality

Public Health

- Reduce pollution and litte
- Increase access to healthy and affordable food
- Increase walkability
- Increase access to parks, green space, and recreation
- Increase safety (e.g., pedestrian, bik

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Jobs & Economy

- Local investment generated
- Potential for local jobs
- Increase affordability of transportation

Resiliency



SD

- Reduce heat island effect
- Increase natural habitat
- Improve biological resources (i.e. trees, green spaces)
- Improve water quality
- Increased independence for local resources (i.e. energy, water)

FEASIBILITY AND PROCESSES FOR EQUITABLE IMPLEMENTATION

To rank the actions for their level of potential feasibility or their potential to positively impact Communities of Concern specifically, City staff across relevant departments considered the following components for each action:

Equitable Implementation

Community benefits & burdens: Can it be implemented in a way that distributes benefits and burdens equitably?

Community empowerment: Can it be implemented in a way to increase community capacity or level of engagement?

Addresses historical disparity: Can it address historical disparities in Communities of Concern, i.e., lack of sidewalks or low air quality?

Feasibility

Stakeholder acceptability: Would stakeholders, e.g. local residents, business owners, or others impacted support it?

Technical feasibility: Will necessary design, implementation, and maintenance support be available for the option?

Ease of implementation: Can it be implemented at the local government level, or does it depend upon state, county or national support?

Financial viability: Is it a financially realistic option? Does the City have funding or potential access to funding to cover the costs?

Mainstreaming potential: Could it be integrated with existing City government planning and policy development?





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Strategy 1: Decarbonization of the Built Environment



In San Diego, GHG emissions from buildings are second only to transportation when accounting for the electricity and natural gas consumed in our homes and businesses. Burning natural gas accounts for 20 percent of local GHG emissions through its use to heat our homes, offices and our water¹⁷. In this strategy, decarbonization is defined as the removal of carbon from a system, with a focus on the source with the greatest potential for reduction: natural gas or methane.

Furthermore, the use of natural gas has significant effects on indoor air quality and health. Research has shown that homes with gas stoves have 50 to 400% of higher levels of nitrogen dioxide which can cause serious health damage in humans, including respiratory diseases.¹⁸ Within Communities of Concern, this is in addition to the poor outdoor air quality that impacts residents of all ages. Residents will also benefit from improved air quality and opportunity to improve health for vulnerable children and adults with the implementation of City policies to reduce the use of natural gas and other fossil fuel combustion.



The first step to decarbonize buildings will focus on removing fossil fuels in new building construction. The City's partnership with San Diego Community Power means electricity will continue to get cleaner as more renewable energy sources are brought on-line. Methane used for various activities, such as cooking food or heating homes, produces indoor and outdoor air pollution that harms the planet and the health of our residents. The City is transitioning away from burning methane and other fossil fuels, and transitioning buildings to cleaner, zero emissions sources or technologies. When done equitably, building decarbonization presents an opportunity to reduce the City's GHG emissions and improve resident health and economic well-being.

Decarbonization means to remove carbon from a system, with a focus on the source with the greatest potential for reduction: natural gas or methane.

¹⁷ Sources of Greenhouse Gas Emissions. EPA. https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions

¹⁸ Presentation by South Coast Air Quality Management District, "Flipping the Switch: Why Building Decarbonization Matters to CARB," May 6, 2021. https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-ai

SAN DIEGO'S PATH FOR BUILDING DECARBONIZATION

More than 40 cities across California have taken up building decarbonization as a cost-effective strategy to significantly reduce GHG emissions. While we know the goal for reducing GHG emissions in this sector, the specific path to achieve the goal will take a commitment by the City and our partners to directly engage our residents to better understand concerns, needs and support to implement this equitably. The following provides a high-level overview of the areas of building decarbonization that the City will be focusing on through engagement, programs and implementation.



¹⁹ https://www.energy.ca.gov/sites/default/files/2021-08/CEC_2022_EnergyCodeUpdateSummary_ADA.pdf

New Buildings

In 2018, the State of California adopted an ambitious goal of achieving carbon neutrality throughout the whole economy by 2045. To support this transition, in August 2021, the California Energy Commission unanimously passed amendments to the state building code which take a significant step toward removing natural gas in new construction.¹⁹ As of August 2021, more than 45 cities in California have adopted local reach codes. A reach code is a city-level building energy code that details requirements for new buildings being constructed. Reach codes allow cities to exceed the state-level minimum requirements for building energy use and design, providing the opportunity for cities to boldly move ahead of the state in the transition away from fossil fuels.

The City is engaging with stakeholders to develop a Building Code Amendment that will take a step beyond the new 2023 State building codes and ensure that most new building types do not have natural gas heaters and appliances. The City has committed to engaging residents and community stakeholders, labor and trades groups and affordable and middle income housing developers in this process to develop code amendments and complementary policies that will ensure equitable outcomes, particularly for our Communities of Concern and our impacted workforce. By working together toward a clean energy future, all San Diegans can enjoy lower energy costs, improved indoor and outdoor air quality and good-paying green jobs in their neighborhoods.

Municipal Buildings

The City is committed to leading by example in the building decarbonization effort. The City has adopted a goal to achieve zero emissions municipal buildings and operations by 2035 and has developed a Municipal Energy Implementation Plan and supporting policies that will be brought forward to the City Council for consideration immediately following the adoption of the CAP. These actions will ensure all new construction projects and major retrofits of City owned and operated facilities achieve zero emissions meaning the buildings are very energy efficient, all-electric, and powered by 100% renewable energy - either from onsite generation like solar panels or purchase of 100% renewable electricity from SDCP. As municipal industrial facilities like pump stations and treatment plants are updated and improved, the City will include new technologies to eliminate the use of fossil fuels.

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Existing Buildings

Since the effort to decarbonize existing buildings touches all building types, it requires a thoughtful policy-making process and far-reaching community engagement. Cities and communities across the country have begun brainstorming and piloting an array of strategies to remove fossil fuels from existing buildings. This includes initiating pilot programs, developing longterm regulatory roadmaps and seeking funding to perform building retrofits without passing down costs to property owners and renters.

For existing buildings, programs that support zero emissions technologies such as energy retrofits, new high-efficiency electrical appliance and heating systems should be paired with building efficiency policies and financing solutions for residents. Some of these new high efficiency electric appliances include air-source, water-source, or ground-source heat pumps to provide buildings with space heating, cooling, and water heating, as well as induction cooktops and electric ovens for cooking. These opportunities can be paired with complementary solutions for commercial and industrial uses such as district energy systems, water reuse policies, and emerging technologies in the future. The City is compiling a comprehensive existing building inventory that will incorporate indicators necessary to develop an effective, locally appropriate approach to decarbonization in San Diego.

Market Transformation

Decarbonization of the building sector, specifically via electrification, requires significant market transformation. According to the Northwest Energy Efficiency Alliance, Call out: Market transformation is the strategic process of intervening in a market to create lasting change in market

According to the Northwest Energy Efficiency Alliance, market transformation is the strategic process of intervening in a market to create lasting change in market behavior by removing identified barriers or exploiting opportunities to accelerate the adoption of all cost-effective energy efficiency as a matter of standard practice. behavior by removing identified barriers or exploiting opportunities to accelerate the adoption of all cost-effective energy efficiency as a matter of standard practice. Transforming the market around electric appliances and building systems requires deploying resources to all market participants which can include incentives and rebates for electric equipment manufacturers, distributors and suppliers to ensure the desired technologies are affordable and readily available for purchase at scale. Additionally, incentives and rebates must be made available to purchasers to help offset or eliminate the costs of electrification and avoid passing down costs to property owners and renters.

The City plays an important role in ensuring the market for electric building technologies transforms in adequate time to achieve the GHG emission reductions identified in Strategy 1. It is critical for the City to advocate for and promote direct incentives and economies of scale for resources up and down the supply chain, from manufacturers and distributors to building owners and renters.

A recent study²⁰, California Building Decarbonization: Workforce Needs and Recommendations, shows that electrifying 100% of California's existing and new buildings by 2045 would create the equivalent of more than 100,000 net full-time jobs, even after accounting for job loss in the fossil fuel industry. However, the City recognizes that building decarbonization may have concentrated impacts on certain labor sectors. The City is committed to identifying high-road job opportunities for local workers in partnership with impacted labor sectors. The City commits to using local data to work with technical experts and building trade union representatives to predict job impacts resulting from decarbonization. Through these partnerships, the City will explore policy and program options to avoid or mitigate negative impacts to trades that specifically install gas infrastructure and piping in new buildings.

The City is committed to identifying high-road job opportunities for local workers in partnership with impacted labor sectors.

²⁰ California Building Decarbonization Workforce Needs And Recommendations" UCLA Luskin Center for Innovation November 2019.

ZEROING OUT EMISSIONS AT HOME

Cut pollution and carbon emissions to zero by switching to high efficiency electric heating, cooking, hot water, appliances, and car powered by renewable electricity

- 1. Solar Panels
- 2. Insulated Walls, Floors and Attic
- 3. Energy Efficient Windows & Doors
- 4. Electric Car
- 5. Heat Pump Water Heater

- 6. Heat Pump Dryer
- 7. Induction Stove
- 8. Smart Thermostat
- 9. Heat Pump Heating and Cooling



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2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
Phase out 45% of natural gas	(MT CO2e)	Phase out 90% of natural gas	(MT CO2e)
usage from existing buildings	931,661	usage from existing buildings	1,915,290

Measure 1.1: Decarbonize Existing Buildings

Feasibility of Actions					
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential	
00	000	000	000	000	

Potential for Equitable Implementation of Actions					
Community benefits & burdens	Community empowerment	Addresses historical disparity			
Ø	00	Ø			

Core Benefits:



Actions

- Develop a comprehensive roadmap to achieve decarbonization of the existing building stock including, programs, regulatory and incentive tools that includes extensive engagement and utilization of a shared-decision making model with Communities of Concern.
- Develop a Building Performance Standards (BPS) policy.

- Explore opportunities to increase onsite water reuse and irrigation for buildings as part of overall building decarbonization roadmap.
- Complete an analysis of the City's building and housing stock to identify policy opportunities for existing building decarbonization.
- Develop programs to promote energy efficiency and load management technologies with an emphasis in Communities of Concern.
- Identify funding sources, including SDCP and SDG&E, for advancing residential weatherization projects, appliance exchanges and broad building retrofits in Communities of Concern.
- Expand residential Photovoltaic deployment incentives/programs.
- Update the Building Energy Benchmarking Ordinance to expand enforcement and compliance.

2030 Target	20	30 GHG Reduction	2035 Target	2035 GHG Reduction
All-electric reach code 2023 at new residenti commercial develop	al and /	(MT CO2e) 65,329	Ongoing implementation of all-electric new residential and commercial development	(MT CO2e) 108,559

Measure 1.2: Decarbonize New Building Development

Feasibility of Actions					
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential	
00	000	000	000	000	

Potential for Equitable Implementation of Actions					
Community benefits & burdens	Community empowerment	Addresses historical disparity			
00	000	Ø			

Core Benefits:



Actions

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 Develop and adopt a Building Electrification policy, through code update or other mechanism, requiring new residential and commercial buildings to eliminate the use of natural gas, increase energy efficiency, increase distributed energy generation and storage and increase EV charging stations, engaging with residents of Communities of Concern, workers, and builders.

- Prioritize cool roofs when feasible to implement Climate Resilient SD in energy efficiency building code update.
- Support new regional policies for alternative systems that can be used to replace existing heating and cooling air systems and water systems.
- Establish policies that incentivize developers to use less GHG intensive materials and practices (EVs, Low-Carbon concrete, recycled materials, etc.) including mass timber and modular construction.

2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
Phase out 50% of natural gas	(MT CO2e)	Phase out 100% natural gas	(MT CO2e)
usage in municipal facilities	15,148	usage in municipal facilities	32,638

Measure 1.3: Decarbonize City Facilities

Feasibility of Actions					
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential	
000	00	000	000	00	

Potential for Equitable Implementation of Actions						
Community benefits & burdens	Community empowerment	Addresses historical disparity				
00	00	00				

Core Benefits:



Actions

• Develop and adopt a municipal energy implementation plan and zero carbon emissions buildings and operations policies.

Supporting Actions

• Future development on city-owned property will require and reward proposals based on decarbonization and other CAP goals.

- Implement energy efficiency projects at City facilities to meet zero emissions goals for municipal buildings established in the Municipal Energy Strategy & Implementation Plan, prioritizing projects within the City's Communities of Concern.
- Implement technologies such as renewable electricity generation, heat pumps, energy storage, and microgrids at City facilities to meet the zero emissions goals for municipal buildings established in the Municipal Energy Strategy & Implementation Plan.
- Identify and prioritize energy projects at City facilities that increase resiliency for the surrounding communities and City operations, focusing on our Communities of Concern.
- Convert all streetlights to LED lights and explore auto-dimming technology where public safety would not be compromised.
- Convert all traffic signals to LED lights.

Strategy 1 Supporting Actions:

- Remove high-Global Warming Potential refrigerants develop a refrigerant management program that establishes a phaseout timeline for high-Global Warming Potential refrigerants.
- Advance workforce development programs for decarbonization including energy efficiency and renewable energy projects.



Strategy 2: Access to Clean and Renewable Energy

Transitioning our energy system away from fossil fuels and toward clean and renewable sources is key to reducing the City's GHG emissions and supporting a more sustainable future. Energy consumed in the City of San Diego that is derived from renewable resources will improve the health and safety of our residents while potentially providing long-term cost savings to residents and businesses. With deliberate policy design, these benefits can be especially focused in Communities of Concern.

The City has taken bold steps to accelerate the transition away from fossil fuels. In 2019, the City established San Diego Community Power (SDCP) with the goal of providing 100% renewable electricity by 2035 to city residents and businesses. SDCP provides electricity with a 50% renewable generation content as its base product, with the ability for customers to "opt up" to 100% renewable generation for a small fee. The City provided substantial leadership in formulating the Joint Powers Authority to establish SDCP along with the cities of Chula Vista, Encinitas, Imperial Beach and La Mesa. The County of San Diego and National City both voted to join SDCP in 2021. SDCP has received certification from the California Public Utilities Commission and, in March 2021, SDCP began serving the City of San Diego at 100% renewable energy, as well as the other member cities and some large commercial and industrial customers such as the San Diego International Airport. In 2022, SDCP will begin to transition and serve residential customers in San Diego.

San Diego Community Power's 100% renewable electricity offering is essential to transitioning the transportation sector away from fossil fuels. Inherent in Strategy 3's ambitious goals to change how people move around the City is the recognition that many trips will still be conducted by passenger vehicles even when we meet those ambitious mode shift goals. Much like mode shift, "fuel shifting" supports changing the types of fuel used for transportation, primarily with 100% renewable electricity.

Supporting residents as they transition to electric vehicles (EV) starts with the development of a citywide electric mobility or zero emission vehicle (ZEV) strategy. The ZEV strategy will include a suite of programs and policies to help achieve the electric vehicle adoption goals envisioned by the CAP. Central to the success of the ZEV strategy will be the partnership, collaboration and coordination with local, regional and state entities already working to electrify 12,000,000



transportation and to address equity needs of residents who do not have access to an EV or at-home vehicle charging. The City of San Diego can play a significant role in passing EV-friendly policies related to charging station installation permitting, building code updates requiring pre-wiring for EV charging, and leveraging public property to expand public charging access.

Increasing access to EVs can have significant benefits to all San Diegans and especially to low- and moderate-income residents. Electricity prices are less volatile than gasoline and generally EVs can be fueled at a fraction of the cost compared to a gasoline counterpart, especially when taking advantage of low-cost time-of-use electricity rates.²¹ A multitude of purchase incentives are available from federal and state agencies to reduce the relatively high up-front cost of EVs. Even without factoring in purchase incentives and lower operating costs, the total cost of owning an EV can be significantly lower than a gas-powered equivalent.²² These savings are increased when considering the variety of existing incentives and programs designed explicitly to increase access to EVs for residents of disadvantaged and/or low-to-moderate income communities.

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²¹ Borlaug et al., Joule 4, 1470–1485 July 15, 2020. Levelized Cost of Charging Electric Vehicles in the United States, United States. https://doi.org/10.1016/j.joule.2020.05.013.

²² Burnham, Andrew, Gohlke, David, Rush, Luke, Stephens, Thomas, Zhou, Yan, Delucchi, Mark A., Birky, Alicia, Hunter, Chad, Lin, Zhenhong, Ou, Shiqi, Xie, Fei, Proctor, Camron, Wiryadinata, Steven, Liu, Nawei, & Boloor, Madhur. Comprehensive Total Cost of Ownership Quantification for Vehicles with Different Size Classes and Powertrains. United States. https://doi.org/10.2172/1780970

The City has also initiated the transition to low or zero-emission vehicles in our own municipal fleet. As of the end of 2020, approximately 20 vehicles of the City's fleet vehicles were all-electric on-road vehicles. Relatively high upfront vehicle cost and a lack of variety in vehicle models have limited fleet adoption to date, though the largest barrier is the cost and complexity of installing the refueling stations for all-electric vehicles across the City for public service needs and shift utilization. The City is exploring creative options to address the complexity of installing charging infrastructure to support fleet electrification. Notably, in late 2020, the City launched a pilot project with locally based Beam Global to evaluate how a completely off-grid, solar-powered EV charging station could meet the City's operational needs. The pilot was successful in powering the assigned fleet vehicles throughout the year and the City is now assessing how this technology can be expanded across other sites and in future years. Additional areas for fleet electrification pilot projects include vehicle-to-grid integration which could bring potential economic and grid resiliency benefits as highlighted in the City's Climate Resilient SD plan.



100% renewable or GHG-free power for all SDCP customers in the City of San Diego **2035 Target** 100% renewable or GHG-free power for all SDCP customers in the City of San Diego

Measure 2.1: Citywide Renewable Energy Generation

Feasibility of Actions						
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential		
000	00	Ø	00	00		

Potential for Equitable Implementation of Actions						
Community benefits & burdens	Community empowerment	Addresses historical disparity				
00	Ø	00				

Core Benefits:



Actions

SD

- Partner with SDCP to increase customer adoption of 100% renewable energy supply.
- Partner with SDCP to incentivize local generation of renewable energy resources.

- Develop financial support programs to incentivize solar on multifamily buildings, providing financial benefits to tenants and families within Communities of Concern.
- Develop financial support programs to incentivize deployment of buildingscale renewables and mandate the use of renewables through building codes, while engaging residents and other stakeholders in the process.
- Increase renewable generation at non-residential developments through new policies or incentive programs.
- Update land use code to include energy storage and other distributed energy technologies to facilitate local renewable energy resource deployment.
- Deploy advanced renewable energy technologies (e.g. battery energy storage systems, microgrids, etc.) at municipal facilities to demonstrate feasibility.
- Leverage municipal facilities to establish community solar and microgrid solutions when tariffs allow.
- Explore partnerships for a trade-in program that makes it possible for small landscape owners to transition to electric equipment.

2030 Target

Percent of all municipal fleet vehicles to be ZEVs: Cars: 75% LDV: 50% MDV: 50% HDV: 50%

2030 GHG Reduction (MT CO2e)

11,042

2035 Target Percent of all municipal fleet vehicles to be ZEVs: Cars and LDV: 100% MDV: 75% HDV: 75%

2035 GHG Reduction (MT CO2e) 15,990

Measure 2.2: Increase Municipal Zero Emission Vehicles

Feasibility of Actions						
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential		
000	00	Ø	Ø	00		

Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
00	00	00		

Core Benefits:



Actions

• Develop a City Fleet Vehicle Replacement and Electrification strategy consistent with the Municipal Energy Implementation Plan and state requirements for municipal electrification.

- Seek partnerships with SDCP, SDG&E and others to install charging infrastructure for all vehicle types.
- Include stated preference for 100% renewable energy on public ally available chargers on municipal land.
- Update AR 35.80 to include EV vehicles to the list of preferred purchases.
- Conduct City fleet electrification study to determine best siting, funding needs, and strategies including specific strategies for the Chollas operations yard.
- Update municipal parking yard electric infrastructure to support electric vehicle charging needs.
- Create standards for the City's purchase of fuel for fleet vehicles that contains the lowest levels of lifecycle GHG emissions available.
- Explore pilot projects for a variety of grid resilience services (demand response, emergency back-up, demand charge reduction, etc.) through three modes of EV integration (grid-to-vehicle, vehicle-to-building, vehicle-to-grid).



Measure 2.3: Increase Electric Vehicle Adoption

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
000		000	00	000

Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
00	00	000		

Core Benefits:



Actions

SD

• Develop a citywide electric vehicle strategy to accelerate EV adoption, including flexible fleets, circulators, and electric bicycles, focusing on the barriers to ownership and charging for residents within Communities of Concern.

- Work with local businesses to expand EV charging stations on commercial property.
- Amend the building code to expand EV charging station requirements for multi-family and non-residential properties.
- Explore the development of a citywide policy for surplus land that cannot be used for housing or housing related uses to be considered for EV charging sites prior to review for sale or other dispensation.
- Amend the building code to require charging stations for electric bicycles.
- Work with the APCD, San Diego Unified School District and other school districts serving the City to support the conversion of the school bus fleet to zero emissions vehicles.
- Work with SANDAG, APCD and MTS to procure a fully zero emissions bus fleet.
- Set a goal for installation of public EV charging stations on City property to support EV adoption in Communities of Concern. Initiate process with publication of a Request for Information (RFI) to solicit public charging solutions.
- Continue to work with SANDAG, APCD, U.S. Navy, the Port of San Diego and other partners on medium and heavy duty (MD/HD) ZEV infrastructure planning. Consider future policies to advance MD/HD ZEV adoption and utilization in the Portside Communities, Border Communities, and other major logistics hubs.

Strategy 3: Mobility and Land Use

Vehicles are the single largest source of GHG emissions in San Diego and more than two-thirds of smog-forming emissions in San Diego County are generated from mobile sources. Air pollutants emitted from cars, diesel-powered trucks, buses and other heavy-duty equipment include oxides of nitrogen (NOx) as well as diesel particulate matter (PM). These mobile sources of emissions from residents, passenger and freight transportation, employees and visitors account for greater than 50% of all local GHG emissions. The City's historic land use patterns have resulted in not only congestion and more air emissions that contribute to climate change, and impact the health of our most vulnerable residents, but have also have resulted in a decreased quality of life with longer time spent in cars. Additionally, we see these same land use patterns and mobility investments result in fewer opportunities for residents to move safely by walking, rolling, or bicycling to work, school, shopping, services, friends, and family. Previous land use decisions emphasized suburban development that resulted in longer commutes and less efficient delivery of infrastructure; created



²³ SANDAG Transportation, Regional Planning, and Borders Committees Joint Meeting August 7, 2020 https://sandag.org/uploads/meetingid/meetingid_5302_27875.pdf



neighborhoods without fresh and healthy food access or safe and enjoyable public spaces; bisected walkable communities with freeways; limited space for efficient transit service; and lacked sufficient local and regional pedestrian and cycling infrastructure. Therefore, changing the City's approach to land use planning and infrastructure is one of the most important and exciting ways the City can address climate change.

MOBILITY

The City plays an important role in providing San Diegans with viable travel choices and incentivizing modes that are healthier and more efficient for San Diegans of all ages and abilities. Plans and investments have not adequately responded to the City's mobility needs, particularly in Communities of Concern, reinforcing inequitable land use patterns and contributing to disparate health and economic impacts. In the San Diego region, only 7% of low-income residents have access to fast and frequent transit service²³ due to a car-centric transportation system.

Shifting away from a car-centric transportation system starts with a loading priority for our roadways, prioritizing and protecting the most vulnerable modes such as walking and biking, and enhancing public transit for improved efficiency and performance. The loading priority concludes with shared, commercial, and personal electric vehicles, underscoring a commitment to the full transition of all vehicles from combustion engines and fossil fuels. The City will reduce vehicle miles traveled (VMT) for trips through transportation infrastructure and technology improvements, transportation demand management (TDM) programs, and land use changes.



The City is improving internal processes to prioritize infrastructure projects that support sustainable mode choices such as walking, bicycling and transit use. The Safe and Sustainable Transportation for All Ages and Abilities Team (STAT) will be responsible for the design and installation of approximately nine miles of new or upgraded bicycle facilities throughout the City per year. This work includes quick-build projects, placemaking amenities, detectors and other signal enhancements, and layout and installation of bicycle and pedestrian facilities.

There are two main differences in the coverage of the mode share targets between the 2015 CAP and the 2022 CAP update: (1) the types of travelers and (2) the type of trips. The 2015 CAP only included the labor force within Transit Priority Areas (TPAs); while the CAP update includes all residents in the City of San Diego. The 2015 CAP covered only commute trips, while the CAP update covers all trips, both commute and non-commute. This is an important update that expands the responsibility to all residents to reduce mobile source emissions from car trips, but also recognizes that every trip counts in the fight against climate change. As a result of including all travelers, the number of persons included in mode share targets has increased from 482,540 to 1,599,353. Similarly, switching from commuter trips to all trips increases the mode share targets for mass transit, walking, and bicycling because the share of trips by walking and bicycling in non-commute trips is higher than that in commute trips. (See Appendix B, Table 63)

The General Plan Mobility Element, along with the Bicycle Master Plan (2013), Pedestrian Master Plan (2013) and community plans, all provide a vision and guidance for planning and enhancing neighborhood quality and mobility options with bicycle and pedestrian improvements. The master plans as well as the community plans identify projects, policies and programs that improve active transportation and recreational opportunities for pedestrians and cyclists. The Bicycle Master Plan envisions a comprehensive bikeway network, locally and regionally, ensuring bicycling is a safe and viable travel choice, particularly for trips shorter than five miles. Currently underway is an update to the Bicycle Master Plan maps to reflect recently approved community plan updates, the adopted Regional Transportation Plan, and the as-built condition of bicycle facilities that have been installed over the last decade. A more comprehensive update to the Bicycle Master Plan is anticipated to be programmed in the next few years.

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Pedestrian mobility is largely an outcome of urban design, land use and connectivity. Pedestrian safety, ADA accessibility and connectivity are the guiding principles of the Pedestrian Master Plan. In 2015, with funding provided by the County of San Diego Health and Human Services Agency, the City updated the Pedestrian Priority Model and Bicycle Demand Models and developed new multimodal mobility analysis methods, all of which have been used for subsequent community plan updates.

In 2019, the Mobility Action Plan (MAP) summarized mobility policies and programs currently in place and outlined priorities for the future. The MAP set out associated goals, some of which have since been initiated, such as creating a City of San Diego Mobility Department (now paired with Sustainability) to work across departments and with other agencies to facilitate the delivery of safe and convenient mobility options, and to be the champion for mobility innovation and implementation in the City.

Also moving forward is the City's first Mobility Master Plan, prioritized to support the implementation of the CAP mobility measures and create action where needed to repurpose existing public rights of way for more sustainable and safe mobility options. The Mobility Master Plan will not only create new processes and tools — using input from our residents and existing data on regional connectivity, priorities, and infrastructure — but will also create actionable steps for the City to take. These steps include installing infrastructure needed to increase efficiency and connections to transit, establishing a regional bike network for commuters and families, and completing accessible sidewalks and crossings to get residents where they need to go, all in an effort to reduce our need for cars. The Mobility Master Plan will ensure that citywide mobility initiatives support implementation of the CAP, prioritize investments in Communities of Concern and remove the barriers that communities face when bicycling, walking, or using transit.

As a first step to developing the Mobility Master Plan, staff created a draft order of priority for how people can have options to move around the city to support the CAP. This framework is a general understanding of those types of transportation that can both reduce GHG emissions and meet the travel needs of families across the city. This loading priority approach will be integrated into a process inclusive of community voices, shared decision making and thoughtful data analysis to ensure the Mobility Master Plan is responsive and supportive of the neighborhoods across San Diego.

LAND USE AND COMMUNITY PLANNING

Strategic land use planning is critical to reducing citywide vehicle emissions that result from vehicular travel. When people live near where they work and play, with safe, convenient, and enjoyable options for reaching their destination as pedestrians or by biking, or using transit, there is less overall travel by car in the city. This not only lets our residents get back time otherwise spent behind the wheel but also reduces citywide GHG emissions.

On an ongoing basis, the City pursues updates to community plans, zoning codes and policies aimed at improving our neighborhoods, increasing affordable housing and reducing our reliance on costly personal vehicles. These updates are designed to bring a better jobs-housing balance with increased investments to make communities safer and more enjoyable, and



convenient access to amenities through smart land use planning supported by balanced transportation networks with greater emphasis on pedestrians, cyclists and transit.

The City is developing <u>Blueprint SD</u> which will provide a framework to grow in a climate-friendly way that also addresses housing and equity needs. Specifically, Blueprint SD will identify a land use strategy and complementary transportation policies to support GHG emissions reductions. The end result will be an amendment to the General Plan with new policies and target minimum densities to guide future growth as well as a citywide Programmatic Environmental Impact Report (PEIR). This framework will guide future community plan updates and other planning efforts to make progress towards the City's housing, climate, and equity goals.



Several focused, corridor-specific plans and studies have been proposed to improve land use and zoning for better integration with active transportation and increased access to transit, and to create more complete street networks in specific areas of the city. These include:

- University Avenue Mobility Plan (2011).
- Commercial and Imperial Corridor Master Plan (2013).
- SR-15 Mid-City Station Area Planning Study (2013).
- Euclid Avenue Gateway Master Plan (2014).
- Euclid and Market Land Use and Mobility Plan (2014).
- National Avenue Master Plan (2014).

- San Ysidro Intermodal Transportation Center Study (2014).
- Linda Vista Comprehensive Active Transportation Study (2016).
- El Cajon Complete Boulevard Planning Study (2016).
- Palm Avenue Revitalization Plan (2016).
- Downtown Mobility Plan (2016).
- Grantville Trolley Station/Alvarado Creek Revitalization Study (2017).
- Morena Corridor Specific Plan (2019).
- Balboa Avenue Station Area Specific Plan (2019).

The improvements identified through these plans and studies support progress on achieving the goal of the CAP.

In 2020, the City Council adopted Complete Communities: Housing Solutions and Mobility Choices. These initiatives are intended to increase housing production in areas located closest to transit, and to provide more pedestrian, cyclist, and transit investments, particularly in areas with the greatest needs, and where such investments would serve the most people. These investments in the areas that would serve the most people also result in the greatest potential to increase the amount of people that are able to safely and enjoyable walk, roll, bike or use transit, resulting in critical GHG emissions reductions. The City also amended parking requirements in TPAs in 2019, with the following goals in mind: increasing housing affordability and supply, creating communities as places to live and work, and reducing individuals' reliance on cars, which not only reduces the vehicle generated GHG emissions, but also further reduces vehicular congestion on the surrounding roadway for all residents. The amendments to the Municipal Code not only resulted in zero parking minimums and unbundled parking requirements citywide within TPAs, but it also required transportation amenities, such as on-site bicycle or micro-mobility fleets, secure storage for grocery deliveries, on-site shuttle services, or other amenities to support a reduced reliance on cars. In 2021 the City adopted complimentary update for non-residential uses within existing or near-term future TPAs to create flexibility for businesses to provide parking to meet the demand and incentivize more transportation demand management (TDM) programs by employers.

SD

2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
19% walking and 7% cycling mode share of all San Diego residents' trips	(MT CO2e) 79,722	25% walking and 10% cycling mode share of all San Diego residents' trips	(MT CO2e) 115,315

Measure 3.1: Safe and Enjoyable Routes for Pedestrians and Cyclists

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
000	000	000	00	000

Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
00	00	00		

Core Benefits:



Actions

- Develop Safe Routes to Schools safety plans; start a San Diego Safe Routes to Schools program focusing on Communities of Concern and underperforming schools.
- Implement the City's Bicycle Master Plan and community plan bicycle networks with a Class IV First approach.
- Review and improve flexible fleets and micro-mobility policies/shared use mobility programs, especially focused in Communities of Concern and first mile/last mile applications.
- Partner with micromobility operators to optimize the number of scooters available in mobility hubs and/or near transit.

- Update Bicycle Master Plan with current best practices for facility designation, reflecting recent community plan updates and proposed regional connections. Also describing existing constraints, opportunities, and implementation strategies.
- Develop a Mobility Master Plan to reduce mobile sources emissions and further a shift in mode.
- The City will evaluate existing and future fee structures to increase the priority of active transportation project implementation, especially within Communities of Concern, and the City will increase its efforts to identify and pursue grant funds for the planning and implementation of active transportation projects.

Supporting Actions

- Examine proposed bike and pedestrian projects and use "quick-build" pathways where appropriate to increase financial viability.
- Increase education campaigns to improve motorist behavior to result in a safer right-of-way for bicyclists and pedestrians.
- Include in Bicycle Master Plan update policies and programs to increase bicycle storage near new bikeways.
- Where roadway widenings are otherwise planned, identify opportunities to repurpose the use of the right-of-way for walking, rolling, biking, and transit modes of travel.
- Identify and address gaps in the City's pedestrian network and opportunities

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for improved pedestrian crossings, using the City's Pedestrian Master Plan and the City's sidewalk assessment.

- Adopt City portions of SANDAG's forthcoming first mile/last mile initiative and incorporate Safe Routes to Transit strategies in Transit Priority Areas.
- Create a quick build policy and design guidelines to facilitate repurposing of the right-of-way or installation of interim or pilot bicycle, ADA accessibility, or pedestrian projects.
- Update street planning and design process with a focus on community input from Communities of Concern to prioritize pedestrians, bicyclists, and transit.
- Engage communities during the community plan updates and other multimodal corridors and active transportation planning processes to better accommodate all users of the right-of-way with an emphasis on improving safety for vulnerable users.
- Amend Council Policy 800-14 to prioritize CAP implementation with a greater investment in Communities of Concern, repurposing of the public right of way to include Class IV bikeways, coordinate with SANDAG Early Action Plan bike projects, and improved accessibility for pedestrians of all ages and abilities.
- Incorporate trees and additional cooling features such as innovative shade designs, and cooling centers at parks, with a concentration in Communities of Concern.
- Install pedestrian orientated streetlights for increased safety and comfort in Communities of Concern.
- Amend the code and street design manual to include standards for pedestrian orientated street lighting in neighborhoods and alleyways.
- Partner with public safety to review and reform education programs and enforcement policies related to pedestrian and traffic safety.
- Update City special events permits to prioritize transit, walking and bicycling.
- Complete and implement the Mobility Master Plan to ensure City infrastructure can adequately support the goals of the CAP.
- Increase number of trash and recycling receptacles in pedestrian corridors/ Transit Prior Areas.
- Explore fee structure/incentive program to increase cost savings for shared transportation network company (TNC) trips relative to private TNC trips

- Ensure that Capital Improvement Projects comply with all applicable landscape requirements in the Land Development Code.
- Include as shade structures be on building frontages in pedestrian thoroughfares, with preference given to natural shade up to five feet.
- Include audible pedestrian signals at all signal-controlled crosswalks.
- Install audible wayfinding beacons at complicated intersections and sign locations.
- Implement the City's San Diego River Park Master Plan to increase mobility through enhancement of the River trail.
- Implement Assembly Bill 43 to reduce speed limits in select corridors.

SD

2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
10% transit mode share of	(MT CO2e)	15% transit mode share of	(MT CO2e)
all San Diego residents' trips	162,866	all San Diego residents' trips	234,351

Measure 3.2: Increase Safe, Convenient, and Enjoyable Transit Use

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
00	00	00	00	00

Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
00	00	00		

Core Benefits:



Actions

- Advocate for a permanent, regional, Youth Opportunity Pass and support the expansion of the program to include college students and residents in Communities of Concern.
- Create a quick build policy and design guidelines to facilitate repurposing of the right-of-way or installation of interim or pilot transit projects.
- Develop dedicated bus lanes or shared bus and bike lanes to increase transit efficiency and on-time performance, focusing on routes supporting residents within underserved communities and high-frequency connections for riders going to schools, universities and jobs.

- Implement projects and update the Placemaking Ordinance, including a street furniture program that reduces heat exposure, prioritizes natural shade solutions, provides cool transit stops, and improves access to nearby restrooms in high transit use areas and pedestrian corridors, prioritizing Communities of Concern.
- Ensure every high-volume transit stop has access to transit shelters, which include shade structures and benches; work with MTS to establish standard for the provision of bus shelters in the city (e.g., minimum accommodations) with a priority in Communities of Concern.

Supporting Actions

- Identify transit stops where upgrades are needed, especially in Communities of Concern, and streamline implementation of upgrades to high priority transit stops.
- Facilitate partnerships with universities and colleges with goal of student walk/ride/transit use well-above citywide goals.
- Prioritize and assist MTS with siting and design of complete transit stops in Communities of Concern, including shade trees, lighting, trash bins.
- Create programs and incentives for transit passes bundled with all new major developments within one mile of a major transit stop.
- Partner with MTS for priority right of way for buses and trolley in roadway corridors and at intersection.
- Support MTS, SANDAG and Caltrans in the creation of transit right of way for regional transit connections.

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2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
Achieve 4% citywide VMT	(MT CO2e)	Achieve 6% citywide VMT	(MT CO2e)
reduction through telecommute	/ 181,205	reduction through telecommute	/ 242,177
	/		/

Measure 3.3: Work from Anywhere

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
00	000	00	00	000

Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
00	Ø	00		

Core Benefits:



Actions

SD

- Amend the Land Development Code to include mandatory transportation demand management (TDM) regulations citywide.
- Develop a City employee TDM policy.
- Establish a team and roadmap to support actions that require connectivity and close the digital divide.

- Stand up public WiFi access at City libraries, recreation facilities and various public areas in Low-to-Moderate Income (LMI) areas.
- Formalize a regional device refurbishment and distribution program.
- Continue to operate a program to loan mobile hotspots and personal computers to residents.
- Create a Digital Navigator support line to assist with basic technology issues and provide guidance on low income technology options.
- Create a Digital Literacy program to educate residents, particularly in low-tomoderate income (LMI) areas.
- Work with local organizations to distribute refurbished devices previously used by the City to residents at low or no costs.
- Improve and expand data gather and public outreach in Communities of Concern to understand which residents need the most assistance to technology options, what the barriers are to remote work, and improve community's ability to access technology.

Measure 3.4: Reduce Traffic Congestion to Improve Air Quality

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
000	00	000	00	000

Potential for Equitable Implementation of Actions			
Community benefits & burdens	Community empowerment	Addresses historical disparity	
Ø	Ø	Ø	

Core Benefits:



Actions

- Install traffic circles and roundabouts.
- Retime traffic signals to reduce vehicle fuel consumption through improving the flow of traffic.

- Work with the Port District, SANDAG and Caltrans to prepare a feasibility study to identify the best truck route to Tenth Avenue Marine Terminal and diversion, traffic calming and appropriate signage as included in the APCD's Community Emission Reduction Plan (CERP).
- Work with communities to implement comprehensive solutions for the curb space, including implementation of timed parking, establishment of parking districts, and programming of the curb space for deliveries, ADA access and other passenger loading, and micro-mobility



2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
8% VMT (commuter and	(MT CO2e)	15% VMT (commuter and	(MT CO2e)
non-commuter) reduction	/ 341,724	non-commuter) reduction	605,185
per capita	/	per capita	/

Measure 3.5: Climate-Focused Land Use

Feasibility of Actions				
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
000	00	000	000	000

Potential for Equitable Implementation of Actions			
Community benefits & burdens	Community empowerment	Addresses historical disparity	
00	Ø	000	

Core Benefits:



Actions

SD.

- Focus new development in areas that will allow residents, employees and visitors to safely, conveniently and enjoyably travel as a pedestrian, or by biking, or transit, such as in Transit Priority Areas (TPAs), and areas of the city with the lowest amount of vehicular travel.
- Plan for land uses that will allow existing residents, employees and visitors to more safely, conveniently and enjoyably travel as a pedestrian, by walking, biking, or transit.
- Update the placemaking ordinance to better support mode shift, to increase accessibility, walkability, and activate public spaces.

Supporting Actions

- Focus on delivering new mixed-use development on sites, including vacant and underutilized lots, located near transit, such as in TPAs and areas of the city with the lowest amount of vehicular travel.
- Implement active transportation in lieu fees to fund pedestrian, cyclist and transit investments where the greatest GHG emissions reductions will result, in accordance with Complete Communities: Mobility Choices.
- Amend local regulations, like the Placemaking ordinance, and policies to allow for wider sidewalks and the use of setbacks for public spaces and place making.
- Implement temporary and permanent car-free zones/zero emission zones.
- Maximize new development in areas located with safe, convenient, and enjoyable access to transit.
- Support expansion of urban greenspace including park access, open space, and wildlife corridors where appropriate, along streets to encourage outdoor activity, walking, and increase pedestrian access to parks in Communities of Concern.
- Amend the General Plan Mobility Element to include a Complete Streets policy to enable safe, attractive and comfortable access so that pedestrians, bicyclists, motorists and transit users of all ages and abilities can safely travel within the public right of way.
- Amend land development code regulations to require more efficient pedestrian access between existing and new development (e.g., between adjacent lots).
- Prioritize as part of the Environmental Justice Element work on air quality emissions reduction opportunities with APCD and Communities of Concern.

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Measure 3.6: Vehicle Management

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
00	000	000	000	000

Potential for Equitable Implementation of Actions			
Community benefits & burdens	Community empowerment	Addresses historical disparity	
Ø	Ø	Ø	

Core Benefits:



Actions

- Optimize use of curb space including management of on-street parking in TPAs.
- Amend the land development code to eliminate parking minimum requirements.
- Amend the land development code to establish parking maximum requirements for use types and locations where appropriate.
- Amend the land development code to prohibit new auto-oriented land uses that would create conflicts with walking and bicycling within TPAs.



Strategy 4: Circular Economy and Clean Communities



Achieving zero waste and a truly circular economy means eliminating all discharges to land, water or air that threaten public and environmental health. Recycling, while a necessary component of any zero waste strategy, must be matched with other waste diversion methods such as composting, reduction and reuse. Supporting development of the local circular economy, where waste is used as an input for new production, is key.

Most residential and commercial waste ends up in landfills, left to decompose over decades, producing landfill gas that contains carbon dioxide and methane, a GHG 28 times more potent than carbon dioxide²⁴. Methane is also a primary contributor to the formation of ground-level ozone, a hazardous air pollutant that "causes approximately half a million premature deaths per year globally and harms ecosystems and crops by suppressing growth and diminishing



productivity"²⁵. The model of linear production and disposal of food and goods have negative consequences for both people and the planet. In this strategy, we target the emissions created by the way we dispose of construction materials, industrial waste, goods, and food.

Food systems, including deforestation for industrial agricultural use, food production, transportation, processing and packaging, freezing and retail, and waste account for 37% of total global GHGs²⁷. Eliminating food waste will require structural changes throughout the private sector, which the City will influence through both policy and advocacy. Fighting food insecurity through edible food recovery is one important strategy. Edible food recovery involves foods that would otherwise be wasted will be recovered and distributed to residents with the least access to affordable, healthy food.

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²⁴ Myhre, G., D. Shindell, F.-M. Bréon, W. Collins, J. Fuglestvedt, J. Huang, D. Koch, J.-F. Lamarque, D. Lee, B. Mendoza, T. Nakajima, A. Robock, G. Stephens, T. Takemura and H. Zhang, 2013: Anthropogenic and Natural Radiative Forcing. In: Climate Change 2013: *The Physical Science Basis. Contribution of Working Group 1 to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

²⁵ United Nations Environment Programme and Climate and Clean Air Coalition (2021). Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions. Nairobi: United Nations Environment Programme. ²⁷ IPCC, 2019: Climate Change and Land: an IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems

[[]P.R. Shukla, et al]. In press.)



San Diego has made significant strides in reducing the flow of waste to the landfill. The adoption and implementation of the <u>City Recycling Ordinance</u> (CRO) and <u>Construction and Demolition (C&D) Debris Deposit Ordinance (C&D</u> <u>Ordinance</u>) and a variety of other waste diversion programs have been crucial in positioning the City on the road to zero waste.

The City is currently planning how to expand its efforts to increase composting and prevent food waste in response to California State Senate Bill 1383, which requires the reduction of organic waste disposed of in landfills. Organic waste includes, but is not limited to, food scraps and food-soiled paper from kitchens and food operations, to yard waste such as garden and landscape waste, as well as organic textiles and carpets and wood waste. SB 1383 will require extensive procedural changes and significant coordination amongst different stakeholders. The City amended the Municipal Recycling Code to address the requirements of SB 1383 and will continue developing collection operations, adopting purchasing policies, enacting building requirements, preparing enforcement responsibilities, and strategizing public education and outreach efforts.

The potency of the methane emissions resulting from the decomposition of organic material means that it is important to track and neutralize its effects, even as we reduce the amount of waste entering our landfills. For this reason,

landfills and wastewater treatment plants were among the first facilities required to report emissions under California's AB 32 legislation. Technologies such as methane gas capture systems are currently used to decrease the amount of GHG gases released into the atmosphere. Ultimately, limiting the amount of waste that enters the landfills is the best way to reduce or eliminate GHG emissions from waste.



2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
82% Waste Diversion Rate and	(MT CO2e)	90% Waste Diversion Rate	(MT CO2e)
85% Landfill Gas Capture	215,268	and 90% Landfill Gas Capture	277,305

Measure 4.1: Changes to the Waste Stream

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
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Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
00	Ø	Ø		

Core Benefits:



Actions

SD

- Approve and implement the <u>Polystyrene Foam and Single Use Plastics Ordinance</u>, pending Environmental Impact Report.
- Expand the <u>Polystyrene Foam and Single Use Plastics Ordinance</u> to phase-out single-use materials and prioritize reuse rather than disposable goods.

Measure 4.2: Municipal Waste Reduction

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
00	000	000	000	000

Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
00	0	Ø		

Core Benefits:



Actions

- · Capture landfill methane gas emissions.
- Through an update to the City's administrative regulations include purchasing requirements for sustainable products and food whenever option is available.

 Reduce GHG emissions and water use of total beef, pork, chicken, turkey and dairy purchases by 20%.
Increase local, healthy, and sustainable foods to 20% of total food purchases prioritizing locally sourced, valued workforce and animal welfare

• Include procurement targets, with a focus on the maintenance of street easements, parks, and other green spaces, for purchasing compost through the Miramar Greenery or other local composting facilities to expand the demand and production of high quality compost in the city.

Measure 4.3: Local Food Systems & Food Recovery

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
000	00	00	00	00

Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
00	00	00		

Core Benefits:



Actions

SD

- Create a food council or advisory board with local stakeholders.
- Invest in expanding the food waste prevention network expand infrastructure & partnerships for edible food recovery.
- Require food waste prevention, donation and recycling plans for all City food service operations and large events on City managed, leased or owned lands.
- Establish a multidisciplinary team of subject matter experts across City departments with a focus on land use, economic growth, neighborhood vitality and healthy food access to work with community members to expand urban agricultural programs and develop policies to encourage communitybased farms, including demonstration projects.

- Working with the County and Farm Bureau to support investments in climatesmart agriculture and local food supply chain.
- Partner with County of SD to increase community access to Federal meal programs (EBT, WIC, etc.) and incentivize usage of these programs for local food access (CSA, farmers market, retail).
- Incorporate food security and resilient local food systems into climate resilience and emergency planning.
- Invest in a network of local food sourcing, aggregation, distribution and processing infrastructure including regional food hubs, neighborhood scale commercial kitchens or shared kitchens, and other food businesses, particularly in low-income communities.
- Regulate or activate programs for food businesses to minimize food related carbon emissions including requiring food waste prevention, donation and recycling plans for businesses/ institutions (for Tier 1 and Tier 2 generators outlined in SB1383) and provide technical assistance and resources. Also include checklist and outreach as part of business licensing process.
- Incentivize incorporation of urban agriculture features including indoor agriculture, edible forestry, community gardens, etc.
- Increase community participation with Urban Agriculture Incentive Zone (UAIZ) program.

Measure 4.4: Zero Waste to Landfill

			Feasibility of Actions		
	Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
Ì	000	00	00	00	000

Potential for Equitable Implementation of Actions				
Community benefits & burdens	Community empowerment	Addresses historical disparity		
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Core Benefits:



Actions

- Update, adopt and implement the Zero Waste Plan.
- Create a community reuse and repair program to increase waste diversion, reduce material consumption and develop training and learning opportunities.
- Update the Citywide Recycling Ordinance to ban divertible materials (yard waste, food) from residential and commercial trash containers, in compliance with SB 1383.
- Develop a marketing plan for compost and mulch developed within the city. Identify and target compost and mulch markets in urban areas as well as urban agriculture. Partner with industries to increase compost and mulch use including landscaping, stormwater and water conservation.
- Analyze city regulations and other barriers to developing businesses that reuse or repair consumer goods, where doing so will not adversely impact the surrounding residential neighborhood.

- Increase public awareness of and access to opportunities for reuse, product rentals, repair, and donation.
- Support and expand citywide reuse infrastructure.

- Support community composting enterprises through strategic partnerships.
- Increase enforcement presence to ensure compliance with recently modified City Recycling Ordinance and increase waste diversion.
- Evaluate and provide input on State and Federal producer responsibility requirements and laws, to focus on hard to recycle and/or hazardous items impacting San Diego's waste stream.
- Implement a public mattress recycling drop-off location.
- Partner with franchise waste haulers to address barriers to increasing diversion rates.
- Continue and enhance public outreach programming that provides residents with strategies for household waste reduction, including from food waste and shipping and packaging (e.g., on-demand deliveries), including outreach in languages that reflect the diverse needs of San Diego.
- Amend the Construction & Demolition regulations to establish a deconstruction requirement to reduce demolition waste from construction and renovation, facilitate material reuse and create jobs.



2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
95% Methane Capture	(MT CO2e) 26,461	95% Methane Capture	(MT CO2e) 27,254

Measure 4.5: Capture Methane from Wastewater Treatment Facilities

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
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Potential for Equitable Implementation of Actions			
Community benefits & burdens	Community empowerment	Addresses historical disparity	
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Core Benefits:



Actions

SD

• Capture methane gas from wastewater treatment.
Strategy 5: Resilient Infrastructure and Healthy Ecosystems



The original CAP's Climate Resiliency Strategy has evolved into Resilient Infrastructure and Ecosystems to encompass new actions related to both natural and built environments and to reflect the City's work to date on resiliency with the adoption of the Climate Resilient SD plan in 2021. Climate resiliency and the actions identified this strategy better prepare San Diego to prepare for the impacts of climate change and minimize its negative effects. Climate resilient systems are proposed and mentioned throughout this document, but the actions within this strategy refer specifically to those with associated GHG emission reductions. Juxtaposed with the CAP, which is focused on reducing



emissions, the City's Climate Resilient SD plan was intended to prepare for and adopt to the four primary climate change hazards that pose the greatest risk to the City: sea level rise, flooding and drought, extreme heat and wildfires.

In the 2015 CAP, the Resiliency Strategy included measures for climate resilience in developing a regional Urban Tree Canopy Assessment in collaboration with other regional jurisdictions and SANDAG, developing a Parks Master Plan prioritizing underserved communities, issuing an Urban Forest Management Plan and planning for the long-term maintenance of additional trees with sufficient staff resources. The City has implemented each of these measures



and seeks to expand the list of actions based on community input to build off of this prior work and enhance achievement of this strategy in Communities of Concern.

The City has developed several programs to further the expansion of the City's tree canopy and access for residents to trees for planting in neighborhoods and City public spaces. For example, the City's Parks and Recreation Department in partnership with the Balboa Park Conservancy, CAL FIRE, Urban Corps San Diego and Tree San Diego has planted more than 600 trees in San Diego's crown jewel, Balboa Park. The City also launched an annual Arbor Day event where members of the community plant trees and learn about their importance in our communities. Trees for Treasure, in partnership with Friends of Balboa Park, takes downed timber and dead trees and uses the wood to create unique products for sale. Profits are then used to plant new trees in Balboa Park. The City's Transportation Department launched Free Tree SD, a program where residents can request a new street tree with the commitment of watering it for three years during the establishment period. San Diegans can access the Urban Tree Canopy Assessment with support from SanGIS to view the tree canopy across the city and in their community. Throughout the engagement process for the draft 2015 CAP, every Community of Concern expressed a strong desire for more trees and green spaces. Trees and green spaces improve air quality, create a buffer between freeways and homes, create cooler sidewalks improving walkability and bikeability, beautify neighborhoods, and provide public areas to congregate and develop relationships that improve neighborhoods holistically.

A semiarid climate with cycles of multi-year droughts, San Diego's historical average rainfall amounts do not provide adequate local water supplies. Water demands currently require that most of the City's water be imported from outside of the region. For more than 100 years, the City has continually and

The San Diego River is a vital part of San Diego's rich ecosystem. The City will continue to seek partnerships to identify opportunities for carbon sequestration and restoration projects to protect this valuable regional resource.

SEA LEVEL RISE PROJECTIONS FOR SAN DIEGO



Sea levels rose 0.71 feet in San Diego during the 20th century, and San Diego could experience another 3.6 to 10.2 feet of sea level rise by the end of the 21st century*. Coastal storms are also projected to occur more frequently in the future, which will further exacerbate flooding along the coast. Adaptation strategies to minimize risk and increase resilience to climate change hazards such as sea level rise can be found in the City's Climate Resilient SD plan.

*California Coastal Commission. (2018). California Coastal Commission Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits. https://documents.coastal. ca.gov/assets/slr/guidance/2018/0_Full_2018AdoptedSLRGuidanceUpdate.pdf

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proactively invested in its water supply system to maintain a reliable water supply for residents and businesses. The Public Utilities Department (PUD) is working to improve the energy efficiency of their operations and upgrading many of facilities. In 2019, PUD consumed about 56% of its energy from onsite renewable generation directly and indirectly, from both privatized and Cityowned facilities. PUD is working on upgrading existing renewable energy generation facilities, as well as adding new facilities.

The Climate Resilient SD plan includes adaptation strategies and associated core benefits which include GHG reductions. These strategies include coordination with local transit agencies, collaboration with experts on climate science to inform policy decisions and developing a cultural plan to connect the arts to sustainability and resiliency, among others. As both Climate Resilient SD and the CAP move forward into implementation, their aligned strategies will serve to both mitigate and adapt to climate change and provide a more sustainable future for San Diegans.

In September 2021, the City partnered with NOAA, the San Diego Foundation, High Tech High and other volunteers to hold an urban heat mapping event.



Volunteers mounted heat sensors on their cars and traveled along designated routes to collect thousands of temperature and humidity data points in the morning, afternoon and evening. This data was then sent to CAPA Strategies to develop high resolution maps that show heat distribution across the city. The urban heat mapping results are one tool the City will use to decide where to prioritize the implementation of adaptation strategies that address extreme heat.

2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
Restore 350 acres of salt marsh	(MT CO2e)	Restore 700 acres of salt marsh	(MT CO2e)
land and other associated tidal	410	land and other associated tidal	821
wetland and riparian habitats	/	wetland and riparian habitats	/

Measure 5.1: Sequestration

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
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Potential for Equitable Implementation of Actions		
Community benefits & burdens	Community empowerment	Addresses historical disparity
00	00	00

Core Benefits:



Actions

SD

- Protect, restore and enhance urban canyons. Support habitat restoration of urban canyons, inclusion of environmental education and recreation opportunities, and continued preservation.
- Develop an area specific management plan to protect, restore and preserve wetland and upland areas on City managed lands, prioritizing Communities of Concern.
- Develop Natural Resource Management Plans on all managed preserved lands and include in plans the sequestration as the information becomes available.

Supporting Actions

- Prioritize partnerships with San Diego's tribes and restorative environmental justice opportunities on wetland restoration projects.
- Acquire Open Space Conservation Land.
- Create a pilot carbon farming program on vacant public land or in partnership with educational institutions and non-profit organizations.
- Partner with the San Diego River Conservancy and other agencies to identify sequestration opportunities through restoration projects.

2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
28% urban canopy cover	(MT CO2e) 82,806	35% urban canopy cover	(MT CO2e) 102,290

Measure 5.2: Tree Canopy

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
000	00	000	00	00

Potential for Equitable Implementation of Actions		
Community benefits & burdens	Community empowerment	Addresses historical disparity
00	00	00

Core Benefits:



Actions

- 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.

- Develop a plan to increase permeable areas for new trees and restore spaces that have been paved, focused in Communities of Concern.
- Support expansion of urban tree canopy in parks and along active transportation network. Prioritize implementation in Communities of Concern.
- Develop policies that encourage and incentivize developers, homeowner associations, and other organizations to preserve, maintain and plant trees.
- Reform, streamline, and expand the No Fee Street Tree program to remove barriers that exist which detour or prohibit participation by residents within Communities of Concern.
- Protect and maintain all healthy City trees that have minimal conflicts to existing and future infrastructure, by use of policy, code, public outreach and code enforcement.

Supporting Actions

- Amend the Land Development Code to increase landscape and parking lot tree planting requirements.
- Streamline permitting for tree planting, dedicate resources to planting in nontraditional street tree locations, and provide reduced fees or fee waivers in Communities of Concern.
- Revise Council Policies and Municipal Codes to strengthen tree protection and enhance tree planting efforts.
- Increase irrigation for trees in Parks and in Street rights-of-way.

- Implement a citywide protocol for tracking planted, removed and maintained street trees.
- Explore allocating revenue from tree removal fines, including from the placement of utility equipment located in the right of way, and fees to fund the planting of new trees.
- Expand volunteer programs and partnerships with community organizations to plant and maintain trees.
- Support the creation of new urban green space along freeways and city right of way.
- Ensure the diversification of tree species, including using native tree and shrub species and/or species that are adapted to higher temperatures and require less water.
- As established in the Energy Cooperation Agreement with the City and SDG&E, implement the Right Tree, Right Place program (or successor programs), identify additional tree planting locations, assist with tree species ideas, and provide technical support through SDG&E's arborists.
- Monitor and report on SDG&E's plans to supplant the City's efforts with direct in-community charitable support for planting up to 2,500 trees in the city over 10 years.
- Perform proper tree maintenance and tree removal to promote a healthy urban forest and safety of trees in public spaces.
- Redesign hardscape infrastructure around existing City trees when possible in order to increase large tree canopy cover.

2030 Target	2030 GHG Reduction	2035 Target	2035 GHG Reduction
Provide 33,000 acre-feet local water supply from PureWater	(MT CO2e) 9,910	Provide 93,000 acre-feet local water supply from PureWater	(MT CO2e 18,507

Measure 5.3: Local Water Supply

		Feasibility of Actions		
Stakeholder acceptability	Technical feasibility	Ease of implementation	Financial viability	Mainstreaming potential
000	000	00	000	000

Potential for Equitable Implementation of Actions		
Community benefits & burdens	Community empowerment	Addresses historical disparity
Ø	Ø	Ø

Core Benefits:



Actions

- Develop local water supply and reduce dependence on imported water.
- Support ongoing gallon per capita water use (GPCD) targets.

Strategy 5 Supporting Actions

- Expand awareness of the City's Rainwater Harvesting Rebates and Grass Replacement Rebates programs to increase participation in the programs and facilitate accessibility to residents across the City, prioritizing those within Communities of Concern and areas that have had historically lower participation in the programs.
- Advance undergrounding of utilities to provide a means to reduce energy use, increase green space preservation, sustainably process and store water and wastes, securely and efficiently site critical infrastructure, prevent and reverse degradation of the urban environment, and enhance quality of life.
- Maximize planning and implementation of green infrastructure at watershed scale and site specific with focused stakeholder engagement efforts in Communities of Concern.
- Investigate opportunities to capture and reuse rainwater.
- Implement Waterways Restoration projects.
- Increase opportunities for stormwater harvesting by evaluating new harvesting methodology to determine viability.
- Amend building code regulations to require a percentage of all non-roof (e.g., hardscape) surfaces around new buildings meet certain criteria to reduce urban heat island effect.
- Install cool pavement material on City parking lots and in the public rightof-way, prioritizing Communities of Concern, to increase building energy efficiency and reduce urban heat island effect.

Strategy 6: Emerging Climate Action



While implementation of the five strategies detailed above will be transformational, the City cannot eliminate all the emissions required to reach the net zero goal. Without additional actions or emissions avoided elsewhere, we project 2,511,000 MT CO2e (23% of total CO2e produced in the business-as-usual scenario) will remain. Further action, new policies, technological innovation, partnerships and research are all necessary components of emerging climate actions that are beyond our current ability to quantify and assess.

This strategy is broad by design and will require monitoring and reporting during implementation to build out and quantify. Areas of focus within Strategy 6 include developing more effective partnerships with regional partners such as the Port of San Diego, SANDAG and the County of San Diego; collaboration on research and projects with the private sector; advancements to ensure energy resilience and exploration of alternative fuel sources; further research to understand potential land and water carbon sequestration opportunities; and developing pilot projects that catalyze new techniques and technologies from all sectors. This is not an exhaustive list, but a starting point for the City to actively pursue new ideas, listening to best available data and practices, and adapting as needed to achieve the greatest amount of GHG avoided while maximizing the impact on core benefits to our residents and businesses.

2030 Residual Emissions 391,000 additional reduction needed to reach

fair-share target

2035 Residual Emissions 2,262,000 additional reduction/removal needed to reach carbon neutrality

Measure 6.1: Explore further opportunities to achieve net zero GHG emissions

Supporting Actions

- Explore policies and incentive programs to electrify construction equipment
- Build programs and partnerships to recognize and incentivize business practices that align and implement the CAP strategies and measures.
- Identify opportunities to improve city processes to facilitate faster deployment of technologies and practices in San Diego.
- Investigate advanced air quality control systems, including GHG removal technologies and criteria pollutant control technologies.
- Exploring the use of GHG emission offsets which can include techniques such as increasing carbon sequestration in soils, forests and farmland, purchasing clean electricity credits from neighboring states, or through emerging technological approaches such as the direct capture and removal of carbon from the atmosphere.
- Participate in research around regional and/or local benefitting offset programs that ensure the benefits of investments are prioritized in the City's Communities of Concern.
- Continue to engage on the development of research and data around the sequestration potential of various types of natural spaces including blue carbon sequestration, more specifically develop a citywide sequestration standard for wetlands restoration.
- Support partners such as tribal governments and universities to restore salt marshes and wetlands ecosystems for sequestration.
- As it pertains to GHG avoidance, the City's CAP Implementation Plan will focus and prioritize the core benefit of air quality to support the shared regional efforts to address nonattainment and improve air quality equitably.
- Advocate for APCD to develop CERP-like plans in all communities.
- Support the regional efforts to address nonattainment, toxic air contaminants in Communities of Concern.

Summary Table of Strategies and Actions

Strategy	2030 Target	2035 Target	Measure
Strategy 1:	Phase out 45% of natural gas usage from existing buildings	Phase out 90% of natural gas usage from existing buildings	Measure 1.1: Decarbonize Existing Buildings
Decarbonization of the Built	All-electric reach code starting 2023 at nev	v residential and commercial development	Measure 1.2: Decarbonize New Development
Environment	Phrase out 50% of natural gas usage in municipal facilities	Phase out 100% natural gas usage in municipal facilities	Measure 1.3: Decarbonize City Facilities
Strategy 2:	100% renewable or GHG-free power provided by S	DCP for all SDCP customers in the City of San Diego	Measure 2.1: Citywide Renewable Energy Generation
Access to Clean & Renewable Energy	Percent of all municipal fleet vehicles to be ZEVs: LDV: 50% MDV: 50% HDV: 50%	Percent of all municipal fleet vehicles to be ZEVs: LDV: 100% MDV: 75% HDV: 75%	Measure 2.2: Increase Municipal Zero Emission Vehicles
Ellergy	16% e-VMT out of all Light-duty VMT	25% e-VMT out of all Light-duty VMT	Measure 2.3: Increase Electric Vehicle Adoption
	19% walking and 7% cycling mode share of all San Diego residents' trips	25% walking and 10% cycling mode share of all San Diego residents' trips	Measure 3.1: Safe and Enjoyable Routes for Pedestrians and Cyclists
Strategy 3:	10% transit mode share of all San Diego residents' trips	15% transit mode share of all San Diego residents' trips	Measure 3.2: Increase Safe, Convenient, and Enjoyable Transit Use
Mobility &	Achieve 4% citywide VMT reduction through telecommute by 2030	Achieve 6% citywide VMT reduction through telecommute by 2035	Measure 3.3: Work from Anywhere
Land Use	Land Use Install 13 new roundabouts	Install 20 new roundabouts	Measure 3.4: Reduce Traffic Congestion to Improve Air Quality
	8% VMT (commuter and non-commuter) reduction per capita	15% VMT (commuter and non-commuter) reduction per capita	Measure 3.5: Climate-Focused Land Use
			Measure 3.6: Vehicle Management
		90% Waste Diversion Rate and 90% Landfill Gas Capture	Measure 4.1: Changes to the Waste Stream
			Measure 4.2: Municipal Waste Reduction
Strategy 4: Circular Economy	82% Waste Diversion Rate and 85% Landfill Gas Capture		Measure 4.3: Local Food Systems & Food Recovery
& Clean Communities			Measure 4.4: Zero Waste to Landfill
	99% Methane Capture	99% Methane Capture	Measure 4.5: Capture Methane from Wastewater Treatment Facilities
Strategy 5: Resilient	Restore 350 acres of salt marsh land and other associated tidal wetland and riparian habitats	Restore 700 acres of salt marsh land and other associated tidal wetland and riparian habitats	Measure 5.1: Sequestration
Infrastructure and Healthy	28% urban canopy cover	35% urban canopy cover	Measure 5.2: Tree Canopy
Ecosystems	Provide 33,000 acre-feet local water supply from PureWater	Provide 93,000 acre-feet local water supply from PureWater	Measure 5.3: Local Water Supply
Strategy 6: Emerging Climate Action	2,262,000 additional reduction/removal needed		Measure 6.1: Explore further opportunities to achieve net zero GHG emissions



entering the CAP around equity has provided the opportunity for the City of San Diego to elevate the voices of residents in those communities that have had less access to opportunity or who have been faced with conditions that actively impede their health, wellbeing and prosperity. The lived experiences and advocacy of residents and organizations in Communities of Concern reinforced the need for the City to prioritize the severe and longstanding health disparities related to poor air quality and be a committed partner to achieving cleaner air. Although it has is not traditionally been a focus or delegated responsibility under municipal jurisdiction, the City still has an important role to play and a responsibility to improve the health of our residents.

An area is designated as in attainment when it complies with the National and/ or California Ambient Air Quality Standards. These standards are set by the U.S. Environmental Protection Agency (EPA) or the California Air Resources Board (CARB) for the maximum level of a given air pollutant which can exist in the outdoor air without unacceptable effects on human health or the public welfare.²⁸ Regionally, San Diego is in nonattainment for Ozone, PM10 and PM2.5 standards. These elevated levels of pollutants in the air result in adverse health outcomes and environmental impacts.

The San Diego APCD has developed State Implementation Plans (SIPs) to detail the control measures and associated emission reductions that will be taken to achieve the national ambient air quality standard for Ozone.²⁹ The City commits to supporting these efforts to better control sources that contribute to the development of Ozone and the APCD's goal of achieving attainment for this standard as soon as feasible, no later than 2032³⁰.

Many sources of GHG emissions are simultaneously responsible for a variety of other pollutants such as particulate matter PM_{10} and $PM_{2.5'}$ nitrous oxides and Ozone. Some pollutants impact both climate and human health. Historic land use and infrastructure decisions have concentrated these pollutants from

Criteria Pollutant Designations for San Diego County

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-Hour)	Nonattainment	Nonattainment
Ozone (1-Hour)	Attainment *	Nonattainment
Carbon Monoxide	Attainment	Attainment
PM10	Unclassifiable **	Nonattainment
PM2.5	Attainment	Nonattainment
Nitrogen Dioxide	Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	No Federal Standard	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Visibility	No Federal Standard	Unclassified

* The federal 1-hour standard of 12 pphm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

** At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

stationary industrial sources, mobile sources like combustion engines and brake pads in cars and trucks, and indoor sources like natural gas appliances found within our businesses and homes result in worsening of the effects of these environmental emissions on our most vulnerable residents. These policy decisions and ongoing emissions have resulted in generations of people diagnosed with elevated levels of respiratory issues and diseases like asthma

²⁸ https://www.sdapcd.org/content/sdc/apcd/en/air-quality-planning/attainment-status.html

²⁹ https://ww2.arb.ca.gov/our-work/programs/california-state-implementation-plans/nonattainment-area-plans/san-diego-county

³⁰ California Air Resources Board. (2020). 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County. https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/Att%20A%20(Attainment%20Plan)_ws.pdf

and cancer. Communities of Concern have been disproportionately impacted, with neighborhoods like Barrio Logan and San Ysidro facing some of the worst air quality in California. The City's EJ element will develop goals, objectives, policies and actions to address neighborhoods disproportionately experiencing air pollution as well as other environmental health burdens.

The cycle of concentrated air pollution in Communities of Concern needs to be broken. We can do so, in part, through the actions outlined in this CAP. The strategies around removing indoor use of natural gas; reduction of vehicle combustion engines; increase in efficiency and safety of alternative mobility options; waste reduction and litter abatement; land use plans to separate incompatible uses, and investments in trees for sequestration and cooling all reduce the impacts of harmful air pollutants. To more clearly show how the City is committed to air quality and eliminating toxic climate pollutants, the table below gathers all strategies, measures and actions that will directly impact air quality, particularly in Communities of Concern.

CAP measures with a positive impact on Air Quality

Strategy 1: Decarbonization of the Built Environment

1.1 Decarbonize Existing Buildings

• Develop a strategy to achieve decarbonization of the existing building stock that includes extensive engagement and utilization of a shared-decision making model with Communities of Concern.

1.2 Decarbonize New Development

• Develop and adopt a Building Electrification policy, through code update or other mechanism, requiring new residential and commercial buildings to eliminate the use of natural gas, utilizing extensive engagement and a shared-decision making model with Communities of Concern and affordable housing developers.

Strategy 2: Clean and Renewable Energy

2.1 Increase Municipal Zero Emission Vehicles

• Develop a City Fleet Vehicle Replacement and Electrification strategy.

2.3 Increase Electric Vehicle Adoption

• Develop a citywide electric vehicle strategy to accelerate EV adoption, including flexible fleets, circulators and electric bicycles, focusing on the barriers to ownership and charging for residents within the Communities of Concern.

Strategy 3: Mobility and Land Use

3.1 Safe Routes for Pedestrians and Cyclists

- Develop Safe Routes to Schools safety plans; start a San Diego Safe Routes to Schools program focusing on our underserved communities and underperforming schools.
- Implement the City's Bicycle Master Plan and community plan bicycle networks with an emphasis on separated bikeways.
- Partner with Micro Mobility Operators to optimize the number of scooters available in mobility hubs and/or near transit.
- Update the Bike Master Plan to reflect existing as-built infrastructure, recent community-involved plan updates, and planned regional connections.
- Develop a Mobility Master Plan to reduce mobile sources emissions and further a shift in mode consistent with the CAP.
- Review and improve flexible fleets and micro-mobility policies/shared use mobility programs, especially focused in Communities of Concern and first mile/last mile applications.

3.2 Increase Transit Use

- Develop dedicated bus lanes or shared bus and bike lanes to increase transit efficiency and on-time performance Implement projects and update the Placemaking Ordinance, including a street furniture program that reduces heat exposure, provides cool transit stops, and improves access to nearby restrooms in high transit use areas and pedestrian corridors, prioritizing Communities of Concern.
- Ensure every high-volume transit stop has access to transit shelters, which include shade structures and benches; work with MTS to establish a standard for the provision of bus shelters in the city (e.g., minimum accommodations) with a priority in Communities of Concern.

SD

E

• Advocate for a permanent, regional, Youth Opportunity Pass and support the expansion of the program to include college students and residents in Communities of Concern.

3.3 Work from Anywhere

- Amend the Land Development Code to include mandatory transportation demand management (TDM) regulations Citywide.
- Develop a City employee TDM policy.
- Establish a team and roadmap to support actions that require connectivity and close the digital divide.

3.4 Improve Road Conditions

- Deploy dynamic speed management efforts such as signal retiming on City streets.
- Install traffic circles and roundabouts.
- Retime traffic signals to reduce vehicle fuel consumption through improving the flow of traffic.

3.5 Land Use

- Focus new development in areas that will allow residents, employees, and visitors to safely, conveniently, and enjoyable travel by walking, rolling, biking, or transit, such as in Transit Priority Areas (TPAs), and areas of the City with the lowest amount of vehicular travel.
- Plan for land uses that will allow existing residents, employees, and visitors to more safely, conveniently, and enjoyably travel by walking, rolling, biking, or transit.
- Update the Placemaking Ordinance to better support mode shift, to increase accessibility, walkability, and activate public spaces

3.6 Parking

- Optimize use of curb space including management of on-street parking in TPAs.
- Amend the land development code to eliminate parking minimum requirements.
- Amend the land development code to establish parking maximum requirements for use types and locations where appropriate.
- Amend the land development code to prohibit new auto-oriented land uses that would create conflicts with walking and bicycling within TPAs.

Strategy 4: Circular Economy and Clean Communities

4.2: Municipal Waste Reduction

■ Capture landfill methane gas emissions.

4.5: Capture Methane from Wastewater Treatment Facilities

Capture methane gas from wastewater treatment

Strategy 5: Resilient Infrastructure and Ecosystems

5.1 Sequestration

- Protect, restore and enhance urban canyons. Support habitat restoration of urban canyons, inclusion of environmental education and recreation opportunities, and continued preservation.
- Develop a habitat management plan to include wetland and upland areas on City-managed lands in Communities of Concern.
- Develop HMP's on all managed preserved lands.

5.2 Tree Canopy

- Conduct a new UTC assessment (LiDAR) to identify potential areas/areas lacking.
- Increase tree planting in Communities of Concern by identifying City lands/ spaces that need trees.
- Develop a plan to increase permeable areas for new trees, focused in Communities of Concern.
- Create a Street Tree Master Plan capturing all community plan street tree lists to facilitate selection of species (in relation to the No Fee Permit).
- Support expansion of urban tree canopy in parks and along active transportation network. Prioritize implementation in Communities of Concern.
- Develop policies that encourage and incentivize developers, homeowner associations, and other organizations to preserve, maintain and plant trees.
- Reform and expand the free tree program.
- Protect and maintain existing trees.

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Legislative and rulemaking authority for air quality is expressly delegated to the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB) and San Diego County APCD. The passage of California Assembly Bill 423 reformed San Diego APCD's board structure and provided the City with two seats on the Board, resulting in a degree of participatory oversight. The APCD works to identify where communities and residents are put at risk due to air quality emissions and works to improve air quality through processes such as planning, regulation and enforcement. Under state legislation such as AB 617, the APCD worked on the development of the Community Emission Reduction Plan (CERP) to establish strategies that reduce air pollution and exposure in the Portside Environmental Justice Communities in San Diego and National City. These strategies span across the jurisdictional entities of the City, National City, the County, the Port and the Department of the Navy. The City participated in the overall development of the CERP through the steering committee and continued partnership with APCD. In 2021, the City advocated for a new CERP focusing on the Border Communities to address the air quality issues affecting San Ysidro and other parts of the city near the border crossing.



While the CERP is specific to Barrio Logan, Sherman Heights and Logan Heights, the process to develop the plan and the strategies within it would result in improved air quality throughout the city if implemented regionally. The City supports APCD in any future efforts to expand or replicate this process throughout our jurisdiction. The City is committed to working closely with the APCD, and all other agencies associated with the CERP to achieve the shared goal of improved air quality for our residents within the Portside Environmental Justice Communities and all our impacted Communities of Concern. In 2021, the City advocated for a new CERP focusing on the Border Communities to address the air quality issues affecting San Ysidro and other parts of the city near the border crossing. By working together and sharing resources, these agencies will be more effective at addressing all the variables that impact air quality.

In addition to the CAP actions highlighted above, the City will work to achieve improved air quality, prioritizing those communities most overburdened by unhealthy conditions, by committing to the following efforts:

- Partner with APCD to include air quality monitoring updates from their site measurements into the annual reporting for the CAP. Currently, APCD monitors black carbon, which contains PM from gasoline engines, wood smoke, and diesel engines.
- Prioritize the CAP actions listed above within communities most impacted by poor air quality.
- Invest in air quality improvements through ongoing Climate Equity Fund allocations.
- Partner with APCD to meet the Attainment Standard for State and Federal regulations, such as reaching 70 ppb 8-hour ozone standard by 2032³¹ through implementation of the SIP and updates to the Regional Air Quality Strategy.
- Implement incentive programs to support the transition to electric or low emitting engines and residential air quality monitoring for indoor pollutants.
- To support APCD and the implementation of the CERP, the City commits to the following:
 - o Reduce levels of Diesel Particulate Matter (PM) emitted within the City's jurisdictional control by 80% from 2016 levels by 2030 with

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³¹ California Air Resources Board. (2020). 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County. https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/Att%20A%20(Attainment%20Plan)_ws.pdf

priority in most impacted communities as identified by draft CalEnvironScreen (CES) 4.0.

- Reduce cancer risk below 10 per million from current risk of 100 per million for each stationary source of toxic air pollution within the City's jurisdictional contro, including portable equipment, in Environmental Justice Communities.
- o Work with the Port of San Diego to implement its Maritime Clean Air Strategy as quickly as possible.
- o Advocate for and support investments to reduce idling and pollution prioritizing efforts at the San Ysidro international border crossing.
- o Analyze and mitigate impacts of incompatible land uses in future community plan updates.
- o Work closely with the APCD board to advocate at regional and statewide agencies like SANDAG and CARB to prioritize air quality improvement investments in our communities.
- o Update the municipal code to incorporate electric vehicle charging as a land use type.
- o Advocate and invest in the transition to zero emission medium and heavy-duty vehicles, especially in diesel applications that most directly impact Communities of Concern.
- o Support additional air quality monitoring in Communities of Concern.
- o Incorporate progress on air quality through data provided by APCD into ongoing CAP monitoring and reporting, as feasible.

Implementation & Monitoring

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he CAP identifies a comprehensive set of goals, targets, measures, and actions that the City can use to reduce GHG emissions. These actions include a combination of ordinances, City Council policies, resolutions,

programs and incentives, as well as outreach and education activities.

To implement and monitor of these activities, the City will follow the recommendations from the <u>2019 Performance Audit of the Climate Action Plan</u>. Specifically for implementation, the City will:

- Recommendation 1 To formally establish responsibility and authority for oversight and accountability of CAP implementation, through annual department work plans and department CAP liaisons to assist the Council with budgetary considerations.
- Recommendation 6 Once CAP 2.0 is developed, the City should develop an implementation plan, including an estimate of associated costs, information on funding sources, and identification of funding gaps.





Over the next five years of implementation for this CAP, City staff will report on progress to the City Council and the public. The City commits to providing an annual progress report and conducting comprehensive GHG emissions inventories at least every two years. The annual progress report will use data from the inventories, air quality monitoring data from APCD, and tracking from City departments and external partners to demonstrate the process of implementation and the outcomes of action to date. Staff will release an updated CAP in 2027 to assure that the City has a path to achieving these specified levels of GHG reductions. The City will use the most reliable data available to accurately and comprehensively report implementation progress, particularly as it relates to the City's efforts to increase climate equity.

A central tenet to this CAP is the City's commitment to equity and improving the quality of life for residents in Communities of Concern. To ensure that the City is responding appropriately to the needs of these communities and using the best available data, the City commits to updating the CEI in 2022 and again when new data (e.g. updated Census information or CalEnviroScreen updates) necessitates an update.

E



Appendices

90 City of San Diego CLIMATE ACTION PLAN Our Climate, Our Future

Appendix A

Glossary

Glossary	
Term	Definition/Meaning
Attainment	"Attainment" status for a pollutant means that the Air District meets the standard set by the U.S. Environmental Protection Agency or California Environmental Protection Agency.
California Environmental Quality Act (CEQA)	A state law requiring state and local agencies to assess the environmental impacts of a proposed private or public project they undertake or permit. If a proposed activity has the potential for a significant adverse environmental impact, an environmental impact report must be prepared and certified as to its adequacy before action can be taken on the proposed project.
Climate Action Plan	A climate action plan is a planning document that identifies ways in which the community and county can reduce greenhouse gas emissions.
Climate change	Any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). There is international concern that increasing concentrations of greenhouse gases (GHGs) in the atmosphere are changing the climate in ways detrimental to our social and economic well-being.
Climate Equity	Addressing historical inequities suffered by people of color, allowing everyone to fairly share the same benefits and burdens from climate solutions and attain full and equal access to opportunities regardless of one's background and identity.
Community-Wide Greenhouse Gas Inventory	Looks at greenhouse gas emissions caused by all activities within a city's geographic boundary. Typical sectors include residential, commercial, and industrial energy use, transportation, off-road equipment, waste generation, and energy associated with water delivery and treatment.
Composting	The controlled process of breaking down plant trimmings and kitchen scraps into a dark-colored, sweet-smelling soil amendment that adds nutrients to the soil.

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Decarbonization	Moving away from energy systems that produce carbon dioxide (CO2) and other greenhouse gas emissions
Ecosystem	An ecological community of interdependent plant and animal species and their physical environment.
Extreme Heat Event	Weather that is much hotter than average for a particular time and place—and sometimes more humid, too
General plan	A long range policy document to guide land use decisions about physical, economic, and environmental growth. California state law requires counties and cities to have a General Plan which contains seven elements: Land Use; Transportation; Housing; Open Space; Conservation; Safety and Noise. County general plans cover unincorporated areas.
Green Building	Sustainable or "green" building is a holistic approach to design, construction, and demolition that minimizes the building's impact on the environment, the occupants, and the community.
Greenhouse Effect	The trapping and build-up of heat in the atmosphere near the Earth's surface is often called the "greenhouse effect". Some of the heat flowing back toward space from the Earth's surface is absorbed by greenhouse gasses in the atmosphere and then reradiated back toward the Earths surface. As the atmospheric concentrations of these gases rise, the amount of heat reradiating back to the Earth's surface increases as well, resulting in global temperature increases.

Greenhouse Gases	Gases, including water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), that trap heat in the atmosphere are often called greenhouse gases. Some greenhouse gases such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and human activities. Other greenhouse gases (e.g., fluorinated gases) are created and emitted solely through human activities. GHGs influence climate change though the greenhouse effect (see above).
Mobility	The potential for movement and the ability to get from one place to another using one or more modes of transport to meet daily needs.
Mode Shift	A change from one form of transportation to another.
Net Zero	Cutting greenhouse gas emissions to as close to zero as possible, with any remaining emissions re-absorbed from the atmosphere.
Redlining	A discriminatory practice in which services are withheld from potential customers who reside in neighborhoods classified as 'hazardous' to investment; typically in neighborhoods with high concentrations of racial and ethnic minorities, and low-income residents.
Sea Level Rise	An increase in the level of the world's oceans due to the effects of global warming.
Systemic Racism	The presence of institutional and structural racism. Institutional racism occurs within institutions, like City and County governments, and involves unjust policies, practices, procedures, and outcomes that work better for White people than people of color, whether intentional or not. Structural racism is racial inequities across institutions, policies, social structures, history, and culture.
Vehicle Miles Traveled (VMT)	A key measure of overall street and highway use. Reducing vehicle miles traveled is often a major objective in efforts to reduce vehicular congestion and achieve regional air quality goals.

Abbreviations List

Abbreviatio	ons list
Abbreviation	Long Form
A2Z	Accelerate to Zero
AB32	Global Warming Solutions Act of 2006
ADA	Americans with Disabilities Act
APCD	Air Pollution Control District
AR6	Intergovernmental Panel on Climate Change Sixth Assessment Report
C&D	Construction and Demolition
CAP	Climate Action Plan
СВО	Community-Based Organization
CDP	Carbon Disclosure Project
CEI	Climate Equity Index
CEQA	California Environmental Quality Act
CERP	Community Emissions Reduction Plan
CES	CalEnviroScreen
CoSD	City of San Diego
CRO	City Recycling Ordinance
DIF	Development Impact Fees
EHC	Environmental Health Coalition
EJ	Environmental Justice
EO B-55-18	Executive Order to Achieve Carbon Neutrality
EO N-79-20	Executive Order to Achieve Carbon Neutrality Executive Order to Transition to 100% Zero-Emission Vehicle Sales
EP3	
EV	Environmentally Preferable Purchasing Program Electric Vehicle
GCoM	Global Covenant of Mayors
GHG	Greenhouse Gas
ICLEI	International Council for Local Environmental Initiatives
IPCC	Intergovernmental Panel on Climate Change
LMI	Low-to-Moderate Income
MCAS	Maritime Clean Air Strategy
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
MT CO2e	Metric tons of carbon dioxide equivalent
MTS	Metropolitan Transit System
NTCD	North County Transit District
PM10	Particulate matter 10 micrometers or less
PM2.5	Particulate matter 2.5 micrometers or less
ROW	Right of Way
RP	Regional Plan
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SANDAG	San Diego Association of Governments
SDCP	San Diego Community Power
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas and Electric
SDG&E	Sustainable Development Goals
SDRCC	San Diego Regional Chamber of Commerce
SDUSC	San Diego Urban Sustainability Coalition
TDM	Transportation Demand Management
TNC	Transportation Network Company
ТРА	Transit Priority Area
VMT	Vehicle Miles Traveled

Appendix B

Greenhouse Gas Calculations and Methodologies

Methods for Estimating Greenhouse Gas Emissions and Emissions Reductions in the San Diego Climate Action Plan

July 2022

Prepared for the City of San Diego



Prepared by the Energy Policy Initiatives Center



About EPIC

The Energy Policy Initiatives Center (EPIC) is a non-profit research center of the University of San Diego School of Law that studies energy policy issues affecting California and the San Diego region. EPIC's mission is to increase awareness and understanding of energy- and climate-related policy issues by conducting research and analysis to inform decision makers and educate law students.

For more information, please visit the EPIC website at <u>www.sandiego.edu/epic</u>.

The Energy Policy Initiatives Center (EPIC) prepared this report for the City of San Diego. This report represents EPIC's professional judgment based on the data and information available at the time EPIC prepared this report. EPIC relies on data and information from third parties who provide it with no guarantees such as of completeness, accuracy or timeliness. EPIC makes no representations or warranties, whether expressed or implied, and assumes no legal liability for the use of the information in this report; nor does any party represent that the uses of this information will not infringe upon privately owned rights. Readers of the report are advised that EPIC may periodically update this report or data, information, findings, and opinions and that they assume all liabilities incurred by them, or third parties, as a result of their reliance on the report, data, information, findings and opinions contained in the report.

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Energy Policy Initiatives Center (EPIC), University of San Diego

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1 OVERVIEW

This Appendix provides a summary of the greenhouse gas (GHG) emissions estimate for the City of San Diego (referred to as San Diego or the City) in calendar year 2019, the business-as-usual (BAU) emissions projections through 2050, and the methods used to calculate the GHG emissions reductions from the actions included in the City of San Diego's Climate Action Plan (CAP).

This Appendix includes the following sections:

- Section 2 describes the background sources used for this Appendix;
- Section 3 provides the 2019 GHG emissions inventory results summary and the methods used to prepare each emissions category of the inventory;
- Section 4 provides a summary of the emissions projections for 2030, 2035, and 2050, and the methods used to prepare projections for each emissions category;
- Section 5 describes this CAP's 2030 and 2035 targets;
- Section 6 provides a summary of emissions impacts from federal, State (California), regional actions, as well as five CAP strategies; and
- Section 7 details the common data sources and methods used to estimate emissions reduction, and the methods used to estimate emissions reduction from federal, State, regional, and CAP strategies.

Unless stated otherwise, all activity data, GHG emissions, and GHG emissions reductions reported in this Appendix are annual values for the calendar year, and all emission factors reported in this document are annual average values for the calendar year.

1.1 Rounding of Values in Tables and Figures

Rounding is used for the final GHG values within the tables and figures throughout the document. Values are not rounded in the intermediary steps in any calculation. Because of rounding, some totals may not equal the values summed in any table or figure.

2 BACKGROUND

2.1 Greenhouse Gases

The primary GHGs included in the emissions estimates presented here are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Each GHG has a different capacity to trap heat in the atmosphere, known as its global warming potential (GWP), which is normalized relative to CO_2 and expressed in carbon dioxide equivalents (CO_2e). In general, the 100-year GWPs reported by the Intergovernmental Panel on Climate Change (IPCC) are used to estimate GHG emissions. The GWPs used in this inventory are from the IPCC Fourth Assessment Report (AR4),¹ provided in Table 1.

¹ IPCC Fourth Assessment Report: Climate Change 2007: Direct Global Warming Potentials (2013).

Greenhouse Gas	Global Warming Potential
Carbon dioxide (CO ₂)	1
Methane (CH ₄)	25
Nitrous oxide (N ₂ O)	298
IPCC 2013.	

Table 1 Global Warming Potentials Used in San Diego GHG Emission Inventory & Projections

2.2 Demographics

The San Diego Association of Governments (SANDAG) estimates and forecasts population, housing, and employment for all jurisdictions in the San Diego region. The population, housing, and jobs estimates are provided in Table 2.²

Table 2 Population, Housing, and Jobs Estimates (San Diego, 2019–2050)

Year Population -	Single-Family Units		Multi-Family Units		Jobs	Service	
	Population	Total	Occupied	Total	Occupied	1002	Population*
2019	1,420,571	285,910	272,419	249,150	228,566	911,117	2,331,688
2030	1,552,815	291,134	277,719	340,195	312,889	1,000,498	2,553,313
2035	1,599,353	293,182	279,673	378,092	347,744	1,046,814	2,646,167
2050	1,646,129	294,298	280,738	411,758	378,708	1,140,676	2,786,805

*Service population is the sum of population and jobs

2030, 2035, and 2050 data are based on SANDAG Series 14 Draft 2021 Regional Plan Growth Forecast

Housing unit types include single detached units, single attached units, two to four units, five plus or apartment units, and mobile homes.

SANDAG 2020, 2021

3 BASELINE 2019 GHG EMISSIONS INVENTORY

3.1 Summary of 2019 GHG Emissions Inventory

The total GHG emissions from San Diego in 2019 were approximately 10.5 million metric tons CO_2e (MMT CO_2e), distributed into categories as shown in Figure 1.³

² 2019 population and housing estimates are from SANDAG: <u>Demographic & Socio-Economic Estimates for San Diego (August 19, 2020 Version)</u>. SANDAG Data Surfer, accessed September 28, 2020. The estimates for the same year vary by version. 2030, 2035, and 2050 data are based on SANDAG Series 14 Draft 2021 Regional Plan Growth Forecast, provided by SANDAG (June 2021). The forecast in the Draft 2021 Regional Plan was based on the Sustainable Communities Strategy land use pattern, which may be different from jurisdiction's general plan land use pattern.

³ The 2019 GHG emissions inventory in this document updated from the 2019 inventory in the <u>CAP Annual Report 2020</u>, due to updated data sources after the Annual Report release: (1) 2019 electricity emissions factor became available in December 2020; and (2) new mobile sources emissions inventory (EMFAC2021) became available in 2021.



Percentage may not add to totals due to rounding. Energy Policy Initiatives Center, University of San Diego 2022

Figure 1 Breakdown of GHG Emissions in City of San Diego (2019)

	2019 Inver	2019 Inventory		
Emissions Category	GHG Emissions (MT CO2e)	Distribution (%)		
On-Road Transportation*	5,805,000	55%		
Electricity	2,375,000	23%		
Natural Gas	1,911,000	18%		
Solid Waste	277,000	3%		
Off-Road Transportation (Construction Equipment Only)	70,000	1%		
Water	68,000	1%		
Wastewater	26,000	0.2%		
Total	10,532,000	100%		
Sums may not add up to totals due to rounding. GHG emissions for each category are rounded to the nearest thousand. Values are not rounded in the intermediary steps in the calculation.				

Table 3 Total and Breakdown of GHG Emissions in City of San Diego (2019)

*2019 vehicle miles traveled (VMT) are based on 2016 VMT adjusted to account for regional VMT growth, as reflected in the California Highway Performance Monitoring System from 2017 to 2019. 2016 VMT is from SANDAG's Series 14 base year in the draft 2021 Regional Plan and activity-based model (ABM2+).

Energy Policy Initiatives Center, University of San Diego 2022

3.2 Method to Calculate 2019 GHG Emissions Inventory

The CAP follows the U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (U.S. Community Protocol),⁴ developed by ICLEI USA. It requires a minimum of five basic emissions-generating activities to be included in a Protocol-compliant community-scale GHG inventory. These categories are: electricity, natural gas, on-road transportation, water and wastewater, and solid waste. GHG emissions are calculated by multiplying activity data (e.g., kilowatt-hours of electricity, tons of solid waste) by an emission factor (e.g., pounds of CO₂e per unit of electricity). For these five categories, methods based on the U.S. Community Protocol were modified with regional- or City-specific data when available.

Additionally, GHG emissions from construction activity were included in the inventory and projections, based on the methods and models used by California Air Resources Board (CARB) in the statewide GHG emission inventory.⁵

All activity data and GHG emissions reported in this document are annual values, and all emission factors reported in this document are annual average values, unless stated otherwise.

The U.S. Community Protocol is the rulebook for developing community-scale inventories.⁶ Protocols and guidance for reporting GHG emissions for entities, such as corporations and public agencies, are different from those for communities. The Local Government Operations Protocol, developed by ICLEI, CARB, and the Climate Registry (TCR), and the General Reporting Protocol, developed by TCR, are widely used to develop GHG inventories for local governments and public agencies.⁷ The method to determine boundaries in the U.S. Community Protocol is different from the method in the Local Government Operations Protocol or the General Reporting Protocol, which is depends on the entity's financial or operation control. This inventory accounts for the emission generating activities in the City of San Diego, not based on City's financial or operational control.

3.2.1 On-Road Transportation

The emissions associated with on-road transportation are calculated by multiplying the estimated City of San Diego VMT and the average vehicle emission rate in the San Diego region in 2019.

Annual VMT was estimated based on the average weekday VMT for the City provided by SANDAG using the Series 14 Forecast and activity-based model (ABM2+). SANDAG provided VMT estimates for 2016.⁸ The 2016 VMT provides the starting point for the 2019 VMT values, which were estimated using annual

⁴ <u>ICLEI – Local Governments for Sustainability USA</u>: U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.2 (2019).

⁵ California Air Resources Board (CARB): California Greenhouse Gas Emission Inventory – 2021 Edition.

⁶ <u>ICLEI – Local Governments for Sustainability USA</u>: U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.2 (2019).

⁷ CARB, ICLEI, and The Climate Registry: <u>Local Government Operations Protocol</u>; the Climate Registry: <u>General Reporting</u> <u>Protocol Version 3.0</u>.

⁸ 2016 VMT was provided by SANDAG to City of San Diego (Sep. 2021). SANDAG Activity Based Model 2+ Release v14.2.1, Draft 2021 Regional Plan Networks, Policies, and Assumptions, Growth Forecast 14.38, Year 2016, Reference Scenario 87, October 2020. The forecast in the Draft 2021 Regional Plan was based on the Sustainable Communities Strategy land use pattern, which may be different from jurisdictions' general plan land use pattern.

VMT growth rates from California's public road data in the San Diego region derived from the Highway Performance Monitoring System (HPMS).⁹

SANDAG allocates the VMT derived from ABM2+ to the City of San Diego using the Origin-Destination (O-D) method.¹⁰ The O-D VMT method is the preferred method proposed by the U.S Community Protocol in "TR.1 Emissions from Passenger Vehicles" and "TR.2 Emissions from Freight and Service Trucks" that estimates miles traveled based on where a trip originates and where it ends to attribute onroad emissions to cities and regions (Figure 2).¹¹



O-D VMT allocated to San Diego include all miles traveled for trips that originate and end within San Diego city limits (referred to as Internal-Internal), and half of the miles traveled for trips that either begin within San Diego and end outside the City (referred to as Internal-External), or vice versa (referred to as External-Internal). In accordance with the methodology, VMT from trips that begin and end outside San Diego that only pass through the City limits (referred to as External-External) are not included in the total City VMT. The total average weekday VMT were multiplied by 347 to adjust from average weekday VMT to average annual VMT, which includes weekends.¹²

The average weekday Series 14 O-D VMT estimates for each trip type in 2016 provided by SANDAG and the total VMT allocated to the City based on the ICLEI methodology described above are given in Table 4.

⁹ California Department of Transportation: <u>Highway Performance Monitoring System (HPMS) Data</u>.

¹⁰ SANDAG (2013): <u>Vehicle Miles Traveled Calculation Using the SANDAG Regional Travel Demand Model.</u> Technical White Paper.

¹¹ <u>ICLEI – Local Governments for Sustainability USA</u>: U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.2 (2019), Appendix D: Transportation and Other Mobile Emission Activities and Sources.

¹² The conversion of 347 weekdays to 365 days per year as used by CARB. <u>CARB: California's 2000–2014 Greenhouse Gas</u> <u>Emission Inventory Technical Support Document (2016 Edition)</u>, p. 41 (September 2016).

Table 4 2016 O-D VMT Estimates by Trip Types and Total VMT provided by SANDAG (San Diego, 2016)

		VMT by Trip Type (Miles/Weekday)	Total City VMT (100% * I-I +		
Year	Internal- Internal (I-I) Trips	External- Internal/Internal- External (I-E/E-I) Trips	External-External Trips (Information only, excluded from City VMT)*	50% * I-E/E-I) (Miles per Weekday)	Total City VMT (Miles per Year)
2016	22,402,731	29,018,904	3,236,859	36,912,183	12,808,527,434

*Though excluded from this analysis, miles from External-External trips (pass-through trips) shown here are the portion only within the City boundary, not from the entire trip.

Based on SANDAG Series 14 (Draft 2021 Regional Plan) and ABM2+ VMT estimates. The conversion factor from miles per weekday to miles per year is 347.

SANDAG 2021, Energy Policy Initiatives Center, University of San Diego 2021

Historical year data from other than 2016 base year are not available under SANDAG ABM2+. Therefore, to estimate 2019 O-D VMT, the 2016 O-D VMT was adjusted by the annual rates of increase from 2016 to 2019, as indicated by the State public road VMT monitoring system (CalTrans HPMS). Annual Caltrans HPMS VMT was used to estimate VMT growth rates for the San Diego region. The rates were applied to the City of San Diego 2016 O-D VMT data (Table 4) as an approximation of VMT growth since 2016. The CalTrans HPMS VMT estimate for the San Diego region is based on daily monitoring on all public roads, including city streets, county roads, state highways, roads maintained by state and federal agencies, freeways, etc. The estimated daily VMT and annual rate of increase from 2016 to 2019 with CalTrans HPMS data are given in Table 5.¹³

Year	San Diego Region Daily VMT (thousand miles/day)	Annual Rate of Increase (%)
2016	79,622	2.1%
2017	81,253	2.0%
2018	82,618	1.7%
2019	84,235	2.0%
CalTrans 2020, Energy Policy Initiatives Center, University of San Diego 2021		

Table 5 San Diego Region Daily VMT Derived from the CalTrans Highway Performance Monitoring System

Using these annual rates of increase, the estimated 2019 VMT for the City of San Diego are provided in Table 6. It is assumed that the City of San Diego VMT growth follows the pattern of the San Diego regional VMT growth shown in the CalTrans HPMS data. The adjustment method may change if better information becomes available on City of San Diego VMT and travel patterns.

The average annual vehicle emission rate expressed in grams of CO_2e per mile driven (g CO_2e /mile) is derived from the statewide mobile source emissions model EMFAC2021 developed by CARB.¹⁴

¹³ California Department of Transportation: <u>HPMS Data</u>, accessed October 13, 2020.

¹⁴ CARB: EMission FACtors model, <u>EMFAC2021 v1.0.1</u>, released on April 30, 2021, downloaded on August 30, 2021. CARB published an updated version, <u>EMFAC2021 v1.0.2</u>, on May 2, 2022. The updates fixed bugs that were not related to GHG emissions.
EMFAC2021 was run in the default activity mode to generate the total VMT and total vehicle GHG emissions for the San Diego region, including all vehicle model years, classes, and fuel types.¹⁵ This document assumes that the City of San Diego has the same distribution of vehicle types as the San Diego region.

Total estimated VMT, average vehicle emission rates, and corresponding GHG emissions from on-road transportation from 2019 are given in Table 6.

Year		Total VMT (Miles/year)	Average Vehicle Emission Rate (g CO2e/mile)	GHG Emissions (MT CO2e)		
2019	019 13,550,575,607		428	5,805,000		
GHG emissions for each category are rounded. Values are not rounded in the intermediary steps in the calculation.						
Energy Policy Initiatives Center, University of San Diego 2021.						

Table 6 VMT, Emission Rate, and GHG Emissions from On-Road Transportation (San Diego, 2019)

3.2.2 Electricity

Emissions from electricity in the City of San Diego were estimated using the Built Environment (BE.2) method from the U.S. Community Protocol, by multiplying electricity use by the City-specific electricity emission factor in 2019.¹⁶

Annual metered electricity sales data within the City were provided by the local utility, San Diego Gas & Electric (SDG&E).¹⁷ The electricity sales data do not include the electricity sales to San Diego County Regional Airport Authority, San Diego Unified Port District, and the military. The electricity sales were then adjusted by 1) a loss factor¹⁸ of 1.07¹⁹ to account for transmission and distribution losses; and 2) subtracting electricity use associated with moving water within the City limits, which is allocated to the water category emissions. The adjusted net energy for load (electricity sales + losses) is provided in Table 7.

For a given year, the City-specific electricity emission factor, expressed in pounds of CO₂e per megawatthour (lbs CO₂e/MWh), is estimated based on the specific power mix of bundled power²⁰ and Direct Access (DA) power²¹ in the City and their respective emission factors.

¹⁵ Id.

¹⁶ <u>ICLEI – Local Governments for Sustainability USA</u>: U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.2 (2019), Appendix C: Built Environment Emission Activities and Sources.

¹⁷ 2017–2019 metered electricity sales were provided to EPIC by SDG&E (August 18, 2020).

¹⁸ The transmission and distribution loss factor is used to scale end-use demand or retail sales to produce net energy for load. L. Wong, <u>A Review of Transmission Losses In Planning Studies</u>, CEC Staff Paper (August 2011).

¹⁹ California Energy Commission (CEC): <u>California Energy Demand 2015–2025 Final Forecast Mid-Case Final Baseline Demand</u> <u>Forecast Forms</u>, SDG&E Mid. The transmission and distribution loss factor is calculated based on the ratio of net energy for load (total sales + net losses) and total sales from SDG&E Form 1.2 Mid.

²⁰ SDG&E bundled power includes the electricity from SDG&E-owned power plants and the electricity from its net procurements.

²¹ Direct Access refers to electricity that customers purchase from non-SDG&E electric service providers (ESPs), but SDG&E still provides transmission and distribution services. See <u>SDG&E Direct Access Program</u>.

The SDG&E bundled emission factors are calculated using Federal Energy Regulatory Commission (FERC) Form 1²² data, the California Energy Commission (CEC) Power Source Disclosure (PSD) Program²³ data on SDG&E-owned and purchased power, and U.S. EPA Emissions and Generating Resource Integrated Database (eGRID) 2019 Edition²⁴ on specific power plant emissions. The 2019 SDG&E bundled emission factor calculated using the sources above is 633 lbs CO₂e/MWh, with 31% eligible renewable. The DA emission factor, 836 lbs CO₂e/MWh, is based on California Public Utilities Commission (CPUC) Decision D.14-12-037.²⁵ The City-specific electricity emission factors are provided in Table 7.

Emissions are calculated by multiplying the adjusted net energy for load (electricity sales + losses) and the corresponding City-specific electricity emission factor. The net energy for San Diego's load (electricity sales + losses), electricity emission factors, and corresponding GHG emissions from the electricity category for 2019 are shown in Table 7.

Table 7 Net Energy for Load, Emission Factor, and GHG Emissions from Electricity Category (San Diego, 2019)

Year	Net Energy for Load (electricity sales + losses) ¹ (MWh)	City-Specific Emission Factor (Ibs CO2e/MWh) ²	GHG Emissions (MT CO₂e)			
2019	7,795,981	671	2,375,000			
¹ The net energy for load does not include the net energy for load from San Diego County Regional Airport Authority, San Diego Unified Port District, and the military. ² City-Specific emission factors are for City of San Diego only and do not represent the emission factors of SDG&E bundled electricity or of other jurisdictions in the San Diego region.						
GHG emissions for each category are rounded. Values are not rounded in the intermediary steps in the calculation. Energy Policy Initiatives Center, University of San Diego 2021						

3.2.3 Natural Gas

Emissions from natural gas use in San Diego were estimated using method Built Environment (BE.1) from the U.S. Community Protocol, by multiplying the natural gas use (the activity) and the natural gas emission factor in 2019.²⁶

Annual natural gas sales were provided by SDG&E, broken down by residential, commercial and industrial customer class.²⁷ The natural gas sales data do not include the sales to San Diego County Regional Airport Authority, San Diego Unified Port District, and the military. The natural gas emission

²⁴ U.S. EPA. <u>eGRID 2019 Edition</u>, released on February 23, 2021.

²² FERC: Form 1 – Electric Utility Annual Report.

²³ CEC: <u>Power Source Disclosure Program</u> under Senate Bill 1305. The SDG&E annual power source disclosure reports in 2019 were provided to EPIC by CEC staff. SDG&E <u>2019 Power Content Label</u>, version October 2020. The CEC PSD Program, under the requirements of Assembly Bill (AB) 1110 (Ting, Chapter 656, Statutes of 2016), requires retail electric providers to disclose GHG emissions intensity (i.e., electricity emission factor) and unbundled renewable energy credits, starting in 2021 for 2020 procurements. Starting in 2021, the GHG emissions intensity reported by retail electric providers for the PSD Program will be used directly to calculate GHG emissions from the electricity category.

²⁵ CPUC: <u>Decision 14-12-037</u>, December 18, 2014 in Rulemaking 11-03-012 (filed March 24, 2011). The recommended emission factor is 0.379 MT CO₂e/MWh (836 lbs CO₂e/MWh). The recommended emission factor has not changed since 2014. All electric service suppliers must meet the Renewables Portfolio Standards in the target years.

²⁶ <u>ICLEI – Local Governments for Sustainability USA</u>: U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.2 (2019), Appendix C: Built Environment Emission Activities and Sources.

²⁷ 2017–2019 metered natural gas sales were provided by SDG&E to EPIC (August 18, 2020).

factor is based on the heat content of the fuel and the fuel's CO_2 , CH_4 , and N_2O emissions. The heat content of fuel and the emissions from CO_2 , CH_4 , and N_2O were based on the CARB statewide inventory.²⁸

To estimate emissions from the combustion of natural gas, end-use was multiplied by the emission factor. The total natural gas end-use and corresponding GHG emissions from the natural gas category for 2019 are given in Table 8.

Year	Natural Gas End-Use (Million Therms)	Natural Gas Emission Factor (Million MT CO₂e/Million Therms)	GHG Emissions (MT CO2e)		
2019	351	1,911,000			
The natural gas sales do not include the sales to San Diego County Regional Airport Authority, San Diego Unified Port District, and the military.					
GHG emissions for each category are rounded to the nearest thousand. Values are not rounded in the intermediary steps in the calculation.					
SDG&E 2020, Energy Policy Initiatives Center, University of San Diego 2021					

Table 8 Natural Gas End-Use and GHG Emissions from Natural Gas Category (San Diego, 2019)

3.2.4 Solid Waste

Emissions from the decomposition of organic material in waste disposed at landfills were estimated using method Solid Waste (SW.4) from the U.S. Community Protocol, by multiplying the amount of waste disposed by the City in 2019 and an emission factor for mixed solid waste.²⁹ This represents the immediate and all future emissions from decay of this waste.

Solid waste disposal is the waste disposed by the City in landfills, regardless of whether the landfills accepting the waste are located inside or outside of the City boundary. The majority of the waste from the City is disposed at West Miramar Sanitary Landfill, Otay Landfill, and Sycamore Landfill.³⁰ The total and per-capita solid waste disposal are given in Table 10.³¹

The emission factor of mixed solid waste depends on the percentage of each waste type within the waste stream disposed in a landfill. The City of San Diego's 2012–2013 Waste Characterization Study, conducted at Miramar Landfill, was used as a proxy for San Diego's solid waste composition.³² Only the CH₄ emissions from waste degradation are considered non-biogenic and included in this category. The CO₂ emissions from waste degradation are considered biogenic and not included in this category.

The EPA Waste Reduction Model (WARM) is used to determine the emission factor of each waste type. WARM is a life-cycle GHG model to assess and compare waste management options (e.g., landfilling,

²⁸ CARB: <u>GHG Current California Emission Inventory Data.</u>

²⁹ <u>ICLEI – Local Governments for Sustainability USA</u>: U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.2 (2019), Appendix E: Solid Waste Emission Activities and Sources.

³⁰ CalRecycle: <u>Disposal Reporting System (DRS)</u>: Jurisdiction Disposal and Alternative Daily Cover (ADC) Tons by Facility.

³¹ 2019 waste disposal was downloaded from CalRecycle, <u>Disposal Reporting System (DRS)</u>: <u>Jurisdiction Disposal and Alternative</u> <u>Daily Cover (ADC) Tons by Facility</u>, accessed September 8, 2020.

³² City of San Diego: <u>Waste Characterization Study 2012–2013 Final Report</u> (2014), accessed November 4, 2019.

recycling, source reduction, composting), through the life-cycle of waste materials (from material extraction to disposal). However, under the U.S Community Protocol, only emissions from the disposal and associated degradation of waste are included. Therefore, only the landfill emission factors in EPA WARM are used in the calculation. WARM reports the landfill CH₄ emission factor of each waste material in MT CO₂e/short ton, with and without Landfill Gas (LFG) recovery.

The mixed solid waste emission factor is given in Table 9. The landfill emission factors without LFG recovery are identified here; and the LFG recovery is applied later.

		Landfill Gas E	mission Factors			
Waste Component	Waste Distribution (%) ¹	CH₄ without Landfill Gas Recovery (MT CO₂e/short ton disposed)	Source ²			
Paper	16.8%					
Corrugated Containers/Cardboard	5.0%	2.36	Exhibit 3-27, WARM v15 Containers /Packaging			
Newspaper	0.8%	0.94	Exhibit 3-27, WARM v15 Containers /Packaging			
Magazine	0.6%	1.08	Exhibit 3-27, WARM v15 Containers /Packaging			
Mixed Paper (general)	Nixed Paper (general) 10.4% 2.14		Exhibit 3-27, WARM v15 Containers /Packaging			
Plastic	8.9%	0	-			
Glass	1.7%	0	-			
Metal	3.5%	0	-			
Organics	38.9%					
Food	15%	1.62	Exhibit 1-49, WARM V15 Organic Materials			
Tree (Branches)	5.3%	1.3	Exhibit 2-13 WARM V15 Organic Materials			
Leaves and Grass	6.8%	0.59 (leaves)	Exhibit 2-13 WARM V15 Organic Materials			
Trimmings	3.5%	0.73	Exhibit 2-13 WARM V15 Organic Materials			
Mixed Organics	8.3%	0.53	Exhibit 1-48 WARM V15 Organic Materials			
Electronics	0.6%	0	-			
Construction & Demolition	24.6%	0	-			
Household Hazardous Waste	0.2%	0	-			
Special Waste	3.1%	0	-			
Mixed Residue	1.6%	0.53				
Mixed Waste Emission Fa	ctor	0.785				
Source: ¹ City of San Diego 20	Source: ¹ <u>City of San Diego 2014</u> . ² EPA <u>Waste Reduction Model (WARM)</u> Version 15 (May 2019)					

Table 9 Mixed Solid Waste Emission Factor

The mixed waste emission factor given in Table 9 is the emission factor without landfill gas collection. The 75% default capture rate of CH₄ emissions from landfills, from the U.S. Community Protocol, is applied in the emissions calculation. The total and per-capita solid waste disposal and the corresponding GHG emissions for 2019 are given in Table 10.

S		Solid Waste Disposed		GHG				
Year	Citywide (Short Tons/Year)	Citywide (MT/Year)	Per Capita Solid Waste Disposal (kg/person/ day) ¹	Emission Factor (MT CO2e/Short Ton)	Oxidation Rate ²	Total GHG Emissions (MT CO₂e)	Default CH₄ Capture Rate	Remaining Emissions (MT CO ₂ e)
2019	1,569,447	1,423,779	2.7	0.785	10%	1,108,249	75%	277,000
¹ Inform	GHG emissions for each category are rounded. Values are not rounded in the intermediary steps in the calculation. ¹ Informational, based on total waste disposal and population estimates.							
emissio	ons are produced	he default amount J. 5 Center, University			not emitted,	therefore only	90% of total	methane

Table 10 Solid Waste Disposal and GHG Emissions from Solid Waste Category (San Diego, 2019)

3.2.5 Off-Road Transportation (Construction Equipment Only)

The emissions from off-road transportation in the City, such as gasoline and diesel fuel use for off-road vehicles and equipment, were estimated based on CARB off-road models. The CARB models include many off-road equipment types, only construction related equipment and its emissions are covered here. Common equipment types are excavators, off-highway tractors, paving equipment. OFFROAD2021 is the main model for estimating off-road transportation emissions.³³

Due to the lack of jurisdiction-specific data from CARB models, the construction emissions from CARB model outputs for the San Diego region were scaled to the City based on the ratio of regional and citywide construction jobs. sub-category-specific scaling factors. The ratio and the corresponding GHG emissions from the off-road transportation category for 2019 are given in Table 11.³⁴

³³ CARB: OFFROAD2021 (v1.0.1) Emissions Inventory, all adopted rules -exhaust. Downloaded on January 24, 2022.

³⁴ Construction equipment emissions are reported in tons CO₂ per day in OFFROAD2021 and covered to MT CO₂e per year. 2019 construction jobs in the City and San Diego region are linear interpolated between 2016 and 205 because the 2019 estimates are not available. 2016, 2025, 2030, 2035, and 2050 data are based on SANDAG Series 14 Draft 2021 Regional Plan Growth Forecast, provided by SANDAG (June 2021).

Table 11 GHG Emissions from Off-Road Transportation (Construction Equipment Only) Category (San Diego,2019)

Year	GHG Emissions from Construction Equipment in San Diego Region* (MT CO₂e)	Construction Jobs Ratio (City of San Diego/San Diego Region)	GHG Emissions from Construction Equipment in City of San Diego (MT CO ₂ e)			
2019	178,838	39%	70,000			
GHG emissions for each category are rounded to the nearest thousand. Values are not rounded in the intermediary steps in the calculation.						
CARB 2021,	SANDAG 2021, Energy Policy Initi	atives Center, University o	of San Diego 2021			

3.2.6 Water

Emissions from water use in a jurisdiction result from the energy required to move water from origin sources to end-use customers, including upstream supply and conveyance, water treatment, and water distribution, as circled in Figure 3. The energy required to move water is primarily electricity but may include natural gas or other fuels.



Figure 3 Segments of the Water Cycle

Emissions from water were estimated using the method Wastewater and Water (WW.14) from the U.S. Community Protocol.³⁵ Emissions associated with water end-use, such as water heating and cooling, are included in the electricity and natural gas category, not in this water category, as data are not available to separate out those values.

Water agencies developing their own GHG inventories would not follow the U.S. Community Protocol because the U.S. Community Protocol is specifically for community-wide inventories, not for other types of entities. Therefore the scope and boundary of emissions included in this sector are different from

³⁵ <u>ICLEI – Local Governments for Sustainability USA:</u> U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.2 (2019), Appendix F: Wastewater and Water Emission Activities and Sources.

those of a water agency's GHG inventory. For example, the water agencies may account only the emission generating activities within their operational or financial control in their GHG inventories.

The City of San Diego is one of the member agencies of the water wholesaler in the San Diego region, the San Diego County Water Authority (SDCWA). The City of San Diego delivers potable and recycled water within the City boundary, and also sells water to or treats water for neighboring water agencies and cities, such as the City of Del Mar and the California American Water Company (CalAm).³⁶

The potable water supply sources for the City of San Diego include: 1) imported untreated water from SDCWA; 2) imported treated water from SDCWA; 3) surface water from local reservoirs; and 4) groundwater from the Santee-El Monte Basin.³⁷ Recycled water is produced at the City's North City Water Reclamation Plant (North City WRP) and South Bay Water Reclamation Plant (South Bay WRP) and is used for non-potable use, such as landscape irrigation.

The potable water supplied within City of San Diego (excluding sales to other water agencies) and the percentage of water from each source, and the recycled water are given in Table 12.³⁸

	Potable Water Supplied							
Year	Imported SDCWA Treated	Imported SDCWA Untreated	Local Surface Reservoir	Local Groundwater Basin	Potable Water Supplied (Acre-Feet)	Recycled Water Supplied (Acre-Feet)		
2019	10%	77%	14%	0.1%	161,472	7,999		

Table 12 Water Supplied and Supply Source (San Diego, 2019)

Percentages may not add up to totals due to rounding. Potable water supplied (acre-feet) is the City of San Diego's water production excluding sales to other water agencies.

City of San Diego 2020, Energy Policy Initiatives Center, University of San Diego 2020

The energy used to produce and distribute water from each source is different due to the different raw source type and its location. The energy intensity of water, or the energy needed to move one unit of water through each segment of the water-use cycle (water supply and conveyance, water treatment, and water distribution) individually, expressed in kWh per acre foot (kWh/Acre-foot), are described below.

<u>Upstream Supply and Conveyance</u> – This is defined as supply and conveyance of water from the raw sources to the local service area. The upstream supply and conveyance energy use for SDCWA untreated water consists of conveyance of water from the State Water Project and the Colorado River through Metropolitan Water District (MWD)'s and SDCWA's service area. The upstream supply and conveyance energy use for SDCWA treated water consists of that associated with SDCWA untreated water and the

³⁶ California American Water Company (CalAm)'s service area in San Diego region includes Cities of Imperial Beach and Coronado, and portions of the City of Chula Vista. California American Water: <u>2015 Urban Water Management Plan</u>, Southern Division – San Diego County District (2016).

³⁷ City of San Diego, <u>2015 Urban Water Management Plan</u>, Section 6 System Water Supplies (2016).

³⁸ Recycled water sales, water production at each of City's water treatment plants (WTPs) from each water source and sales to other agencies (City of Del Mar and CalAm) were provided by City of San Diego from 2017 to 2019. Water sales to City of Del Mar is from the imported raw water treated in City of San Diego's WTPs. The water sales to CalAm (excluding CalAm's service area in City of San Diego's South Bay area) is from local water treated in WTPs. Recycled water was produced at the City's North City Water Reclamation Plant and provided to City customers only.

water treatment energy use before the water is delivered to City of San Diego's service area. The water may be treated at MWD or SDCWA's water treatment plants (WTPs).³⁹ The City does not have operational control over the upstream supply and conveyance.

Water suppliers have begun to voluntarily report the energy intensity in their service areas in Urban Water Management Plans (UWMPs). SDCWA's and MWD's 2015 UWMP voluntary energy intensity reporting are used to calculate the upstream supply energy intensity for SDCWA's member agencies. The energy intensity is based on the average of fiscal years 2013 and 2014 is shown in Table 13.

Water System Segment	FY 2013 and 2014 Average Energy Intensity (kWh/Acre-Foot)	Data Source
MWD delivered untreated*	1,817	MWD UWMP 2015 Appendix 9
SDCWA conveyance**	-62	SDCWA UWMP 2015 Appendix K
SDCWA Untreated Subtotal	1,755	
SDCWA treatment	60	SDCWA UWMP 2015 Appendix K
SDCWA distribution***	1.1	SDCWA UWMP 2015 Appendix K
SDCWA Treated Total	1,816	

Table 13 Components of Average Upstream Energy Intensity for SDCWA Member Agencies

MWD - Metropolitan Water District, SDCWA – San Diego County Water Authority, UWMP - Urban Water Management Plan.

*Includes conveyance from the State Water Project & Colorado River water to MWD's distribution system, and distribution from MWD to MWD's member agencies.

**Conveyance of raw water supplies to the water treatment plants or to member agency connections (negative value means hydro-electric generation by SDCWA).

*** Distribution of treated water from SDCWA's Twin Oaks Water Treatment Plant to SDCWA's member agencies.

"Upstream" refers to moving water from the original source to SDCWA's member agency's service area or first connection point

MWD 2016, SDCWA 2016, Energy Policy Initiatives Center, University of San Diego 2018

<u>Local Supply and Conveyance</u> – This is defined as supply and conveyance of local surface and groundwater within the water agency service area to water treatment plants, such as pumping water from local surface water reservoirs to nearby water treatment plants. Due to the way data is provided, the local supply and conveyance energy intensity is combined with local water treatment energy intensity.

Local Potable Water Treatment – This is the energy used for water treatment plant operations. The energy intensity depends on the source water quality, the treatment level, and capacity and efficiency of the associated WTP. The City of San Diego owns three WTPs: Alvarado, Miramar, and Otay WTP that treat raw water to potable levels. The WTPs treat both imported untreated SDCWA water and local water. Both Alvarado and Otay WTP have on-site behind-the-meter PV systems. The PV systems are connected with the raw water pump stations at Alvarado and Otay WTP that pump water to and from the WTPs to the nearby reservoirs. Because the water conveyance and treatment operations are connected, the local water conveyance and treatment energy intensity are combined and given in Table 14.

³⁹ SDCWA 2016: <u>Urban Water Management Plan 2015</u>, Metropolitan Water District of Southern California, <u>Urban Water</u> <u>Management Plan 2015</u>.

Combined Miramar, Otay and Alvarado WTPs	2019	Description		
Water Treated (Acre-Feet)	152,586	Total water treated at three WTPs		
Total Treatment + Conveyance Energy Use (kWh)	11,519,163	Total electricity consumption including treatment plant operation, lake pump stations and electricity generated at Alvarado and Otay on-site PV systems		
Total Treatment + Conveyance Energy Intensity (kWh/Acre-Foot)	75	Total energy Intensity (total electricity divided by water treated)		
Solar Production (kWh)	2,272,785	Annual electricity generated Alvarado and Otay on-site PV systems		
Net Treatment + Conveyance Energy Use (kWh)	9,255,955	Net electricity purchase from the grid (SDG&E). Total electricity consumption minus solar production.		
Net Treatment + Conveyance 61 Net Energy Intensity (net energy divided by water treated)				
WTP – Water Treatment Plant. The energy intensities are the average of all three City of San Diego WTPs, do not represent the energy intensity of each individual WTP. City of San Diego 2020, Energy Policy Initiatives Center, University of San Diego 2020				

Table 14 Local Water Conveyance and Treatment Energy Intensity (San Diego, 2019)

<u>Local Potable Water Distribution</u> – This is defined as the energy required to move treated water from water treatment plants to end-use customers. Distribution energy use includes energy use for water pump stations and/or pressure reduction stations, water storage tanks, etc. Local distribution energy intensity depends on the service area's geological conditions, such as the elevation the water is pumped to/from, the pump station's energy efficiency, and whether a pump station is offline for maintenance or repair, which would cause water to be pumped to other pressure zones and rerouted back. The City of San Diego's water service area has some areas with gravity-fed system (no energy needed) and some areas that need water pumping. The citywide water distribution energy intensity is given in Table 15.

 Table 15 Local Water Distribution Energy Intensity (San Diego, 2019)

Citywide Water Distribution	2019	Description		
Total Water Moved (Acre-Feet)	168,014	Total City of San Diego water production from all water sources (including sales to other water agencies)		
Distribution Pump Stations Energy Use (kWh)	25,340,506	Electricity use at water pump stations excluding lake pump stations		
Water Distribution Energy Intensity (kWh/Acre-Foot)	151	Citywide water distribution energy intensity		
The energy intensities are the citywide water distribution system energy intensities, do not represent the energy intensity of a specific area or pressure zone within the City. City of San Diego 2020, Energy Policy Initiatives Center, University of San Diego 2020				

<u>Local Recycled Treatment and Distribution</u> – This is energy required to treat recycled water (tertiary treatment, in addition to conventional wastewater treatment) and deliver it to end-use customers. In the City, the recycled water is delivered to customers in purple pipes, separated from the potable water distribution system. The recycled water energy intensity from the City's 2015 UWMP voluntary reporting, 38 kWh/Acre-Foot, is used for all years.⁴⁰ The intensity includes energy use for tertiary treatment at WRPs and for recycled water distribution.

To convert the energy intensity of water to GHG emissions per unit of water, the electricity emission factor associated with the energy use is applied. For upstream energy use, a California-wide average emission factor from EPA eGRID is applied. ⁴¹ For local energy use, including potable water conveyance and treatment, distribution, and recycled water treatment and distribution, SDG&E's bundled electricity emission factor is applied because SDG&E is the electricity supplier. The electricity emission factors are given in Table 16.

	Electricity Emission Factors for Water-Energy Intensities (Ibs CO ₂ e/MWh)				
Year	Upstream (WECC-California from eGRID)	Local (SDG&E) ¹			
2019	530	633			
¹ SDG&E bundled emission factor is different from City-specific electricity emission factor, which is based on percentages of electricity sales to SDG&E bundled and DA customers, SDG&E and DA emission factors.					
EPA 2021, Energy	Policy Initiatives Center, Unive	ersity of San Diego 2021			

Table 16 Electricity Emission Factors for Water-Energy Intensities

For upstream supply and conveyance emissions, the volume of water from SDCWA (treated and untreated) was multiplied by the upstream energy intensities (Table 13) and the upstream electricity emission factor (Table 16). Because the electricity use and GHG emissions associated with upstream supply and conveyance are outside the City boundary and would not be included in the electricity category, they are accounted for in the water category.

For local conveyance and treatment emissions, the volume of water treated at three WTPs and delivered within the City (excluding sales to other agencies) was multiplied by the net water treatment energy intensity (Table 14) and local SDG&E's electricity emission factor (Table 16). Because WTPs are located within San Diego, the electricity use associated with water treatment is included in the electricity category for San Diego. Therefore, electricity and GHG emissions associated with water treatment occur within the City boundary and have been subtracted from the electricity category, as they are accounted for in the water category.

For local water distribution emissions, total water within the City (excluding sales to other agencies) was multiplied by the water distribution energy intensity (Table 15) and local SDG&E's electricity emission factor (Table 16). Electricity and GHG emissions associated with water distribution occur within the City

⁴⁰ City of San Diego, <u>2015 Urban Water Management Plan</u>, Table 10-4 Energy Intensity for Wastewater and Recycled Water.
⁴¹ The Western Electricity Coordinating Council (WECC) CAMX (eGRID Subregion) emission rate (530 lbs CO₂e/MWh) from eGRID was used as representative of the average California electricity emission rate for upstream electricity. <u>U.S. EPA. eGRID</u> 2016 Edition. Released February 15, 2018, accessed June 29, 2018.

boundary and have been subtracted from the electricity category, as they are accounted for in the water category.

For recycled water treatment and distribution emissions, total recycled water supplied was multiplied by the recycled water energy intensity (38 kWh/Acre-Foot, Table 15) and local SDG&E's electricity emission factor (Table 16). Electricity and GHG emissions associated with recycled water treatment and distribution occur within the City boundary and have been subtracted from the electricity category, as they are accounted for in the water category.

In 2019, 88% of the GHG emissions in the water category were from upstream supply and conveyance. The breakdown of emissions for the water category is given in Figure 4.



Figure 4 Emissions from the Water Category by Water System Segment (San Diego, 2019)

The total potable and recycled water supplied and the corresponding GHG emissions from the water category in 2019 are given Table 17.

Year	Potable Water Supplied (Acre-Feet)	Potable Water GHG Intensity (MT CO ₂ e/Acre- Foot)	Recycled Water Supplied (Acre-Feet)	Recycled Water GHG Intensity (MT CO ₂ e/Acre- Foot)	GHG Emissions (MT CO₂e)	
2019	161,472	0.41	7,999	0.01	68,000	
GHG emissions for each category are rounded to the nearest thousands. Values are not rounded in the intermediary steps in the calculation. Energy Policy Initiatives Center, University of San Diego 2021						

Table 17 Water Supplied and GHG Emissions from the Water Category (San Diego, 2019)

3.2.7 Wastewater

The emissions from wastewater generated by San Diego were estimated by multiplying the total amount of wastewater generated in 2019 and the emission factor of the wastewater treatment processes. Unlike the water category, in which the GHG emissions result from the energy used to move and treat

water, wastewater-related GHG emissions include only "process, stationary and fugitive GHG emissions," as described in U.S Community Protocol "WW.1 – WW.14."⁴²

Wastewater generated in the City of San Diego is conveyed to the City of San Diego Metropolitan Sewerage System (Metro System). The Metro System collects and treats wastewater from 12 partner agencies. Wastewater collected by the Metro System is treated at one of the three wastewater treatment plants (WWTPs): Point Loma WWTP, North City WRP, and South Bay WRP.⁴³

It is assumed the percentage of City of San Diego's wastewater treated at each WWTP is the same as that of the entire Metro System. The City's wastewater generation and the percentage treated at each WWTP are given in Table 18.

	% of Wastewat	er Treated a	t Each WWTP	Wastewater Flow to Metro System			
Year	Point Loma WWTP	South Bay WRP	North City WRP	Average Million Gallons per Day (MGD)	Million Gallons per Year		
2019	86%	4%	10%	105	38,241		
Sum may not add up to totals due to rounding. WWTP – wastewater treatment plant; WRP – water reclamation plant. City of San Diego 2020, Energy Policy Initiatives Center, University of San Diego 2021							

Table 18 City of San Diego Wastewater Generation (San Diego, 2019)

Point Loma WWTP and North City WRP both report plant operation GHG emissions to CARB under the Mandatory GHG Reporting Regulation (MRR) program.⁴⁴ The reported GHG emissions include three components: (1) direct CO_2 from combustion of anaerobic digester gas; (2) CH₄ and N₂O emissions from digester gas combustion; and (3) operational fossil fuel emissions assuming complete combustion. The direct CO_2 from combustion of anaerobic digester gas is considered biogenic, while the other two components of CO_2 emissions are considered non-biogenic emissions.

The wastewater treatment emission factor (MT CO_2e /million gallons) at Point Loma WWTP and North City WRF are calculated by dividing the reported GHG emissions by the plants' wastewater flows, as shown in Table 19.⁴⁵

⁴² <u>ICLEI – Local Governments for Sustainability USA</u>: U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions, Version 1.2 (2019), Appendix F: Wastewater and Water Emission Activities and Sources.

⁴³ City of San Diego, <u>2015 Urban Water Management Plan</u>, Section 3 Description of Existing Water System. Some of the North City WRP's flow (non-tertiary flow) is conveyed to Point Loma WWTP for discharge.

⁴⁴ CARB: <u>Mandatory GHG Reporting – Reported Emissions</u>. CARB MRR uses 21 as the CH₄ GWP, therefore the CO₂e for CH₄ in this report is recalculated using 25 as the CH₄ GWP to be consistent with other categories in the inventory.

⁴⁵ Point Loma WWTP and North City WRP GHG Reports and the wastewater flow into each facility were provided by City of San Diego in August 2017 and July 2018.

	F	ſP	North City WRP					
Year	Annual Flow (million gallons)	GHG Emissions (MT CO₂e)	Wastewater Emission Factor (MT CO₂e/million gallon)	Annual Flow (million gallons)	GHG Emissions (MT CO2e)	Wastewater Emission Factor (MT CO ₂ e/million gallon)		
2019	52,571	15,483	0.30	5,905	17,733	3.00		
On avera	WWTP – wastewater treatment plant; WRP – water reclamation plant. On average 99% of the emissions from Point Loma WWTP and 98% of emissions from North City WRP are biogenic. City of San Diego 2020, Energy Policy Initiatives Center, University of San Diego 2020							

Table 19 Emission Factors at Wastewater Treatment Plant (San Diego, 2019)

For the GHG emissions calculation, the wastewater emission factor derived from Point Loma WWTP was applied to the wastewater flow into Point Loma WWTP and the emission factor derived from North City WRP was applied to the flow into both North City WRP and South Bay WRP. The total wastewater flow, the citywide weighted average wastewater emission factors, as well as the corresponding GHG emissions are given in Table 20.

Table 20 Wastewater Generated and	GHG Emissions from Wastewater	Category (San Diego 2019)
Table 20 Wastewater Generated and	GIIG EIIIISSIOIIS IIOIII WAStewater	category (Jan Diego, 2013)

Year	Total Wastewater Generated (Million Gallons/year)	Wastewater Emission Factor ¹ (MT CO₂e/ Million Gallon)	GHG Emissions (MT CO₂e)			
2019	2019 38,241 0.67					
¹ Weighted average emission factor of wastewater treated at three wastewater treatment plants in City of San Diego.						
GHG emissions for each category are rounded to the nearest thousand. Values are not rounded in the intermediary steps in the calculation.						
Energy Policy Initiatives Center, University of San Diego 2020						

4 BUSINESS-AS-USUAL EMISSIONS PROJECTION

To inform the development of GHG reduction strategies within the CAP, GHG emissions are projected using the baseline year GHG inventory, as well as estimates for population, housing, and job growth. This is used to develop a BAU projection, which demonstrates emissions growth in the absence of any new policies and programs. Next, future emissions reduction expected from baseline year adopted federal and State policies and programs are applied, creating a legislatively-adjusted BAU. Figure 5 provides an illustrative example of the difference between a BAU and a legislatively-adjusted BAU.



Energy Policy Initiatives Center, 2018

Figure 5 Illustrative Example Only: BAU and Legislatively-adjusted BAU Emissions Projections

The total and distribution of projected emissions by category are presented in Table 21.

Table 21 Projected Total and Category-GHG Emissions (San Diego 2030, 2035, and 2050)

	Business-as-usual GHG Emissions Projections (MT CO ₂ e)							
Year	On-Road Transportation	Electricity	Natural Gas	Solid Waste	Off-Road Transportation (Construction Equipment)	Water	Wastewater	Total
2030	5,384,000	2,619,000	2,113,000	303,000	106,000	75,000	28,000	10,628,000
2035	5,555,000	2,738,000	2,211,000	312,000	114,000	77,000	29,000	11,036,000
2050	5,908,000	2,960,000	2,389,000	321,000	137,000	79,000	30,000	11,824,000
Sum ma	av not add up to totals	due to rounding						

Projected GHG emissions for each category are round. Values are not rounded in the intermediary steps in the calculation.

Energy Policy Initiatives Center, University of San Diego 2022

The methods used to project activity level and emission factors in each category are described in Table 22 below.

Emissions Category	Activity	Method to Project Activity Level	Emission Factor	Method to Project Emission Factor		
On-Road Transportation	VMT	Service Population Increase	Average Vehicle Emission Rate	All new vehicles have the same emission rate as new vehicles in baseline year		
Electricity	Net Energy for Load	Residential: Population Increase Non-Residential: Jobs Increase	City-specific Emission Factor	Fixed at baseline year emission factor		
Natural Gas	Natural Gas end- use	Residential: Population Increase Non-Residential: Jobs Increase	Natural Gas Emission Factor	Fixed at baseline year emission factor		
Solid Waste	Waste disposal	Population Increase	Mixed Waste Emission Factor	Fixed at baseline year emission factor		
Off-Road Transportation (Construction Equipment)	All adopted rules in	cluded in the CARB OFFRO	AD2021 Model			
Water	Potable and Recycled Water Supply	Rate of Increase in 2020 Urban Water Management Plan Demand Forecast	Energy Intensity and Electricity Emission Factor	Fixed at baseline year emission factor		
Wastewater	Wastewater GenerationPopulation IncreaseWastewater Emission FactorFixed at baseline y emission factor					
Baseline year is 2019.	iness-as-usual emission Population, jobs, and se s Center, University of S	rvice population are provided	in Table 2.			

Table 22 Method to Project Business-as-usual Emissions

Energy Policy Initiatives Center, University of San Diego 2022

5 CLIMATE ACTION PLAN 2030 AND 2035 TARGETS

The CAP has a net-zero GHG emissions by 2035 target. For the interim 2030 target, the CAP uses the science-based target (SBT) based on the Race to Zero initiative. ICLEI developed a per capita SBT, a 63.3% per capita reduction from a recent (2016–2019) baseline year, for U.S. cities following the U.S. Community Protocol.⁴⁶ The San Diego CAP utilizes a baseline year of 2019, the most recent inventory year described in Section 3, to calculate its 2030 SBT. Table 23 shows the BAU emissions projections, which represent emissions levels in the absence of any new policies and programs, as well as the 2030 and 2035 target levels.

⁴⁶ Science Based Targets Network: <u>Science-based Climate Targets: A Guide for Cities</u> (November 2020). The ICLEI target is calculated nationwide based on the One Planet City Challenge methodology in page 7.

Year	Business-as-usual Projection* (MT CO2e)	Per Capita Target Emissions Level (MT CO₂e per Capita)	Target Emissions Level (MT CO2e)			
2019 (Baseline) 10,532,000		7.4	-			
2030	10,628,000	2.7**	4,223,000			
2035	2035 11,036,000		Net-Zero			
2035 11,036,000 Net-Zero Net-Zero Emissions projections are rounded. *Business-as-usual projection without impact of federal, State, regional and CAP actions. *Science-Based Target for 2030 (63.3% reduction from the 2019 per capita amissions)						

Table 23 Emissions Projections, Targets, and Emissions Reductions Needed

emissions)

ICLEI 2021, Energy Policy Initiatives Center, University of San Diego 2022.

6 SUMMARY OF EMISSIONS REDUCTION ESTIMATES

This section summarizes the GHG emissions reductions from reaching the goals identified for each strategy and measure included in the San Diego CAP. Table 24 below presents a summary of emissions reductions from the five strategies in the San Diego CAP, as well as the reductions from federal, State, and regional actions.

All Regulations and CAP Strategies	Emissions Reductions (MT CO2e)		
	2030	2035	
Strategy 1: Decarbonization of the Built Environment	1,012,000	2,056,000	
Strategy 2: Access to Clean & Renewable Energy	1,065,000	1,205,000	
Strategy 3: Mobility & Land Use	767,000	1,199,000	
Strategy 4: Circular Economy & Clean Communities	242,000	305,000	
Strategy 5: Resilient Infrastructure & Healthy Ecosystems	93,000	122,000	
Reduction from Regional Actions	538,000	660,000	
Total Reduction from Federal and State Regulations	2,297,000	3,228,000	
Total Reduction (Federal, State, Regional and CAP Strategies)*	6,014,000	8,774,000	
*Total emissions reduction values in 2030 and 2035 are rounded. Energy Policy Initiatives Center, University of San Diego 2021			

Table 24 Summary of 2030 and 2035 GHG Emissions Reduction Amounts by Strategy in the San Diego CAP

Each strategy has several measures. Table 25 presents a detailed summary of the emissions reductions from each CAP measure and from each federal and State action.

CAP Strategies	Federal and State Regulations and CAP Measures		Reductions CO₂e)
		2030	2035
Strategy 1:	Measure 1.1 Decarbonize Existing Buildings	931,661	1,915,290
Decarbonization of the Built	Measure 1.2 Decarbonize New Development	65,329	108,559
Environment	Measure 1.3 Decarbonize City Facilities	15,149	32,639
Strategy 2:	Measure 2.1: Citywide Renewable Energy Generation	687,677	521,231
Access to Clean & Renewable	Measure 2.2: Increase Municipal Zero Emissions Vehicles	11,042	15,990
Energy	Measure 2.3: Increase Electric Vehicle Adoption	366,481	667,458
	Measure 3.1: Safe and Enjoyable Routes for Pedestrians and Cyclists	79,722	115,315
	Measure 3.2: Increase Safe, Convenient, and Enjoyable Transit Use	162,866	234,351
Strategy 3: Mobility & Land	Measure 3.3: Increase Telecommuting	181,205	242,177
Use	Measure 3.4: Reduce Traffic Congestion to Improve Air Quality and Trip Length	1,519	2,037
	Measure 3.5: Climate-Focused Land Use	341,724	605,185
	Measure 3.6: Vehicle Management	541,724	
Strategy 4:	Measure 4.1: Changes to the Waste System		
Circular	Measure 4.2: Municipal Waste Reduction	215 269	277 205
Economy &	Measure 4.3: Local Food System & Food Recovery	215,268	277,305
Clean Communities	Measure 4.4: Zero Waste to Landfill		
communities	Measure 4.5 Capture Methane from Wastewater Treatment Facilities	26,461	27,254
Strategy 5:	Measure 5.1 Carbon Sequestration through Restoration	410	821
Resilient Infrastructure &	Measure 5.2 Increase Tree Canopy	82,806	102,290
Healthy Ecosystems	Measure 5.3 Increase Local Water Supply and Reduce Water Dependence	9,910	18,507
Regional Action	SANDAG 2021 Regional Plan Actions	537,519	659,643
	Federal and California Vehicle Efficiency Standards	299,463	683,557
Federal and State	California Energy Efficiency Programs	260,293	245,825
Regulations	Renewables Portfolio Standard	1,343,634	1,840,993
5	California Solar Policy, Programs and 2019 Mandates	393,665	457,840
Total Reduction fr	om Federal and State Regulations	2,297,056	3,228,215
Total Reduction fr	om Regional Action	537,519	659,643
Total Reduction fr	om CAP Measures	3,179,231	4,886,408
•	ederal, State, Regional, and CAP Measures)*	6,014,000	8,774,000
	duction values in 2030 and 2035 are rounded. ives Center, University of San Diego 2022		

Table 25 Summary of 2030 and 2035 GHG Emissions Reductions from Measures in San Diego CAP

Figure 6 provides a visualization of the emissions trend for the CAP horizon year through 2050.



Energy Policy Initiatives Center, University of San Diego, 2021

Figure 6 San Diego GHG Emissions Trend (2016–2050)

In Figure 6, the colored wedges represent the reduction from each local CAP strategy and from federal, State, and regional actions. Each wedge represents the cumulative GHG reduction from each strategy from when the strategy is initiated through 2050. The grey area beneath the colored wedges represents the remaining emissions after all the actions have taken place.

7 METHODS TO ESTIMATE GHG EMISSIONS REDUCTIONS

The following sub-sections describe the methods to estimate GHG emissions reductions:

- Section 7.1 to Section 7.3 discusses a set of common assumptions and sources used to calculate emissions reductions in energy and on-road transportation categories;
- Section 7.4 describes the emissions reductions from federal and State actions;
- Section 7.5 describes the emissions reductions from the draft 2021 Regional Plan developed by SANDAG; and
- Section 7.6 describes the emissions reductions from CAP strategies and measures.

7.1 Common Assumptions and Methods for Calculating Electricity Emissions Reductions

The following overall assumptions and methods are used in the calculation of emissions reductions related to electricity, including both those from federal and State actions and CAP measures. Details for the calculation of each action are provided in Sections 7.4 through Section 7.6.

7.1.1 GHG Emission Factor for Electricity

For the purpose of estimating emission reductions, the emission factor for electricity in San Diego is the weighted average emission factor of gross generation from four sources of supply: SDG&E, the electric retail suppliers for SDG&E's DA customers, San Diego Community Power (SDCP), and behind-the-meter photovoltaic (PV) systems. The citywide emission factors are different from the emission factors used in the GHG inventory, described in Section 3, because the electricity generated from behind-the-meter PV systems are assumed to be zero-emissions and not accounted for in the GHG inventory. However, to estimate the effects of State actions and CAP measures that increase the grid-supply of renewable and zero-carbon electricity, all sources are considered. Considering behind-the-meter PV as a source that contributes to the citywide emission factor helps to calculate the effects of energy efficiency programs that may reduce behind-the-meter electricity use, or from additional electric vehicle (EV) charging load, which may come from behind-the-meter electricity sources and not just from grid supply.

The citywide emission factor is calculated based on the percentage of renewable content in, and the percentage of, gross generation from each source of supply as described below. This method is applied to 2019, the baseline year, as well as the target years. As the percentage of renewable and zero-carbon supply in the mix increases, the weighted average emission factor of electricity supply decreases.

7.1.1.1 Supply from SDG&E

As of 2019, SDG&E's bundled power mix is 31% renewable, as described in Section 3.2. It is assumed SDG&E will meet the 33% renewable by 2020, 60% renewable by 2030, and 100% carbon-free by 2045 required by the Renewables Portfolio Standard (RPS) under SB 100 (de León) (Chapter 312, Statutes of 2016).⁴⁷ The mandates are discussed in Section 7.4.1.

7.1.1.2 Supply from Electric Retail Suppliers of SDG&E Direct Access Customers

Like SDG&E, electric retail suppliers of SDG&E DA customers are required to meet RPS targets.

7.1.1.3 Supply from San Diego Community Power

SDCP, the Community Choice Energy program launched in 2021, would increase the renewable and zero-carbon electricity beyond the current RPS mandates for target years.

The renewable and zero-carbon content of the program would affect the citywide weighted average emission factor. Because the RPS requires all of California's retail electricity suppliers to meet the RPS requirement, a portion of the emissions reduction from RPS compliance is credited to State actions. The remaining portion of reductions, beyond 60% in 2030 and beyond 73% in 2035, is attributed to the City under Measure 2.1.

7.1.1.4 Supply from behind-the-meter PV Systems

Electricity generation from behind-the-meter PV systems, including residential and non-residential PV systems, is considered a part of the overall electricity supply. Electricity generation from PV is considered 100% zero-carbon (i.e., GHG-free). The State's solar policies and programs, including the 2019 California Building Energy Efficiency Standards (Title 24, Part 6) residential PV mandates, is discussed in Section 7.4.2.

⁴⁷ SB 100 (de León) <u>California Renewables Portfolio Standard Program: emissions of greenhouse gases</u> (2017–2018). The interim RPS targets are 44% by 2024 and 52% by 2027 from eligible renewable energy resources.

7.1.1.5 Weighted Average GHG Emission Factor for Electricity

The weighted average GHG emission factor for electricity is based on the percentage of gross generation from each previously referenced supply, as well as the percentage of renewable content in each supply.

Table 26 shows the contribution from each supply to gross generation and its renewable and zerocarbon content, as well as the resulting overall citywide annual weighted average emission factors for 2019, 2030, and 2035.

	Year	2019	2030	2035			
San Diego	% of Gross Generation Supplied	-	65%	65%			
Community Power	Renewable Content in Supply	-	100%	100%			
Other Electric	% of Gross Generation Supplied	17%	16%	16%			
Retail Suppliers	Renewable Content in Supply	30%	60%	73%			
SDG&E	% of Gross Generation Supplied	74%	3%	3%			
SDG&E	Renewable Content in Supply	31%	60%	73%			
Behind-the-meter	% of Gross Generation Supplied	8%	15%	15%			
PV	Renewable Content in Supply	100%	100%	100%			
Overall Citywide	Citywide Renewable Supply	36%	92%	95%			
Overall Citywide	Electricity Emission Factor (lbs CO ₂ e/MWh)	591	73	50			
emission factor used in 2030 and 2035 data an and programs.	2019 is the latest year with utility data available. The 2019 overall citywide emission factor here is different from the emission factor used in the GHG inventory. 2030 and 2035 data are projections based on CAP assumptions, current status, and future impact of State policies						

Table 26 2019 and Projected 2030 and 2035 GHG Emission Factor for Electricity in San Diego

In 2019, SDG&E and other electric retail suppliers supplied accounted for 91% of the gross generation, and behind-the-meter PV systems supplied the remainder. In 2030, the projected electricity supply from behind-the-meter PV systems is estimated to be 15% of gross generation. To comply with the 2030 RPS target, the renewable content in the supply of both SDG&E and other electric retail suppliers will increase to 60%; this Appendix assumes the renewable supply is fixed at the RPS mandate level to avoid overestimating the emissions reductions from their renewable supplies. For SDCP, it is assumed to have 100% renewable and zero-carbon sources in 2030.⁴⁸ Based on these supply contributions, the citywide annual weighted electricity emission factor in 2030 is projected to be 73 lbs CO_2e/MWh (92% renewable).⁴⁹ Using the same method, the projected overall citywide electricity emission factor in 2035 would be 50 lbs CO_2e/MWh (95% renewable).

These annual weighted citywide electricity emission factors are used to calculate the GHG reductions from State action and CAP measures that increasing renewable supply.

⁴⁸ SDCP: <u>Community Choice Aggregation Implementation Plan and Statement of Intent</u> (December 9, 2019). Proposed Resource Plan 2021–2030. SDCP has a goal to achieve a 100% renewable portfolio by no later than 2035. Several member jurisdictions in SDCP have CAPs with 100% by 2030 renewable energy goal.

⁴⁹ Starting with SDG&E's 2016 bundled emission factor of 525 lbs CO₂e/MWh (43 percent renewable), the projected 2030 SDG&E and other electric retail provider's emission factor is 368 lbs CO₂e/MWh (60 percent renewable) and the projected 2030 local program emission factor is zero (100 percent renewable or zero-carbon). The 2030 citywide emission factor is then 368 lbs CO₂e/MWh*15 percent.

7.1.2 Allocation of GHG Emissions Reductions from Actions that Increase Renewables in Electricity to State Actions and Local CAP Measures

The projected citywide electricity emission factor is used to estimate the GHG emissions reductions from any actions that increase the overall renewable supply. The total reduction resulting from State and local CAP measures to increase renewable supply is given in Table 27. It is calculated using the projected gross generation in target years, as well as the difference in the 2030 and 2035 citywide emissions and BAU emission factors.

Maar	Gross	BAU Projections Gross Generation		Projections with State Increasing Renev	Emissions Reduction from Increased		
Year	(GWh)	BAU Electricity Emission Factor (Ibs CO₂e/MWh)	BAU Emissions from Electricity (MT CO2e)	Projected Electricity Emission Factor (Ibs CO₂e/MWh)	Projected Emissions from Electricity (MT CO₂e)	Renewable Supply (MT CO₂e)	
2030	10,327	591	2,767,889	73	342,912	2,424,977	
2035	11,487	591	3,078,717	50	258,653	2,820,064	
	The projections with increasing renewable supply are based on CAP assumptions and State policies and programs. Energy Policy Initiatives Center, University of San Diego 2021						

Table 27 Emissions Reductions from All Actions Increasing Renewable Supply in San Diego

The BAU emission factor for 2019 (Table 26) is kept constant through the year 2035. The total emissions reduction from increasing renewable supply, as calculated above (Table 27), is attributed to each supply based on its renewable (if beyond the RPS mandate) contribution to the total citywide renewable content. This attribution and impact on GHG reductions from each supply are shown in Table 28.

Table 28 Attribution of Emissions Reductions to Supplies that Increase Renewable Supply in San Diego

Year	Electricity Supply	Total	San Diego Community Power	Other Electric Retail Suppliers	SDG&E	Behind- the-meter PV			
	% of Gross Generation Supplied by Renewables Sources	92%	65%	10%	2%	15%			
2030	Emissions Reduction from Increased Renewables Supply (MT CO ₂ e)	2,424,977	1,719,193	257,828	54,290	393,665			
2025	% of Gross Generation Supplied by Renewables Sources	95%	65%	12%	2%	15%			
2035	Emissions Reduction from Increased Renewables Supply (MT CO ₂ e)	2,820,064	1,930,487	357,566	74,171	457,840			
2030 an	d 2035 data are the projections based on CAP as	2030 and 2035 data are the projections based on CAP assumptions and the future impact of State policies and programs.							

2030 and 2035 data are the projections based on CAP assumptions and the future impact of State policies and progran Energy Policy Initiatives Center, University of San Diego 2021

7.2 Common Assumptions and Methods for Calculating Natural Gas Emissions Reductions

The default emission factor of $0.00545 \text{ MT CO}_2\text{e}$ per therm used for the baseline 2019 GHG inventory, as described in Section 3.2.3, is used for all years to estimate the emissions reductions for the CAP measures related to reducing natural gas use.

7.3 Common Assumptions and Methods for Calculating On-Road Transportation Emissions Reductions

The following assumptions and methods are used to calculate emissions reductions for strategies related to on-road transportation, including federal and State actions and local CAP measures.

7.3.1 GHG Emission Factor for On-Road Transportation

The GHG emission factor of the on-road transportation fleet is used in several ways throughout the Appendix: it is used to estimate the effect of State actions to increase the vehicle fuel efficiency standard, the impact of reduced VMT, and the effect of CAP measures that increase the miles driven by EVs. However, the GHG emission factor is also affected by federal, state, and local actions that increase vehicle efficiency and increase ZEVs, as described below.

7.3.1.1 Impact of Federal and State Actions on Average Vehicle Emission Rates

The default outputs of CARB's Mobile Source Emissions Inventory EMFAC2021 model are used to determine the average vehicle emission rates for the San Diego region.⁵⁰ The average vehicle emission rates for the San Diego region were used as proxies for the City of San Diego. The EMFAC2021 model outputs include effects of all key federal and State regulations related to tailpipe GHG emissions reductions that were adopted through 2020.⁵¹

Using the EMFAC2021 default output, the average vehicle emission rates (g $CO_2e/mile$) are calculated based on the distribution of VMT for each vehicle class and its emission rate. The average vehicle emission rates (Table 29) are used to estimate the GHG emissions reduction impact of Federal and State policies that increase vehicle efficiency and increase the number of zero emission vehicles (ZEVs) on the road.

Year	Ratio of e-VMT to Total VMT (%)	Average Vehicle Emission Rate– with the Impact of all Adopted State and Federal Policies (g CO ₂ e/mile)			
2019	1.4%	428			
2030	7.7%	343			
2035	10%	317			
Based on the CARB EMFAC2021 model. The model includes all key federal and State regulations related to tailpipe GHG emissions reductions that were adopted through 2020. e-VMT: electric vehicle miles traveled CARB 2021, Energy Policy Initiatives Center, University of San Diego 2021					

Table 29 Average Vehicle Emission Rate in the San Diego Region

7.3.1.2 Impact of CAP Measure 2.3: Increase Electric Vehicle Adoption

Through CAP Measure 2.3: Increase Electric Vehicle Adoption, the City plans to increase the percentage of vehicle miles driven by EVs (e-VMT) out of all miles driven by light-duty vehicles (LD VMT) to 16% by

⁵⁰ CARB: EMission FACtors model, EMFAC2021 v1.0.1. EMFAC2021 is the most recent model as of October 2021.

⁵¹ CARB: <u>EMFAC2021 Volume III Technical Document</u>, Version 1.0.1 (April 2021). Section 1.3.5 Regulations and Policies includes a list of polices and regulations covered in EMFAC2021.

2030, and 25% by 2035. The average vehicle emission rate in the San Diego region (Table 29) must be adjusted to derive a San Diego specific average vehicle emission rate, as shown in Table 30.⁵²

Table 30 Average	Vehicle I	Emission	Rate in	the	City of	San Diego	
------------------	-----------	----------	---------	-----	---------	-----------	--

Year	Ratio of e-VMT to Total LD VMT – with the Impact of Measure 2.3 (%)	Ratio of e-VMT to Total VMT – with the Impact of Measure 2.3 (%)	Average Vehicle Emission Rate – San Diego Specific (g CO2e/mile)			
2019	1.5%	1.4%	428			
2030	16%	15%	318			
2035	25%	23%	273			
Adjusted from San Diego region average vehicle emission rate due to the impact of Measure 2.2: Increase Electric Vehicle Adoption e-VMT: electric vehicle miles traveled; LD-VMT: light-duty vehicle miles traveled 2030 and 2035 emission rates are projected based on CAP assumptions and future impact of State policies and programs.						

CARB 2021, Energy Policy Initiatives Center, University of San Diego 2021

The projected San Diego-specific 2030 average vehicle emission rate in Table 30 is used to estimate the emissions reduction from CAP measures that reduce fuel use (improve road condition) and reduce VMT. Because vehicle efficiency improves and the population of EVs increases, the average vehicle emission rate decreases. Therefore, measures that reduce the same miles would lead to ever-decreasing GHG emission reduction through the lifetime of the CAP.

7.4 Federal and State Actions that Lead to GHG Emissions Reductions Locally

Apart from how federal and State regulations affect the emissions factors of electricity and the on-road transportation fleet, these same policies lead to significant emissions reduction in the City over the lifetime of this CAP. This section provides a summary of the methods used to estimate and attribute the emissions reductions associated with the following federal and State actions that increase renewable electricity, building energy efficiency, and clean and efficient transportation:

- California RPS
- California Solar Programs, Policies and 2019 Mandates
- California Energy Efficiency Programs
- Federal and California Vehicle Efficiency Standards

7.4.1 California Renewables Portfolio Standard

SB 100, the 100 Percent Clean Energy Act of 2018, adopts a 60% RPS for all of California's retail electricity suppliers by 2030. The legislation also provides goals for the intervening years before 2030 and establishes a State policy requiring that "zero-carbon" resources supply 100% of all retail electricity sales to end-user customers and all State agencies by December 31, 2045.⁵³ If interpolated linearly

⁵² This assumes that the vehicle class distribution and VMT distribution by vehicle class in San Diego are the same as those in the region. It also assumes that e-VMT only replaces the c-VMT of the same model year vehicle, therefore, only changes the VMT distribution within the same vehicle class. For example, the ratio of miles driven by light-duty vehicles (LDVs) to miles driven by all vehicles remains unchanged, while the ratio of e-VMT driven by LDVs to all miles driven by LDVs increases.
⁵³ SB 100 (de León): <u>California Renewables Portfolio Standard Program: emissions of greenhouse gases</u> (2017–2018). The interim RPS targets are 44 percent by 2024 and 52 percent by 2027 from eligible renewable energy resources.

between 60% renewables in 2030 and 100% zero-carbon in 2045, the interim 2035 target would be 73% renewables. The SB 100 renewables and zero-carbon targets are shown in Figure 7 below.



Figure 7 SB 100 Renewables and Zero-Carbon Targets

All retail electricity suppliers are required to meet the State's RPS requirements, including SDG&E, retail electricity suppliers for SDG&E's DA customers, and SDCP. In this Appendix, a conservative approach is taken which assumes all providers for current utility customers, including electricity sales to DA customers, will meet, but not surpass, the RPS requirements for 2030 and 2035. Under this assumption, all emissions reductions from SDG&E and electric retail suppliers reaching 60 % renewables in 2030 and 73 % renewables in 2035 are credited to the State under the RPS requirements.

For the SDCP, a portion of the emissions reductions from the program will be credited to the State under RPS compliance, and the remaining reduction will be attributed to local measure, as described in Section 7.6.2.1. Table 31 shows results from RPS mandates in target years.

Year	(a) RPS-Related Emissions Reduction from the Utility* (MT CO₂e)	(b) RPS-Related Emissions Reduction from SDCP (MT CO₂e)	(a + b) All RPS- Related Emissions Reductions (MT CO₂e)			
2030	312,118	1,031,516	1,343,634			
2035	431,737	1,409,255	1,840,993			
SDCP: San Dieg	go Community Power					
*Includes SDG	*Includes SDG&E and electric retail suppliers of SDG&E Direct Access customers.					
2030 and 2035 data are projections under the CAP based on current status, future impact of						
State policies a	State policies and programs, and CAP measures assumptions.					
Energy Policy I	nitiatives Center, University	/ of San Diego 2021				

Table 31 Electricity Suppliers and Projected Emissions Reduction from California Renewables Portfolio Standard

7.4.2 California Solar Programs, Policies and 2019 Mandates

California has several policies and programs to encourage customer-owned, behind-the-meter PV systems, such as the California Solar Initiative, New Solar Home Partnership, Net Energy Metering, and electricity rate structures designed for solar customers. The latest California 2019 Building Energy Efficiency Standards, which went into effect on January 1, 2020, require all newly constructed single-family homes, low-rise multi-family homes, and detached accessory dwelling units (ADUs) to have PV systems installed, unless the building receives an exception.⁵⁴

The California Energy Demand 2020–2030 Revised Forecast, developed by the CEC, has projections for PV capacity from behind-the-meter PV adoption in the SDG&E planning area through 2030. The demand forecast provides three cases: high-demand, mid-demand, and low-demand. The PV projection from 2020–2030 in the SDG&E planning area mid-demand case is used to forecast the PV generation in San Diego.⁵⁵

The California Distributed Generation (DG) Statistics database includes capacities of behind-the-meter PV systems interconnected in a jurisdiction in a given year for each of the three Investor-Owned Utility (IOU) planning areas, including SDG&E. The DG Statistics database also provides detailed information about the behind-the-meter PV systems installed in a jurisdiction from the start year of incentive programs through the current year. This provides a historical record used to determine the capacity in GHG inventory years and can also help determine trends in PV installation.

A comparison of the estimated capacity and electricity generation from PV systems in San Diego and in the SDG&E planning area are given in Table 32.⁵⁶

⁵⁴ CEC: <u>2019 Building Energy Efficiency Standards – 2019 Residential Compliance Manual</u> (December 2018). For the requirements on newly constructed single-family and low-rise multi-family homes, see Section 7.2 Prescriptive Requirements for Photovoltaic System. For the requirements on newly constructed and detached ADU, see Section 9.3.5 Accessory Dwelling Units.

⁵⁵ CEC: <u>California Energy Demand Forecast, 2020–2030 Baseline Forecast – Mid Demand Case</u>, accessed August 17, 2021.

⁵⁶ The capacity of all interconnected PV systems in San Diego are from the California Distributed Generation Statistics <u>NEM</u> <u>Currently Interconnected Data Set</u> (current as of October 31, 2020), download date: January 25, 2021.

	S	an Diego*	SDG&E Planning Area**	Historical Ratio of			
Year	Year PV Capacity (MW) Estimated Electricity Generation (GWh)		Estimated Electricity Generation (GWh)	Electricity Generation from PV (San Diego to SDG&E)			
2016	223	391	1,136	34%			
2017	271	475	1,427	33%			
2018	333	584	1,731	34%			
2019	401	702	2,084	34%			
	Average 34%						
*Estimated	*Estimated electricity generation based on PV capacity and 20% capacity factor.						
**California Energy Demand 2020-2030 Revised Forecast mid-demand case California Distributed Generation Statistics 2021, CEC 2021, Energy Policy Initiatives Center, University of San Diego 2021							

Table 32 Behind-the-meter PV Capacity and Estimated Electricity Generation

For future years, the electricity generation and capacity of behind-the-meter PV systems in the City are estimated based on the PV generation in CEC's mid-demand forecast for SDG&E's planning area, and the average ratio of PV generation in the City to that of SDG&E's planning area from 2016–2019 (34%). Because of California's solar programs, policies and mandates, the estimated PV capacity in 2030 in San Diego is projected to be 881 megawatts (MW). It is assumed the PV capacity from State programs will have an annual increase of 2.7% (the increase from 2029 to 2030) beyond 2030 due to the lack of statewide PV projections. The trend of behind-the-meter PV in the City is shown in Figure 8.



The projections do not include impact of CAP measures.

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Figure 8 Behind-the-meter PV Historical and Projected Trend in San Diego (2012–2030)

The emissions reductions from all State and City CAP measures that increase behind-the-meter renewable supply are calculated in Section 7.1.1 and shown in Table 33 below.

Year	California Solar Polices, Programs, and N	landates			
	Projected Behind-the-meter PV Capacity (MW)	881			
2030	Projected Emissions Reduction (MT CO ₂ e)	393,665			
	Projected Behind-the-meter PV Capacity (MW)	1,007			
2035	2035 Projected Emissions Reduction (MT CO ₂ e)				
•	Solar policies, programs, and mandates include the impact of the PV mandates				
	from the 2019 Building Energy Efficiency Standard.				
The projected capacity and emissions reductions based on current conditions, the					
	npact of State policies and programs, and CAP assumption	ons.			
Energy F	Policy Initiatives Center, University of San Diego 2021				

Table 33 Key Assumptions and Results for California Solar Policies, Programs, and Mandates

7.4.3 California Energy Efficiency Program

In September 2017, the California Public Utilities Commission (CPUC) adopted energy efficiency goals for ratepayer-funded energy efficiency programs (Decision 17-09-025); these went into effect in 2018. The adopted energy saving goals for SDG&E's service territory are given in the Decision on an annual basis

from 2018 to 2030.⁵⁷ The sources of the energy savings include, but are not limited to, rebated technologies, building retrofits, behavior-based initiatives, and codes and standards.⁵⁸

To evaluate the impact of the energy efficiency program on San Diego, the total energy savings in SDG&E's service territory by 2030 are allocated to the City using a ratio of the City's natural gas and electricity demand to those of SDG&E's entire service territory. The 2019 ratios are 59% for electricity and 77% for natural gas.⁵⁹ SDG&E's service territory electricity and natural gas savings were allocated accordingly to San Diego, as shown in Table 34.⁶⁰

	Electricity S (GWI			0		
Year	SDG&E Service Territory	Allocation of Savings to San Diego	SDG&E Service Territory	Allocation of Savings to San Diego		
2030	3,349	1,354	56	39		
	*Include transmission and distribution losses. SDG&E service territory savings are the cumulative savings after 2019 (baseline year)					
based on t	he 2018–2030 annual	saving goals in CPL	JC Decision 17-09-02	5.		
Energy Pol	icy Initiatives Center 2	021				

Table 34 Estimated Energy Savings from California Energy Efficiency Program

The utility's energy efficiency goal is not estimated by the CPUC beyond 2030; therefore, it is assumed the electricity and natural gas savings in 2035 from energy efficiency programs will be the same as in 2030. Emissions reductions from electricity savings are calculated by multiplying the electricity savings by the citywide GHG emission factor for electricity, discussed in Section 7.1.1 (GHG Emission Factor for Electricity) and shown in Table 26 (2019 and Projected 2030 and 2035 GHG Emission Factor for Electricity in San Diego). As the renewable and zero-carbon content in electricity increases, the emissions reduction from the electricity portion of the energy efficiency program decreases. Emissions reductions from natural gas savings were calculated using the natural gas savings amount and natural gas emission factor. Table 35 summarizes the energy savings and GHG emissions reductions in the years 2030 and 2035.

 ⁵⁷ CPUC: <u>Decision 17-09-025</u>, <u>Adopting Energy Efficiency Goals for 2018–2030</u>, accessed December 12, 2018. SDG&E's electricity service territory is larger than San Diego region. The 2021 Energy Efficiency Goals were not adopted as of September 2021.
 ⁵⁸ Navigant Consulting: <u>Energy Efficiency Potential and Goals Study for 2018 and Beyond</u> (August 2017), accessed December 12, 2018. Rebated technologies are the energy efficiency technologies from the utility's historic incentive programs, including equipment and retrofits.

⁵⁹ SDG&E's service territory demand is from <u>California Energy Demand Forecast</u>, 2020–2030 Baseline Forecast – Mid Demand <u>Case</u>, accessed August 17, 2021. SDG&E's planning area load 2016–2019. 2019 is the latest year with historical data in the demand forecast.

⁶⁰ CPUC: <u>Decision 17-09-025</u>, <u>Adopting Energy Efficiency Goals for 2018–2030</u>, accessed December 12, 2018. The 2018 and beyond goals are given on an annual basis for each year from 2018 to 2030, different from previous studies, in which the cumulative goals are given. The cumulative savings in 2030 are the sum of the annual savings. The 2021 Energy Efficiency Goals were not adopted as of September 2021.

		Electricity Savings Natural Gas Savings					
Year	Electricity Savings (GWh)	Emission Factor (Ibs CO₂e/MWh)	GHG Reduction from Electricity Savings (MT CO2e)	Natural Gas Savings (Million therms)	Emission Factor (MT CO2e/therm)	GHG Reduction from Natural Gas Savings (MT CO₂e)	Total Emissions Reduction (MT CO ₂ e)
2030	1,354	73	44,947	39	0.00545	215,345	260,293
2035	1,354	50	30,480	39	0.00545	215,345	245,825
		are projected based o enter. University of Sa	•	ns and future imp	act of State policies and	programs.	

Table 35 Emission Reductions from California Energy Efficiency Programs

7.4.4 Federal and California Vehicle Efficiency Standards

As discussed in Section 7.3 (Common Assumptions and Methods for Calculating On-Road Transportation Emissions Reductions), CARB's EMFAC2021 model includes all key federal and State regulations related to tailpipe GHG emissions reductions for both light-duty and heavy-duty vehicles that were in place through 2020.

Table 36 summarizes the key assumptions and results. The GHG emissions reductions are the projected reduction amount in the years 2030 and 2035 only, not the sum of the annual reductions from the 2019 baseline year to 2030 or 2035.

	Projected	BAU Projection – With NoWith Impact of AdoptedPolicy Impact after 2019Statewide Policies				
Year	BAU City VMT* (Million miles per year)	Average Vehicle Emission Rate* (g CO2e/mile)	Emissions from On-Road Transportation (MT CO2e)	Average Vehicle Emission Rate (g CO2e/mile)	Emissions from On-Road Transportation (MT CO2e)	Emissions Reduction (MT CO2e)
2030	14,839	363	5,384,491	343	5,085,028	299,463
2035	15,378	361	5,555,177	317	4,871,620	683,557

Table 36 Key Assumptions and Results for Federal and California Vehicle Efficiency Standards

*BAU projections are based on the service population increase in the City, and does not include the impact of SANDAG's draft 2021 Regional Plan **Despite the absence of additional policies and programs to increase vehicle efficiency, the BAU average vehicle emission rate decreases with natural fleet turnover as new vehicles replace old vehicles. The emission rates and emissions reductions are projected based on CAP assumptions and future impact of State policies and programs used in the CARB EMFAC2021 model.

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7.5 SANDAG 2021 Regional Plan Actions

SANDAG, the transportation planning agency in San Diego region, released the draft 2021 Regional Plan in May 2021. The draft 2021 Regional Plan is a 30-year plan combining the Regional Transportation Plan (RTP), Sustainable Communities Strategy (SCS), and Regional Comprehensive Plan. The 2021 Regional Plan must comply with specific state and federal mandates, including an SCS, per Senate Bill 375 (Steinberg, 2008), that achieves GHG emission reduction targets set by CARB.⁶¹ The Regional Plan has not yet been adopted by the SANDAG Board, therefore, the City VMT provided in this section is the impact of the draft Regional Plan, and may differ from the impact of the final Regional Plan.

The avoided VMT – the difference between the projected BAU City VMT and the City VMT with the impact of the draft 2021 Regional Plan — is converted to GHG emissions reductions using the average vehicle emission factors given in Table 30 (Average Vehicle Emission Rate in the City of San Diego). The GHG emissions reductions in 2030 and 2035 are shown in Table 37.⁶²

Table 37 Key Assumptions and Results for SANDAG 2021 Regional Plan Actions

Year	Projected BAU City VMT* (Million miles per year)	City VMT with Impact of SANDAG Draft 2021 Regional Plan (Million miles per year)	VMT Avoided (Million miles per year)	Average Vehicle Emission Rate (g CO2e/mile)	GHG Emissions Reduction (MT CO ₂ e)
2030	14,839	13,148	1,690	318	537,519
2035	15,378	12,965	2,413	273	659,643

*BAU projections are based on the service population increase in the City, and does not include the impact of SANDAG's draft 2021 Regional Plan.

The emission rates and emissions reductions are projected based on CAP assumptions and future impact of State policies and programs used in the CARB EMFAC2021 model.

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7.6 CAP Strategies and Measures

The following section describes the methods used to estimate the GHG reductions from achieving goals established for local CAP strategies and measures, which are organized into the following five strategies:

- Strategy 1: Decarbonization of the Built Environment
- Strategy 2: Access to Clean & Renewable Energy
- Strategy 3: Mobility & Land Use
- Strategy 4: Circular Economy & Clean Communities
- Strategy 5 Resilient Infrastructure & Healthy Ecosystems

7.6.1 Strategy 1: Decarbonization of the Built Environment

7.6.1.1 Measure 1.1 Decarbonize Existing Buildings

The goal of Measure 1.1 is to phase out 45% of remaining city-wide natural gas use (after Measure 1.2 and Measure 1.3 as described in the two sections below) by 2030 and 90% by 2035. Emissions reductions were calculated using the natural gas savings and the natural gas emission factor discussed in Section 7.2. The GHG emissions reductions in 2030 and 2035 are shown in Table 38.

⁶¹ SANDAG: Draft 2021 Regional Plan (May 2021).

⁶² The 2035 VMT was provided by SANDAG to the City of San Diego (Sep. 2021). SANDAG Activity Based Model 2+ Release v14.2.1, Draft 2021 Regional Plan Networks, Policies, and Assumptions, Growth Forecast 14.38, Year 2035, Reference Scenario 206, February 2021. The 2030 VMT were interpolated linearly between 2019 and 2035. The forecast in the Draft 2021 Regional Plan was based on the Sustainable Communities Strategy land use pattern, which may be different from jurisdiction's general plan land use pattern.

Year	Projected Natural Gas Use* (Million therms/year)	Natural Gas Savings (%)	Natural Gas Savings (Million herms/year)	Natural Gas Emission Factor (MT CO₂e/Therm)	Emissions Reductions (MT CO2e)		
2030	378	45%	170	0.00547	931,661		
2035	389	90%	350	0.00547	1,915,290		
The projec	*Business-as-usual projected natural gas use includes the savings from Measure 1.2 and Measure 1.3 The projections are based on current status, future impact of State policies and programs, and CAP assumptions. Energy Policy Initiatives Center, University of San Diego 2021						

Table 38 Key Assumptions and Results for Measure 1.1 Decarbonize Existing Buildings

The projected natural gas savings from this measure, 170 million therms in 2030 and 350 million therms in 2035, are equivalent to approximately 50% and 100% of the 2019 baseline natural gas use.

On the residential side, the electrification potential of each existing home varies depends on building size, age, type of appliances used. In order to meet the goal, approximately 260,000 existing homes and 534,000 existing homes would need to be retrofitted and fully electrified with 100% renewable electricity by 2030 and by 2035, respectively.

A housing stock analysis, and a breakdown of single-family and multi-family homes energy use, are not currently available. The number of units needed to be retrofitted and electrified is calculated assuming each existing home on average uses 244 therms per year.⁶³ As an example, the City of San Jose's Healthy Homes, Healthy Air (Existing Building Electrification) Plan indicates that the cost of fully electrifying a home in San Jose, without considering incentives or rebates, will cost \$26,000 to \$31,000 for a single-family home and \$21,000 to \$25,000 for a multi-family home.⁶⁴

The City of San Jose's Plan focuses on residential buildings electrification, because the San Jose's building stock analysis shows 90% of the buildings are residential. Currently in the City of San Diego, over 60% of the natural gas use is from non-residential buildings. An existing building stock analysis, especially on the non-residential buildings, would be the starting point of the implementation for this measure. Examples of local non-residential building decarbonization policies are (1) building audit, benchmarking and disclosure ordinances, (2) energy retrofits and improvement prior to executing a lease, contract for sale, or transfer of title.⁶⁵

7.6.1.2 Measure 1.2 Decarbonize New Development

The goal of Measure 1.2 is to adopt all-electric reach codes starting in 2023 at new residential and commercial developments in the City.

⁶³ The breakdown of single-family homes and multi-family homes natural gas use was not available from SDG&E. 244 therms per unit is calculated based on the total residential natural gas use in 2019 (130 million therms) and 545,060 total number of homes in 2019 (single-family and multi-family). Newly constructed homes may have lower natural gas use due to more stringent building energy efficiency standards.

⁶⁴ City of San Jose: <u>Heathy Homes, Healthy Air Plan</u> (Draft for Public Comment, February 22, 2022). Section 5 The Cost of Residential Building Electrification.

⁶⁵ San Diego Regional Decarbonization Framework (Draft, March 2022), Local Policy Opportunity, Section 8.6 Decarbonize Buildings.

For residential developments, based on a CEC cost-effectiveness study for the 2019 residential reach code (the Study), the cost-effectiveness of a code-compliant all-electric home compared with a code-compliant mixed-fuel (electricity and natural gas) home varies by Climate Zone. Table 39 shows the natural gas savings of an all-electric home prototype compared to a mixed-fuel home prototype in Climate Zone 7, where the majority of the City of San Diego is located. Table 39 also shows the added electricity demand required to offset the increased demand. ⁶⁶

All-Electric Home Type	Single-Family	MultiFamily		
Natural Gas Savings Compared with Mixed-Fuel Home (Therms per unit)	196	110		
Additional Electricity Added Compared with Mixed-Fuel Home (kWh per unit)	674	51		
Based on prototype homes in Climate Zone 7, all-electric home with efficiency and PV option. California Energy Codes & Standard Reach Codes Team 2019.				

Table 39 Key Assumptions of All-Electric Homes (Single-Family and Multi-Family)

SANDAG projected the number of new single-family and multi-family units in the City, as described in Section 2.2. Assuming 10% of the new homes will be exempt from the requirement due to various limitations, the emissions reduction from natural gas savings, and emissions added from additional electricity use, are shown in Table 40 and Table 41.

⁶⁶ The package is cost-effective based on both On-Bill and Time Dependent Value (TDV) methodologies. <u>California Energy Codes</u> <u>& Standard Reach Codes Program</u>: 2019 Cost-effectiveness Study: Low-Rise Residential New Construction, July 2019 version, accessed August 20, 2019. This study is the latest reach code cost-effective study, however, it is based on the 2019 Energy Code, the new 2022 Energy Code will be effective starting 2023.

Table 40 Emissions Reduction from Natural Gas Savings due to Measure 1.2 Decarbonize New Development (Residential)

	Single-Family Homes		Multi-Family Homes		Total		
Year	Number of New All- electric Homes subject to Reach Code after 2023*	Natural Gas Savings due to All-Electric Reach Code (Therms/home/ year)	Number of New All- electric Homes subject to Reach Code after 2023*	Natural Gas Savings from All-Electric Reach Code (Therms/home /year)	Total Natural Gas Savings (Million Therms/year)	Natural Gas Emission Factor (MT CO₂e/Therm)	Emissions Reductions from Natural Gas Savings (MT CO ₂ e)
2030	3,349	196	54,004	110	6.6	0.00545	36,100
2035	5,192	196	88,112	110	10.7	0.00545	58,609

*Assumes 10% of homes will be exempt from this requirement due to limitations.

The projected natural gas savings and emissions reduction are the projections under the CAP, based on current status, future impact of State policies and programs, and CAP assumptions.

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Table 41 Emissions Added from Additional Electricity Use due to Measure 1.2 Decarbonize New Development (Residential)

	Single-Family Homes		Multi-Family Homes		Total		
Year	Number of New All-electric Homes subject to Reach Code after 2023*	Electricity Added due to All-Electric Reach Code (kWh/home /year)	Number of New All-electric Homes subject to Reach Code after 2023*	Electricity Added due to All-Electric (kWh/home /year)	Total Electricity Added (MWh /year)	Electricity Emission Factor (lbs CO2e/MWh)	Emissions Added from Additional Electricity Use (MT CO ₂ e)
2030	3,349	674	54,004	51	2,257	73	166
2035	5,192	674	88,112	51	3,499	50	180

*Assume 10% of homes will be exempt from this requirement due to limitations.

The projected electricity use and emissions added are the projections under the CAP based on current status, future impact of State policies and programs, and CAP assumptions.

Energy Policy Initiatives Center, University of San Diego 2021

The net 2030 and 2035 emissions reductions from Measure 1.2 new residential construction are shown in Table 42.

Table 42 Results for Measure 1.2 Decarbonize New Development (Residential)

Emissions Reduction from All-Electric Homes	GHG Emissions Reduction in 2030 (MT CO2e)	GHG Emissions Reduction in 2035 (MT CO2e)
Emissions Reduction from Natural Gas Savings	36,100	58,609
Emissions Added from Additional Electricity Use	-166	-180
Net Emissions Reduction due to All-Electric Homes	35,934	58,429
The emission reductions are the projections under the CAP, base State policies and programs, and CAP assumptions. Energy Policy Initiatives Center, University of San Diego 2021	ed on current status, f	uture impact of

For non-residential developments, data on non-residential new constructions by building types (e.g., retail, offices) are not available. The emission reductions are calculated based on avoiding 100% of new

natural gas use after 2023. Assuming that 15% of the new non-residential construction will be exempt from the requirement due to various limitations or building type restrictions, the emissions reduction from natural gas savings are shown Table 43.

Year	New Non-Residential Natural Gas Use Subject to the requirement in the Target Year* (Million therms/year)	Natural Gas Savings (%)	Cumulative Natural Gas Savings due to Reach Code after 2023 (Million Therms/year)	Natural Gas Emission Factor (MT CO2e/Therm)	Emissions Reductions (MT CO2e)		
2030	0.5	100%	1.0	0.00545	29,395		
2035	0.8	100%	4.6	0.00545	50,131		
*Projected n	*Projected natural gas use in new commercial development in the target year 2030 and 2035, assume 15% of development will be						

Table 43 Results for Measure 1	1.2 Decarbonize New	Development (Non-Residential)
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*Projected natural gas use in new commercial development in the target year 2030 and 2035, assume 15% of development will be exempt from this requirement due to limitations

The projections are based on current status, future impact of State policies and programs, and CAP assumptions. Energy Policy Initiatives Center, University of San Diego 2021

The total 2030 and 2035 emissions reductions from Measure 1.2, both residential and non-residential, are shown in Table 44.

Table 44 Results for Measure 1.2 Decarbonize New Development

Emissions Reduction from Measure 1.2	GHG Emissions Reduction in 2030 (MT CO₂e)	GHG Emissions Reduction in 2035 (MT CO₂e)
Emissions Reduction from Measure 1.2 – Residential	35,934	58,429
Emissions Reduction from Measure 1.2 – Non-Residential	29,395	50,131
Total Emissions Reduction	65,329	108,559
The emission reductions are the projections under the CAP, based policies and programs, and CAP assumptions. Energy Policy Initiatives Center, University of San Diego 2021	on current status, futi	ure impact of State

7.6.1.3 Measure 1.3 Decarbonize City Facilities

The goal of Measure 1.3 is to phase out 50% of the City facilities' natural gas use by 2030 and 100% by 2035. Emissions reductions were calculated using the natural gas savings and the natural gas emission factor discussed in Section 7.2. The GHG emissions reductions in 2030 and 2035 are shown in Table 45.⁶⁷

⁶⁷ 2019 City facilities natural gas use was reported in the <u>2020 CAP Annual Report</u>. The 1.5% annual increase is the same assumption as in the 2015 CAP and confirmed by City staff.

Table 45 Key Assumptions and Results for Measure 1.3 Decarbonize City Facilities

Year	Projected Natural Gas Use at City Facilities* (Million therms/year)	Natural Gas Savings (%)	Natural Gas Savings (Million herms/year)	Natural Gas Emission Factor (MT CO2e/Therm)	Emissions Reductions (MT CO2e)
2030	5.5	50%	2.8	0.00545	15,149
2035	6.0	100%	6.0	0.00545	32,639

*Business-as-usual natural gas use is projected based on the 2019 city facilities natural gas use (4.7 million therms) and a 1.5% annual increase

The projections are based on current status, future impact of State policies and programs, and CAP assumptions. Energy Policy Initiatives Center, University of San Diego 2021

7.6.2 Strategy 2: Access to Clean & Renewable Energy

7.6.2.1 Measure 2.1: Citywide Renewable Energy Generation

As discussed in Section 7.4.1, SB 100 (100 Percent Clean Energy Act of 2018) adopts a 60% RPS for all of California's retail electricity suppliers by 2030 and 100% zero-carbon electricity by 2045. Measure 2.1 assumes that SDCP, launched in 2021, would increase the renewable and zero-carbon electricity beyond the current RPS mandates for target years, to 100% renewable and zero-carbon by 2030.

Based on SDCP's implementation plan, 95% of SDG&E's residential and non-residential bundled customers' electric load would be supplied by SDCP.⁶⁸ SDG&E DA customers, whose electric load is supplied by other retail electric suppliers, will stay with their current electric suppliers and not participate in SDCP.

As previously explained in Section 7.4.1 and Table 28 Attribution of Emissions Reductions to Supplies that Increase Renewable Supply in San Diego), because SDCP is required to comply with the State's RPS mandates, a portion of the total emissions reduction from Measure 2.3 is credited to the State's RPS compliance. The remaining emissions reduction beyond RPS compliance is allocated to local Measure 2.3. The allocation of GHG emissions reduction in 2030 and 2035 from this measure to the State and the City is shown in Table 46.

⁶⁸ SDCP: <u>Community Choice Aggregation Implementation Plan and Statement of Intent</u> (December 9, 2019). Proposed Resource Plan 2021-2030. SDCP has a goal to achieve a 100% renewable portfolio by no later than 2035. Several member jurisdictions in SDCP have CAPs with 100% by 2030 renewable energy goal.

Table 46 Key Assumptions and Results for Measure 2.1: Citywide Renewable Energy Generation

Year	State or City Action	Total for SDCP	SDCP - Complying with RPS	SDCP - Above RPS (Measure 2.1)
2020	Projected Renewables and Zero Carbon (%)	100%	60%	40%
2030	Emissions Reduction (MT CO ₂ e)	1,719,193	1,031,516	687,677
2025	Projected Renewables and Zero Carbon (%)	100%	73%	27%
2035	Emissions Reduction (MT CO ₂ e)	1,930,487	1,409,255	521,231
*Calculated in Ta	ble 28.			

ulated in Table 28.

The emissions reduction is the projection under the CAP, based on CAP assumptions and future impact of State policies and programs. Energy Policy Initiatives Center, University of San Diego 2021

7.6.2.2 Measure 2.2: Increase Municipal Zero Emissions Vehicles

At the time of municipal vehicle replacement, the City plans to convert vehicles to EVs or other types of ZEVs and continue to use renewable diesel for the eligible heavy-duty vehicles. The vehicle conversion goals by target year are shown Table 47.69

Table 47 Key Assumptions for Measure 2.2: Increase Municipal Zero Emissions Vehicles

Vehicle Type	% of Total Gasoline Use from Each Vehicle Type*	% of All Vehicles to be ZEVs by 2030	% of All Vehicles to be ZEVs by 2035			
Car	23%	75%	100%			
LDV	52%	50%	75%			
MDV and HDV	25%	50%	75%			
HDV	N/A 50% 75%					
LDV: light-duty vehicles, MDV: Medium-duty vehicles, HDV: heavy -duty vehicles *The percentages of fuel use are calculated based on average annual fuel use of each vehicle type and the total number of vehicle in each vehicle type Energy Policy Initiatives Center, University of San Diego 2021.						

Assuming the municipal fleet gasoline use does not increase from the baseline year 2019, the GHG emissions reductions in 2030 and 2035 are shown in Table 48.70

Table 48 Results for Measure 2.2: Increase Municipal Zero Emissions Vehicles

Year	Projected Gasoline Use* (gallons)	Gasoline Reduction (%)	Gasoline Reduction (gallons)	Gasoline Carbon Intensity (g CO2e per gallon)	Emissions Reduction (MT CO2e)			
2030	2,268,104	56%	1,265,465	8,726	11,042			
2035	2,268,104	81%	1,832,491	8,726	15,990			
*Assumes that gasoline use is the same as in 2019.								
The emissions r	The emissions reduction is based on the projection under the CAP assumptions.							
Energy Policy Ir	nitiatives Center, University	of San Diego 2021						

⁶⁹ Average annual fuel use of each vehicle type and the total number of vehicle in each vehicle type were provided by City Fleet Department.

⁷⁰ Gasoline carbon content is based on CARB statewide GHG inventory. The 2019 fleet gasoline use reported in the 2020 CAP Annual Report.
7.6.2.3 Measure 2.3: Increase Electric Vehicle Adoption

The goal of Measure 2.3 is to increase the percentage of e-VMT of all miles driven by LD VMT to 16% by 2030 and 25% by 2035. Assuming the additional e-VMT will replace the miles driven by vehicles with combustion engines of the same model years, the average vehicle emission rates in the San Diego region (Table 29) were adjusted to derive a San Diego specific average vehicle emission rate, as discussed in Section 7.3.1.2. Table 49 summarizes the key assumptions and results.

The GHG emissions reductions are the projected reduction amount in the years 2030 and 2035 only.

Table 49 Key Assumptions and Results for Measure 2.3: Increase Electric Vehicle Adoption

	Projected	With Impact of Adopted Statewide Policies		With Impact o					
Year	BAU City VMT* (Million miles per year)	Average Vehicle Emission Rate** (g CO2e/mile)	Emissions from On-Road Transportation (MT CO2e)	Average Vehicle Emission Rate (g CO2e/mile)	Emissions from On-Road Transportation (MT CO2e)	Emissions Reduction (MT CO2e)			
2030	14,839	343	5,085,028	318	4,718,547	366,481			
2035	15,378	317	4,871,620	273	4,204,162	667,458			
Plan **Ca The emiss and progr	lculated in Section sion rates and emise	*BAU projections include the service population increase in the City, but not the impact of SANDAG's draft 2021 Regional Plan **Calculated in Section 7.4.4 Federal and California Vehicle Efficiency Standards The emission rates and emissions reductions are projected based on CAP assumptions and future impact of State policies and programs used in the CARB EMFAC2021 model.							

7.6.3 Strategy 3: Mobility & Land Use

7.6.3.1 Measure 3.1: Safe and Enjoyable Routes for Pedestrians and Cyclists

The goal of Measure 3.1 is to (1) increase the walk mode share of all San Diego residents' trips to 19% by 2030 and 25% by 2035; and (2) increase the bicycle mode share of all San Diego residents' trips to 7% by 2030 and 10% by 2035.

SANDAG projected the walk and bicycle mode share for 2030 and 2035, as well as the average trip length, with the impact of the draft 2021 Regional Plan. The mode shares and trip length, as shown in Table 50 and Table 51, are used as baseline assumptions. The avoided VMT is converted to GHG emissions reductions using the average vehicle emission factors, discussed in Section 7.3.1 (GHG Emission Factor for On-Road Transportation). The GHG emissions reductions in 2030 and 2035 are shown in Table 50 and Table 51.⁷¹

⁷¹ Mode share and trip length by SANDAG to City of San Diego (Sep. 2021). SANDAG Activity Based Model 2+ Release v14.2.1, Draft 2021 Regional Plan Networks, Policies, and Assumptions, Growth Forecast 14.38, Year 2035, Reference Scenario 206, February 2021. The forecast in the Draft 2021 Regional Plan was based on the Sustainable Communities Strategy land use pattern, which may be different from jurisdiction's general plan land use pattern. The 2030 mode share was interpolated linearly between 2019 and 2035. Absent final regional plan trip data not yet released, emissions reductions are based on a percentage of residents taking one alternative mode roundtrip daily in place of an equivalent amount of vehicular travel.

Table 50 Key Assumptions and Results for Measure 3.1: Safe and Enjoyable Routes for Pedestrians and Cyclists (Pedestrian)

Year	San Diego	Walk Mode Share Resi		Residents Length* by		VMT Avoided by Walking**	Average Vehicle	Emissions Reduction	
Residents		Baseline * (%)	Target (%)	Who Walk to Destinations	(Miles per round trip)	(Million miles per year)	Emission Rate (g CO ₂ e/mile)	(MT CO₂e)	
2030	1,552,815	13%	19%	104,439	1.4	53	318	16,699	
2035	1,599,353	14%	25%	179,174	1.4	90	273	24,629	
*Baseline	e walk mode shai	re and trip len	gth were mo	del outputs from th	ne SANDAG ABM	12+ and draft 2021 I	Regional Plan **Assu	imes 347	

weekdays to year and one resident re takes one round trip per weekday

The emissions reduction is projected based on CAP assumptions and future impact of State policies and programs used in the CARB EMFAC2021.

Energy Policy Initiatives Center, University of San Diego 2021

Table 51 Key Assumptions and Results for Measure 3.1: Safe and Enjoyable Routes for Pedestrians and Cyclists (Cyclists)

San Diego	go Bicycle Mode Share Residents Length* by Bicycling		Bicycle Mode Share		VMT Avoided by Bicycling**	Average Vehicle	Emissions Reduction
Residents	Baseline * (%)	Target (%)	Bicycling to Destinations	(miles per round trip)	(million miles per year)	Emission Rate (g CO₂e/mile)	(MT CO ₂ e)
1,552,815	1.4%	7%	80,343	7.1	198	318	63,024
1,599,353	1.6%	10%	134,471	7.1	332	273	90,686
2035 1,599,353 1.6% 10% 134,471 7.1 332 273 90,686 *Baseline bicycle mode share and trip length were model outputs from the SANDAG ABM2+ and draft 2021 Regional Plan **Assume 347 weekdays to year and one resident re takes one round trip per weekday The emissions reduction is projected based on CAP assumptions and future impact of State policies and programs used in the CARB EMFAC2021.							
	Residents 1,552,815 1,599,353 e bicycle mode sh s to year and one sions reduction i	San Diego Residents Baseline 1,552,815 1.4% 1,599,353 1.6% e bicycle mode share and trip lest o year and one resident re t sions reduction is projected based ba	San Diego Target Residents Baseline Target * (%) (%) 1,552,815 1.4% 7% 1,599,353 1.6% 10% bicycle mode share and trip length were resident re takes one rousions reduction is projected based on CAP	San Diego ResidentsBicycle Mode Share Baseline * (%)Residents Bicycling to Destinations1,552,8151.4%7%80,3431,599,3531.6%10%134,471e bicycle mode share and trip length were model outputs from s to year and one resident re takes one round trip per weekda sions reduction is projected based on CAP assumptions and fully	San Diego ResidentsBicycle Mode Share Baseline * (%)Residents Bicycling to DestinationsLength* (miles per round trip)1,552,8151.4%7%80,3437.11,599,3531.6%10%134,4717.1e bicycle mode share and trip length were model outputs from the SANDAG AE s to year and one resident re takes one round trip per weekday sions reduction is projected based on CAP assumptions and future impact of S	San Diego ResidentsBicycle Mode Share Target * (%)Residents Bicycling to DestinationsLength* (miles per round trip)by Bicycling** (million miles per year)1,552,8151.4%7%80,3437.11981,599,3531.6%10%134,4717.1332e bicycle mode share and trip length were model outputs from the SANDAG ABM2+ and draft 202 s to year and one resident re takes one round trip per weekday sions reduction is projected based on CAP assumptions and future impact of State policies and pro-	San Diego ResidentsBicycle Mode Share Baseline * (%)Residents Bicycling to DestinationsLength* (miles per round trip)by Bicycling** (million miles per year)Vehicle Emission Rate (g CO2e/mile)1,552,8151.4%7%80,3437.11983181,599,3531.6%10%134,4717.1332273e bicycle mode share and trip length were model outputs from the SANDAG ABM2+ and draft 2021 Regional Plan **As to year and one resident re takes one round trip per weekday sions reduction is projected based on CAP assumptions and future impact of State policies and programs used in the C

Energy Policy Initiatives Center, University of San Diego 2021

The total 2030 and 2035 emissions reductions from Measure 3.1, both from pedestrian and cyclist, are shown in Table 52.

Table 52 Results for Measure 3.1: Safe and Enjoyable Routes for Pedestrians and Cyclists

Emissions Reduction from Measure 3.1	GHG Emissions Reduction in 2030 (MT CO₂e)	GHG Emissions Reduction in 2035 (MT CO₂e)
Emissions Reduction from Increasing Walk Mode Share	16,699	24,629
Emissions Reduction from Increasing Bicycle Mode Share	63,024	90,686
Total Emissions Reduction	79,722	115,315
The emissions reduction is projected based on CAP assumptions an used in the CARB EMFAC2021. Energy Policy Initiatives Center, University of San Diego 2021	d future impact of State p	policies and programs

7.6.3.2 Measure 3.2: Increase Safe, Convenient, and Enjoyable Transit Use

The goal of Measure 3.2 is to increase the mass transit mode share of all San Diego residents' trips to 10% by 2030 and 15% by 2035. Similar to Measure 3.2, SANDAG projected the transit mode share in 2030 and 2035, as well as the average trip length, with the impact of draft 2021 Regional Plan. The avoided VMT is converted to GHG emissions reductions using the average vehicle emission factors,

discussed in Section 7.3.1 (GHG Emission Factor for On-Road Transportation). The GHG emissions reductions in 2030 and 2035 are shown in Table 53.⁷²

Year	San Diego	Mass Tran Sha		Additional Residents Using Transit	Trip Length*	VMT Avoided by Use of Transit**	Average Vehicle	Emissions Reduction
Tear	Residents	Baseline * (%)	Target (%)	to Destinations	(miles per round trip)	(million miles per year)	Emission Rate (g CO2e/mile)	(MT CO ₂ e)
2030	1,552,815	4.5%	10%	91,450	16	512	318	162,866
2035	1,599,353	5.4%	15%	153,060	16	857	273	234,351
weekday The emis	*Baseline transit mode share and trip length were model output from SANDAG ABM2+ and draft 2021 Regional Plan **Assume 347 weekdays to year and one resident re takes one round trip per weekday The emissions reduction is projected based on CAP assumptions and future impact of State policies and programs used in the CARB EMFAC2021.							

7.6.3.3 Measure 3.3: Increase Telecommuting

The goal of Measure 3.3 is to achieve 4% and 6% VMT reduction citywide by implementing telecommute policies and programs in the City.

The citywide 2030 VMT reduction is equivalent 116,000 commuters switch to fully telecommute or 292,000 commuters switch to telecommute 2 days a week; and the 2035 VMT reduction is equivalent 180,000 commuters switch to fully telecommute or 450,000 commuters switch to telecommute 2 days a week. The VMT reductions are estimated based on 50% of the commuter VMT reduction achieved during the COVID Stay-At-Home Order (March to December 2020) and 75% of this commuter VMT. During March to December 2020, the weekday VMT region-wide on freeways was 22% lower than during the same period in 2019.⁷³ Assuming 35% of the freeway VMT is during peak commute period (6am to 10am and 3pm to 7pm on weekdays).⁷⁴

The avoided VMT is converted to GHG emissions reductions using the average vehicle emission factors, discussed in Section 7.3.1 (GHG Emission Factor for On-Road Transportation). The GHG emissions reductions in 2030 and 2035 are shown in Table 54.

⁷² Mode share and trip length provided by SANDAG to the City of San Diego (Sep. 2021). SANDAG Activity Based Model 2+ Release v14.2.1, Draft 2021 Regional Plan Networks, Policies, and Assumptions, Growth Forecast 14.38, Year 2035, Reference Scenario 206, February 2021. The forecast in the Draft 2021 Regional Plan was based on the Sustainable Communities Strategy land use pattern, which may be different from jurisdiction's general plan land use pattern. The 2030 mode share was interpolated linearly between 2019 and 2035. Absent final regional plan trip data not yet released, emissions reductions are based on a percentage of residents taking one alternative mode roundtrip daily in place of an equivalent amount of vehicular travel.

⁷³ SANDAG: <u>Highway Hot Spots & Volumes Tracker</u>.

⁷⁴ CalTrans: <u>Performance Measure System (PeMS)</u>. 2019 Data. VMT during peak commute period does not mean all VMT are commute VMT.

Year	Projected BAU City VMT* (million miles per year)	VMT Reduction by Increasing Telecommute (%)	VMT Avoided by Telecommuting (Million miles per year)	Average Vehicle Emission Rate (g CO ₂ e/mile)	Emissions Reduction (MT CO2e)
2030	14,839	4%	570	318	181,205
2035	15,378	6%	886	273	242,177

Table 54 Key Assumptions and Results Measure 3.3: Increase Telecommuting

*BAU projections are based on the service population increase in the City, and does not include the impact of SANDAG's draft 2021 Regional Plan.

The emission rates and emissions reductions are projected based on CAP assumptions and future impact of State policies and programs used in the CARB EMFAC2021 model.

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7.6.3.4 Measure 3.4: Reduce Traffic Congestion to Improve Air Quality and Trip Length

The goal of Measure 3.4 is to install 13 new roundabouts by 2030 and an additional 7 (20 total) by 2035. The effect of roundabouts on fuel reduction depends on the traffic volume and size of the intersections on the arterials. Based on a study of small roundabouts with similar sizes, the annual fuel savings per roundabout is around 19,000 gallons.⁷⁵ As vehicles get more efficient and the number of ZEVs increases, the fuel savings per intersection in 2030 and 2035 would be less than in previous years. Assuming the same gallons of annual fuel savings per roundabout could be realized in future as in the CAP baseline year, the increase in vehicle fuel efficiency would lead to fuel savings of approximately 14,000 gallons in 2030 and 12,000 gallons in 2035.⁷⁶ The associated GHG emissions reductions in 2030 and 2035 are shown in Table 55.

Table 55 Key Assumptions and Results for Measure 3.4: Reduce Traffic Congestion to Improve Air Quality and Trip Length

Year	Number of New Roundabouts	Increase in Vehicle Fuel Efficiency after Baseline Year	Equivalent Fuel Savings per Intersection (Gallons per year)	Fuel Savings for All Intersections (Gallons per year)	GHG Emissions for Fuel* (Ibs CO2e/gallon)	GHG Emissions Reduction (MT CO ₂ e)
2030	13	28%	14,100	180,765	18.5	1,519
2035	20	38%	12,122	242,437	18.5	2,037

*Emissions per gallon of fuel use for an average vehicle in the San Diego region, regardless of fuel type, vehicle type, or fuel economy.

Increase in vehicle fuel efficiency is based on the decrease of the average vehicle emission rate in the City of San Diego. The emission rates and emissions reductions are projected based on CAP assumptions and future impact of State policies and programs used in the CARB EMFAC2021 model.

Energy Policy Initiatives Center, University of San Diego 2021

7.6.3.5 Measure 3.5: Climate-Focused Land Use

The goal of Measure 3.5 and Measure 3.6 combined is to achieve an additional 8% VMT reduction per capita by 2030 and 15% by 2035, through land use or parking reform policies. The VMT per capita used

⁷⁵ Varhelyi: <u>The Effects of Small Roundabouts on Emission and Fuel Consumption: A Case Study</u> (2002). The study estimated the traffic volume of the intersection and the fuel consumption before and after the roundabout. The traffic volume is 23,500 vehicles per day and the fuel savings are approximately 144 kg per day after the roundabout installation. ⁷⁶ The average vehicle emission rate in 2030, 289 g CO₂e/mile, is 40 percent less than that in 2012, 483 g CO₂e/mile, as discussed in Section 4.4.

here is calculated based on the City O-D VMT divided by San Diego residents, which may be different from the VMT per capita used for other planning analysis. The avoided VMT is converted to GHG emissions reductions using the average vehicle emission factors, discussed in Section 7.3.1 (GHG Emission Factor for On-Road Transportation). The GHG emissions reductions in 2030 and 2035 are shown in Table 56.

Table 56 Key Assumptions and Results Measure 3.5: Climate-Focused Land Use and Measure 3.6: Vehicle Management

Year	Per Capita VMT Reduction (%)	Per Capita VMT Reduction* (Miles per capita weekday)	VMT Avoided** (Million miles per year)	Average Vehicle Emission Rate (g CO₂e/mile)	Emissions Reduction (MT CO2e)
2030	8%	2.0	1,075	318	341,724
2035	15%	4.0	2,214	273	605,185
	016 VMT per capita is 26.6 tes and emissions reductio		•		of State policies

and programs used in the CARB $\ensuremath{\mathsf{EMFAC2021}}$ model.

Energy Policy Initiatives Center, University of San Diego 2021

7.6.3.6 Measure 3.6: Vehicle Management

The GHG emissions reductions from Measure 3.6 are combined with Measure 3.5 and discussed in Section 7.6.3.5.

7.6.4 Strategy 4: Circular Economy & Clean Communities

7.6.4.1 Measure 4.1 through Measure 4.4

The goal of Measure 4.1 through Measure 4.4 is to achieve: (1) 82% waste diversion rate by 2030 and 90% waste diversion by 2035, and (2) 85% landfill gas capture by 2030 and 90% landfill gas capture by 2035. The 82% waste diversion rate would result in 3 pounds per person per day (PPD) waste disposed in landfills in 2030, and the 90% waste diversion rate would result in 1.7 PPD waste disposed in 2035.

The City has not conducted a waste characterization study recently; therefore, the 2012 waste composition is used and held constant through the CAP horizon.⁷⁷ The emissions avoided from increasing the waste diversion rate is the difference between the waste category BAU emissions and the solid waste emissions using the target diversion rates and corresponding PPD waste amounts. Table 57 summarizes the key assumptions and results.

⁷⁷ Recent State actions include organic waste recycling, which may reduce the mixed waste emission factor in future years.

	Waste Disposed	at Landfills fro	m San Diego	Landfill Gas	Emissions with	Business as	GHG
Year	lbs/person/day	short tons/year	MT/year	Capture Rate	Targeted Diversion Rate (MT CO₂e)	Usual Emissions (MT CO2e)	Emissions Reduction (MT CO ₂ e)
2030	3.0	844,498	766,115	85%	87,587	302,855	215,268
2035	1.7	490,362	444,848	90%	34,626	311,931	277,305

Table 57 Key Assumptions and Results for Measure 4.1 through Measure 4.4

Emissions from waste are calculated based on the mixed waste emission used in Section 3.2.4, oxidation rate (10%), and the waste capture rates. The projected emissions reductions are based on the CAP assumptions. Energy Policy Initiatives Center, University of San Diego 2021

7.6.4.2 Measure 4.5 Capture Methane from Wastewater Treatment Facilities

The goal of Measure 4.5 is to capture 95% of the methane from the City's wastewater treatment facilities by 2030. The biogenic emissions, as described in Section 3.2.7, are from the methane captured. Table 59 summarizes the key assumptions and results.

Table 58 Key Assumptions and Results for Measure 4.5 Capture Methane from Wastewater Treatment Facilities

Year	Methane Capture Targets (%)	Biogenic GHG from Wastewater (MT CO2e)	Emissions Reduction (MT CO2e)
2030	95%	27,854	26,461
2035	95%	28,688	27,254
	emissions reductions are based nitiatives Center, University of S		

7.6.5 Strategy 5 Resilient Infrastructure & Healthy Ecosystems

7.6.5.1 Measure 5.1 Carbon Sequestration through Restoration

The goal of Measure 5.1 is to restore salt marsh land in the City, 700 acres total by 2035. The carbon sequestration potential is based on the acreage of salt marsh and the carbon burial rate per acre.⁷⁸ Table 59 summarizes the key assumptions and results.

Table 59 Key Assumptions and Results for Measure 5.1 Carbon Sequestration through Restoration

Year	Salt Marsh Land Restored* (Acres)	Carbon Burial Rate** (MT CO₂ per acre)	Carbon Sequestration (MT CO ₂)			
2030	350	1.17	410			
2035	700 1.17 821					
*Assume the restoration starts in Callaway, et al. 2012, Energy Poli						

7.6.5.2 Measure 5.2 Increase Tree Canopy

The goal of Measure 5.2 is to increase the urban canopy to 28% by 2030 and 35% by 2035. The tree canopy cover in the City currently (2015–2019 period) is 13% based on a LiDAR study.⁷⁹ The carbon

⁷⁸ Callaway, et al.: Carbon Sequestration and Sediment Accretion in San Francisco Bay Tidal Wetlands (2012).

⁷⁹ City of San Diego: <u>Urban Tree Canopy Assessment</u>.

sequestration potential is based on the potential canopy cover and the CO₂ absorption rate per acre.⁸⁰ Table 60 summarizes the key assumptions and results.

Year	Canopy Cover Target (%)	Targeted Canopy Cover (Acres)	CO2 Sequestered Rate* (MT CO ₂ per acre)	Carbon Sequestration (MT CO ₂)							
2030	28%	53,125	1.56	82,806							
2035	35%	65,625	1.56	102,290							
Brown et al 2	Brown et al 2004, Energy Policy Initiatives Center, University of San Diego 2021										

7.6.5.3 Measure 5.3 Increase Local Water Supply and Reduce Water Dependence

The goal of Measure 5.3 is to provide 33,000 acre-feet of local water supply from the Pure Water project Phase 1 and 2 by 2030, and 93,000 acre-feet by 2035. The local water supply will replace imported raw water purchases from SDCWA. The emissions avoided are calculated based on the difference between upstream energy intensity and Pure Water treatment energy intensity (tertiary treatment), and the difference between the statewide electricity emission actors and the SDCP emission factors. Table 61 summarizes the key assumptions and results.⁸¹

Table 61 Key Assumptions and Results for Measure 5.3 Increase Local Water Supply and Reduce Water Dependence

Year	Pure Water Supply (AF)	MWh Avoided with Pure Water – Upstream*	Local Electricity Use Added from Pure Water Supply** (MWh)	Net Emission Reduction (MT CO2e)							
2030	33,600	58,965	39,415	9,910							
2035	92,960	163,137	163,137 109,048								
electricity em does not have (advanced tre Water is assu	203592,960163,137109,04818,507*SDCWA untreated water upstream energy intensity is 1,755 kWh per acre-foot (Section 3.2.5), the electricity emission factors are 371 lbs CO2e/MWh in 2030 and 250 lbs CO2e/MWh. The City of San Diego does not have operation control over the upstream energy intensity **Pure Water energy intensity (advanced treatment beyond tertiary treatment) is 1,173 kWh per acre-foot, the electricity used for Pure Water is assumed to be zero-emissions (100% renewable or carbon-free electricity from SDCP) Energy Policy Initiatives Center, University of San Diego 2021.										

⁸⁰ Brown, et al.: <u>Baseline Greenhouse Gas Emissions and Removals for Forest, Range, and Agricultural Lands in California</u> (2004). The same assumption as was used in 2015 San Diego CAP.

⁸¹ The Pure Water energy intensity is the advanced water treatment energy intensity. The treated water (tertiary level) from San Diego's existing reclamation facility will undergo advanced treatment to achieve drinking water quality. <u>2016 Pure Water</u> <u>Final Program EIR</u>. Table 5.11-1. Pure Water supply in 2030 and 2035 were reported in the City's 2020 Urban Water Management Plan.

ATTACHMENT A: COMPARISON OF MODE SHARE TARGETS IN THE 2015 CAP AND CURRENT CAP UPDATE

One of the five key strategies for mobility under the SANDAG 2021 Regional Plan is Mobility Hubs. Key features of Mobility Hubs include walking and biking infrastructure, shared mobility, a mix of land use with jobs, housing, shopping, and recreation. The 2021 Regional Plan identified 30 Mobility Hubs near major residential, jobs, and activity centers, based on the land use and employment characteristics, travel patterns, and demographics of the region. All the types of Mobility Hubs (Coastal, Gateway, Major Employment Center, Suburban, and Urban Core) are represented in the City of San Diego.⁸²

Transit priority areas (TPAs) are defined in the California Public Resources Code section 21099(a)(7) as areas within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program or applicable regional transportation plan.⁸³ The mode share targets in the 2015 CAP are the targets for commuters within TPAs. In addition, the City of San Diego's Complete Communities: Mobility Choice regulations which support the implementation of Senate Bill 743⁸⁴, used TPAs to define one of the Mobility Zones.⁸⁵

While a TPA has a smaller coverage than a Mobility Hub, many TPAs would overlap with Mobility Hubs, because the TPAs are closely related to the existing and planned transit in the 2021 Regional Plan.

A.1 Difference in Mode Share Target Coverages in the 2015 CAP and the 2022 CAP Update

There are two main differences in the coverage of the mode share targets in the 2015 CAP and the 2022 CAP Update: (1) the types of travelers and (2) the type of trips.

The type of traveler in the 2015 CAP included by the mode share targets is the labor force in TPAs within the City of San Diego;⁸⁶ while the type of traveler included in the CAP update are *all* the residents in the City of San Diego. The type of trips covered by the targets in the 2015 CAP are commute trips only, while the type of trips in the CAP update are all types of trips (commute and non-commute trips).

Because of the difference in type of traveler and type of trip between the two CAPs, the mode share target in the 2022 CAP covers many more people than in the 2015 CAP. A comparison of the coverage is shown in Table 1 below.

⁸² SANDAG: 2021 Regional Plan Mobility Hubs.

⁸³ Cal. Pub. Res. Code § 21099(a)(7). Under Cal. Pub. Res. Code § 21064.3., major transit stops are sites with (1) an existing rail or bus rapid transit station; (2) a ferry terminal served by either a bus or rail transit service, or (3) the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

⁸⁴ <u>Senate Bill 743</u> requires VMT as a new metric for analyzing transportation impacts for purposes of the California Environmental Quality Act, instead of the previous level of service criteria.

⁸⁵ San Diego Ordinance O-21274 (Dec. 09, 2020). Mobility Zone 2 is the only zone that refers to TPAs and is defined as any premises located either partially or entirely in a TPA.

⁸⁶ Labor force (2015 CAP appendix Table 16 through Table 18) refers to the employment number in TPAs.

	Existing CAP (2015)	CAP Update (2022)								
Under 2035 Mode Share Targets	Labor Force in TPAs within San Diego*	All San Diego Residents**								
Number of Persons Covered by the Target	482,540	1,599,353								
Additional Persons Using Transit with the Target	120,635	153,060								
Additional Persons Bicycling with the Target	89,270	134,471								
Additional Persons Walking with the Target	31,365	179,174								
Total Additional Persons with the Target	241,270	466,704								
*2015 CAP appendix Table 16 through Table 18 ** More details are provided in Table 50, Table 51, and Table 53										

Table 62 Population Covered by the 2035 Mode Share Targets in the 2015 CAP and 2022 CAP Update

While the mode share target of mass transit, walking, and bicycling combined is the same in the 2015 CAP and in the 2022 CAP update, at 50%, switching from commuter trips to all trips coverage affects the distribution of mode share targets among mass transit, walking, and bicycling. Because the share of trips by walking and bicycling in non-commute trips is higher than that in commute trips (e.g., people are more likely to walk or bicycle to shopping, social and recreational events, than to work).⁸⁷ A comparison of mode share targets is shown in Table 63 below.

Table 63 2035 Distribution of Mode Share Targets in the 2015 CAP and 2022 CAP Update

	Existing CAP (2015)	CAP Update (2022)		
Under 2035 Mode Share Targets	Labor Force in TPAs within San Diego*	All San Diego Residents		
Number of Persons Covered by the Target	482,540	1,599,353		
Mode Share Target – Walking (%)	6.5%	25% (14%)**		
Mode Share Target – Bicycling (%)	18.5%	10% (1.6%)**		
Mode Share Target – Mass Transit (%)	25%	15% (5.4%)**		
Mode Share Target - All	50%	50%		
*2015 CAP appendix Table 16 through Table 18				

** Table 50, Table 51, and Table 53, the projected baseline mode shares in 2035 from SANDAG ABM2+ and draft 2021 Regional Plan are provided in parenthesis.

⁸⁷ Yang, Y., & Diez-Roux, A. V. (2012). <u>Walking distance by trip purpose and population subgroups</u>. American journal of preventive medicine, 43(1), 11–19.

Appendix C

CLIMACT Prio Methodologies and Results

Includes:

- Core Benefits scores for Strategies 1-5
- Feasibility and Equity scores, scaled category scores and CLIMACT Prio score for Strategies 1-5

CLIMACT Prio Methodology

The Climate Action Prioritization (CLIMACT Prio) tool, created by researchers at the Institute for Housing and Urban Development Studies at Erasmus University Rotterdam, guides city planners through the collection of necessary data and then performs an analysis to rank potential climate actions according to both GHG impact and stakeholder priorities.¹ This tool uses a multi-criteria decision analysis (MCDA) approach in order to rank order the list of actions. MCDA has been proposed as an alternative to more traditional cost-benefit analysis approaches because it can integrate qualitative and quantitative information at the same level of analysis, and by incorporating stakeholder perspectives, "promotes a more democratic decision-making in the search of a compromised solution."²

A modified version of the Climate Action Prioritization (CLIMACT Prio) Tool was used to assign priority scores to a list of potential climate actions. The tool required several pieces of information:

- A complete list of potential actions.
- An evaluation of the feasibility of each action.
 - We modified the tool to include an evaluation of the potential for equitable implementation of each action.
- A list of criteria (aka co-benefits) important to CoSD residents, such as improved air quality, local job generation, or pedestrian/cyclist safety.
- An evaluation of the impact each action would have on each criteria (co-benefit).
- A stakeholder weighting of the criteria (co-benefits) from most- to least-important.

The process by which each piece of information was obtained is described below.

Potential actions

A list of approximately 200 potential climate actions was compiled through researching other municipalities' Climate Action Plans, internal discussions with CoSD department staff, and community outreach. CoSD actions already underway as well as new ones currently under consideration were gathered during meetings with individual departments. Additional actions to address specific resident concerns not already reflected in those provided by the internal department meetings were created following feedback from the City's various community outreach activities. For example, the new supporting action "Installation of pedestrian orientated streetlights for increased safety and comfort in Communities of Concern" (under the "Safe and Enjoyable Routes" Measure in Strategy 3) was created to address resident concerns about unsafe pedestrian/cyclist conditions due to a lack of streetlights.

Feasibility and equity analysis

The Feasibility scoring provided in the CLIMACT Prio tool was used to assess the relative ease or difficulty of implementing each action. The complete list was subdivided into groups of actions according to the City department that possessed the necessary expertise to evaluate a particular group. A small team of representatives from that department then answered five questions for each action on their list (see Table 1). For actions that would require cross-department implementation, the evaluating team consisted of members of multiple departments.

¹ https://city-development.org/tool-19-climact-prio/

² Balouktsi, M. (2019, August). Crafting local climate action plans: An action prioritisation framework using multicriteria decision analysis. In *IOP Conference Series: Earth and Environmental Science* (Vol. 323, No. 1, p. 012075). IOP Publishing.

Table 1. Feasibility s	scoring	definitions
------------------------	---------	-------------

	High (score = 3 pts)	Medium (score = 2 pts)	Low (score = 1 pt)
Stakeholder acceptability: Would stakeholders groups accept it? (e.g., local residents, business owners, other impacted by City depts)	Majority of relevant stakeholders	Limited majority	Low support
Technical feasibility : Will necessary design, implementation and maintenance support be available for the option?	Design is already available	Resources to develop design, implement and maintain are available	No available resources to develop, design, implement and maintain
Ease of implementation: Can it be implemented at the local government level, or does it depend upon state, county or national support?	The City can implement this without external support	The City can implement this with some support	The City cannot implement this without external support
Financial viability : Is it a financially realistic option? Does the City have funding or potential access to funding to cover the costs?	Financially realistic with available funding	More limited funding opportunities	Expensive and limited funding opportunities
Mainstreaming potential: Could it be integrated with existing City government planning and policy development?	Yes, easily and fully through many plans and strategies	Yes, partly but with more time and through more limited plans and strategies	Relatively limited potential, would require additional activities

The evaluating team assigned a score of High, Medium, or Low to each of the five feasibility questions. Those scores were converted to numeric scores (High=3, Medium=2, Low=1); the sum of scores for all five questions for a single action was that action's total Feasibility score. The original range of scores was 5-15; all scores were then transformed to a 1-10 point scale.

The original CLIMACT Prio tool uses the Feasibility score to reduce the list of actions under consideration—actions with a low feasibility score are dropped. The Feasibility score is also used as one of the criteria in the final ranking of remaining actions. In the CoSD analysis, the Feasibility score was used as one of the multiple criteria; however, no actions were dropped from the analysis at this stage.

Because the City of San Diego's Climate Action Plan is centered on equity, an Equitable potential criterion was added. While completing the Feasibility ratings, department teams were asked to also rate each action according to whether that action could be implemented in an equitable manner. The teams

answered three Equity questions in the same way that they answered the Feasibility questions. The Equity scoring definitions are shown in Table 2.

	High (score = 3 pts)	Medium (score = 2 pts)	Low (score = 1 pt)
Community benefits & burdens: Can it be implemented in a way that distributes benefits and burdens equitably?	Benefits would be focused in Communities of Concern and burdens minimized in these communities	Benefits and burdens would accrue equally across communities regardless of CEI scores	Benefits would accrue mainly in communities that have higher CEI scores; any burdens would accrue primarily in Communities of Concern
Community empowerment: Can it be implemented in a way to increase community capacity or level of engagement?	Increases the level of participatory governance, capacity of CBOs, and knowledge/engagement of residents in Communities of Concern	Provides opportunities for targeted engagement in Communities of Concern for development of project, but no lasting capacity building or empowerment for Communities of Concern	Provides no additional resources/opportunities for engagement, capacity building, or participatory governance
Addresses historical disparity: Can it address historical disparities in Communities of Concern, i.e., lack of sidewalks or improve air quality?	Addresses historical disparity faced by Communities of Concern	Addresses some need in Communities of Concern, equally focuses on needs in communities with high or very high CEO scores	Does not look at historical disparities or address those disparities

The evaluating team assigned a score of High, Medium, or Low to each of the three equity questions. Those scores were converted to numeric scores (High=3, Medium=2, Low=1); the sum of scores for all three questions for a single action was that action's total Equity score. The original range of scores was 3-9; all scores were transformed to a 1-10 point scale. This Equity score was also used as one of the multiple criteria for the final rankings.

Co-benefits list

The City of San Diego engaged in extensive outreach to its residents in 2020 and 2021 through such varied methods as an online survey, public forums and community presentations. In partnership with the Institute for Local Government and local nonprofits and community-based organizations within San Diego's Communities of Concern, the City also received feedback through online forums, phonebanks and in-person surveys and conversations. Throughout all of these various engagements, the City sought

to learn 1) concerns residents have about climate change 2) climate change impacts residents have experienced 3) climate actions residents want the CoSD to take and 4) benefits residents expect from climate action. A list of 16 climate action co-benefits important to CoSD residents was compiled from this feedback, and can be categorized as follows:

- Air Quality
 - Indoor air quality
 - Outdoor air quality
- Public Health
 - Reduce pollution and litter
 - Increase access to healthy and affordable food
 - Increase walkability
 - Increase access to parks, green space and recreation
 - Increase safety (e.g., pedestrian, bike)
- Jobs & Economy
 - Local investment generated
 - Potential for local jobs
 - Increase affordability of transportation
- Resiliency
 - Reduce heat island effect
 - Increase natural habitat
 - Improve biological resources (i.e. trees, green spaces)
 - Improve water quality
 - Increased independence for local resources (i.e. energy, water)

Based on the frequency of mentions of these various co-benefits, it was possible to determine an overall ranking of the major categories. San Diego residents prioritize air quality and public health the highest, and those categories were approximately equal in importance. Jobs & economy was prioritized third, and resiliency fourth.

Impact evaluation

An external consultant, EPIC, provided co-benefit impact ratings for each action. For a single action, EPIC rated that action's potential impact on each of the 16 co-benefits listed above, relative to the other actions on the list. Scores were: 0=not applicable, 1=possible impact, 2=low impact, 3=high impact. The final category score for an action, such as Public Health, was calculated by taking the average score of that category's co-benefits (after removing "not applicable" co-benefits) and then transforming to a 1-10 point scale. At the end of this step, each action had four co-benefit scores: air quality, public health, jobs & economy and resiliency, each on a scale of 1-10 pts.

Criteria (co-benefit) weighting

The multi-criteria decision analysis was performed by multiplying each criteria score (i.e., Feasibility, Equity, Public Air Quality, Public Health, Jobs & Economy and Resiliency) by a weight assigned according to stakeholders' prioritization of the various criteria. The weighting strategy gave CoSD residents' preferences the largest weight—the sum of weights for the four co-benefits (sum to 65%) is larger than the Feasibility (10%) and Equity (25%) weights. Next priority was given to the Equity score, which addresses whether an action has the potential for equitable implementation. The Feasibility score was

assigned the smallest weight; it can be thought of as a score that informs the action priority list but does not drive prioritization. The weight distribution is illustrated in Figure 1 below.



Figure 1. Weights assigned to each criteria considered in the CLIMACT Prio analysis. All weights sum to 1.0

Final action scoring

Each action's final CLIMACT score was calculated by the following:

(Air Quality score x 0.20) + (Public Health score x 0.20) + (Jobs & Economy score x 0.15) + (Resiliency score x 0.10) + (Feasibility x 0.10) + (Equity x 0.25)

The possible range of scores was between 0-10, where a higher score indicated an action that had greater impact on the various co-benefits, especially those co-benefits important to San Diego residents. Sorting all actions from highest to lowest CLIMACT score can indicate which actions (those near the top) should be prioritized, and which ones (those near the bottom) might be omitted from this Climate Action Plan update.

Score aggregation within Measures

A Measure's co-benefit icons, Feasibility subscores, and Equity subscores were determined by aggregating scores across all Actions included in that Measure. Supporting Actions scores were not included in this calculation.

Co-benefit icon: average scores for each co-benefit were calculated from all actions included in a measure (after removing "not applicable" scores). If any co-benefit had an average score of 2 or higher,

then an icon for that co-benefit's category appears in the Measure summary. For example, if the average "Increased Affordable Household Energy" score across all actions included in a measure was 2.0, then the "Jobs & Economy" icon would appear in that Measure's summary table, even if all other co-benefits in the "Jobs & Economy" category had lower average scores.

Feasibility subscores: the original 1-3 scores for each Feasibility question were averaged across all Actions included in a Measure to provide the score shown in that Measure's summary table.

Equity subscores: the original 1-3 scores for each Equity question were averaged across all Actions included in a Measure to provide the score shown in that Measure's summary table.

CLIMACT Prio score tables

Co-benefit, Feasibility & Equity and CLIMACT Prio scores for the actions and supporting actions can be seen in the Attachment to this Appendix. Scores for each strategy are shown in separate sections. Some of the latest additions to the CAP, resulting from recent stakeholder feedback, may have incomplete Feasibility scores (and subsequent CLIMACT Prio scores), as obtaining full reviews from the implementing departments was difficult with the short turnaround period. Instead, more detailed department evaluations will be obtained for all actions and supporting actions as part of the Implementation Matrix development. Finally, scores are not provided for Strategy 6 supporting actions, as those are not yet specific enough for quantification. As those supporting actions take firmer shape, they will be scored in the Implementation Matrix as well.

City of San Diego CAP Appendix C Strategy 1 Core Benefits Scores

		AIR Q	UALITY	1		PUBLIC HEALT	н			JOBS &	ECONOMY		1		RESILIENCY		1
	Measure, Action, or	Improve outdoor air	Improve indoor air	Reduce pollution &	Increase accesto healthy &	walkability	Increase acces to parks, green space,	s Increase safety (e.g., pedestrian,	Amount of local investment	Number of local jobs	Increase affordability of household	affordability of	Reduce heat island effect	Increase natural habitat	Improve biological resources (i.e.	Improve water quality	Improve local resource
	Supporting Action	quality (0-N/A, 1-Low, 2-Med, 3-High)	quality (0-N/A, 1-Low, 2-Med, 3-High)	litter (0-N/A, 1-Low, 2-Med, 3-High)		d (0-N/A, 1-Low, 2-Med, 3-High)	recreation (0-N/A, 1-Low,	bike) (0-N/A, 1-Low, 2-Med, 3-High)	generated (0-N/A, 1-Low, 2-Med, 3-High		energy	transportation (0-N/A, 1-Low, 2-Med, 3-High)	(0-N/A, 1-Low,	(0-N/A, 1-Low, 2-Med, 3-High)	trees, green	(0-N/A, 1-Low,	independence (0-N/A, 1-Low, 2-Med, 3-High)
1.1 Decarbonize existing buildings	Measure	0) 3		2	0	D (D C		0	D 3	3 0	3	. (0	2
Develop a comprehensive roadmap to achieve decarbonization of the existing building stock including, programs, regulatory and incentive tools that includes extensive engagement and utilization of a shared- decision making model with Communities of Concern	Action	0) 3	. 3	3	D	D (D C		0	D	3 0	3	i (0 0	0	ı 3
Develop a Building Performance Standards (BPS) policy	Action	٥) 2	. :	L	D	D (D C		0	D :	2 0	2	! (o a	0	2
Explore opportunities to increase onsite water reuse and irrigation for buildings as part of overall building decarbonization roadmap	Supporting Action	0	0 0	:	L	D	D (D C		0	D (0	c) (o o	0	2
Complete an analysis of the City's building and housing stock to identify policy opportunities for existing building decarbonization	Supporting Action	0	0 0)	D	D (D C		0	D (0 0	c) (0 0	0	0
Develop programs to promote energy efficiency and load management technologies with an emphasis in Communities of Concern	Supporting Action	0) 1	. :	L	D	D (D C		0	D 2	2 0	c) (0 0	0	2
Identify funding sources, including SDCP and SDGE, for advancing residential weatherization projects, appliance exchanges and broad building retrofits in Communities of Concern	Supporting Action	0) 3	. 3	3	D	D (D C		1	1 3	3 0	3	; (o a	0	і З
Expand residential Photovoltaic deployment incentives/programs	Supporting Action	0	0 0)	D	D (D C		2	2 :	1 0	c) (o o	0	ј 3
Update the Building Energy Benchmarking Ordinance to expand enforcement and compliance.	Supporting Action	٥	2		2	D	D (D C		0	D i	3 0	2		D 0	0	2
1.2 Decarbonize new building development	Measure	1	. 2	:	2	D	D (D C		0	D 2	2 0	2	: (o 0	0	1
Develop and adopt a Building Electrification policy, through code upda	at Action	1	. 2		2	D	D (D C		0	D 2	2 0	2		o o	0	1 1
Prioritize cool roofs when feasible to implement Climate Resilient SD in	Supporting Action	٥) a)	D	D (D C		0	D 2	2 0	3		D 0	0	0
Support new regional policies for alternative systems that can be used to replace existing heating and cooling air systems and water systems	Supporting Action	C	2		3	D	D (D C		1	1 2	2 0	2	! (0 0	0	1
Establish policies that incentivize developers to use less GHG intensive materials and practices (EVs, Low-Carbon concrete, recycled materials, etc) including mass timber and modular construction		1	. 1	. :	L	D	D (D C		1	1 (0 0	c) (0 2	0	1 1
1.3 Decarbonize City Facilities	Measure	1	. 2		2	D 1	D (D 0		1 :	1 (0 0	2		0 0	0	2
Develop and adopt a municipal energy implementation plan and municipal zero carbon emissions buildings and operations policies	Action	1	. 2		2	D	D (D C		1	1 (0 0	2	. (0 0	0	2
Future development on City-owned property will require and reward proposals based on decarbonization and other CAP goals	Supporting Action	2	. 2		2	D	D (D C		1	1 (0 0	2	! (0 0	0	1
Implement energy efficiency projects at City facilities to meet zero emissions goals for municipal buildings established in the Municipal Energy Strategy & Implementation Plan, prioritizing projects within the City's Communities of Concern	Supporting Action	1	. 1	. :	L	D	D (D C		2	2 (0 0	2	! (0 0	0	ı 1
Implement technologies such as renewable electricity generation, heat pumps, energy storage, and microgrids at City facilities to meet the zero emissions goals for municipal buildings established in the Municipal Energy Strategy & Implementation Plan.	Supporting Action	1	. 0	. ()	D	D (D C		2	1 (0 0	c) (0 0	0	1 2
Identify and prioritize energy projects at City facilities that increase resiliency for the surrounding communities and City operations, focusing on our Communities of Concern	Supporting Action	1	. 1	:	L	D	D (D C		1	1 (0 0	2	! (o a	a	1
Convert all street lights to LEDs and explore auto-dimming technology where public safety would not be compromised	Supporting Action	C	0 0)	D	3 (D 3		0	D (0 0	c) (0 0	0	i 0
Convert all traffic signals to LED lights	Supporting Action	0	0 0	()	D	D (D C		0	D (0 0	c) (0 0	0	0
Strategy 1 Supporting Actions	Supporting Action																
Remove high-Global Warming Potential refridgerants - develop a refrigerant management program that establishes a phaseout timeline for high-Global Warming Potential refrigerants	Supporting Action	٥	0 0)	D	D (D C		0	D (0 0	c) (0 0	0	0
Advance workforce development programs for decarbonization including energy efficiency and renewable energy projects	Supporting Action	0	0 0)	D	D (D C		1	2 (0 0	c) (0 0	0	0

City of San Diego CAP Appendix C Strategy 2 Core Benefits Scores

		AIR	QUALITY			PUBLIC HEALT	н			JOBS &	ECONOMY				RESILIENCY		Ĭ
	Measure, Action, or Supporting Action	Improve outdoor air quality (0-N/A, 1-Low, 2-Med, 3-High		pollution & litter (0-N/A, 1-Low,	Increase access to healthy & affordable food (0-N/A, 1-Low, 2 Med, 3-High)	walkability (0-N/A, 1-Low, 2	to parks, green space, recreation	s Increase safety (e.g., pedestrian, bike) 2- (0-N/A, 1-Low, 2 Med, 3-High)	Amount of loca investment generated (0-N/A, 1-Low, Med, 3-High)	jobs created	Increase al affordability of household 2- energy (0-N/A, 1-Low, 2 Med, 3-High)	Increase affordability of transportation 2- (0-N/A, 1-Low, 2- Med, 3-High)	Reduce heat island effect (0-N/A, 1-Low, 2 Med, 3-High)	Increase natural habitat ?- (0-N/A, 1-Low, 2 Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2 Med, 3-High)	Improve water quality (0-N/A, 1-Low, 2 Med, 3-High)	Improve local resource independence (0-N/A, 1-Low, 2- Med, 3-High)
2.1 Citywide Renewable Energy Generation	Measure		1 0	þ	o c)	D	o (þ	2	2	3 0	(o a) C		2
Partner with SDCP to increase customer adoption of 100% renewable energy supply	Action		0 0	0	o c)	D	0 0	0	0	0	0 0	(o c) C		0 0
Partner with SDCP to incentivize local generation of renewable energy resources	Action		1 (0	0 0)	D	0 0	0	2	2	3 0	() C) C) 2
Develop financial support programs to incentivize solar on multifamily buildings, providing financial benefits to tenants and families within Communities of Concern	Supporting Action		1 0)	o c)	0	o c	0	2	1	3 0	(D 0) C		2
Develop financial support programs to incentivize deployment of building-scale renewables and mandate the use of renewables through building codes, while engaging residents and other stakeholders in the process.	Supporting Action		1 0)	o c)	0	0 0)	2	2	2 0	0	0 0) C) 2
Focus on resilient microgrid systems, solar, battery storage and other innovative solutions within Communities of Concern, with the additional benefit of providing fairly paid and secure jobs for those communities	Supporting Action		1 0)	o c)	0	0 0)	2	2 :	3 0	(D C) C) 3
Increase renewable generation at non-residential developments through new policies or incentive programs.	Supporting Action		1 0)	0 0)	0	0 0)	2	2	0 0	() () (2
Update land use code to include energy storage and other distributed energy technologies to facilitate local renewable energy resource deployment	Supporting Action		1 0)	0 0)	0	0 0)	0	1	1 0	(D C) () 2
Deploy advanced renewable energy technologies (e.g. battery energy storage systems, microgrids, etc.) at municipal facilities to demonstrate feasibility.	Supporting Action		1 0)	1 0)	0	0 0)	0	0	0 0	() () (2
Leverage municipal facilities to establish community solar and microgrid solutions when tariffs allow.	Supporting Action		1 0)	1 0)	0	o ()	1	0	L 0	(o c) C		2
Explore partnerships for a trade-in program that makes it possible for small landscape owners to transition to electric equipment	Supporting Action		1 0)	1 0)	0	0 0)	1	0	0 0	() () (0 0
2.2 Increase Municipal Zero Emission Vehicles	Measure		2 ()	2 ()	D	o ()	0	0	0 0		o a) C) 2
Develop a City Fleet Vehicle Replacement and Electrification strategy consistent with the Municipal Energy Implementation Plat and state requirements for municipal electrification.	n Action		2 0)	2 0)	0	0 0	þ	0	0	0 0	0	o c) C		2
Seek partnerships with SDCP, SDG&E and others to install charging infrastructure for all vehicle types	g Supporting Action		2 0)	2 0)	D	0 0)	2	1 (2	(o c) (0 0
Include stated preference for 100% renewable energy on publically available chargers on municipal land	Action		0 0)	0 0)	D	0 0)	0	0	0 0	(0 0) (0 0
Update AR35.80 to include EV vehicles to the list of preferred purchases	Supporting Action		0 0	0	o c)	0	0 0)	0	0	0 0	0	D C) C		0 0
Conduct City fleet electrification feasibility study to determine bes siting, funding needs, and strategies including specific strategies for Chollas Operations Yard.			0 0)	0 0)	D	0 0)	2	1 0	0 0	(o c) (0 0
Update municipal parking yard electric infrastructure to support electric vehicle charging needs	Supporting Action		2 0	0	2 0)	0	0 0)	1	1 (0 0	(o c) (2
Create standards for the City's purchase of fuel for fleet vehicles tha contains the lowest levels of lifecycle GHG emissions available.	at Supporting Action		2 0		2 0)	0	0 0)	0	0	0 0	0	o c) C		2
Explore pilot projects for a variety of grid resilience services (demand response, emergency back-up, demand charge reduction, etc.) through three modes of EV integration (Grid-to-Vehicle, Vehicle-to-Building, Vehicle-to-Grid)	, Supporting Action		0 0)	o c)	0	0 0)	2	1 0	0 0	(0 0) () 2

City of San Diego CAP Appendix C Strategy 2 Core Benefits Scores

		AIR C	QUALITY	1		PUBLIC HEALT	н			JOBS &	ECONOMY				RESILIENCY		1
	Measure, Action, or Supporting Action	Improve outdoor air quality (0-N/A, 1-Low, 2-Med, 3-High)	Improve indoor air quality (0-N/A, 1-Low, 2-Med, 3-High)	pollution & litter (0-N/A, 1-Low,	Increase access to healthy & affordable food (0-N/A, 1-Low, 2 Med, 3-High)	walkability (0-N/A, 1-Low, 2	to parks, green 2- space, recreation	Increase safety (e.g., pedestrian, bike) :- (0-N/A, 1-Low, 2 Med, 3-High)	Amount of loca investment generated (0-N/A, 1-Low, Med, 3-High)	jobs created	Increase al affordability of household 2- energy (0-N/A, 1-Low, 1 Med, 3-High)	Increase affordability of transportation 2- (0-N/A, 1-Low, 2- Med, 3-High)	Reduce heat island effect (0-N/A, 1-Low, 2 Med, 3-High)	Increase natura habitat 2- (0-N/A, 1-Low, 2 Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2- Med, 3-High)	Improve water quality (0-N/A, 1-Low, 2 Med, 3-High)	Improve local resource independence (0-N/A, 1-Low, 2- Med, 3-High)
2.3 Increase Electric Vehicle Adoption	Measure	:	з о)	3 () (0 () (b	0	0	D 3		D (0	0	2
Develop a city-wide electric vehicle strategy to accelerate EV adoption, including flexible flexts, circulators, and electric bicycles, focusing on the barriers to ownership and charging for residents within the communities of concern.	Action	:	3 C)	3 () (0 () (0	0	0	0 3		D (0 0	0	2
Work with local businesses to expand EV charging stations on commercial property	Supporting Action	:	2 0)	2 () (0 () (b	1	0	0 1		0 0	0	0	o
Amend the building code update to expand EV charging stations requirements for multi-family and non-residential properties	Supporting Action	:	з с)	3 () (0 () (D	1	0	0 2		D (0	0	2
Amend the building code to require charging amenities for electric bicycles	Supporting Action	:	1 0)	1 () (0 () (D	0	0	0 1		D (0	0	0
Explore the development of a citywide policy for surplus land that cannot be used for housing or housing related uses to be considere for EV charging sites prior to review for sale or other dispensation			D C)	0 () (0 () ()	0	0	0 0		0 0	0 0	0	0
Work with the Air Pollution Control District (APCD), San Diego Unified School District and other school districts serving the City to support the conversion of the school bus fleet to zero emissions vehicles	o Supporting Action	:	2 0)	2 () (0 () ()	0	0	0 0		0 0	0	0	0
Work with SANDAG, APCD and MTS to procure a fully zero emissions bus fleet	Supporting Action	:	з с)	3 () (0 () (D	0	0	0 0		D (0	0	2
Set a goal for installation of public EV charging stations on city property to support EV adoption in Communities of Concern. Initiate process with publication of a Request for Information (RFI) to solicit public charging solutions.	Supporting Action	:	2 0)	2 () (0 0) ()	1	1	0 1		0 0	0	0	2
Continue to work with SANDAG, the Port of San Diego and other partners on medium and heavy duty (MD/HD)2EV infrastructure planning. Consider future policies to advance MD/HD 2EV adoption and utilization in the Portside Communities, Border Communities, and other major logistics hubs.			3 C)	3 () (0 () (0	1	1	0 0		D C	0 0	0	2

City of San Diego CAP Appendix C Strategy 3 Core Benefits Scores

		AIR Q	UALITY	1		PUBLIC HEALT	н		1		JOBS & B	CONOMY				RESILIENCY		ĺ
	Measure, Action, or Supporting Action		Improve indoor air quality (0-N/A, 1-Low, 2-Med, 3-High)	Reduce pollution & litter (0-N/A, 1-Low, 2-Med, 3-High)	Increase access to healthy & affordable food (0-N/A, 1-Low, 2-Med, 3-High)	walkability (0-N/A, 1-Low,	to parks, gree space, recreation (0-N/A, 1-Low	ess Increase sa en (e.g., pedestrian, bike) v, (0-N/A, 1-Lo h) 2-Med, 3-H	, i ow, (Amount of local investment generated (0-N/A, 1-Low, 2-Med, 3-High)	Number of local jobs created (0-N/A, 1-Low, 2-Med, 3-High)	Increase affordability of household energy (0-N/A, 1-Low, 2-Med, 3-High)	Increase affordability of transportation (0-N/A, 1-Low, 2-Med, 3-High)	island effect (0-N/A, 1-Low,	Increase natural habitat (0-N/A, 1-Low, 2-Med, 3-High)	trees, green	quality	Improve local resource independence (0-N/A, 1-Low, 2-Med, 3-High)
3.1 Safe and Enjoyable Routes for Pedestrians and Cyclists	Measure	2	0	2	0	2	2	1	2	1	. 1	. (1	0	C	0	0	0
Develop Safe Routes to Schools safety plans; start a San Diego Safe Routes to Schools program focusing on Communities of Concern and underperforming schools	Action	2.0	0.0	2.0	0.0	3.0		0.0	3.0	1.0) 1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Implement the City's Bicycle Master Plan and community plan bicycle networks with a emphasis on separated bikeways.	Action	2.0	0.0	2.0	0.0	1.0) :	L.O	3.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Review and improve flexible fleets and micro-mobility policies/shared use mobility programs, especially focused in communities of concern and first mile/last mile applications	Action	2.0	0.0	2.0	0.0	0.0) (0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Partner with Microbility Operators to optimize the number of scooters available in mobility hubs and/or near transit	Action	2.0	0.0	2.0	0.0	0.0		0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Update Bicycle Master Plan with current best practices for facility designation, reflecting recent community plan updates and proposed regiona connections. Also describing existing constraints, opportunities, and implementation strategies.	Action	0.0	0.0	0.0	0.0	0.0) (0.0	0.0	0.0) 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Develop a Mobility Master Plan to reduce mobile sources emissions and further a shift in mode	Action	3.0	0.0	3.0	0.0	2.0) (0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
The City will evaluate existing and future fee structures to increase the priority of active transportation project implementation, especially within Communities of Concern, and the City will increase its efforts to identify and pursue grant funds for the planning and implementation of active transportation projects		0.0	0.0	0.0	0.0	0.0) (0.0	0.0	1.0) 0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Examine proposed bike and pedestrian projects and use "quick-build" pathways where appropriate to increase financial viability	Supporting Action	1.0	0.0	1.0	0.0	2.0) (0.0	3.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Increase education campaigns to improve motorist behavior to result in a safer right-of-way for bicyclists and pedestrians.	Supporting Action	1.0	0.0	1.0	0.0	0.0) (0.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Include in Bicycle Master Plan update policies and programs to increase bicycle storage near new bikeways	Supporting Action	1.0	0.0	1.0	0.0	0.0) (0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Where roadway widenings are otherwise planned, identify opportunities to repurpose the use of the right-of-way for walking, rolling, biking, and transit modes of travel	Supporting Action	2.0	0.0	2.0	0.0	2.0) (0.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Identify and address gaps in the City's pedestrian network and opportunities for improved pedestrian crossing, using the City's Pedestrian Master Plan and the City's sidewalk assessment Adopt City portions of SANDAG's forthcoming first mile/last mile initiative	Action	1.0	0.0	1.0	0.0	3.0		0.0	3.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
and incorporate Safe Routes to Transit strategies in Transit Priority Areas	Supporting Action	2.0	0.0	2.0	0.0	1.0) (0.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Create a quick build policy and design guidelines to facilitate repurposing of the right-of-way or installation of installation of interim or pilot bicycle, ADA accessibility, or pedestrian projects	Supporting Action	1.0	0.0	1.0	0.0	2.0) (0.0	3.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Update street planning and design process with a focus on community input from Communities of Concern to prioritize pedestrians, bicyclists, and transit		1.0	0.0	1.0	0.0	1.0		0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Engage communities during the community plan updates and other multimodal corridors and active transportation planning processes to better accommodated all users of the right-of-way with an emphasis on improving safety for vulnerable users	Supporting Action	0.0	0.0	0.0	0.0	0.0) (1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amend Council Policy 800-14 to prioritize CAP implementation with a greater investment in Communities of Concern, repurpoing of the public right of way to include Class IV Bike Facilities, coordinate with SANDAG Early Action Plan bike projects, and improved accessibility for walking/rolling for all ages and abilities	r Supporting Action	0.0	0.0	0.0	0.0	2.0) (0.0	2.0	2.0) 1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Incorporate trees and additional cooling features such as innovative shade designs, water features, and cooling centers at parks, with a concentration in Communities of Concern	Supporting Action	0.0	0.0	0.0	0.0	2.0) (0.0	2.0	1.0) 1.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0
Installation of pedestrian orientated streetlights for increased safety and comfort in Communities of Concern	Supporting Action	0.0	0.0	0.0	0.0	3.0		0.0	3.0	0.0) 0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amend the code and street design manual to include standards for pedestrian orienated street lighting in neighborhoods and alleyways	Action	0.0	0.0	0.0	0.0	2.0) (0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Partner with public safety to review and reform education programs and enforcement policies related to pedestrian and traffic safety	Supporting Action	1.0	0.0	1.0	0.0	2.0) (0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Update City special events permits to prioritize transit, walking, and bicycling	ACTION	3.0	0.0	3.0	0.0	1.0) (0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Complete and implement Mobility Action Plan to ensure City infrastructure can adequately support the goals of the Climate Action Plan	Supporting Action	3.0	0.0	3.0	0.0	2.0) :	L.O	1.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
Increase number of trash and recycling receptacles in pedestrian corridors/Transit Prior Areas	Supporting Action	0.0	0.0	2.0	0.0	2.0) (0.0	2.0	1.0	0 1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Explore fee structure/incentive program to increase cost savings for shared transportation network company (TNC) trips relative to private TNC trips	Supporting Action	2.0	0.0	2.0	0.0	0.0) (0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Ensure that Captial Improvement Projects comply with all applicable landscape requirements in the Land Development Code	Supporting Action	0.0	0.0	0.0	0.0	1.0		0.0	1.0	1.0	0.0	1.0	0.0	2.0	0.0	2.0	0.0	0.0
Include shade structures on building frontages in pedestrian thoroughfares, with preference given to natural shade up to five feet	Supporting Action	0.0	0.0	0.0	0.0	2.0) :	L.O	1.0	1.0	0.0	1.0	0.0	2.0	0.0	2.0	0.0	0.0
Include audible pedestrian signals at all signal-controlled crosswalks	Supporting Action	0.0	0.0	0.0	0.0	0.0) C	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Install audible wayfinding beacons at complicated intersections and sign locations	Supporting Action	0.0	0.0	0.0	0.0	0.0) C	1.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

City of San Diego CAP Appendix C Strategy 3 Core Benefits Scores

		AIR Q	UALITY			PUBLIC HEALT	н			JOBS &	ECONOMY		1		RESILIENCY		
	Measure, Action, or Supporting Action	Improve outdoor air quality (0-N/A, 1-Low, 2-Med, 3-High)	Improve indoor air quality (0-N/A, 1-Low, 2-Med, 3-High)		Increase acces to healthy & affordable food (0-N/A, 1-Low, 2-Med, 3-High)	walkability I (0-N/A, 1-Low, 2-Med, 3-High	to parks, green space, recreation (0-N/A, 1-Low,	ss Increase safet n (e.g., pedestrian, bike) . (0-N/A, 1-Low) 2-Med, 3-High	local investment generated (0-N/A, 1-Lov			Increase affordability of transportation (0-N/A, 1-Low, 2-Med, 3-High)		Increase natural habitat (0-N/A, 1-Low, 2-Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2-Med, 3-High)	Improve water quality (0-N/A, 1-Low, 2-Med, 3-High)	
3.2 Increase Safe, Convenient, and Enjoyable Transit Use	Measure	2.0	0.0	2.0	0.0) 1.) 0.	0 1	0	1.0 0	.0 1.0	2.0	2.0	0.0	0.0	0.0	0.0 C
Advocate for a permanent, regional Youth Opportunity Pass and support the expansion of the program to include college students and residents in Communities of Concern	Action	3.0	0.0	3.0) 0.0) 0.) 0.	0 0	0	0.0 0	.0 0.0) 3.0	0.0) 0.0	0.0	0.0	0.0
Create a quick build policy and design guidelines to facilitate repurposing of the right-of-way or installation of installation of interim or pilot transit projects	Action	1.0	0.0	1.0	0.0) 1.	0 0.	0 0	0	0.0 0	.0 0.0	0 1.0	0.0	0.0	0.0	0.0	0.0
Develop dedicated bus lanes or shared bus and bike lanes to increase transit efficiency and on-time performance, focusing on routes supporting residents within underserved communities and high-frequency connections for riders to schools and universities and jobs	Action	2.0	0.0	2.0	0.0) 0.) 0.	0 0	0	0.0 0	.0 0.0	0 0.0	0.0	0.0	0.0	0.0	0.0
Implement projects and update the Placemaking Ordinance, Including a Street Furniture program that reduces heat exposure, provides cool transit stops, and improves access to nearby restrooms in high transit use areas and pedestrian corridors, prioritizing Communities of Concern	Action	0.0	0.0	0.0	0.0) 1.	0 0.	0 1	0 :	1.0 0	.0 1.0	0.0	2.0	0.0	0.0	0.0	0.0
Ensure every high-volume transit stop has access to transit shelters, which include shade structures and benches; work with MTS to establish a standard for the provision of bus shelters in the city (e.g., minimum accomodations) with a priority in Communities of Concern	Action	0.0	0.0	0.0) 0.0) 0.) 0.	0 1	0	0.0 0	.0 0.0	0.0	2.0	0.0	0.0	0.0	0.0
Identify transit stops where upgrades are needed, especially in Communities of Concern, and streamline implementation of upgrades to high priority transit stops	Supporting Action	1.0	0.0	1.0	0.0) 0.) 0.	0 0	0	0.0 0	.0 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Facilitate partnerships with universities and colleges with goal of student walk/ride/transit use well-above citywide goals	Supporting Action	2.0	0.0	2.0	0.0	0 0.) 0.	0 0	0	0.0 0	.0 0.0) 2.0	0.0	0.0	0.0	0.0	0.0
Prioritize and assist MTS with siting and design on complete transit stops in CoC, including shade trees, lighting, trash bins	Supporting Action	1.0	0.0	1.0	0.0	0 0.	0.0.	0 1	0	0.0 0	.0 0.0) 1.0	1.0	0.0	0.0	0.0	0.0
Create programs and incentives for transit passes bundled with all new major developments within one mile of a major transit stop	Supporting Action	2.0	0.0	2.0	0.0	0 0.	0 0.	0 0	0	1.0 0	.0 0.0) 2.0	0.0	0.0	0.0	0.0	0.0
Partner with MTS for priority right of way for buses and trolley in roadway corridors and at intersections	Supporting Action	2.0	0.0	2.0	0.0	0 0.	0 0.	0 0	0	0.0 0	.0 0.0	0.0	0.0	0.0	0.0	0.0	0.0
Support MTS, SANDAG and Caltrans in the creation of transit right-of-way for regional transit connections	Supporting Action	2.0	0.0	2.0	0.0	0 0.	0 0.	0 0	0	0.0 0	.0 0.0	0.0	0.0	0.0	0.0	0.0	0.0
3.3 Work from Anywhere	Measure	2.0	0.0	2.0	0.0) 1.) 0.	0 1	0	1.5 1	.0 0.0) 1.3	0.0	0.0	0.0	0.0	0.0 C
Amend the Land Development Code to include mandatory transportation demand management (TDM) regulations citywide	Action	3.0	0.0	3.0	0.0	0 1.	0.0.	0 1	0	0.0 0	.0 0.0	2.0	0.0	0.0	0.0	0.0	0.0
Develop a City of San Diego employee TDM policy	Action	2.0	0.0	2.0	0.0) 1.) 0.	0 1	0	1.0 0	.0 0.0) 1.0	0.0	0.0	0.0	0.0	0.0
Establish a team and roadmap to support actions that require connectivity and close the digital divide.	Action	1.0	0.0	1.0	0.0	0.	0.0.	0 0	o :	2.0 1	.0 0.0	0 1.0	0.0	0.0	0.0	0.0	0.0
Stand up Public WiFi access at City Libraries, Recreation facilities and various public areas in Low-to-Moderate Income (LMI) areas.	Supporting Action	1.0	0.0	1.0	0.0	0.0.	0.0.	0 0	0	2.0 1	.0 0.0	0 1.0	0.0	0.0	0.0	0.0	0.0
Formalize a regional device refurbishment and distribution program	Supporting Action	1.0	0.0	1.0	0.0	0.0.	0.0.	0 0	0	1.0 2	.0 0.0	0 1.0	0.0	0.0	0.0	0.0	0.0
Continue to operate a program to loan mobile hotspots and personal computers to residents.	Supporting Action	1.0	0.0	1.0	0.0) 0.) 0.	0 0	0	1.0 1	.0 0.0	0 1.0	0.0	0.0	0.0	0.0	0.0
Create a Digital Navigator support line to assist with basic technology issues and provide guidance on low income technology options	Supporting Action	1.0	0.0	1.0) 0.0) 0.) 0.	0 0	0	1.0 1	.0 0.0	0 1.0	0.0	0.0	0.0	0.0	0.0
Create a Digital Literacy program to educate residents, particularly in Low-to- Moderate Income (LMI) areas.	Supporting Action	1.0	0.0	1.0) 0.0) 0.	0 0.	0 0	0	1.0 1	.0 0.0) 1.0	0.0	0.0	0.0	0.0	0.0
Work with local organizations to distribute refurbished devices previously used by the City to residents at low or no costs	Supporting Action	1.0	0.0	1.0) 0.0) 0.) 0.	0 0	0	1.0 1	.0 0.0) 1.0	0.0	0.0	0.0	0.0	0.0
Improve and expand data gathering and outreach in Communities of Concern to understand which residents need the most assistance to technology options and what the barriers are, and create a public outreach campaign to improve and inform access	Supporting Action	1.0	0.0	1.0	0 0.0) 0.) 0.	0 0	0	0.0 0	.0 0.0	0 1.0	0.0	0.0	0.0	0.0	0.0

		AIR Q	UALITY	1		PUBLIC HEALT	н			JOBS 8	& ECONOMY		1		RESILIENCY		1
	Measure, Action, or Supporting Action		Improve indoor air quality (0-N/A, 1-Low, 2-Med, 3-High)		Increase access to healthy & affordable food (0-N/A, 1-Low, 2-Med, 3-High)	walkability (0-N/A, 1-Low, 2-Med, 3-High)	to parks, green space, recreation (0-N/A, 1-Low,	s Increase safety (e.g., pedestrian, bike) (0-N/A, 1-Low, 2-Med, 3-High)	local investment generated (0-N/A, 1-Low,			affordability of transportation (0-N/A, 1-Low, 2-Med 2-High)		Increase natural habitat (0-N/A, 1-Low, 2-Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2-Med, 3-High)	Improve water quality (0-N/A, 1-Low, 2-Med 2-High)	Improve local resource independence (0-N/A, 1-Low, 2-Med, 3-High)
3.4 Reduce Traffic Congestion to Improve Air Quality and Tr	ri _{Measure}	2.0	0.0	2.0	0.0	1.5	5 0.0	0 1.5	5 0.	.0 (0.0 0.	D 0.0	0.0	0.0	0.0	0.0	0.0
Install traffic circles and roundabouts	Action	2.0	0.0	2.0	0.0	2.0	D 0.) 2.0	0.0.	.0 0	0.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Retime traffic signals to reduce vehicle fuel consumption through improving the flow of traffic	Action	2.0	0.0	2.0	0.0	1.0	0 0.	0 1.0	0.0.	.0 0	0.0 0.	D 0.0	0.0	0.0	0.0	0.0	0.0
Work with the Port of San Diego, SANDAG, and Caltrans to prepare a feasibility study to identify the best truck route to Tenth Avenue Marine Terminal and diversion, traffic calming and appropriate signage as included in the APCD's Community Emission Reduction Plan (CERP	Supporting	0.0	0.0	0.0	0.0	0.0	0 0.	0.0	0.0.	.0 0	0.0 0.	0 0.0	0.0	0.0	0.0	0.0	0.0
3.5 Climate-Focused Land Use	Measure	2.3	0.0	2.3	.00	2.3	3 0.	0 2.3	B 0.	.0 (0.0 0.	0 1.0	0.0	0.0	0.0	0.0	1.0
Focus new development in areas that will allow residents and visitors to safely, conveniently, and enjoyable travel by walking, rolling, biking, or transit, such as Transit Priority Areas (TPAS), and areas of the City with the lowest amount of vehicular travel.	Action	3.0	0.0	3.0	0 0.0	3.0	0 0.) 3.0	0.00	.0 (0.0 0.	0 1.0	0.0	0.0	0.0	0.0	1.0
Plan for land uses that will allow existing residents, employees and visitors to more safely, conveniently and enjoyably travel as a pedestrian, or by biking or transit	Action	3.0	0.0	3.0	0.0	3.0	0 0.	3.0	0.0.	.0 0	0.0 0.	0 1.0	0.0	0.0	0.0	0.0	1.0
Update the Placemaking Ordinance to better support mode shift, to increase accessibility, walkability, and activate public spaces	Action	1.0	0.0	1.0	0.0	1.0	0 0.	0 1.0	0.	.0 0	0.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Focus on delivering new mixed-use development on sites, including vacant and underutilized lots, located near transit, such as in TPAs and areas of the City of San Diego with the lowest amount of vehicular travel.	Supporting Action	1.0	0.0	1.0	0.0	2.0	D 0.	0 1.0	2.	.0 1	0 0.	0 0.0	0.0	0.0	0.0	0.0	0.0
Implement active transportation in lieu fees to fund pedestrian, cyclist and transit investments where the greatest GHG emissions reductions will result, in accordance with Complete Communities: Mobility Choices	Supporting Action	3.0	0.0	3.0	0.0	3.0	D 0.	2.0	1.	.0 1	0 0.	0 2.0	0.0	0.0	0.0	0.0	0.0
Amend local regulations, like the Placemaking ordinance, and policies to allow for wider sidewalks for public spaces and place making	Supporting Action	1.0	0.0	1.0	0.0	2.0	D 0.4	2.0	0.0.	.0 0	0.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Implement temporary and permanent car-free zones/zero emission zones	Supporting Action	3.0	0.0	3.0	0.0	3.0	D 0.1	3.0	0.	.0 0	0.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Maximize new development in areas located with safe, convenient and enjoyable access to transit	Supporting Action	3.0	0.0	3.0	0.0	2.0	0 0.	2.0	0.0.	.0 0	0.0 0.	0 1.0	0.0	0.0	0.0	0.0	0.0
Support expansion of urban greenspace including park access, open space, and wildlife corridors where appropriate, along streets to encourage outdoor activity, walking and increase pedestrian access to parks in Communities of Concern	Supporting Action	2.0) 0.0	2.0) 0.0	2.0	D 2.	0 2.0	0. 0.	.0 0	0.0 0.	D 0.0	0.0	0.0	0.0	0.0	0.0
Amend the General Plan Mobility Element to include a Complete Streets policy to enable safe, attractive and comfortable access so that pedestrians, bicyclists, motrists and transit users of all ages and abilities can safely travel within the public right-of-way	Supporting Action	2.0	0.0	2.0	0.0	2.0	0 1.	0 2.0	0.0.	.0 0	0.0 0.	0 1.0	0.0	0.0	0.0	0.0	0.0
Amend land development code regulations to require more efficient pedestrian access between existing and new development (e.g., between adjacent lots)	Supporting Action	2.0	0.0	2.0	0 0.0	2.0	D 0.1	2.0	0.0.	.0 0	0.0 0.	0 0.0	0.0	0.0	0.0	0.0	0.0
3.6 Parking	Measure	2.5	0.0	2.5	i 0.0	2.0	0 0.) 2.5	5 2.	.0 1	.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Optimize use of curb space including management of on-street parking in TPAs.	Action	3.0	0.0	3.0	0.0	2.0	D 0.	3.0	0.	.0 0	0.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Amend the land development code to eliminate parking minimum requirements	Action	3.0	0.0	3.0	0.0	0.0	0 0.	0.0	2.	.0 1	.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Amend the land development code to establish parking maximum requirements for use types and locations where appropriate	Action	3.0	0.0	3.0	0.0	0.0	D 0.	0.0	2.	.0 1	.0 0.	D 0.0	0.0	0.0	0.0	0.0	0.0
Amend the land development code to prohibit new auto-oriented land uses that would create conflicts with walking and bicycling within TPAs	Action	1.0	0.0	1.0	0.0	2.0	0 0.	0 2.0	0.	.0 0	0.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Work with communities to implement comprehensive solutions for the curb space, including implementation of timed parking, establishment of parking districts, and programming of the curb space for deliveries, ADA access and other passenger loading, and micro-mobility	Supporting Action																

City of San Diego CAP Appendix C Strategy 4 Core Benefits Scores

		AIR C	UALITY	1		PUBLIC HEALT	н			JOBS 8	& ECONOMY		l		RESILIENCY		ĺ
	Measure, Action, or Supporting Action		Improve indoor air quality (0-N/A, 1-Low, 2-Med, 3-High)		Increase access to healthy & affordable food (0-N/A, 1-Low,) 2-Med, 3-High)	walkability (0-N/A, 1-Low,	to parks, green space, recreation (0-N/A, 1-Low,	s Increase safety (e.g., pedestrian, bike) (0-N/A, 1-Low, 2-Med, 3-High)	local investment generated (0-N/A, 1-Low			transportation (0-N/A, 1-Low, 2 Mod 2 High)	island effect (0-N/A, 1-Low,	Increase natural habitat (0-N/A, 1-Low, 2-Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2-Med, 3-High)	Improve water quality (0-N/A, 1-Low, 2-Med, 3-High)	Improve local resource independence (0-N/A, 1-Low, 2-Med, 3-High)
4.1 Changes to the waste stream	Measure	0.0	0.0	2.0	D 0.0	0.0) 0.0	D 0.0	0 0).O C	0.0 0.0	0.0	0.0	0.0	2.0	0.0	0.0
Approve and implement the Polystyrene Foam and Single Use Plastics Ordinance, pending Environmental Impact Report	Action	0.0	0.0	2.0	0 0.0	0.0	0.0	0.0	0 0	0.0 0	0.0 0.0	0.0	0.0	0.0	2.0	0.0	0.0
Expand the Polystyrene Foam and Single Use Plastics Ordinance to phase out Single-Use materials and prioritize reuse rather than disposable goods	Action	0.0	0.0	2.0	D 0.0	0.0	0.0	D 0.0	0 0	0.0 0	0.0 0.0	0.0	0.0	0.0	2.0	0.0	0.0
4.2 Municipal Waste Reduction	Measure	3.0	0.0	2.3	3 2.0	0.0) 0.0	D 0.0) 1	.0 0	0.0 0.0	0.0	0.0	1.0	1.5	0.0	2.0
Capture landfill methane gas emissions	Action	3.0	0.0	3.0	D 0.0	0.0) 0.0	D 0.0	0 0).O C	0.0 0.0	0.0	0.0	1.0	1.0	0.0	2.0
Through an update to the City's administrative regulations, include purchasing requirements for sustainable products and food whenever option is available. J Reduce carbon and water footprint of total beef, pork, chicken, turkey and dairy purchases by 20% 2) Increase local, healthy, and sustainable foods to 20% of total food purchases prioritizing locally sourced, valued workforce and animal welfare	Action	0.0	0.0	2.0	0 2.0	0.0	0 0.0	0 0.6	0 1	o c	0.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Include procurement targets, with a focus on the maintenance of street easements, parks, and other green spaces, for purchasing compost through the greenery Miramar Greenery or other local composting facilities to increase market for that product expand the demand and production of high- quality compost in the City	Action	0.0	0.0	2.0	0 0.0	0.0	0 0.0	D 0.6) 1	0 0	0.0 0.0	0.0	0.0	0.0	2.0	0.0	2.0
4.3 Local Food Systems & Food Recovery	Measure	0.0	0.0	2.5	5 1.8	0.0) 0.0	0.0) 1	.0 1	L.O 0.0	0.0	1.0	0.0	0.0	0.0	2.0
Create a food council or advisory board with local stakeholders	Action	0.0	0.0	2.0	0 1.0	0.0) 0.0	0.0	0 0).O C	0.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Invest in expanding the food waste prevention network - expand infrastructure & partnerships for edible food recovery	Action	0.0	0.0	3.0	0 2.0	0.0	0.0	0 0.0	0 0	0.0 1	1.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Require food waste prevention, donation and recycling plans for all city food service operations and large events on city managed, leased or owned lands	Action	0.0	0.0	3.0	0 2.0	0.0	0.0	D 0.0	0 0	0.0 C	0.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Establish a multidisciplinary team of subject matter experts across City departments with a focus on land use, economic growth, neighborhood vitality and healthy food access to work with community members to expand urban agricultural programs and develop policies to encourage community- based farms, including demonstration projects	Action	0.0	0.0	0 2.0	0 2.0	0.0	0 0.0	0 0.0) 1	.0 1	1.0 0.0	0.0	1.0	0.0	0.0	0.0	2.0
Work with the County and Farm Bureau to support investments in climate- smart agriculture and the local food supply chain	Supporting Action	0.0	0.0	0.0	0 2.0	0.0	0.0	0 0.0	1	.0 1	1.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Partner with County of SD to increase community access to Federal meal programs (EBT, WIC, etc) and incentivize usage of these programs for local food access (CSA, farmers market, retail)	Supporting Action	0.0	0.0	0.0	0 2.0	0.0) 0.0	0.0) 1	.0 1	1.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Incorporate food security and reslient food systems into climate resilience and emergency planning	Supporting Action	0.0	0.0	0.0	0 1.0	0.0	0.0	0 0.0	0 0	0.0 C	0.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Invest in a network of local food sourcing, aggregation, distribution and processing infrastructure including regional food hubs, neighborhood scale commercial kitchens or shared kitchens, and other food businesses, particularly in low-income communities	Supporting Action	0.0	0.0	2.0	0 2.0	0.0	0.0	0 0.0) 1	0 1	1.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Regulate or activate programs for food businesses to minimize food related carbon emissions, including requiring food waste prevention, donation and recycling plans for businesses/institutions (for Tier 1 and Tier 2 generators outlined in SB1383) and provide technical assistance and resources. Also include checklist and outreach as part of business licensing process	Supporting Action	0.0	0.0	3.0	0 2.0	0.0	0 0.0	D 0.6	0 0).O C	0.0 0.0	0.0	0.0	0.0	0.0	0.0	2.0
Incentivize the incorporation of urban agriculture features into developer plans to include indoor agriculture, edible forestry, community gardens, etc	Supporting Action	0.0	0.0	2.0	D 2.0	0.0) 0.0	D 0.0) 1	0 0	0.0 0.0	0.0	1.0	0.0	0.0	0.0	2.0
Increase community participation with the Urban Agriculture Incentive Zome (UAIZ) program	Supporting Action	0.0	0.0	2.0	0 2.0	0.0	0.0	0 0.0) 1	0 1	1.0 0.0	0.0	1.0	0.0	1.0	0.0	2.0

		AIR (QUALITY	1		PUBLIC HEALT	н			JOBS 8	ECONOMY				RESILIENCY		1
	Measure, Action, or Supporting Action	Improve outdoor air quality (0-N/A, 1-Low, 2-Med, 3-High	Improve indoor air quality (0-N/A, 1-Low,) 2-Med, 3-High)	Reduce pollution & litter (0-N/A, 1-Low, 2-Med, 3-High)	Increase acces to healthy & affordable food (0-N/A, 1-Low, 2-Med, 3-High)	walkability 1 (0-N/A, 1-Low,	to parks, greer space, recreation (0-N/A, 1-Low,	s Increase safety (e.g., pedestrian, bike) (0-N/A, 1-Low, 2-Med, 3-High)	local investment generated (0-N/A, 1-Low			affordability of transportation (0-N/A, 1-Low, 2-Med 2-High)	island effect (0-N/A, 1-Low,	Increase natural habitat (0-N/A, 1-Low, 2-Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2-Med, 3-High)	Improve water quality (0-N/A, 1-Low, 2-Med, 3-High)	Improve local resource independence (0-N/A, 1-Low, 2-Med, 3-High)
4.4 Zero waste to landfill	Measure	0.	D 0.0	2.0	1.0	0.	0.0	0.0	1	.0 1	5 0.	0.0	0.0	0.0	1.5	5 0.0	2.0
Update, adopt, and implement the City's Zero Waste Plan	Action	0.	0.0	3.0	1.0	0.0.	0.0	0.0	1	.0 1	.0 0.	0.0	0.0	0.0	1.0	0.0	3.0
Create a community reuse and repair program to increase waste diversion, reduce material consumption, and develop training and learning opportunities.	Action	0.	0 0.0	2.0	0.0) 0.	0.0.	0.0	1	1.0 2	.0 0.	0 0.0	0.0	0.0	0.0	0.0	2.0
Update the Citywide Recycling Ordinance to ban divertible materials (yard waste, food) from residential and commercial trash containers, in compliance with SB 1383	e Action	0.	0 0.0	2.0	0.0) 0.	0.0.	0.0	0	0.0 C	.0 0.	0 0.0	0.0	0.0	0.0	0.0	1.0
Develop a marketing plan for compost and mulch developed within the City. Identify and target compost and mulch markets in urban areas as well as urban agriculture. Partner with industries to increase compost and mulch use including landscaping, stormwater, and water conservation.	Action	0.	0 0.0	0.0	0.0) 0.	0 0.	0 0.0	1	0 C	.0 0.	0 0.0	0.0	0.0	2.0	0 0.0	2.0
Analyze city regulations and other barriers to developing businesses that reuse or repair consumer goods, where doing so will not adversley impact the surrounding residential neighborhood	e Action	0.	0 0.0	1.0	0.0) 0.	0.0.	0.0	1	.0 1	.0 0.	0 0.0	0.0	0.0	0.0	0 0.0	0.0
Increase public awareness of and access to opportunities for reuse, product rentals, repair, and donation	Action	0.	0 0.0	2.0	0.0	0.0.	0.0	0.0	0	0.0 C	.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Support and expand citywide reuse infrastructure	Action	0.	0.0	2.0	0.0	0.0.	0.0	0.0	1	.0 2	.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Support community composting enterprises through strategic partnerships	Supporting Action	0.	0.0	2.0	0.0	0.	0.0	0.0	1	.0 1	.0 0.	0.0	0.0	0.0	1.0	0.0	
Partner with franchise waste haulers to address barriers to increasing diversion rates	Supporting Action	0.	0 0.0	2.0	0.0	0.0.	0.0	0.0	0	0.0 C	.0 0.	0.0	0.0	0.0	2.0	0.0	2.0
Continue and enhance public outreach programming that provides residents with strategies for household waste reduction, including from food waste and shipping and packaging (e.g., on-demand deliveries), including outreach in languages that reflect the diverse needs of San Diegans		0.	0 0.0	3.0	2.0) 0.	0 0.	0 0.0	0	0.0 1	.0 0.	0 0.0	0.0	0.0	0.0	0 0.0	2.0
Amend the Construction & Demolition regulations to establish a deconstruction requirement to reduce demolition waste from construction and renovation, facilitate material reuse and create jobs prioritizing materials removed in decarbonization and energy efficiency retrofits		0.	0 0.0	2.0	0.0) 0.	0 0.1	0.0	1	0 2	.0 0.	0 0.0	0.0	0.0	1.0	0.0	2.0
Increase enforcement presence to ensure compliance with recently modified City Recycling Ordinance and increase waste diversion	Supporting Action	1.	0 0.0	1.0	0.0	0.0.	0.0	0.0	0	0.0 C	.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
Evaluate and provide input on State and Federal producer responsibility requirements and laws, to focus on hard to recycle and/or hazardous items impacting San Diego's waste stream	Supporting Action	0.	0 0.0	0.0	0.0) 0.	0.0.1	0.0	0).O C	.0 0.	D 0.0	0.0	0.0	0.0	0 0.0	0.0
Implement a public mattress recycling drop-off location	Supporting Action	0.	D 0.0	0 1.0	0.0	0 0.	0.0	0.0	0	0.0 0	.0 0.	0.0	0.0	0.0	0.0	0.0	0.0
4.5 Capture Methane from Wastewater Treatment Facilities	Measure	3.	0.0	3.0	0.0	0 0.	0.0	0.0	0	0.0 0	.0 0.	0.0	0.0	1.0	1.0	0.0	2.0
Capture methane gas from wastewater treatment	Action	3.	D 0.0	3.0	0.0) 0.	D 0.	D 0.0	0).O C	.0 0.	0.0	0.0	1.0	1.0	0.0	2.0

City of San Diego CAP Appendix C Strategy 5 Core Benefits Scores

		AIR O	UALITY			PUBLIC HEALT	н			JOBS &	ECONOMY				RESILIENCY		
Actions	Measure, Action, or Supporting Action		Improve indoor air quality (0-N/A, 1-Low, 2-Med, 3-High)		(0-N/A, 1-Low,	walkability d (0-N/A, 1-Low, 2-Med, 3-High	to parks, gree space, recreation (0-N/A, 1-Low	ss Increase safety n (e.g., pedestrian, bike) . (0-N/A, 1-Low,) 2-Med, 3-High)	local investment generated (0-N/A, 1-Low,	Number of local jobs created (0-N/A, 1-Low, 2-Med, 3-High)	Increase affordability of household energy (0-N/A, 1-Low, 2-Med, 3-High)	affordability of transportation (0-N/A, 1-Low, 2-Med 3-High)	island effect (0-N/A, 1-Low,	Increase natural habitat (0-N/A, 1-Low, 2-Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2-Med, 3-High)	Improve water quality (0-N/A, 1-Low, 2-Med, 3-High)	Improve local resource independence (0-N/A, 1-Low, 2-Med, 3-High)
5.1 Sequestration	Measure	2.0	0.0	1.7	7 0.0) 1.	D 3	0 1.0	1.0	1.0) 0.(D 0.0	1.	D 3.0) 3.0	0 2.0	0.0
Protect, restore, and enhance urban canyons. Support habitat restoration of urban canyons, inclusion of environmental education and recreation opportunities, and continued preservation.	Action	2.0	0.0) 2.0	0.0	0 0.	D 3	0 0.0	1.0	1.0) 0.1	0 0.0	. 1.	0 3.0) 3.0	0 2.0	0.0
Develop an area specific management plan to protect, restore, and preserve wetland and upland areas on City managed lands, prioritizing Communities of Concern	Action	0.0	0.0	1.0	0.0	0 0.	D 3	0 0.0	0.0	0.0) 0.1	0 0.0	0.0	0 3.0) 3.0	0 2.0	0.0
Develop Natural Resource Management Plans on all managed preserved lands and include in plans the sequestration as information becomes available	Action	2.0	0.0	2.0) 0.0	0 1.	D 3	0 1.0	0.0	0.0) 0.1	D 0.0	1.0	D 3.0) 3.0	0.0) 0.0
Prioritize parterships with San Diego's tribes and restorative environmental justice opportunities on wetland restoration projects	Supporting action	0.0	0.0	0.0	0.0	0 0.	D 0	0 0.0	0.0	0.0) 0.1	D 0.0	0.0	D 0.0	0.0	0.0	0.0
Acquire Open Space Conservation Land	Supporting action	2.0	0.0	2.0	0.0	0 1.	D 3	0 1.0	0.0	0.0	0.0	D 0.0	1.0	D 3.0) 3.0	0.0	0.0
Create a pilot carbon farming program on vacant public land or in partnerships with educational institutions and non-profit organizations	Supporting action	2.0	0.0	2.0) 2.0	0.0.	D 0	0 0.0	0.0	0.0) 0.1	D 0.0	2.0	D 2.0) 0.0	0.0) 2.0

		AIR Q	UALITY	1	I	PUBLIC HEALTH	4			JOBS &	ECONOMY				RESILIENCY		I.
Actions	Measure, Action, or Supporting Action		Improve indoor air quality (0-N/A, 1-Low, 2-Med, 3-High)		Increase access to healthy & affordable food (0-N/A, 1-Low, 2-Med, 3-High)	walkability (0-N/A, 1-Low,	to parks, green space, recreation (0-N/A, 1-Low,	pedestrian, bike)	local investment generated (0-N/A, 1-Low			Increase affordability of transportation (0-N/A, 1-Low, 2-Med, 3-High)	(0-N/A, 1-Low,	Increase natural habitat (0-N/A, 1-Low, 2-Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2-Med, 3-High)	Improve water quality (0-N/A, 1-Low, 2-Med, 3-High)	Improve local resource independence (0-N/A, 1-Low, 2-Med, 3-High)
		2.0) 0.0	0.0	0.0	2.0	2.0	0.0	0.	.0 0.1) 0.0) 0.0	2.0) 2.0	2.0) 0.0	0.0
5.2 Tree canopy	Measure	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.	.0 0.1		5 0.0	2.0	/ 2.0	2.0	, 0.0	0.0
Increase tree planting in Communities of Concern starting with the planting of 40K new trees in these communities by 2030.		2.0) 0.0	0.0	0.0	0.0	2.0	0.0	0.	.0 0.1) 0.0) 0.0	2.0) 2.0	2.0) 0.0	0.0
Create a Street Tree Master Plan capturing all community plan street tree lists to facilitate selection of species 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		0.0	0 0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1	0 0.0	0 0.0	0.0	0.0	0.0	0.0	0.0
Conduct a new Urban Tree Canopy assessment utilizing light detection and ranging (LiDAR) or similar technology to identify areas in need of additional tree canopy at least every three years	Action	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Support expansion of urban tree canopy in parks and along active transportation network, Prioritizing implementation in Communities of Concern.	g Action	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.	.0 0.1	0.0	0 0.0	2.0) 2.0	2.0	0.0	0.0
Develop policies that encourage and incentivize developers, homeowners' associations, and other organizations to preserve, maintain, and plant trees	Action	0.0) 0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1) 0.0) 0.0	0.0) 0.0	0.0) 0.0	0.0
Reform, streamline, and expand the No Fee Street Tree program to remove barriers that exist which detour or prohibit participation by residents within Communities of Concern.	f Action	2.0) 0.0	0.0	0.0	0.0	2.0	0.0	0.	.0 0.1) 0.0) 0.0	2.0) 2.0	2.0) 0.0	0.0
Protect and maintain all healthy City trees that have minimal conflicts to existing and future infrastructure, by use of policy, code, public outreach and code enforcement		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1	0 0.0	0 0.0	0.0	0.0	0.0	0.0	0.0
Develop a public awareness campaign for the maintenance and protection of trees on private property	Supporting Action	1.0	0.0	1.0	0.0	0.0	0.0	0.0	0.	.0 0.1	0.0	0.0	0.0) 1.0	1.0	0.0	0.0
Amend the Land Development Code to increase landscape and parking lot tree planting requirement	Supporting Action	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.	.0 0.1	0.0	0.0	2.0) 2.0	2.0	0.0	0.0
Streamline permitting for tree planting, dedicate resources to planting in non-traditional street tree locations, and provide reduced fees or fee waivers in Communities of Concerns	Supporting Action	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1	0.0	0.0	0.0) 1.0	2.0) 0.0	0.0
Revise Council Policies and Municipal Codes to strengthen tree protection policies and enhance tree planting efforts		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Increase irrigation for trees in parks and in street rights of way	Supporting Action	0.0) 0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1) 0.0	0.0	0.0) 0.0	0.0) 0.0	0.0
Implement a Citywide protocol for tracking planted, removed, and maintained street trees	Supporting Action	0.0) 0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1) 0.0	0.0	0.0) 0.0	0.0) 0.0	0.0
Explore allocating revenue from tree removal fines and fee to fund the planting of new trees	s Supporting Action	0.0) 0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1) 0.0) 0.0	0.0) 0.0	0.0) 0.0	0.0
Expand volunteer programs and partnerships with community organizations to plant and maintain tree	Supporting Action	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.	.0 0.1) 0.0	0.0	2.0) 2.0	2.0) 0.0	0.0
Support the creation of new urban green space along freeways and City rights-of-way.	Supporting Action	2.0) 0.0	0.0	0.0	0.0	2.0	0.0	0.	.0 0.1) 0.0	0.0	2.0) 2.0	2.0) 0.0	0.0
Ensure the diversification of tree species, including native tree species where feasible and species that are adapted to higher temperatures and species that require less water		2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.	.0 0.1	0 0.0	0 0.0	0.0) 1.0	2.0	0 0.0	0.0

City of San Diego CAP Appendix C Strategy 5 Core Benefits Scores

As established in the Energy Cooperation Agreement with the City and SDG&E's implement the Right Tree, Right Place program (or successor programs), identify additional tree planting locations, assist with tree species ideas, and provide technical support through SDG&E's arborists	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0
Monitor and report on SDG&E's plans to supplant the City's efforts with direct in-community charitable support for planting up to 2,500 trees in the City over ten years	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0
Perform proper maintenance and tree removal to promote Supporting a healthy urban forest and safety of trees in public spaces Action	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	2.0	0.0	0.0
Redesign hardscape infrastructure around existing City Supporting trees when possible in order to increase large tree canopy cover.	2.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	2.0	0.0	0.0

		AIR O	UALITY	1		PUBLIC HEALTH	1			JOBS & I	ECONOMY		I		RESILIENCY		
Actions	Measure, Action, or Supporting Action		Improve indoor air quality (0-N/A, 1-Low, 2-Med, 3-High)	Reduce pollution & litter (0-N/A, 1-Low, 2-Med, 3-High		walkability d (0-N/A, 1-Low, 2-Med, 3-High)	to parks, green space, recreation (0-N/A, 1-Low,	Increase safety (e.g., pedestrian, bike) (0-N/A, 1-Low, 2-Med, 3-High)	Amount of local investment generated (0-N/A, 1-Low, 2-Med, 3-High)	Number of local jobs created (0-N/A, 1-Low, 2-Med, 3-High)	Increase affordability of household energy (0-N/A, 1-Low, 2-Med, 3-High)	affordability of transportation (0-N/A, 1-Low, 2 Mod 2 High)	island effect (0-N/A, 1-Low,	2-Med, 3-High)	Improve biological resources (i.e. trees, green spaces) (0-N/A, 1-Low, 2-Med, 3-High)	(U-N/A, 1-LOW,	Improve local resource independence (0-N/A, 1-Low, 2-Med, 3-High)
5.3 Local Water Supply	Measure		0.0	0.	0 0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0
Develop local water supply and reduce dependence on imported water	Action	0.0	0.0	0.	0 0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Support ongoing gallon per capita water use (GPCD) targets.	Action	0.0	0.0	0.	0 0.0	0.0	0.0	0.0	0.0	0.0) 0.0	0.0	0.0	0.0	0.0	0.0	1.0
Strategy 5 Supporting Actions	Supporting Act	ions															
Expand awareness of the City's Rainwater Harvesting Rebates and Grass Replacement Rebates programs to increase participation in the programs and facilitate accessibility to residents across the City, prioritizing those within Communities of Concern and areas that have had historically lower participation in the programs	Supporting Action	0.0	0.0	0.	0 0.0	0 0.0	0.0	0.0	0.0	0.0) 1.0) 0.0	0.0	1.0	1.0	0.0	2.0
Advance undergrounding of utilities to provide a means to reduce energy use, increase green space preservation, sustainably process and store water and wastes, securely and efficiently site critical infrastructure, prevent and reverse degradation of the urban environment, and enhance quality of life.	Supporting Action	1.0) 1.0	1.	0 0.0	0 1.0	2.0	2.0	2.0	1.0	0.0	0.0	0.0	2.0	2.0	1.0	0.0
Maximize planning and implementation of green infrastructure at watershed scale and site specific with focused stakeholder engagement efforts in Communities o Concern	Supporting Action f	0.0	0.0	2.	o o.a	0 0.0	2.0	0.0	1.0	0.0	0 0.0	0.0	2.0	2.0	2.0	3.0	0.0
Investigate opportunities to capture and reuse rain water	Supporting Action	0.0	0.0	0.	0 0.0	0 0.0	0.0	0.0	1.0	0.0	0 0.0) 0.0	0.0	0.0	0.0	0.0	3.0
Implement Waterways Restoration projects	Supporting Action	0.0	0.0	2.	0 0.0	0 0.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	3.0	3.0	3.0	0.0
Increase opportunities for Stormwater harvesting by evaluating new harvesting methodology to determine viability	Supporting Action	0.0	0.0	0.	0 0.0	0.0	0.0	0.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Amend building code regulations to require a percentage of all non-roof (e.g., hardscape) surfaces around new buildings meet certain criteria to reduce urban heat island effect.	Supporting Action	0.0) 0.0	0.	0 0.0) 2.0	0.0	0.0	0.0	0.0) 2.0) 0.0	3.0	0.0	1.0	0.0	0.0
Install cool pavement material on City parking lots and in the public right-of-way, prioritizing Communities of Concern, to increase building energy efficiency and reduce urban heat island effect	Supporting Action	0.0	0.0	0.	0 0.0) 2.0	0.0	0.0	0.0	0.0) 2.0	0.0	3.0	0.0	0.0	0.0	0.0

City of San Diego CAP Appendix C Strategy 1 Feasibility & Equity Scores

			F	EASIBILITY CRI	TERIA		1	EQUITY CRITE	RIA	F&E	SCORES	1	CORE BENEFIT	SCORES (rescal	ed)	1
	Measure, Action, or Supporting Action	Stakeholder acceptability	Technical feasibility	Ease of implementat n	io Financial viability	Mainstreamin potential	Community benefits & burdens	Community empowerme	Addresses historical disparity	Feasibility Scaled Score (1-10)	Equity Scaled Score (1-10)	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0- 10)	Scaled Resiliency (0- 10)	CLIMACT Prio Score
1.1 Decarbonize existing buildings	Measure	Medium	High	High	High	High	Low	Medium	Low							
Develop a comprehensive roadmap to achieve decarbonization of the existing building stock including, programs, regulatory and incentive tools that includes extensive engagement and utilization of a shared- decision making model with Communities of Concern	Action	2	2	.5 2	.5	32.	5	1	3	1 7.	8 4.) 1	10 1	0 1	0 10	8.28
Develop a Building Performance Standards (BPS) policy	Action	2		3	3	3	з	1	1	1 9.	1 1.0	5	.5	1 5.	5 5.5	3.84
Explore opportunities to increase onsite water reuse and irrigation for buildings as part of overall building decarbonization roadmap	Supporting Action							1	1	1	1.0)	0	1	0 5.5	INCOMPLETE SCORE
Complete an analysis of the City's building and housing stock to identify policy opportunities for existing building decarbonization	Supporting Action	3		3	3	3	3	1	1	1 10.	0 1.0)	0	0	0 (1.25
Develop programs to promote energy efficiency and load management technologies with an emphasis in Communities of Concern	Supporting Action	3		2	2	1	2	2	1	3 5.	5 5.	ō	1	1 5.	5 5.5	3.70
Identify funding sources, including SDCP and SDGE, for advancing residential weatherization projects, appliance exchanges and broad building retrofits in Communities of Concern	Supporting Action	3		3	3	3	3	3	1	3 10.	0 7.	1	10 1	0 .	4 10	8.35
Expand residential Photovoltaic deployment incentives/programs	Supporting Action	2.5		3 1	.5	1	2 2.	5	1 2.	5 5.	5 5.	5	0	0 .	4 10	3.53
Update the Building Energy Benchmarking Ordinance to expand enforcement and compliance.	Supporting Action	2	2	.5	3	3	3	1	1	1 8.	7 1.0	5	.5 5.	5 1	0 5.5	5.37
1.2 Decarbonize new building development	Measure	Medium	High	High	High	High	Medium	High	Low							
Develop and adopt a Building Electrification policy, through code upda	at Action	2	2	.5 2	.5	3 2.	5	2	3	1 7.	8 5.	5 3.2	25 5.	5 5.	5 3.25	5.05
Prioritize cool roofs when feasible to implement Climate Resilient SD in	Action	3		3	3	2 1.	5	1	1	1 7.	8 1.)	0	0 5.	5 10	2.85
Support new regional policies for alternative systems that can be used to replace existing heating and cooling air systems and water systems		2		3	3	3	2	1	1	1 8.	2 1.0) 5	.5 1	0 2.	5 3.25	4.87
Establish policies that incentivize developers to use less GHG intensive materials and practices (EVs, Low-Carbon concrete, recycled materials, etc) including mass timber and modular construction	Supporting Action	2		3	1	2	2	1	1	1 5.	5 1.0)	1	1	1 3.25	i 1.68
1.3 Decarbonize City Facilities	Measure	High	High	High	Medium	High	Medium	Medium	Medium							
Develop and adopt a municipal energy implementation plan and municipal zero carbon emissions buildings and operations policies	Action	3		3	3	2	3	2	2	2 9.	1 5.	5 3.2	25 5.	5	1 5.5	i 4.74
Future development on City-owned property will require and reward proposals based on decarbonization and other CAP goals	Supporting Action	2		2	3	3	2	1	1	1 7.	3 1.0) 5	.5 5.	5	1 3.25	3.66
Implement energy efficiency projects at City facilities to meet zero emissions goals for municipal buildings established in the Municipal Energy Strategy & Implementation Plan, prioritizing projects within the City's Communities of Concern	Supporting Action	3		2	3	3	2	2	2	2 8.	2 5.!	ò	1	1 5.	5 3.25	i 3.75
Implement technologies such as renewable electricity generation, heat pumps, energy storage, and microgrids at City facilities to meet the zero emisions goals for municipal buildings established in the Municipal Energy Strategy & Implementation Plan.	t Supporting Action	3		2	3	3	2	2	2	2 8.	2 5.1	5	1	0 3.2	5 5.5	3.43
Identify and prioritize energy projects at City facilities that increase resiliency for the surrounding communities and City operations, focusing on our Communities of Concern	Supporting Action	3		2	3	3	2	3	3	3 8.	2 10.0)	1	1	1 3.25	5 4.20
Convert all street lights to LEDs and explore auto-dimming technology where public safety would not be compromised	Supporting Action	2.5	2	.5	3	2 2.	5	3	1	3 7.	8 7.1)	0 1	0	0 (4.53
Convert all traffic signals to LED lights	Supporting Action	3		3	3	2	3	1	1	1 9.	1 1.)	0	0	0 (1.16
Strategy 1 Supporting Actions	Supporting Action	Medium	High	High	High	High	Medium	Low	Medium							
Remove high-Global Warming Potential refridgerants - develop a refrigerant management program that establishes a phaseout timeline	Supporting Action	2		3	3	3	3	2	1	2 9.	1 4.0)	0	0	0 (1.91
for high-Global Warming Potential refrigerants	funne il															
Advance workforce development programs for decarbonization including energy efficiency and renewable energy projects	Supporting Action	3	3.0	00 2	.5	2.5 2.	5	2	2	2 8.	7 5.!	5	0	0 3.2	5 (2.73

City of San Diego CAP Appendix C Strategy 2 Feasibility & Equity Scores

			F	EASIBILITY CRITE	RIA		1	EQUITY CRITER	IA	F&E	SCORES		CORE BE	NEFIT SCORES		I
	Measure, Action, or Supporting Action	Stakeholder acceptability	Technical feasibility	Ease of implementatio n	Financial viability	Mainstreaming potential	Community benefits & burdens	Community empowerment	Addresses historical disparity	Feasibility Scaled Score (1-10)	Equity Scaled Score (1-10)	Scaled Air Quality (0-10)		Scaled Jobs & Economy (0-10	Scaled Resiliency (0- 10)	CLIMACT Prio Score
2.1 Citywide Renewable Energy Generation	Measure	High	Medium	Low	Medium	Medium	Medium	Low	Medium							
Partner with SDCP to increase customer adoption of 100% renewable energy supply	Action		2	2 1.	5	2 2	. 1	1	1 :	1 5.	1 1.0)	0	0	0 0	0.76
Partner with SDCP to incentivize local generation of renewable energy resources	Action		3	2 1.3	3 1.	3 2	2	1	1 2	2 5.	1 4.0)	1	0	7 5.5	5 3.31
Develop financial support programs to incentivize solar on multifamily buildings, providing financial benefits to tenants and families within Communities of Concern	Supporting Action		3	2	1	1 2	2 3	1	1 :	3 4.	6 7.0)	1	0 5.	.5 5.1	5 3.79
Develop financial support programs to incentivize deployment of building-scale renewables and mandate the use of renewables through building codes, while engaging residents and other stakeholders in the process.	Supporting Action		3	3 .	2 2.	7 2	. 2	2	2 2	2 7.	9 5.5	5	1	0 5.	.5 5.1	5 3.74
Focus on resilient microgrid systems, solar, battery storage and other innovative solutions within Communities of Concern, with the additional benefit of providing fairly paid and secure jobs for those communities	Supporting Action		3	2	1 :	1 2	: 3	3	3 3	3 4.	6 10.0)	1	0	7 10) 5.21
Increase renewable generation at non-residential developments through new policies or incentive programs.	Supporting Action		3	2 2	2	1 2	. 1	1	1 :	1 5.	5 1.0)	1	0 5	.5 5.1	5 2.38
Update land use code to include energy storage and other distributed energy technologies to facilitate local renewable energy resource deployment	Supporting Action		2	2 :	2	3 2	. 1	1	1 :	1 6.	4 1.0)	1	0	1 5.9	5 1.79
Deploy advanced renewable energy technologies (e.g. battery energy storage systems, microgrids, etc.) at municipal facilities to demonstrate feasibility.	Supporting Action		2	2 :	3	2 2	2	1	1 :	1 6.	4 2.5	5	1	1	0 5.5	5 2.22
Leverage municipal facilities to establish community solar and microgrid solutions when tariffs allow.	Supporting Action						1	1	1 :	ı	1.0)	1	1	1 5.5	SCORE
Explore partnerships for a trade-in program that makes it possible for small landscape owners to transition to electric equipment	Supporting Action						2	1	1 :	1	2.5	5	1	1	1 (INCOMPLETE SCORE
2.2 Increase Municipal Zero Emission Vehicles	Measure	High	Medium	Low	Low	Medium	Medium	Medium	Medium							
Develop a City Fleet Vehicle Replacement and Electrification strategy consistent with the Municipal Energy Implementation Plan and state requirements for municipal electrification.	n Action		3 1.	5 :	1 :	1 2	. 1.5	1.5	5 1.5	5 4.	2 3.3	5.	5 5	.5	0 5.5	5 3.98
Seek partnerships with SDCP, SDG&E and others to install charging infrastructure for all vehicle types	Supporting Action		2	3 :	1	1 2	2	1	1 :	1 4.	6 2.5	i 5.	5 5	.5	4 (3.89
Include stated preference for 100% renewable energy on publically available chargers on municipal land	Supporting Action		2	3 :	3	2 3	2	1	1 :	1 8.	2 2.5	5	0	0	0 (1.45
Update AR35.80 to include EV vehicles to the list of preferred purchases	Supporting Action		2	3 2	2	3 3	2	1	1 :	1 8.	2 2.5	5	0	0	0 (1.45
Conduct City fleet electrification feasibility study to determine best siting, funding needs, and strategies including specific strategies for Chollas Operations Yard.			3	L :	2	1 3	в з	1	1 :	3 5.	5 7.0		0	0 3.2	5 (2.79
Update municipal parking yard electric infrastructure to support electric vehicle charging needs	Supporting Action		3	L :	2	1 3	1	1	1 :	1 5.	5 1.0	5.	.5 5	.5	1 5.5	3.70
Create standards for the City's purchase of fuel for fleet vehicles tha contains the lowest levels of lifecycle GHG emissions available.	t Supporting Action		2	L :	3	2 3	1	1	1 :	1 6.	4 1.0	5.	.5 5	.5	0 5.5	3.64
Explore pilot projects for a variety of grid resilience services (demand response, emergency back-up, demand charge reduction, etc.)through three modes of Vintegration (Grid-to-Vehicle, Vehicle-to-Building, Vehicle-to-Grid)	Supporting Action		3	2 :	1 :	1 1	. 2	1	1 :	1 3.	7 2.5	5	0	0 3.2	:5 5.!	5 2.03

City of San Diego CAP Appendix C Strategy 2 Feasibility & Equity Scores

				FEASIBILITY CRITI	RIA		1	EQUITY CRITER	RIA	F&E	SCORES		CORE BEN	IEFIT SCORES		ĺ
	Measure, Action, or Supporting Action	Stakeholder acceptability	Technical feasibility	Ease of implementatio n	Financial viability	Mainstreaming potential	Community benefits & burdens	Community empowerment	Addresses historical disparity	Feasibility Scaled Score (1-10)	Equity Scaled Score (1-10)	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0-10)	Scaled Resiliency (0- 10)	CLIMACT Prio Score
2.3 Increase Electric Vehicle Adoption	Measure	High	Low	High	Medium	High	Medium	Medium	High							
Develop a city-wide electric vehicle strategy to accelerate EV adoption, including flexible fleets, circulators, and electric bicycles, focusing on the barriers to ownership and charging for residents within the communities of concern.	Action	3	3	1.3	3	2 3	2 .	3 2.	3 2.	7 7.	6 7.5	1	0 1	0 10	0 5.5	6 8.67
Work with local businesses to expand EV charging stations on commercial property	Supporting Action	:	2	2	1	2 2	2	2	1	1 4.	6 2.5	5.	5 5.	5 :	1 (3.44
Amend the building code update to expand EV charging stations requirements for multi-family and non-residential properties	Supporting Action	:	2	2.3 2.	7	3 2.7		2	2	2 7.	9 5.5	1	0 1	0 3.2	5 5.5	7.21
Amend the building code to require charging amenities for electric bicycles	Supporting Action	2.50)	2.8 2.	8	3 :		2	1	1 9.	2 2.5		1	1 :	1 (2.09
Explore the development of a citywide policy for surplus land that cannot be used for housing or housing related uses to be considered for EV charging sites prior to review for sale or other dispensation	Supporting Action	:	L	3	1	3 :	8	1	1 :	1 6.	4 1.0		0	0 () (0.89
Work with the Air Pollution Control District (APCD), San Diego Unified School District and other school districts serving the City tr support the conversion of the school bus fleet to zero emissions vehicles	Supporting Action	2.5	5	1	1	1 1.9	;	2	1 :	2 2.	8 4.0	5.	5 5.	5 () (3.48
Work with SANDAG, APCD and MTS to procure a fully zero emissions bus fleet	Supporting Action	2.5	5	3	1 1.	5 :	1 :	2	1	3 4.	6 5.5	1	0 1	0 (0 5.5	6.39
Set a goal for installation of public EV charging stations on city property to support EV adoption in Communities of Concern. Initiate process with publication of a Request for Information (RFI) to solicit public charging solutions.	Supporting Action	:	3	2	1	2 2	<u>.</u> :	3	1	3 5.	5 7.0	5.	5 5.	5 :	1 5.5	5.20
Continue to work with SANDAG, the Port of San Diego and other partners on medium and heavy duty (MD/HD) ZeV infrastructure planning. Consider future policies to advance MD/HD ZeV adoption and utilization in the Portside Communities, Border Communities, and other major logistics hubs.	Supporting Action		2	2	1	1 2		3	1 :	3 3.	7 7.0	1	0 1	0 :	1 5.5	6.82

City of San Diego CAP Appendix C Strategy 3 Feasibility & Equity Scores

			FE	ASIBILITY CRITE	RIA			EQUITY CRITE	RIA	F&E	SCORES	l	CORE BEN	EFIT SCORES		1
	Measure, Action, or Supporting		Technical	Ease of implementatio	Financial	Mainstreaming potential	Community benefits &	Community	Addresses historical	Feasibility Scaled Score	Equity Scaled Score	Scaled Air Quality (0-10)	Scaled Public	Scaled Jobs & Economy (0-	Resiliency (0-	CLIMACT Prio Score
	Action	High	High	n High	Medium	High	burdens Medium	Medium	" disparity Medium	(1-10)	(1-10)	Quanty (0-10)	Health (0-10)	10)	10)	Score
3.1 Safe and Enjoyable Routes for Pedestrians and Cyclists Develop Safe Routes to Schools safety plans; start a San Diego Safe Routes to Schools program focusing on Communities of Concern and underperforming schools		ніgn 2.7	Hign 2.3	-		-	2.			7 6	.4 8.7	5.5	. 8.5	5	1 (5.75
Implement the City's Bicycle Master Plan and community plan bicycle networks with a emphasis on separated bikeways.	Action	3	3	. 3	. :	2 3		1	1	1 9	1 1.0	5.5	4.375	5	1 (3.29
Review and improve flexible fleets and micro-mobility policies/shared use mobility programs, especially focused in communities of concern and first mile/last mile applications	Action	2.7	2	: 3	I :	3 2.3		2	1	1 8	2 2.5	5.5	5.5	5	0 C	3.65
Partner with Microbility Operators to optimize the number of scooters available in mobility hubs and/or near transit	Action	2	3	. 3	. :	3 3		2	2 :	2 9	1 5.5	5.5	5.5	5	D C	4.49
Update Bicycle Master Plan with current best practices for facility designation, reflecting recent community plan updates and proposed regiona connections. Also describing existing constraints, opportunities, and implementation strategies.	al Action	3	З	. 3	. :	2 3		2	1	2 9	1 4.0	c) (0	o c	1.91
Develop a Mobility Master Plan to reduce mobile sources emissions and further a shift in mode	Action	3	2.7	. 3	. :	3 3		3	2	3 9	7 8.5	10		7	o c	6.50
The City will evaluate existing and future fee structures to increase the priorit of active transportation project implementation, expecially within Communities of Concern, and the City will increase its efforts to identify and pursue grant funds for the planning and implementation of active transportation projects								2	1 :	2	4.0	a) (0	1 0	INCOMPLETE SCORE
Examine proposed bike and pedestrian projects and use "quick-build" pathways where appropriate to increase financial viability	Supporting Action	2	3	3	1	3 2		2	1	1 8	2 2.5	1	5.5	5	1 (2.90
Increase education campaigns to improve motorist behavior to result in a safer right-of-way for bicyclists and pedestrians.	Supporting Action	2	3	. 3	: :	3 3		2	1	1 9	1 2.5	1	3.25	5	1 0	2.54
Include in Bicycle Master Plan update policies and programs to increase bicycle storage near new bikeways	Supporting Action							2	1	1	2.5	1	. 1	1	1 0	INCOMPLETE SCORE
Where roadway widenings are otherwise planned, identify opportunities to repurpose the use of the right-of-way for walking, rolling, biking, and transit modes of travel	Supporting Action							2	1	1	2.5	5.5	5.5	5	1 0	INCOMPLETE SCORE
Identify and address gaps in the City's pedestrian network and opportunities for improved pedestrian crossing, using the City's Pedestrian Master Plan and the City's sidewalk assessment	Supporting Action							3	1	2	5.5	1		7	1 0	INCOMPLETE SCORE
Adopt City portions of SANDAG's forthcoming first mile/last mile initiative and incorporate Safe Routes to Transit strategies in Transit Priority Areas	Supporting Action							2	1	1	2.5	5.5	; 4	4	1 (INCOMPLETE SCORE
Create a quick build policy and design guidelines to facilitate repurposing of the right-of-way or installation of installation of interim or pilot bicycle, ADA accessibility, or pedestrian projects	Supporting Action	2	2	. 3	i :	3 3		1	1	1 8	2 1.0	1	. 5.5	5	1 0	2.52
Update street planning and design process with a focus on community input from Communities of Concern to prioritize pedestrians, bicyclists, and transit	Supporting Action	2.7	2.3	2	. :	2 2	2.	7	3 2.	7 6	4 9.1	1	. 1	1	o c	3.32
Engage communities during the community plan updates and other multimodal corridors and active transportation planning processes to better accommodate all users of the right-of-way with an emphasis on improving safety for vulnerable users	Supporting Action							1	2		2.5	0	. 1	1 1	D 0	INCOMPLETE SCORE
Amend Council Policy 800-14 to prioritize CAP implementation with a greater investment in Communities of Concern, repurposing of the public right of war to include Class IV Bike Facilities, coordinate with SANDAG Early Action Plan bike projects, and improved accessibility for walking/rolling for all ages and abilities	r ^Y Supporting Action	2	2	: 3	. :	2 3		2	1	3 7	3 5.5	C) 5.5	5 2.	5 0	3.58
Incorporate trees and additional cooling features such as innovative shade designs, water features, and cooling centers at parks, with a concentration in Communities of Concern	Supporting Action	2	2	2.5	; :	2 2.5		3	1 :	3 6	4 7.0	C) 5.5	5	1 3.25	3.97
Installation of pedestrian orientated streetlights for increased safety and comfort in Communities of Concern	Supporting Action	2.7	2	2	. 1.	7 2	2.	7 2.	3 2.	7 5	9 8.1	C	0 10	0	0 0	4.60
Amend the code and street design manual to include standards for pedestrian orienated street lighting in neighborhoods and alleyways	Supporting Action	2.7	2	2	. 1.:	7 2	2.	7 2.	3 2.	7 5	9 8.1	c) 5.9	5	0 0	3.70
Partner with public safety to review and reform education programs and enforcement policies related to pedestrian and traffic safety	Supporting Action	3	1	. 1	. :	2 2		3	3 :	3 4	.6 10.0	1	3.25	5	o c	3.81
Update City special events permits to prioritize transit, walking, and bicycling	Supporting Action	2.5	2.5	2	2.1	5 2.5		1	1 :	1 7	3 1.0	10) 5.5	5 5.	5 (4.91
Complete and implement Mobility Action Plan to ensure City infrastructure can adequately support the goals of the Climate Action Plan	Supporting Action	2	1	. 1	. :	1 2		2	1	3 2	8 5.5	10	4.375	5	1 0	4.68
Increase number of trash and recycling receptacles in pedestrian corridors/Transit Prior Areas	Supporting Action	3	з	2	. :	2 1		2 1.	5	1 6	4 3.3	c) 5.9	5	1 (2.70
Explore fee structure/incentive program to increase cost savings for shared transportation network company (TNC) trips relative to private TNC trips	Supporting Action	2.5	3	2	2.1	5 2.5		1	1	1 7	8 1.0	5.5	5.5	5 5.	5 (4.05
Ensure that Captial Improvement Projects comply with all applicable landscape requirements in the Land Development Code	Supporting Action	2.5	з	2.5	; ;	1 2		2	2	2 6	4 5.5	c) :	1	1 5.5	2.92
Include shade structures on building frontages in pedestrian thoroughfares, with preference given to natural shade up to five feet	Supporting Action	1	2	2	. :	2 2		1	1 :	2 4	6 2.5	C) 2.5	5	1 5.5	2.29
Include audible pedestrian signals at all signal-controlled crosswalks	Supporting Action							1	1	1	1.0	0	5.5	5 (D C	INCOMPLETE SCORE
Install audible wayfinding beacons at complicated intersections and sign locations	Supporting Action							1	1	1	1.0	0	5.5	5 (o c	INCOMPLETE SCORE

City of San Diego CAP Appendix C Strategy 3 Feasibility & Equity Scores

		FEASIBILITY CRITERIA							EQUITY CRITERIA			&E SCORES		CORE BENEFIT SCORES				
	Measure, Action, or Supporting Action	Stakeholder acceptability	Technical feasibility	Ease of implementation n	Financial viability	Mainstreami potential	^{ng} Commu benefit burden	is& C	community mpowermen	Addresses historical disparity	Feasibility Scaled Scor (1-10)	Equity Scaled e Score (1-10)	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0- 10)	Scaled Resiliency (0- 10)	CLIMACT Pri Score	
3.2 Increase Safe, Convenient, and Enjoyable Transit Use	Measure	Medium	Medium	Medium	Medium	Medium	Mediur	m N	/ledium	Medium								
Advocate for a permanent, regional Youth Opportunity Pass and support the expansion of the program to include college students and residents in Communities of Concern	Action	2.7	7 1.3	8 1		1	2	3	3	3	3	3.7 10.	0 1	0 1	0 1	0 0	8.3	
Create a quick build policy and design guidelines to facilitate repurposing of the right-of-way or installation of installation of interim or pilot transit projects	Action	2	2 2	! 3		3	2	1	1	L	1	7.3 1.		1	1	1 0	1.5	
Develop dedicated bus lanes or shared bus and bike lanes to increase transit efficiency and on-time performance, focusing on routes supporting residents within underserved communities and high-frequency connections for riders to schools and universities and jobs	Action	2	2 2	! 3		2	3	2	1	L	1	7.3 2.	5 5.	5 5.	5	0 0	3.5	
Implement projects and update the Placemaking Ordinance, including a Street Furniture program that reduces heat exposure, provides cool transit stops, and improves access to nearby restrooms in high transit use areas and pedestrian corridors, prioritizing Communities of Concern	Action	2.5	5 2	2 2		1.5	2	3	3	3	3	5.5 10.	0	0	1	1 5.5	3.9	
Ensure every high-volume transit stop has access to transit shelters, which include shade structures and benches; work with MTS to establish a standard for the provision of bus shelters in the city (e.g., minimum accomodations) with a priority in Communities of Concern	Action	2	2 1.7	y 1.3		1.3 1	.7	2.3	2.3	3 2.	3	3.7 6.	9	D	1) 5.5	2.8	
Identify transit stops where upgrades are needed, especially in Communities of Concern, and streamline implementation of upgrades to high priority transit stops	Supporting Action	3	3	1				2	1	L	3	5.	5	1 :	1	0 0	INCOMPLET	
Facilitate partnerships with universities and colleges with goal of student walk/ride/transit use well-above citywide goals	Supporting Action	3	3	1				1	1	L	1	1.	5.	5 5.	5 5.	5 0	INCOMPLET SCOR	
Prioritize and assist MTS with siting and design on complete transit stops in CoC, including shade trees, lighting, trash bins	Supporting Action			1				3	1	L	3	7.)	1	1	1 1	INCOMPLET	
Create programs and incentives for transit passes bundled with all new major developments within one mile of a major transit stop	Supporting Action	1.7	7 2.3	3 3		2.5 2	.7	2	1	L	1	7.5 2.	5 5.	5 5.	5 3.2	5 0	4.0	
Partner with MTS for priority right of way for buses and trolley in roadway corridors and at intersections	Supporting Action	2	2 3	в з		2	3	2	2	2	3	8.2 7.	5.1	5 5.1	5	o 0	4.7	
Support MTS, SANDAG and Caltrans in the creation of transit right-of-way for regional transit connections	Supporting Action	2	2 2	! 1		1.5	3	2	1	L	1	5.1 2.	5 5.1	5 5.1	5	0 0	3.3	
3.3 Work from Anywhere	Measure	Medium	High	Medium	Medium	High	Mediu	m L	ow	Medium								
Amend the Land Development Code to include mandatory transportation demand management (TDM) regulations citywide	Action	1.3	3 2	2 2		1.3	2	1	1	L	1	4.2 1.	0 1	D .	4 5.	5 0	4.3	
Develop a City of San Diego employee TDM policy	Action	2.5	5 2.5	; 3		2.5	3	1	1	L	1	8.7 1.	5.	5 2.	5	1 0	2.8	
Establish a team and roadmap to support actions that require connectivity and close the digital divide.	Action	3	3 3	1 2		2	3	3	2	2	3	8.2 8.	5	1	1 2.	5 0	3.7	
Stand up Public WiFi access at City Libraries, Recreation facilities and various public areas in Low-to-Moderate Income (LMI) areas.	Supporting Action	3	3 2	2 2		2	3	3	2	2	3	7.3 8.	5	1	1 2.	5 0	3.6	
Formalize a regional device refurbishment and distribution program	Supporting Action	2	2 2	2 2		2	3	3	2	2	3	6.4 8.	5	1	1 2.	5 0	3.5	
Continue to operate a program to loan mobile hotspots and personal computers to residents.	Supporting Action	3	3 3	3		2	3	3	1	2	3	9.1 8.	5	1	1	1 0	3.5	
Create a Digital Navigator support line to assist with basic technology issues and provide guidance on low income technology options	Supporting Action	3	3 1	1 3		1	3	3	2	2	3	6.4 8.	5	1	1	1 0	3.3	
Create a Digital Literacy program to educate residents, particularly in Low-to- Moderate Income (LMI) areas.	Supporting Action	3	3 3	а з		3	3	3	2	2	2	10.0 7.	0	1	1	1 0	3.3	
Work with local organizations to distribute refurbished devices previously used by the City to residents at low or no costs	Supporting Action	3	3 3	в з		3	3	3	2	2	3	10.0 8.	5	1	1	1 0	3.6	
Improve and expand data gathering and outreach in Communities of Concern to understand which residents need the most assistance to technology options and what the barriers are, and create a public outreach campaign to improve and inform access	Supporting Action		2 2	2 2		2	3	3	2	2	3	6.4 8.	5	1 :	1	1 0	3.3	

City of San Diego CAP Appendix C Strategy 3 Feasibility & Equity Scores

				FEASIBILITY CRIT	TERIA			1	EQUITY CRITERIA		F8	E SCORES		CORE BENEFIT SCORES			1	
	Measure, Action, or Supporting Action	Stakeholder acceptabilit		Ease of implementati n	Financial viability	Mainstrea potential	aming	Community benefits & burdens	Community empowermer	Addresses historical disparity	Feasibility Scaled Score (1-10)	Equity Scaled Score (1-10)	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0- 10)	Scaled Resiliency (0- 10)	CLIMACT Prio Score	
3.4 Reduce Traffic Congestion to Improve Air Quality and Tr	i _{Measure}	High	High	High	Medium	High		Low	Low	Low								
Install traffic circles and roundabouts	Action		2.7 2	2.7 2.	.7	1	2.7		1	1	1	7.1 1.0	5.5	5 5.	5	D (3.16	
Retime traffic signals to reduce vehicle fuel consumption through improving the flow of traffic	Action		3	3	3	2	3		1	1	1	9.1 1.0	5.5	5 2.	5	D (2.76	
Work with the Port of San Diego, SANDAG, and Caltrans to prepare a feasibility study to identify the best truck route to Tenth Avenue Marine Terminal and diversion, traffic calming and appropriate signage as included in the APCD's Community Emission Reduction Plan (CERP	/ Supporting Action		2.7	2	2	2	2		3	1	3	6.1 7.0) (0	D	D (0 2.36	
3.5 Climate-Focused Land Use	Measure	High	Medium	High	High	High		Medium	Low	Medium								
Focus new development in areas that will allow residents and visitors to safely, conveniently, and enjoyable travel by walking, rolling, biking, or transit, such as Transit Priority Areas (TPAs), and areas of the City with the lowest amount of vehicular travel.	Action		2.5	2	3	2.5	2.5		2	1	3	7.8 5.!	5 10	0 1	D	1 1	1 6.40	
Plan for land uses that will allow existing residents, employees and visitors to more safely, conveniently and enjoyably travel as a pedestrian, or by biking or transit	Action		2.5	2	3	2.5	2.5		2	1	3	7.8 5.!	5 10	0 1	D	1 1	1 6.40	
Update the Placemaking Ordinance to better support mode shift, to increase accessibility, walkability, and activate public spaces	Action								2	1	1	2.	5	1	1	0 (INCOMPLETE SCORE	
Focus on delivering new mixed-use development on sites, including vacant and underutilized lots, located near transit, such as in TPAs and areas of the City of San Diego with the lowest amount of vehicular travel.	Supporting Action		2.5 2	2.5	3	3	3		2	1	1	9.1 2.5	5	1 2.	5 3.2	5 (2.72	
Implement active transportation in lieu fees to fund pedestrian, cyclist and transit investments where the greatest GHG emissions reductions will result, in accordance with Complete Communities: Mobility Choices	Supporting Action		3	3	3	3	3	2	.5 2.	5 2.	5 1	0.0 7.8	3 10	0 8.	5 2.	5 (7.01	
Amend local regulations, like the Placemaking ordinance, and policies to allow for wider sidewalks for public spaces and place making	Supporting Action		2.3 2	2.7	3	2.5	2.7		2	1	2	8.4 4.0		1 .	4	D (2.84	
Implement temporary and permanent car-free zones/zero emission zones	Supporting Action		2	2	3	3	2.5		2	1	2	7.8 4.0	10	0 1	D	D (5.78	
Maximize new development in areas located with safe, convenient and enjoyable access to transit	Supporting Action		2.5	3 2.	.5	2.5	2.5		2	1	2	8.2 4.0	0 10	0	7	1 (5.37	
Support expansion of urban greenspace including park access, open space, and wildlife corridors where appropriate, along streets to encourage outdoor activity, walking and increase pedestrian access to parks in Communities of Concern	Supporting Action		3	2	2	2	2		3	3	3	6.4 10.0) 5.1	5 5.	5	0 (5.34	
Amend the General Plan Mobility Element to include a Complete Streets policy to enable safe, attractive and comfortable access so that pedestrians, bicyclists, motorists and transit users of all ages and abilities can safely travel within the public right-of-way	Supporting Action		3	3	1	2	2		3	1	3	6.4 7.0) 5.!	5 4.37	5	1 (0 4.52	
Amend land development code regulations to require more efficient pedestrian access between existing and new development (e.g., between adjacent lots)	Supporting Action		2.7 2	2.7	3	3	2.7		2	1	2	9.2 4.0) 5.!	5 5.	5	D (0 4.12	
3.6 Parking	Measure	Medium	High	High	High	High		Low	Low	Low								
Optimize use of curb space including management of on-street parking in TPAs.	Action		1	2 2	.5	2.5	2		1	1	1	5.5 1.0) 10	0 8.	5	D (4.50	
Amend the land development code to eliminate parking minimum requirements	Action		1.7 2	2.7	3	3	3		1	1	1	8.6 1.0	10	0 1	0 3.2	5 (5.59	
Amend the land development code to establish parking maximum requirements for use types and locations where appropriate	Action		1.7 2	2.7	3	3	3		1	1	1	8.6 1.0	0 10	0 1	0 3.2	5 (5.59	
Amend the land development code to prohibit new auto-oriented land uses that would create conflicts with walking and bicycling within TPAs	Action		2	3	3	3	3		2	1	2	9.1 4.0		1 .	4	D (2.91	
Work with communities to implement comprehensive solutions for the curb space, including implementation of timed parking, establishment of parking districts, and programming of the curb space for deliveries, ADA access and other passenger loading, and micro-mobility	Supporting Action								1	2	1	2.!	5				INCOMPLETE SCORE	

City of San Diego CAP Appendix C Strategy 4 Feasibility & Equity Scores

				FEASIBILITY CR	ITERIA			1	EQUITY CRIT			F&E SCORES			CORE BEN	EFIT SCORES		1
	Measure, Action, or Supporting Action	Stakeholder acceptabilit		Ease of implementa n	tio Financial viability	Mainstre potentia		Community benefits & burdens	Community empowermer	Addresses historical disparity	Feasibili Scaled So (1-10)		Scaled	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0- 10)	Scaled Resiliency (0- 10)	CLIMACT Prio Score
4.1 Changes to the waste stream	Measure	High	Medium	Medium	High	High		Medium	Low	Low								
Approve and implement the Polystyrene Foam and Single Use Plastics Ordinance, pending Environmental Impact Report	Action		3.0	2.0	3.0	3.0	2.0	:	1.0 1	0 1	.0	8.2	1.0	C	5.5	5	0 5.5	2.72
Expand the Polystyrene Foam and Single Use Plastics Ordinance to phase out Single-Use materials and prioritize reuse rather than disposable goods	Action		2.0	2.0	1.0	2.0	3.0	1	2.0 1	0 1	.0	5.5	2.5	C	5.5	5	0 5.5	2.83
4.2 Municipal Waste Reduction	Measure	Medium	High	High	High	High		Medium	Low	Low								
Capture landfill methane gas emissions	Action		3.0	3.0	3.0	3.0	3.0	2	2.0 1	0 2	.0	10.0	4.0	10	10)	0 2.5	6.25
Through an update to the City's administrative regulations, include purchasing requirements for sustainable products and food whenever option is available. 1) Reduce carbon and water footprint of total beef, pork, chicken, turkey and dairy purchases by 20% 2) Increase local, healthy, and sustainable foods to 20% of total food purchases prioritizing locally sourced, valued workforce and animal welfare	Action		2.0	3.0	3.0	3.0	3.0		1.0 1	0 1	.0	9.1	1.0	C	5.5	5	1 5.5	; 2.96
Include procurement targets, with a focus on the maintenance of street easements, parks, and other green spaces, for purchasing compost through the greenery Miramar Greenery or other local composting facilities to increase market for that product expand the demand and production of high- quality compost in the City	Action		2.0	2.0	3.0	2.0	3.0	:	2.0 1	0 1	.0	7.3	2.5	C	5.5	5	1 5.5	3.16
4.3 Local Food Systems & Food Recovery	Measure	High	Medium	Medium	Medium	Medium	ı	Medium	Medium	Medium								
Create a food council or advisory board with local stakeholders	Action		3.0	3.0	2.0	3.0	3.0	2	2.0 3	0 Э	.0	9.1	8.5	(3.25	5	0 5.5	4.24
Invest in expanding the food waste prevention network - expand infrastructure & partnerships for edible food recovery	Action		3.0	1.0	2.0	1.0	2.0		2.0 1	0 1	.0	4.6	2.5	0	7.75	5	1 5.5	3.34
Require food waste prevention, donation and recycling plans for all city food service operations and large events on city managed, leased or owned lands	Action		3.0	1.0	2.0	1.0	2.0	1	2.0 1	0 1	.0	4.6	2.5	C	7.75	5	0 5.5	3.19
Establish a multidisciplinary team of subject matter experts across City departments with a focus on land use, economic growth, neighborhood vitality and healthy food access to work with community members to expand urban agricultural programs and develop policies to encourage community- based farms, including demonstration projects	Action		3.0	3.0	2.0	2.0	2.0	3	8.0 2	о з	.0	7.3	8.5	C	5.5	5	1 3.25	i 4.43
Work with the County and Farm Bureau to support investments in climate- smart agriculture and the local food supply chain	Supporting Action				1.0				2.0 2	0 1	.0		4.0	C	5.5	5	1 5.5	INCOMPLETE
Partner with County of SD to increase community access to Federal meal programs (EBT, WIC, etc) and incentivize usage of these programs for local food access (CSA, farmers market, retail)	Supporting Action				1.0			3	3.0 1	0 2	.0		5.5	(5.5	5	1 5.5	INCOMPLETE
Incorporate food security and reslient food systems into climate resilience and emergency planning	Supporting Action				2.0			:	1.0 1	0 1	.0		1.0	0	1	L	0 5.5	INCOMPLETE
Invest in a network of local food sourcing, aggregation, distribution and processing infrastructure including regional food hubs, neighborhood scale commercial kitchens or shared kitchens, and other food businesses, particularly in low-income communities	Supporting Action		3.0	1.0	1.0	1.0	2.0	:	3.0 2	0 3	.0	3.7	8.5	c	5.5	5	1 5.5	i 4.30
Regulate or activate programs for food businesses to minimize food related carbon emissions, including requiring food waste prevention, donation and recycling plans for businesses/institutions (for Tier 1 and Tier 2 generators outlined in SB1383) and provide technical assistance and resources. Also include checklist and outreach as part of business licensing process	Supporting Action		3.0	1.0	2.0	1.0	2.0		2.0 1	0 1	.0	4.6	2.5	C	7.75	5	0 5.5	5 3.19
Incentivize the incorporation of urban agriculture features into developer plans to include indoor agriculture, edible forestry, community gardens, etc	Supporting Action		2.0	2.0	3.0	1.0	1.0	3	8.0 2	0 3	.0	4.6	8.5	C	5.5	5	1 3.25	6 4.16
Increase community participation with the Urban Agriculture Incentive Zome (UAIZ) program	Supporting Action		3.0	1.0	2.0	3.0	3.0		2.0 1	0 1	.0	7.3	2.5	0	5.5	5	1 2.5	2.86

City of San Diego CAP Appendix C Strategy 4 Feasibility & Equity Scores

	FEASIBILITY CRITERIA								EQUITY CRITER	IA	F&E	SCORES		CORE BEN	EFIT SCORES		1
	Measure, Action, or Supporting Action	Stakeholder acceptability	Technical feasibility	Ease of implementa n	tio viability	Mainstrea potential	aming	Community benefits & burdens	Community empowermen	Addresses historical disparity	Feasibility Scaled Score (1-10)	Equity Scaled Score (1-10)	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0- 10)	Scaled Resiliency (0- 10)	CLIMACT Prio Score
4.4 Zero waste to landfill	Measure	Medium	Medium	Medium	Medium	Medium	1	Medium	Low	Low							
Update, adopt, and implement the City's Zero Waste Plan	Action	3	.0	3.0	2.0	2.0	3.0	1.	0 2.0	0 1.	0 8	2 2.5) 5.	5	1 5.5	5 3.25
Create a community reuse and repair program to increase waste diversion, reduce material consumption, and develop training and learning opportunities.	Action	2	.0	1.0	1.0	2.0	1.0	3.	0 2.0) 2.	0 2	8 7.0) 5.	5 3.2	5 5.5	5 4.17
Update the Citywide Recycling Ordinance to ban divertible materials (yard waste, food) from residential and commercial trash containers, in compliance with SB 1383	Action	3	.0	3.0	3.0	3.0	3.0	1.	0 1.0	0 1.	0 10	0 1.0) 5.	5	D 1	1 2.45
Develop a marketing plan for compost and mulch developed within the City. Identify and target compost and mulch markets in urban areas as well as urban agriculture. Partner with industrise to increase compost and mulch use including landscaping, stormwater, and water conservation.	Action	2	.0 :	2.0	3.0	2.0	3.0	1.	0 1.0) 1.	0 7	3 1.0)	D	1 5.5	5 1.68
Analyze city regulations and other barriers to developing businesses that reuse or repair consumer goods, where doing so will not adversley impact the surrounding residential neighborhood	Action	2	.0 :	2.0	3.0	3.0	3.0	2.	0 1.0) 2.	0 8	2 4.0)	1	1 (2.17
Increase public awareness of and access to opportunities for reuse, product rentals, repair, and donation	Action	2	.0	2.0	3.0	3.0	3.0	2.	0 2.0) 2.	0 8	2 5.5) 5.	5	D (3.30
Support and expand citywide reuse infrastructure	Action	2	.0	1.0	2.0	1.0	1.0	2.	0 1.0) 1.	0 2	8 2.5) 5.	5 3.2	5 (2.49
Support community composting enterprises through strategic partnerships	Supporting Action							2.	0 2.0	0 1.	0	4.0		5.	5	1 1	INCOMPLETE SCORE
Partner with franchise waste haulers to address barriers to increasing diversion rates	Supporting Action							2.	0 1.0	0 2.	0	4.0) 5.	5	D 5.5	
Continue and enhance public outreach programming that provides residents with strategies for household waste reduction, including from food waste and shipping and packaging (e.g., on demand deliveres), including outreach in languages that reflect the diverse needs of San Diegans	Supporting Action	3	1.0 :	3.0	2.0	1.0	3.0	2.	0 1.0) 2.	0 7	3 4.0) 7.7	5	1 5.5	5 3.98
Amend the Construction & Demolition regulations to establish a deconstruction requirement to reduce demolition waste from construction and renovation, facilitate material reuse and create jobs prioritizing materials removed in decarbonization and energy efficiency retrofits		1	.0	1.0	3.0	3.0	3.0	1.	0 1.0) 1.	0 6	4 1.0) 5.	5 3.2	5 3.25	5 2.80
Increase enforcement presence to ensure compliance with recently modified City Recycling Ordinance and increase waste diversion	Supporting Action							1.	0 1.0	0 1.	0	1.0) :	L	1	D (INCOMPLETE SCORE
Evaluate and provide input on State and Federal producer responsibility requirements and laws, to focus on hard to recycle and/or hazardous items impacting San Diego's waste stream	Supporting Action							1.	0 1.0) 1.	0	1.0)	D	D (INCOMPLETE SCORE
Implement a public mattress recycling drop-off location	Supporting Action							1.	0 1.0	0 1.	0	1.0)	1	0 (INCOMPLETE SCORE
4.5 Capture Methane from Wastewater Treatment Facilities	Measure	High	High	High	High	High	I	Low	Low	Low							
Capture methane gas from wastewater treatment	Action	3	.0	3.0	3.0	3.0	3.0	1.	0 1.0) 1.	0 10	0 1.0	1) 1	D	0 2.5	5 5.50
City of San Diego Appendix C Strategy 5 Feasibility & Equity Scores

Measure		FEASIBILITY CRITERIA						EQUITY CF	RITERIA	FOU	SCORES					
Actions Action, Support Action	n, or Sorting a	Stakeholder acceptability	Technical feasibility	Ease of implementat n	io Financial viability	Mainstrear potential	ning benefit burden	S& Commun		Feasibility Scaled Score (1-10)	Equity Scaled Score (1-10)	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0- 10)	Scaled Resiliency (0- 10)	CLIMACT Prio Score
5.1 Sequestration Measure	ure H	High	Low	Medium	Low	High	Mediur	n Medium	Medium							
Protect, restore, and enhance urban canyons. Support habitat restoration of urban canyons, inclusion of environmental education and recreation opportunities, and continued preservation.	n	3.0) 1	1.0 2	.0	1.0	2.0	2.0	2.0 3	.0 4	.6 7.0	5.5	5 7.75	5 :	L 6.625	5.67
Develop an area specific management plan to protect, restore, and preserve wetland and upland areas on City Action managed lands, prioritizing Communities of Concern	n	3.0) 1	1.0 1	.0	1.0	3.0	2.0	2.0 2	.0 4	.6 5.5	c c) 5.5	5 () 8.5	3.79
Develop Natural Resource Management Plans on all managed preserved lands and include in plans the Action sequestration as information becomes available	n	3.0) 2	2.0 3	.0	1.0	3.0	1.0	1.0 1	.0 7	.3 1.0	5.5	4.375	5 () 7	3.66
Prioritize parterships with San Diego's tribes and Support restorative environmental justice opportunities on action				1	.0	3.0		3.0	3.0 3	.0	10.0	o c) () () (INCOMPLETE SCORE
Acquire Open Space Conservation Land Support action		3.0) 2	2.0 2	.0	2.0	3.0	2.0	2.0 3	.0 7	7.3 7.0	5.5	4.375	5 () -	5.16
Create a pilot carbon farming program on vacant public land or in partnerships with educational institutions and non-profit organizations		2.5	5 2	2.0 2	.5	1.5	2.0	2.0	2.0 2	.0 6	i.0 5.5	5.5	5.5	5 () 5.5	4.72

City of San Diego Appendix C Strategy 5 Feasibility & Equity Scores

				FEASIBILITY C	RITERIA			EQUITY CRI	TERIA		F&E :	SCORES		CORE BENE	FIT SCORES		I
Actions	Measure, Action, or Supporting Action	Stakeholder acceptabilit		Ease of implemen n	tatio Financial viability	Mainstrean potential	ing Community benefits & burdens	Communit empowerr			Feasibility Scaled Score (1-10)	Equity Scaled Score (1-10)	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0- 10)	Scaled Resiliency (0- 10)	CLIMACT Prio Score
5.2 Tree canopy	Measure	High	Medium	High	Medium	Medium	Medium	Medium	Medium								
Increase tree planting in Communities of Concern starting with the planting of 40K new trees in these communities by 2030.			3.0	2.0	3.0	2.0	3.0	8.0	3.0	3.0	8.2	2 10.0	5.5	5.5	() 5.5	6.07
Create a Street Tree Master Plan capturing all community plan street tree lists to facilitate selection of species with a target of planting 100,000 trees by 2035 Within the Stree 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	a ^t Action		3.0	2.0	3.0	2.0	1.0	0	1.0	1.0	6.4	4 1.0	0	0	(o o	0.89
Conduct a new Urban Tree Canopy assessment utilizing light detection and ranging (LIDAR) or similar technology to identify areas in need of additional tree canopy at least every three years	Action		3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0	10.0) 5.5	0	0	(o a	2.38
Support expansion of urban tree canopy in parks and alon active transportation network, Prioritizing implementation in Communities of Concern.	g Action		3.0	2.0	3.0	2.0	3.0	8.0	2.0	3.0	8.2	2 8.5	5.5	5.5	() 5.5	5.70
Develop policies that encourage and incentivize developers, homeowners' associations, and other organizations to preserve, maintain, and plant trees	Action		3.0	1.0	3.0	2.0	1.0	1.0	1.0	1.0	5.5	5 1.0	0	0	(o a	0.80
Reform, streamline, and expand the No Fee Street Tree program to remove barriers that exist which detour or prohibit participation by residents within Communities o Concern.	f Action		3.0	2.0	2.0	2.0	3.0	8.0	2.0	3.0	7.3	3 8.5	5.5	5.5	() 5.5	5.61
Protect and maintain all healthy City trees that have minimal conflicts to existing and future infrastructure, by use of policy, code, public outreach and code enforcemen	Action		2.0	1.0	2.0	2.0	3.0	2.0	1.0	2.0	5.5	5 4.0	0	0	(0 0	1.55
Develop a public awareness campaign for the maintenance and protection of trees on private property	e Supporting Action		3.0	3.0	3.0	3.0	3.0	1.0	1.0	1.0	10.0	0 1.0	1	1	() 1	1.75
Amend the Land Development Code to increase landscape and parking lot tree planting requirement	Supporting Action		2.0	2.0	3.0	3.0	3.0	2.0	1.0	2.0	8.2	2 4.0	5.5	5.5	() 5.5	4.57
Streamline permitting for tree planting, dedicate resources to planting in non-traditional street tree locations, and provide reduced fees or fee waivers in Communities of Concerns	Supporting Action			1.0	2.0			2.0	1.0	3.0	5.5	5 5.5	5.5	0	() 3.25	3.35
Revise Council Policies and Municipal Codes to strengther tree protection policies and enhance tree planting efforts	Action		3.0	2.0	3.0	2.0	2.0	2.0	2.0	2.0	7.5	3 5.5	0	0	(o a	2.11
Increase irrigation for trees in parks and in street rights of way	Supporting Action		3.0	1.0	3.0	1.0	2.0	2.0	1.0	2.0	5.5	5 4.0	0	0	(0 0	1.55
Implement a Citywide protocol for tracking planted, removed, and maintained street trees	Supporting Action		3.0	2.0	3.0	1.0	2.0	5	1.0	1.0	6.4	4 1.8	0	0	(o a	1.08
Explore allocating revenue from tree removal fines and fee to fund the planting of new trees	Supporting Action		2.0	1.0	3.0	2.0	2.0	2.0	1.0	2.0	5.5	5 4.0	0	0	(0 0	1.55
Expand volunteer programs and partnerships with community organizations to plant and maintain tree	Supporting Action		3.0	2.0	2.0	2.0	2.0	1.0	3.0	3.0	6.4	4 10.0	5.5	5.5	() 5.5	5.89
Support the creation of new urban green space along freeways and City rights-of-way.	Supporting Action		3.0	2.0	2.0	1.7	2.0	1.0	3.0	3.0	6.:	1 10.0	5.5	5.5	() 5.5	5.86
Ensure the diversification of tree species, including native tree species where feasible and species that are adapted to higher temperatures and species that require less water	Supporting Action		2.0	3.0	3.0	3.0	3.0	1.0	1.0	1.0	9.:	1 1.0	5.5	0	() 3.25	2.59
As established in the Energy Cooperation Agreement with the City and SDG&E's implement the Right Tree, Right Place program (or successor programs), identify additiona tree planting locations, assist with tree species ideas, and provide technical support through SDG&E's arborists	Supporting		3.0		1.0			1.0	1.0	1.0		1.0	5.5	5.5	() 5.5	INCOMPLETE SCORE
Monitor and report on SDG&E's plans to supplant the City's efforts with direct in-community charitable support for planting up to 2,500 trees in the City over ten years	Supporting Action		3.0	3.0	2.0	3.0	3.0	1.0	1.0	1.0	9.:	1 1.0	5.5	5.5	() 5.5	3.91
Perform proper maintenance and tree removal to promot a healthy urban forest and safety of trees in public spaces			2.0	3.0	3.0	2.0	3.0	1.0	1.0	1.0	8.2	2 1.0	5.5	5.5	() 4	3.67
Redesign hardscape infrastructure around existing City trees when possible in order to increase large tree canopy cover.	Supporting Action		2.0	3.0	3.0	2.0	3.0	1.0	1.0	1.0	8.2	2 1.0	5.5	5.5	() 4	3.67

City of San Diego Appendix C Strategy 5 Feasibility & Equity Scores

				FEASIBILIT	Y CRITER	IA			EQUITY CRIT	ERIA		F&E S	CORES		CORE BEN	EFIT SCORES		I
Actions	Measure, Action, or Supporting Action	Stakeholder acceptability		Ease of implen n		Financial viability	Mainstreamin potential	Community benefits & burdens	Community empowerm	his	torical	Feasibility Scaled Score (1-10)	Equity Scaled Score (1-10)	Scaled Air Quality (0-10)	Scaled Public Health (0-10)	Scaled Jobs & Economy (0- 10)	Scaled Resiliency (0- 10)	CLIMACT Prio Score
5.3 Local Water Supply	Measure	High	High	Mediu	n I	High	High	Low	Low	Lov	N							
Develop local water supply and reduce dependence on imported water	Action	3	3.0	3.0	2.0	3.	0 3.0	0 1	1.0	1.0	1.0	9.1	. 1.0		0 0) 5.5	5 10	2.99
Support ongoing gallon per capita water use (GPCD) targets.	Action	3	8.0	3.0	2.0	3.	0 3.0	0 1	1.0	1.0	1.0	9.1	. 1.0		0 0) () 1	1.26
Strategy 5 Supporting Actions	Supporting Act	ions																
Expand awareness of the City's Rainwater Harvesting Rebates and Grass Replacement Rebates programs to increase participation in the programs and facilitate accessibility to residents across the City, prioritizing those within Communities of Concern and areas that have had historically lower participation in the programs	Supporting Action							з	3.0	3.0	2.0		8.5		0 0) <u>:</u>	L 2.5	INCOMPLETE SCORE
Advance undergrounding of utilities to provide a means to reduce energy use, increase green space preservation, sustainably process and store water and wastes, securely and efficiently site critical infrastructure, prevent and reverse degradation of the urban environment, and enhance quality of life.	Supporting Action	2	2.0	2.0	1.0	1.	0 2.0	0 2	2.0	1.0	1.0	3.7	2.5		1 3.25	5 3.25	5 4	2.73
Maximize planning and implementation of green infrastructure at watershed scale and site specific with focused stakeholder engagement efforts in Communities o Concern	Supporting Action f	2	2.0	2.0	2.0	2.	0 2.0	0 3	3.0	3.0	3.0	5.5	5 10.0		0 5.5	; :	L 6.625	4.96
Investigate opportunities to capture and reuse rain water	Supporting Action							1	1.0	1.0	1.0		1.0		0 0) 1	L 10	INCOMPLETE SCORE
Implement Waterways Restoration projects	Supporting Action	2	2.0	2.0	2.0	2.	0 2.0	b a	3.0	3.0	3.0	5.5	5 10.0		0 5.5	5 5.5	5 8.875	5.86
Increase opportunities for Stormwater harvesting by evaluating new harvesting methodology to determine viability	Supporting Action	2	2.0	2.0	2.0	2.	0 2.0) 2	2.0	2.0	2.0	5.5	5.5		0 0) 3.25	5 10	3.41
Amend building code regulations to require a percentage of all non-roof (e.g., hardscape) surfaces around new buildings meet certain criteria to reduce urban heat islanc effect.	Supporting Action	2	2.0	2.0	2.5	2.	0 2.:	5 3	3.0	1.0	3.0	6.4	7.0		0 5.5	5 5.5	5 5.5	4.87
Install cool pavement material on City parking lots and in the public right-of-way, prioritizing Communities of Concern, to increase building energy efficiency and reduce urban heat island effect	Supporting Action	1	5	1.5	2.0	1.	5 2.3	3 2	2.7	1.0	3.0	4.4	6.6		0 5.5	5 5.5	5 10	5.00

Appendix D

Analysis of Outreach and Engagement

Includes:

- 2020 Online Survey Results
- 2020 Virtual Forum Results
- Communities of Concern Outreach Results 2021
- Virtual Open House Feedback Spring 2022

The City of **SAN DIEGO**

Our Climate, Our Future 2020 Online Survey Results

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Introduction

The City of San Diego considers community member participation in the planning process crucial to the Climate Action Plan update. A series of public community forums and an online survey made up a large part of the City's outreach effort. The online survey, available from April through November 2020, asked San Diegans how they prioritized various environmental actions, and what barriers they faced in implementing those actions in their own lives. Over 1,700 people responded to the survey; results are described below. Continued engagement, with a focus on reaching residents in Communities of Concern, is planned for early 2021.

Participant demographics

The City was interested in feedback from all stakeholders, which included not only people who call San Diego their home but also those who work there. Respondents were asked to provide their home and work zip codes; the distribution of survey submissions in zip codes contained in the City of San Diego are displayed in Figure 1.

Figure 1. Number of survey submissions associated with City of San Diego zip codes. The left panel shows distribution of participants' home zip codes (1,663 responses displayed); the right panel shows distribution of participants' work zip codes (1,320 responses displayed)



Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, @ OpenStreetMap contributors, and the GIS User Community

More than half of the survey participants were below 45 years of age (see Fig. 2); the mean age of survey respondents was 42.3 yrs. Of participants that chose to disclose their race or ethnicity, the majority selected White (see Table 1). Although participants could select as many answers as desired, only 8% of respondents selected two or more categories, whereas 92% of respondents selected a single race/ethnicity.

Figure 2. Participant Age (percentages based on 1,714 participants)



TABLE 1: PARTICIPANT RACE/ETHNICIT (OUT OF 1,857 RESPONSES)	Y
RACE/ETHNICITY	COUNT
American Indian or Alaskan native	22
Asian or Asian Indian	158
Black or African American	33
Hispanic	207
Middle Eastern or North African	20
Native Hawaiian or other Pacific Islander	13
White	1207
Other	11
No answer	185

Most respondents were employed in the private sector (see Fig. 3). Retired or unemployed participants were possibly included in the "No answer" category (13% of the total). Participants were approximately evenly distributed across annual income levels, with slightly larger representation in the \$58K-93K range (see Fig. 4).



Figure 3. Participant Vocation (percentages based on 1,714 participants)





While the City is pleased with the number of participants in the online survey, it is clear from the geographic distribution of submissions as well as the responses to the race/ethnicity question that we did not engage a fully representative cross-section of the San Diego population. The relatively flat distribution of annual income (Fig. 4, above) implies that the professional class is overrepresented in this survey. These limitations should be kept in mind when interpreting the responses described below, and underscore the importance of ongoing engagement efforts, such as the public forums and targeted outreach to residents in San Diego's Communities of Concern.

Participant feedback on CAP strategies

The OCOF survey asked respondents how they prioritized the strategies set forth in the City's 2015 Climate Action Plan. Subsequent questions probed respondent support for specific actions within the Energy and Water Efficiency, Clean and Renewable Energy, Mobility and Zero Waste strategies. Participants were asked both what actions they thought the City should prioritize, and what actions they themselves would be willing to take in service of CAP goals. Overall, respondents selected Clean and Renewable Energy as the most important strategy (38% selected), whereas Energy and Water Efficiency was the least popular strategy (8% selected, see Fig. 5). Additional participant feedback on each separate CAP strategy is presented below.

Figure 5. What Climate Action measure is the most important to you? (percentages based on



1,714 participants)

Strategy 1: Energy and Water Efficiency

The fewest number of participants (8%) thought that Energy and Water Efficiency was the most important of the City's strategies (see Fig.5, above). When asked whether they would be willing to reduce their own home energy and water use, over three quarters of participants indicated that they have already taken action to do so (see Figure 6). This is consistent with respondents rating residential buildings as those with the least opportunity to reduce energy use (see Table 2, below).

Figure 6. What actions would you take to increase energy and water efficiency? (percentages based on 1,714 participants)



TABLE 2: WHERE DO YOU SEE THE BIGGEST OPPORTUNITY TO REDUCE ENERGY USE? (PERCENTAGES BASED ON 1,762 RESPONSES)							
BUILDING TYPE	RESPONSE %						
Public buildings and spaces	46						
Commercial/Industrial/Educational	33						
Residential	14						
Other	3						
No answer	4						

Strategy 2: Clean and Renewable Energy

Participants could choose multiple options from a list of potential actions the City could take in support of the Clean and Renewable Energy strategy. The most popular actions centered around public transportation and piloting new energy technologies (see Fig. 7). Respondents also showed an interest in increasing solar power installations through regulation, financial incentives, or subsidies (36 write-in responses), and wanted to ensure that renewable energy infrastructure was provided to our communities of concern (18 write-in responses).

Figure 7. The City is on track to provide 100% renewable electricity to residents and businesses. What other energy-saving opportunities should be prioritized by the City? (5,082 responses provided)



Thirty-five percent of participants indicated that they would consider installing solar panels on their own home, although an equal percentage reported that this action was not open to them. A far greater percentage of participants (64%) said that they would consider switching to an electric vehicle (Fig. 8).





Strategy 3: Mobility

The Mobility strategy was ranked second most important by respondents (27%, see Fig. 5 above). Expanded public transportation, biking/walking, and telecommuting received broad, roughly equivalent support, but carpool/vanpool options were unpopular (see Figure 9).

Figure 9. How could the City make it easier for you to get around without your car? (4,323

responses provided)



These preferences were mirrored in actions participants were willing to take themselves (see Fig. 10). Respondents were willing to consider weekly public transit and increased bicycle use, and many respondents said that they are already telecommuting at least part of the week. However, respondents were less willing overall to consider carpools/vanpools an option.



Figure 10. What actions would you take to reduce greenhouse gas emissions created by driving alone? (percentages based on 1,714 participants)

Strategy 4: Zero Waste

The Zero Waste strategy was ranked fourth most important by respondents. As with the Clean and Renewable Energy strategy, respondents overwhelmingly report that they are already taking action to reduce landfill waste, so may not perceive opportunity for further improvement there (see Fig. 11).

Figure 11. What actions would you take to reduce landfill waste? (percentage based on 1,714 participants)



Strategy 5: Resiliency

Resiliency was ranked the third most important strategy by respondents. While there were no questions specifically addressing this strategy in the OCOF survey, when provided the opportunity to suggest additional actions to the City, respondents cited resiliency as a concern and requested actions targeting San Diego's tree canopy, wetland and native habitat restoration, and carbon sequestration (see "Additional strategies" below).

Perceived benefits and additional actions

Participants could choose multiple options from a list of perceived benefits of climate change action. Improved air quality was chosen by over 70% of respondents, and over half chose improved natural spaces. The third most popular choice, safe routes for walking and biking was cited by more than 40% of respondents (see Fig. 12).

The survey provided space for participants to write in suggestions for strategies or actions they thought the City should pursue, and more than three quarters of participants did so. Many of these comments reiterated or reemphasized measures described elsewhere in the survey and highlighted that participants' priorities were consistent throughout the survey. Suggestions were roughly separable into the same CAP strategies described above, and here again, the largest number of write-in comments centered around mobility (29% of comments) and clean and renewable energy (17%). Suggested actions with the most support within each strategy are shown in Table 3.

Figure 12. Which benefits of climate action are the most important to you? (4677 answers provided)



TABLE 3: ARE THERE OTHER STRATEGIES OR IDEAS YOU HAVE TO REDUCE GREENHOUSE GAS EMISSIONS IN THE CITY OF SAN DIEGO?

(PERCENT	AGES BASED ON THE 1,220 PARTICIPANTS THAT PROVIDED AN QUESTION	ANSWER TO THIS
STRATEGY	ACTION	RESPONSE %
Mobility	Expand and improve public transit	15
	Improve bike network and infrastructure	9
	Street reform	7
	Housing policies	6
	Increase number of EVs in use	5
Clean and	Increase amount of renewable energy	9
Renewable	Increase EV infrastructure and use	5
Energy	Use taxes/incentives to modify behavior	3
	Focus on residential buildings	2
	Reduce use of natural gas	2
Energy and	Solar	5
Water	Focus on commercial buildings	3
Efficiency	Focus on residential buildings	3
	Energy efficient upgrades and retrofitting	2
Zero/low	Increase composting/provide curbside composting	7
waste	Increase recycling	2
	Reduce plastic waste	2
Resilience	Expand the tree canopy	5
	Carbon sequestration/natural habitats	3
	Expand green spaces and green infrastructure	3
	Sustainable food systems	2

Awareness of (and support for) the CAP

Most survey participants (75%) reported that they were previously aware of the Climate Action Plan. When asked how participants saw themselves involved in the future of the CAP, a total of 93% replied that they wanted to be involved either through action or advocacy (see Table 4). While some participants disagreed with the entire premise of the Climate Action Plan, or opposed specific actions within it, negative feedback comprised only 1-2% of survey responses.

TABLE 4: HOW DO YOU SEE YOURSELF INVOLVED IN THE FUTURE OF THE CLIMATE ACTION PLAN? (PERCENTAGES BASED IN 1,714 PARTICIPANTS)						
ROLE	RESPONSE %					
I want to work more closely with the City on achieving its goals	39					
l want to take action on my own	27					
I want to help spread the word about actions my friends and neighbors can take	27					
I have no role	6					
No answer	1					

The impact of the COVID-19 health crisis on participant

answers

Overall, respondents were evenly split when asked whether the COVID-19 health care crisis had influenced their answers on the survey. When examined over time, the proportion of "yes" responses increased after the first two months of the survey, but fell in November, the final month of the survey (see Fig. 13). Approximately one third of respondents reported that they have been telecommuting either part or full time due to the COVID-19 health crisis.



Figure 13. Has the current health crisis from COVID-19 had an impact on how you answered these questions? (percentages based on total number of respondents per month)

Conclusions and future directions

Participants in the "Our Climate, Our Future" online survey demonstrated that they were interested and invested in the City of San Diego's Climate Action Plan. Participants overwhelmingly expressed a willingness to take part in climate actions either on their own or in partnership with the City and said that improved air quality and natural spaces would be a valuable outcome. The City's Clean and Renewable Energy and Mobility strategies were favored by respondents, who expressed a particular desire for increased investment in and availability of solar power and fewer cars on the roads. The relative unpopularity of the City's Energy and Water Efficiency strategy may be because of residents' perception that they are already conserving energy and water to the best of their ability, and that there is no room for additional savings there.

This survey did not reach a fully representative sample of San Diegans. People in upper income brackets were overrepresented, and there was a relative lack of racial/ethnic diversity. Additionally, there was a relative lack of representation from San Diego's Communities of Concern. Because the City wants the Climate Action Plan update to reflect the viewpoints, priorities, and needs of all residents, additional strategies are necessary to solicit feedback from those that this mode of communication did not reach. Different outreach efforts are currently underway, and information from those upcoming engagements will be combined with current information in order to provide a more complete picture of our communities' needs and preferences.

The City of **SAN DIEGO**

Our Climate, Our Future 2020 Virtual Forum Results

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Introduction

Community member participation is integral to updating the City of San Diego's Climate Action Plan. In 2020, the City hosted a series of public, virtual forums, where 447 attendees discussed which climate actions they prioritize, what climate equity means to them and how climate change has already impacted them. The forums are divided below between the first public forum, held on August 13, and a series of public forums hosted for each City Council District in October.

First Public Forum on August 13, 2020

The City hosted the first public forum through Zoom on August 13, 2020. This forum was targeted at advocacy groups, community-based organizations, nonprofits representing co-benefits of climate action and the public. The forum was advertised through email, social media, the Climate Action newsletter and traditional media. Staff created a "social media toolkit" to aid promotion through partner organizations since the City's capacity for media attention was limited due to COVID-19. Attendees registered through Zoom and could choose two breakout rooms to participate in during the forum, detailed further below.

Format

After a short introduction by City staff, participants were asked a series of questions that they would answer through <u>Mentimeter</u>, a live polling and engagement web tool. Answers through Mentimeter either appeared as a word cloud or as a rolling list of feedback. A total of 192 attended the forum; 116 people submitted answers via Mentimeter, and 76 chose to listen to the discussion without submitting answers. In the description of results below, percentages will be based on the number of participants that responded to the questions, rather than the total number of attendees. Participants also had the ability to give comment verbally or through the Zoom chat function during the forum.

Participant demographics

Of those participants providing demographic information, more than half of were below 45 years of age; the mean participant age was 31.5 years (see Figure 1). While it seemed that there was more representation of people in the < \$100K annual income bracket, the relatively large number of participants that declined to provide their income makes it difficult to draw firm conclusions (see Figure 2). Of participants that chose to disclose their race or ethnicity, just under half selected White (45%, see Figure 3). Hispanic and Asian/Asian Indian were the two next frequent selections, and together made up 23% of the responses.



Figure 1. Participant Age (percentages based on 193 participants)



Figure 2. Participant Annual Income (percentages based on 193 participants)

Figure 3. Participant Race/Ethinicity (percentages based on 193 participants)



Full Group Results

Three questions which established the larger themes of the forums were posed to the group as a whole before dividing into the breakout rooms. Responses from each question are shown in separate sections below.

"When you imagine a sustainable San Diego, what comes to mind?"

Participants were encouraged to type the first idea or ideas that they thought of in response to this question. Word clouds generated from the answers were displayed on-screen as a way to prompt participants to think about various issues related to climate change and sustainability (see Figure 4).

Figure 4. Word Cloud generated by Mentimeter with responses to, "When you imagine a sustainable San Diego, what comes to mind?" (from 99 responses)



"What changes do you want to see the Climate Action Plan support in your community?"

One hundred three of the participants described actions they would like the City to take (participants could provide only one answer). While these answers were unprompted, answers could be categorized into 14 distinct topics.

TABLE 1: TOP RESPONSES TO "What changes do you want to see the Climate Action Plan support in your community?"	
CATEGORY	PARTICIPANTS
Better public transportation	26%
Equity	18%
Reduce food waste	6%
Active transportation	6%
Storm water pollution prevention	
improvements	5%
Electrification	5%
Bicycle infrastructure	5%
Expand park/green space access	5%
Organics infrastructure and programming	4%
Energy efficiency	4%
Circular economy	4%
Increase tree canopy	4%
Improve air quality	4%
Land-use planning	4%

"What climate change impacts concern you the most?"

One hundred three of the participants gave responses to the impacts of climate change that concern them the most (participants could provide only one answer). While these answers were unprompted, answers could be categorized into 14 distinct topics.

TABLE 2: TOP RESPONSES TO	
"What climate change impacts concern you the most?"	
CATEGORY	PARTICIPANTS
Sea level rise	20%
Heat	20%
Poor air quality	13%
Inequity of response/impact on CoCs	8%
Severe weather	8%
Effects on food and farming	8%
Fire	7%
Access to clean water	6%
Mass migration	4%
Ecosystem collapse	4%
Reduction in biodiversity	4%

Breakout Room Discussions

After the general discussion and the presentation, attendees were separated into breakout rooms on each CAP strategy. Participants had the opportunity to participate in two strategy-specific discussions.

The breakout rooms were facilitated by City staff. Participants gave feedback verbally or through Mentimeter. Each breakout room first gave a brief presentation on the strategy, collected demographic information, and then asked two questions of the attendees, "What actions do you feel need to be prioritized?" and "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?" Results are presented below for each strategy, including those strategies that required multiple breakout rooms. Participants were allowed multiple answers per question. Answers were unprompted, the analysis below categorizes all the answers into the top themes. The categories are individualized to each breakout room to better reflect the separate discussions.

Energy & Water Efficiency

Twenty-three participants joined the Energy & Water Efficiency breakout discussions.

"What actions do you feel need to be prioritized?"

TABLE 3: RESPONSES TO "What actions do you feel need to be prioritized?"	
CATEGORY	PARTICIPANTS
Building Electrification	26%
Technical Training and	17%
Assistance	
Distributed Energy	13%
Resources	

CATEGORY (CONT)	PARTICIPANTS
Water Conservation and	9%
Reclamation	
Municipalize Energy	9%
Solar	9%
Building Energy Efficiency	9%
Coordinate With State	9%

"What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"

TABLE 4: RESPONSES TO "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"	
CATEGORY	PARTICIPANTS
Outreach	32%
Renter/Multifamily Solar	16%
Community Empowerment	11%
Funding in Communities of Concern	5%
Incentivize Energy Savings	5%
Technical Assistance and Training	5%
Zoning	5%
Community Solar	5%
Emphasize and Quantify Co-Benefits	5%
Building Electrification	5%
Reduce Energy Cost	5%

Clean & Renewable Energy

Thirty-three participants joined the Clean & Renewable Energy breakout discussions.

"What actions do you feel need to be prioritized?"

TABLE 5: RESPONSES TO "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"	
CATEGORY	PARTICIPANTS
Distributed Energy Resources	19%
Building Electrification	17%
Increase Electric Vehicles	16%
Increase Renewable Energy	14%
Electrify and Expand Public Transit	14%
Energy Efficiency Upgrades	12%
Outreach and Engagement	4%
Land Use Policies	2%
Prioritize Communities Of Concern	2%

"What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"

TABLE 6: RESPONSES TO "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"	
CATEGORY	PARTICIPANTS
Community Engagement	29%
Educational Outreach	23%
Subsidize Solar and EV For Low-Income	14%
Workforce Training	11%
Incentivize Solar For Renters	9%
Free Energy Retrofits	3%
Grants for Energy Solutions	3%
Incentivize Electric Vehicles	3%
More Energy Storage	3%
Multilingual Communications	3%

Mobility

Seventy-five participants joined the Mobility breakout discussions.

"What actions do you feel need to be prioritized?"

TABLE 7: RESPONSES TO "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"	
CATEGORY	PARTICIPANTS
Expand and improve public transit	29%
Improve bike network and infrastructure	19%
Free or reduced transit fees	14%
Increase electric vehicles	11%
Street Reform	10%
Prioritize Communities of Concern	9%
Housing Policies	8%

"What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"

TABLE 8: RESPONSES TO "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"	
CATEGORY	PARTICIPANTS
Prioritize Communities of Concern	14%
Free Public Transit	9%
Faster Public Transit	6%

Reform Fare Enforcement	6%
Electrify Transit	5%
Free Youth Passes	5%
Increase Micromobility	5%
Engagement with Communities of Concern	6%
Expand Public Transit	3%
Improve Air Quality	3%

Zero Waste

Thirty-one participants joined the Zero Waste breakout discussions.

"What actions do you feel need to be prioritized?"

TABLE 9: RESPONSES TO	
"What can we do to reduce barriers faced by our vulnerable populations to	
realizing the benefits of these actions?"	
CATEGORY	PARTICIPANTS
Food Recovery	16%
Reduce Waste through Policy	15%
Reduce Landfilling	14%
Increase Composting Access and Infrastructure	11%
Provide curbside composting	9%
Food Sourcing	7%
Education	7%
Prioritize source reduction	7%
Increase Recycling	5%
Reduce GHG through capture	4%
Access to Food	4%

"What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"

TABLE 10: RESPONSES TO "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"		
CATEGORY	PARTICIPANTS	
Community Empowerment	20%	
Reduce Waste	20%	
Increase Composting	13%	
Prioritize Communities of Concern	11%	
Food Sourcing	9%	
Reduce Landfilling	9%	
Food Recovery	9%	
Increase Recycling	7%	
Reduce Burdens on Communities of Concern	4%	

Resiliency

Seventy-nine participants joined the Resiliency breakout discussions.

"What actions do you feel need to be prioritized?"

TABLE 11: RESPONSES TO "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"		
CATEGORY	PARTICIPANTS	
Land Management	11%	
Expand Tree Canopy	11%	
Food sourcing	10%	
Coastal Land/Sea Level Rise	10%	
Food system	9%	
Increase Access to City/Community Engagement	9%	
Expand Green Spaces	8%	
Sustainable Food Access	6%	
Prioritize Communities of Concern	6%	
Improved Transit	6%	
Reduce Waste	4%	

"What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"

TABLE 12: RESPONSES TO "What can we do to reduce barriers faced by our vulnerable populations to realizing the benefits of these actions?"		
CATEGORY	PARTICIPANTS	
Increase Access to City/Community Engagement	16%	
Community Empowerment	12%	
Food Access	12%	
Community Outreach	11%	
Expand Tree Canopy and Open Spaces	11%	
Improved Transit	8%	
Reduce Disparities	7%	
Fund Equity	7%	
Prioritize Communities of Concern	7%	
Sustainable Food Systems	5%	
Reduce GHG through Sequestration	3%	

District-focused forums (October 8-30, 2020)

The City hosted nine separate online forums (through Zoom) between Oct.8-30, 2020. Each forum was targeted at residents in a single City Council district, although in practice people were free to attend any forum regardless of their residence. The forum was advertised through email, social media, the Climate Action newsletter and traditional media. Sustainability staff also called and emailed organizations and businesses in each council district to advertise the forum directly to residents. Attendees signed up for the forums through Zoom's registration form, which asked if they needed language translation services or any other accommodations.

Format

After a short introduction by City staff, participants were asked a series of questions that they would answer by <u>Mentimeter</u>, a live polling and engagement web tool. Answers through Mentimeter either appeared as a word cloud or as a rolling list of feedback. A total of 255 attended the various forums; 134 people submitted answers via Mentimeter, and 121 chose to listen to the discussion without submitting answers. Participants also had the ability to give comment verbally or through the Zoom chat function during the forum. In the description of results below, percentages will be based on the number of participants that responded to the questions, rather than the total number of attendees.

Participant demographics

Of those participants providing demographic information, more than half of were below 45 years of age; the mean participant age was 44.0 years (see Figure 5). There was relatively equal representation across all but the highest income levels, although nearly a fourth of respondents declined to answer this question (see Figure 6). Of participants that chose to disclose their race or ethnicity, nearly half selected White (see Figure 7). Hispanic and Asian/Asian Indian were the two next frequent selections, and together made up 26% of the responses.



Figure 5. Participant Age (from 134 responses)



Figure 6. Participant Annual Income (from 134 responses)





Free-association questions

At the beginning of each forum, participants were encouraged to type the first idea or ideas that they thought of in response to two different prompts. Word clouds generated from the answers were displayed on-screen as a way to prompt participants to think about various issues related to climate change and sustainability. The first question was: "When you imagine a sustainable San Diego, what comes to mind?" (see Figure 8). The second follow-up question was: "What do we need to get there?" (see Figure 9).

Figure 8. Word cloud generated from answers to "When you imagine a sustainable San Diego, what comes to mind?" (figure created at WorldClouds.com)



Figure 9. Word cloud generated from answers to "What do we need to get there?" (figure created at WorldClouds.com)



"How have you been impacted by climate change?"

More than three fourths of the participants (102) related their own experiences of climate change. The biggest perceived impacts were of increased temperatures, wildfires and poor air quality (see Table 13). Twenty-five percent of participants said they have been affected by heat and raised concerns around air conditioning such as increased electricity bills, the lack of A/C forcing them to leave their homes during the day, and rolling blackouts caused by energy use. Wildfires were mentioned by 22% of participants; multiple participants said they had experienced mandatory evacuations caused by wildfires, and a smaller number reported experiencing property loss. Participants that did not have direct experience with evacuation or property loss still cited anxiety caused by the frequent threat of wildfires.

Overall, participants' perception of climate change was overwhelmingly negative. While general anxiety about the impact of climate change was reported by 19% of participants (expressed as fear for the future or fear for children/grandchildren), this anxiety was also reflected in more specific ways (such as the fear of wildfire). Participants were cognizant of the connections between various climate change effects, and mentioned relationships between increased temperatures, droughts, wildfires, and poor air quality.

TABLE 13: TOP RESPONSES TO "How have you been impacted by climate change?"		
CATEGORY	PARTICIPANTS	
Heat/Increased temperatures	25%	
Wildfires	22%	
Poor air quality	19%	
Climate anxiety	12%	
Respiratory issues	7%	

"What do you want to see the Climate Action Plan support in your neighborhood?"

Nearly three-fourths (94 total) of the participants described actions they would like the City to take (participants could provide more than one answer). While these answers were unprompted, many could be categorized into the five strategies set out in the City of San Diego's current Climate Action Plan. The percentage of participants that made suggestions aligned with existing CAP strategies are shown in Figure 10 (below).



Figure 10. Preferred actions consistent with CAP strategies

Slightly more than half of the participants wanted changes or improvements associated with the "Bicycling, Walking, Transit, & Land Use" strategy. The most frequent mobility requests centered around expansion and improvements to public transit, improved bicycle infrastructure, improved pedestrian access and safety, and free or reduced transit fees. A small number of participants specifically requested free youth transit passes.

In the "Climate Resiliency" category, participants requested more parks, better access and improvements to existing parks, tree canopy expansion, and more green infrastructure. Thirteen percent of participants called for more community gardens.

Overall, while there was a wide variety of suggestions, the majority were similar to those provided by respondents in the online CAP survey (see Table 14 for a more detailed breakdown of responses). Except for the responses described above, no one suggestion was shared by more than 10% of the participants. Thirteen percent of participants did, however, declare support for an equitable implementation of the CAP, which is expanded upon in the next section.

TABLE 14: WHAT DO YOU WANT TO SEE THE CLIMATE ACTION PLAN SUPPORT IN YOUR NEIGHBORHOOD?			
(PERCENTAGES BASED ON 134 PARTICIPANTS)			
STRATEGY	ACTION	RESPONSE %	
Bicycling,	Expand and improve public transit	23	
Walking,	Improve bike network and infrastructure	21	
Transit, & Land	Other	13	
Use	Pedestrian access and safety	11	
	Free or reduced transit fees	10	
	Street reform	8	
	Zoning	8	
	Walkable neighborhoods	6	
	EV infrastructure	5	
Climate	Expand green spaces and infrastructure	21	
Resiliency	Expand tree canopy	13	
	Sustainable food systems	11	
Zero Waste	Increase composting	10	
	Increase recycling	5	
	Food Sourcing	4	
	Provide curbside composting	4	
Clean &	Increase EVs and EV infrastructure	3	
Renewable	Increase renewable energy	3	
Energy	Solar on buildings	3	
Energy & Water	Building electrification	4	
Efficient Buildings	Water conservation and reclamation	3	

"What does climate equity look like to you?"

Only 65% of participants (87 total) responded to this question. The responses were wide-ranging, and for the most part, no response was shared by more than a few participants. One exception was on the topic of community empowerment. This was mentioned by 14% of participants, and was expressed as a desire for the City to seek input from more (and more diverse) members of the community. The other exception was an explicit ask for equity across San Diego neighborhoods; 10% of participants said that resources such as clean air, clean water, parks, transportation options, etc. should be as available in Communities of Concern as in wealthier San Diego communities. Otherwise, participants' descriptions of climate equity echoed the responses made to the previous question.

Strengthening indigenous sovereignty by learning from and amplifying the knowledge of indigenous communities in sustainable practices. Striving for full participation of communities of concern in decision-making processes. Just transition for workers. District 4 Forum Attendee

Understand and remove barriers for communities of concern. Make access to climate action tools and resources easier to access. It can't be a one size fits all approach. We have to understand how the goals impact all communities. District 6 Forum Attendee

Prioritize retrofitting/solar/subsidies/access in the areas that can least afford it. Listen to marginalized communities and involve them in the process. Listening to Native American perspectives on climate action.

District 8 Forum Attendee

More opportunities in clean jobs and community education and involvement of communities of concern that have traditionally been excluded from these conversations. District 3 Forum Attendee

Conclusion and next steps

The series of online public forums held in August and October of 2020 were designed to facilitate free-ranging discussions about climate change and the City's Climate Action plan. Despite this deliberately loose organization, several strong themes emerged from these meetings. Participants expressed anxiety about the consequences of climate change, with sea level rise, increased heat, more frequent wildfires, and poor air quality leading the list of concerns. Conversely, participants anticipate that clean air, clean water, a healthier lifestyle, and some form of social and/or environmental justice will be benefits of effectively implementing a Climate Action Plan.

Overall, participants support transformative action via the City of San Diego's Climate Action Plan. The ideal City that emerged from these discussions is one with fewer cars, more green spaces, less reliance on fossil fueldependent energy sources, and resources distributed equitably across neighborhoods.

The very strong participant focus on a need for better transportation options (especially affordable and widely available public transit) indicates that participants consider gasoline-powered personal vehicles to be a major contributor to climate change. While not explicitly stated, participants' strong desire for infrastructure supporting active transportation (e.g., safe pedestrian spaces, safe bicycle lanes, an expanded bicycle network) may indicate support for the Complete Communities concept.

While some individual participants suggested very specific actions (e.g., carbon caps, Youth Opportunity Passes), in general participants appear to be willing to let the City decide how to proceed so long as it meets the goals

expressed here. However, participants also expressed a strong desire that the City actively engage a diverse set of community groups as it develops its plans. Participants believe that political will and money are the crucial components for success and that the City should do better at coordinating its actions both within its own departments and across different levels of government (County, State).

Similar to the online survey conducted this same year, the racial/ethnic distribution in these forums' participant pools did not reflect the diversity in the City of San Diego as a whole. The larger number of participants that declined to provide income information makes it difficult to draw firm conclusions about economic status, but it is reasonable to infer that these forums did not reach a sizeable group of people at the lower end of the economic scale. This set of participants stressed that equity requires both an understanding of the needs of Communities of Concern through direct dialogue and community empowerment through providing a seat at the table when decisions are made. Therefore, different outreach efforts may be needed to give voice to members of our Communities of Concern. The City will continue to engage with its residents through 2021 in order to create a Climate Action Plan update that reflects the viewpoints, priorities, and needs of all.

The City of **SAN DIEGO**

Our Climate, Our Future Communities of Concern Outreach Results 2021
Appendix D – Analysis of Outreach and Engagement Communities of Concern Outreach Results 2021

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Introduction

Background

The City of San Diego's Sustainability Department's (CoSD) initial engagement, including an online survey, 12 public forums, and community presentations, provided extensive feedback from San Diego residents. However, there was an underrepresentation of our communities of color and residents in Communities of Concern. To address the lack of engagement in our Communities of Concern, the City contracted with the <u>Institute for Local Government</u> to partner with local nonprofits and community-based organizations within Communities of Concern, as defined by the <u>2019 Climate Equity Index</u>, to conduct targeted engagement efforts. Through this effort, the City worked with <u>Casa Familiar</u>, <u>Climate Action Campaign</u>, <u>Environmental Health</u> <u>Coalition</u>, <u>Mid-City CAN</u>, and <u>San Diego Urban Sustainability Coalition</u> (referred to collectively as CBOs throughout this document) to target various communities, including Barrio Logan, City Heights, Linda Vista, and San Ysido, among others. <u>The Greenlining Institute</u> was also brought on as an equity consultant to ensure the City is accountable for advancing climate equity in this effort.

The targeted engagement through a variety of methods provided the kind of ranking of priorities the CoSD has obtained from residents in the initial engagement methods. In addition, CBOs provided qualitative data about residents' priorities that would have been obscured in the more poll-based data collection. This engagement also provided information about CoC needs and concerns outside of climate action.

Participant Demographics

With CoSD's initial engagement, people in upper income brackets were overrepresented, and there was a relative lack of racial/ethnic diversity. CoSD was able to reach a much more diverse and representative participant pool by working with CBOs. The figures in this section show the CBO's demographic results in orange and CoSD's initial engagement in blue to demonstrate the initial imbalance of the engagement compared to who the CBOs were able to reach. The demographic categories were not standardized between CBOs prior to data collection, presenting challenges for normalizing the data especially in the income section.

Of those participants providing demographic information, the average participant age was 30.8 years (see Figure 1). A high number of respondents chose not to provide their income, but of those that did disclose, half reported that their annual income was less than \$35,000 (see Figure 2). Of participants that chose to disclose their race/ethnicity, 60% identified as Hispanic and 9% identified as Black or African American (see Figure 3).

Appendix D – Analysis of Outreach and Engagement Communities of Concern Outreach Results 2021



Figure 1. Participant Age (percentages based on 219 participants)

Figure 2. Participant Annual Income (percentages based on 187 participants)





Figure 3. Participant Race/Ethnicity (percentages based on 219 participants)

For CoSD's initial engagement, interpretation was offered at select forums and the online survey was available in Spanish but very few responses were collected in any language other than English. Of those who participated in the CBO's engagement, 32% answered in Spanish (see Figure 4).



Figure 4. Participant Language (percentages based on 284 participants)





their zip code or are outside of the County of San Diego.

Overview (CC/CAP awareness and attitudes)

Most participants had not heard of the City's Climate Action Plan. They were, however, aware of climate change, and have already started to feel its effects (see Figure 6). It may appear from the responses that rising temperatures and rising costs are separate issues, unequal in impact, but that is partially due to slight differences in survey wording and presentation between our partner CBOs. Mid-City CAN aimed for a more nuanced understanding by first asking their participants "How has the change in climate affected you?" and then following up with "How did change in climate impact your quality of life?" In this case, the most frequent response to the first question was heat/increased temperatures, and the most frequent response to the second was rising costs. This demonstrates that those two effects are closely linked in our residents'



Figure 6. "Has climate change affected your quality of life? If so, how?"

393 respondents surveyed by Climate Action Campaign, Environmental Health Coalition, SDUSC, and MidCityCan

minds. Similarly, respondents associated greenhouse gas emissions (particularly air pollutants associated with motor vehicles) with negative health effects they and their families have experienced.

During these outreach events, our partner CBOs provided information about the City's Climate Action Plan to community members, and then solicited feedback about what residents hoped to gain from climate action (see Figures 7 and 8). These answers indicated that residents want the City to provide affordable, accessible transportation solutions, improve air quality, and increase the amount of natural spaces and trees available to their communities.



Figure 7. "When you imagine a sustainable San Diego, what comes to mind?"

¹¹⁴ answers collected by Climate Action Campaign and SDUSD Image generated at https://www.wordclouds.com



Figure 8. "Which of the following climate action benefits are most important to you?"

221 answers collected by Casa Familiar

Results by Community

Each CBO targeted a different set of communities with their outreach efforts. While much of the feedback was similar across communities, there were some regional differences. Portions of the CBOs' summaries are pulled from ILG's "San Diego Best Practices" report that illustrate neighborhood-specific concerns are included below. More detailed information from each CBO can be found in the complete ILG report.

City Heights (Mid-City CAN)

Residents in this community focused on the negative health impacts of climate change as well as the financial burdens imposed by more intense weather events (e.g., increased heating, cooling, water and transportation costs). At the same time, residents were optimistic about the potential for local climate industry jobs and want to see more community education around climate issues.

Southeast San Diego (SDUSC)

Residents in this community were very aware of their historic and continued lack of access to important resources. They pointed out that their community lacks trees and green spaces, mobility infrastructure, access to safe and sustainable waste reduction methods such as recycling and composting, and basic amenities, goods, and services such as healthy and affordable food. Residents were apprehensive that they would continue to be left out as clean

energy programs are implemented elsewhere in the City because of the high financial barriers to participation, low rates of home ownership, and a lack of environmental and climate justice educational outreach efforts.

Barrio Logan & Logan Heights (Environmental Health Coalition)

Residents in these communities were primarily concerned about air quality, and advocated actions to alleviate the effects of air pollution from diesel trucks and other polluting industries. These actions included an increase of trees and green spaces, electric vehicle infrastructure, and a reduction in the number of diesel vehicle trips through their neighborhoods.

San Ysidro / Nestor / Otay Mesa (Casa Familiar)

Like the Southeast San Diego residents, residents of these neighborhoods perceived a lack of access to many resources. Similarly, they believed that clean energy and other improvements would be unavailable in their community. Another large concern centered on street safety, with residents requesting better pedestrian and cyclist infrastructure. Residents also expressed anxiety about increasing frequency of wildfires, having been impacted by those in the past.

Midway District / Linda Vista (Climate Action Campaign)

Common themes throughout these engagement events were bikeable/walkable neighborhoods and safe streets, shade trees and neighborhood nature, community blight and pollution, and social equity. Midway and Linda Vista residents called out incomplete sidewalks and bike lanes. Eastern Area residents said that the lack of shade trees is a major concern. Residents in multiple neighborhoods said that the financial burden of watering the trees available from the City's Free Tree SD program was a barrier to participation. Residents also wanted environmental education to be available in their local high schools.

Results by Strategy

Energy & Water Efficiency

Participants saw public buildings and spaces as the most promising targets for more energy efficiency (see Table 1). Perhaps because of the concerns around the rising costs of energy (see Fig. 6, above), residents selected their own homes, rather than other commercial or industrial buildings, as the next best target for increased efficiency. Residents indicated that they are already doing all they can to conserve energy (such as using LED bulbs and more efficient appliances), but that many improvements are out of their reach (such as other appliance upgrades or installing solar systems).

Table 1. "The City is working to reduce energy use in all buildings. Where do you see the biggest opportunity for more energy efficiency?"

Answer	Percent of total answers
In public buildings and spaces (e.g. libraries, recreation centers, City Hall)	56%
Residential buildings/In my home	35%
Commercial/Industrial/Educational buildings	4%
Other	3%
Older buildings	2%
New construction	1%

107 answers collected by Casa Familiar, Climate Action Campaign, and SDUSC

The two most frequently reported barriers to completing energy upgrades were prohibitive cost and that the respondents did not own their residence (see Figure 9).

Figure 9. "What is stopping you from completing energy upgrades?" (Climate Action Campaign and SDUSC, 89 total answers)



89 answers collected by Climate Action Campaign and SDUSC

Renewable Energy

Respondents indicated that the City should prioritize energy-saving projects in the transportation and building sectors (see Figure 10). Within those broad categories, respondents ranked individual strategies as seen in Table 2 (next page).

Figure 10. "The City is on track to provide 100% renewable energy electricity (solar, wind, etc.) to residents and businesses. What other energy-saving opportunities should the City prioritize?"



405 answers collected by Casa Familiar, Climate Action Campaign and SDUSC

Mobility

San Diego's Communities of Concern repeatedly highlighted issues surrounding transportation and mobility during these outreach events. As seen in Figure 8 above, 6% of respondents hoped that savings on vehicle fuel would be one benefit from climate action. More than that, however, respondents from every community urged the City to provide more access to public transportation (both through availability and affordability) and to make streets in their communities safer for walking and cycling. Figures 11-13 show respondents' attitudes toward transportation mode shift.

Out of 44 respondents surveyed, 25% said they did not own or have regular access to a car [Climate Action Campaign and SDUSC]

Table 2. Ranked list of energy-saving opportunities, top answers per category (Casa Familiar,Climate Action Campaign, SDUSC; 405 answers)

Buildings	
Provide solar installation rebates for homeowners and renters; Make City-subsidized solar incentive programs accessible	9%
Use less natural gas in buildings and homes for cooking, heating, and cooling	8%
Support community-owned solar options that allow renters and neighbors to financially benefit from shared solar energy installations	5%
Update building code to require that new buildings be all-electric. Retrofits should support future electrification	5%
Transportation	
More zero emission public transportation options	13%
More access to personal zero emission vehicles	11%
More places to charge electric vehicles	6%
Jobs & Business	
Support a green jobs training and employment program to train and employ low- income residents and youth in energy efficiency and renewable energy jobs	6%
Promote a business-oriented efficiency and renewable energy program to help small and local businesses save money and be cleaner and more efficient	6%
Outreach & Education	
Increase educational opportunities to low-income and historically oppressed communities in regards to solar and clean energy options	6%
Energy efficiency for renters: Ensure landlords and tenants equitably share benefits of energy efficiency	6%
Technology	
Pilot new energy technologies (i.e., expand the use of landfills gas, install micro- grids)	11%

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Figure 11. "How could the City of San Diego make it easier for you to get around without your car?"



481 answers collected by Casa Familiar, Climate Action Campaign and SDUSC





101 answers collected by Climate Action Campaign and SDUSC

Figure 13. "What would encourage you to bike or walk more often?" (Climate Action Campaign and SDUSC; 117 answers)



117 answers collected by Climate Action Campaign and SDUSC

Climate Action Campaign asked, "If it takes one hour to charge an electric vehicle, where should vehicle charging stations be installed to help people switch from gas to electric cars?" The most consistent answer (a third of respondents) was in shopping centers/commercial centers.

Solid Waste & Consumption

This strategy was not directly addressed by polling but was referenced by some participants during outreach events. Here there were calls for more recycling, especially of compost. There were also calls for waste reduction from restaurants and industries.

Resilient Infrastructure & Ecosystems

Every Community of Concern expressed a strong desire for more trees and green spaces. Respondents saw the connections between parks and trees and other climate action benefits. For example, respondents pointed out that having more public places to congregate and better local parks and recreation centers would prevent people from having to drive longer distances to areas with better public amenities. Respondents envision trees as part of the solution for improved air quality and climate change mitigation, as a buffer between freeways and homes, as a way to cool sidewalks improving walkability and bikeability, and as a contributor to neighborhood beautification.

SDUSC surveyed 31 people and found:

- 71% felt that there are not enough shade trees in their neighborhood
- 70% showed positive interest in participating in the City's Free Tree program

Another recurring theme through some of the engagement events centered around food and food systems. Respondents noted limited access to healthy, affordable food in their own communities, and reported food insecurity issues. In discussion during outreach events, participants requested urban agricultural resources from the City, including community education materials and resources for community gardens.



"Do you have access to a garden or

31 respondents surveyed by SDUSC

Conclusion

The engagement work done by the Institute for Local Government (ILG) and other local Community Based Organizations demonstrates how to elevate voices from communities within our City that are less commonly heard. This valuable work was effortful and time-consuming; a full accounting of lessons learned and suggested best practices for future engagement is documented in the ILG final report. These recommendations should inform the City of San Diego's future community outreach efforts.

This work shows that San Diego's Communities of Concern are already directly experiencing negative impacts of climate change. Previous outreach efforts showed that San Diegans in other communities are experiencing climate anxiety but fewer direct impacts. This dichotomy should motivate the City to prioritize climate justice and equity in its climate mitigation and adaptation efforts. The City intends to center equity in its Climate Plan Update, and the CoC feedback featured in this document is critical to that effort. The City will attempt to create strategies that address the resident concerns, priorities and requests relayed here. We

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acknowledge that this is merely the starting point, however, and that continued dialogue with residents in our Communities of Concern will be needed to guide this process.

The City of **SAN DIEGO**

Our Climate, Our Future Virtual Open House Feedback Spring 2022

Introduction

In November 2021, the City of San Diego released a draft version of its Climate Action Plan (CAP) update to the public. San Diego residents and other stakeholders were encouraged to visit a Virtual Open House (link) and provide feedback on the draft. People could leave feedback by responding to various surveys and polls on the website and by leaving comments directly on the draft itself. The Draft CAP was also made available on the City of San Diego's website (link), and people could email their comments directly to a dedicated email address.

Respondent Demographics

The Draft CAP has been available for comment from November 2021 to the present time (May 2022), six months to date. While we are not tracking web traffic to the Virtual Open House directly, we have been gathering demographic data from willing respondents. Thus far, 600 people have responded to the simple demographic survey; survey responses are below.



Figure 1. Participant Age (percentages based on 600 responses)

TABLE 1: PARTICIPANT RACE/ETHNIC (OUT OF 600 RESPONSES)	ΙΤΥ
RACE/ETHNICITY	COUNT
American Indian or Alaskan native	3
Asian or Asian Indian	48
Black or African American	13
Hispanic	75
Middle Eastern or North African	2
Native Hawaiian or other Pacific Islander	1
White	362
Other	39
No answer	57



Figure 2. Participant Annual Income (percentages based on 600 responses)

Results

We received 144 comments from 47 separate respondents on the Draft CAP itself. An additional eight respondents sent comments in via email. 34 comments were from community-based organizations (SDFSA, CSE, SDBEC)

The majority (85%) of comments were neutral in tone, while 5% of comments expressed positive support for a CAP item, and 10% of comments expressed a negative opinion or opposition to a CAP strategy or action. The content of the comments fell into one of several broad categories shown in Table 2 below.

TABLE 2: Comment Category	
Suggestions for new actions or modifications to actions in the draft	58%
Subset of suggestions that might be feasible (many suggestions concerned actions outside of the City's purview)	21%
Conversational (no real revision possible)	18%
Suggested edit (incl typographical errors)	15%
Question or request for clarification	9%

Unfortunately, very few people chose to respond to the other surveys available on the Virtual Open House site, so results from those surveys are not included here.

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General concerns

Respondents frequently brought up concerns about measurement and accountability. Respondents requested justification for the selection of a year 2019 emissions baseline and requested that the City include shorter-term targets such as in year 2025 in addition to those in years 2030 and 2035. There was a strong desire to see more quantified goals in individual measures and actions. It may be helpful to add text to the CAP Draft that reinforces that this document lays out the broad strokes of the City's plan and that the CAP Implementation Plan will contain detailed metrics (to the extent that those are available).

Strategy-specific comments

Strategy 3 Mobility & Land Use elicited the most comments (30), followed by Strategy 1 Decarbonization of the Built Environment (24). The number of comments elicited by all CAP strategies are shown in Figure 3 below.



Figure 3. Number of comments per CAP Strategy (out of 91 strategy-specific comments)

The following table lists suggestions that might be actionable in the CAP revision. The suggestions from community-based organizations are not included, as CBO feedback was tracked in a separate spreadsheet (the CBOs submitted formal letters incorporating their complete lists of suggestions). As mentioned above, many suggested actions were not within the City's purview and are not listed here. If there were multiple suggestions for a specific action, that action is only listed once. These suggestions will be considered for inclusion in the CAP revision, but those that are redundant with current CAP actions or are otherwise infeasible will not be included.

TABLE 3: SUGGESTIONS PER STRATEGY

STRATEGY 1 – DECARBONIZATION OF THE BUILT ENVIRONMENT

Measure 1.1 – Decarbonize Existing Buildings

Partner with CleanEnergyConnection.org so that the community can find a contractor that is Clean California Verified; we also need a similar database for solar and cool roof contractors.

Measure 1.2 Decarbonize New Development

New construction should always provide outlets for EV charging.

STRATEGY 2 – ACCESS TO CLEAN & RENEWABLE ENERGY

Measure 2.1 Citywide Renewable Energy Generation

Develop public educational initiatives to highlight the benefits of upgrading to 100% renewable energy (from 50%)

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Work with SDCP to change the default electricity service to 100% renewable

The City should take a position on CPUC proceeding R.20-08-020 (installing residential solar) Increase solar panels on parking lots.

Advocate for solar panels on manufactured single-family homes

Measure 2.3 Increase Electric Vehicle Adoption

Develop public-private partnerships to install private EV charging stations on public streets

More public charging stations

Strategy 2 - General

Ban gas-powered SORE and create a trade-in program that makes it possible for small landscape operators to transition to electric equipment.

STRATEGY 3 - MOBILITY & LAND USE

3.1 Safe and Enjoyable Routes for Pedestrians and Cyclists

Incorporate greenery, especially native plants and trees, within roundabouts to capture carbon and decrease heat island effect.

Increase amount of bike racks in addition to bikeways

Add bike lockers, especially at trolley stations

Update the walk signals at intersections to prioritize pedestrian and other forms of low emissions mobility. Ideas include auto sensing of pedestrians, eliminating the need for "mother may I" buttons by allowing walking on green lights, etc.

3.2 Increase Safe, Convenient, and Enjoyable Transit Use

Advocate for ride-sharing apps to connect people with daily work destinations that are walking distance apart and whose homes are close enough to justify ride-sharing.

3.3 Increase Telecommuting

Make public wifi available at all city buildings (including every library) regardless of the income of the neighborhood.

3.5 Climate-Focused Land Use

Foster a modal shift to rail for the freight traffic serving the marine terminal. It currently has freight rail service, but there is truck traffic that can be shifted to rail. This goes hand in hand with increasing capacity on LOSSAN Corridor, and ideally electrifying it so it can operate emissions free.

STRATEGY 4 – CIRCULAR ECONOMY & CLEAN COMMUNITIES

Measure 4.1 Changes to the Waste Stream

Increase number of Terracycle sites for residents to dispose of plastics that aren't of use in the market *Measure 4.4 Zero Waste to Landfill*

Every resident needs a green bin and clear messaging on how to dispose of their food waste

STRATEGY 5 – RESILIENT INFRASTRUCTURE AND HEALTHY ECOSYSTEMS

Measure 5.1 Sequestration

Partner with San Diego Canyonlands (https://www.sdcanyonlands.org/); have them create a list of actions to support our canyons

Measure 5.2 Tree Canopy

Plant trees on freeway overpasses (especially in heat islands like City Heights and Barrio Logan) Shade bikeways with trees that help lower temperatures and clean the air

Measure 5.3 Local Water Supply

Add a section for water use in home landscapes; continue/increase incentives to replace turf; add incentives to replace exotics with natives.

Conclusion and next steps

The feedback we received through the Virtual Open House was thoughtful and detailed, independent of whether the respondent supported or opposed the Plan's strategies and actions. These comments also indicated that City of San Diego stakeholders remain engaged and interested in the City's climate action approach. Far more

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people looked through the Draft CAP than offered feedback on it, perhaps indicating that residents are more interested in *how* the City intends to follow through on its ambitious goals rather than in continuing to revise the CAP itself. The repeated requests for more concrete and frequent targets and for more implementation details support that interpretation.

The demographic distribution of respondents was very similar to the demographic distribution of our 2020 online "Our Climate Our Future" survey and to that of our virtual district forums. We have shown that this distribution is not fully representative of all San Diegans, in that there is a relative lack of racial/ethnic diversity and an overrepresentation of people in upper income brackets. We have also shown that targeted outreach to underrepresented communities can be very successful (see the "Climate Equity Engagement Results" from 2021, and often reveals needs and concerns that differ from what we see from online engagement efforts. As we move forward with the development of the CAP Implementation Plan, we should continue deliberate engagement with our underrepresented communities to ensure that their priorities are included.



Our vision is to be a sustainable and resilient city with opportunity in every community.

City of San Diego Sustainability | Department Vision Statement

This information is available in alternative formats upon request.

(REV: 8-3-2022 : AFFiguracion : City of San Diego : Communications Dept.)